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Version history

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The state of the s It is suggested that applicants adopt a similar approach to showing revisions and version history as outlined at SANCO/10180/2013 Chapter 4. How to revise an Assessment Report . ersion high



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CA 7 FATE AND BEHAVIOUR IN THE ENVIRONMENT

Fluopicolide (AE C638206) was included in Annex I to Council Directive 91/414/EEC in 2010 (Commission Directive 2010/15/EU, Entry into Force on June 1, 2010). The expiration of approval of fluopicolide is May 31, 2023 (Commission Implementing Regulation (EL) 2017/1529). The Supplementary Dossier contains only data which were not submitted at the time of the Annex Anclusion of fluopicolide under Council Directive 91/414/EEC and which were therefore not evaluated during the first EU review. All data which were already submitted by Bayer AG (forther Bayer CropScience) for the Annex I inclusion under Council Directive 91/414/EEC are contained in the Durit Assessment Report (DAR) and its Addenda, and are included in the Baseline Dossier provided by Bayer AG.

Fluopicolide is a fungicidal active substance developed by Bayer It is the only active substance in Europe representing a class of chemistry (pyridiny methyl-benzamides) with a unique mode of action via delocalization of a spectrin-like protein in the omycetes furgi.

Fluopicolide has a long track record of safe use in a large number of targeted cross within horticulture, e.g. cucumbers, lettuce and on arable crops (e.g. poteto).

Fluopicolide is active against a wide range of Comycete funds, the causal agents of devastating plant diseases of economic importance in EU27 such as post to late bligh (Phytophthose infections) or downy mildew diseases in a broad range of cops.

It provides effective, long lasting protection at low application rates against Oomycetes diseases at different stage of development of the fairing, giving flexibility of use to the darmer.

Fluopicolide can be formulated with other active ingredients in different types of formulations to optimise and complete its activity.

The development of resistances of Comycetes against cristing, well-established fungicide groups represent a threat for European farmers by increasing the complexity of their plant protection programs leading to severe economic impacts. With Fluopeolide farmers in EU-27 have access to a modern tool for their integrated crop protection programs, contributing the effective and sustainable management of resistance development and preserving high level of protection against Comycete diseases.

By reducing the Omycete damages, applications of Pluopicolide on target crops contribute to the achievement of optimum yield and quality, thus securing sufficient supply of high-quality potatoes and horticultural produces of European consumer destinations and markets abroad, being it fresh or for the processing industry.



Fate and behaviour of fluopicolide in the environment

The fate and behaviour of fluopicolide in the environment have been investigated in a series of laboratory and outdoor studies using [14C]-labelled compound. Experiments have also been conducted to investigate the behaviour of fluopicolide under field conditions. Additionally, where required studies have been conducted on metabolites of fluopicolide.

Detailed summaries of studies on fate and behaviour in soil are provided in Document MCA 7, Part 1. An overview of soil DT₅₀ values derived for fluopicolide and its metabolites in laboratory and field studies are provided below.

Summary of laboratory aerobic soil DT50 values for fluopicolide and its metabolites

Compound	Trigger endpoints DT ₅₀ range (un-normalised) (d) No. No. Geometric mean DegT ₅₀ normalised to 20 & p. 2 (d)
Fluopicolide	
M-01 (AE C653711, BAM)	135.9 - 3461 26 218 2 569.5 2
M-02 (AE C657188, PCA)	0.7 4.4 7 7 7 7 7 1.6
M-03 (AE 0608000)	0.1% 62.6% $9.%$ $9.%$ 17.9 (p) 60.19 (p) 60.19
M-05 (AE 1344122)	506-1724 5 33 0 7 5 55.2 6
M-10 (AE 1344123)	23.6 – 1000 13 7 7 5 35.4
M-11/M-12	© 31.7°F 242.8°° \$\frac{1}{2}\text{\$\infty} \text{\$\infty} \$
M-13	13.3 - 48.4 3 23.0 20.7
M-14 (AE 1388273)	5 3 9.4
M-15 (AE 1413903)	△ 102.7 = 113
M-20 (BCS-BX16566)	20 - 144.7

Fluopicolide was oxidized in soil to form the metabolite M-03, which is cleaved to form the metabolites M-01 containing the phenyl ring and M-02 containing the pyridyl ring. The other metabolites listed above; M-05, M-10, M-11, M-12, M-13, M-14, M-15 and M-20 are minor soil metabolites, detected in aerobic soil metabolism studies conducted with M-02 or in feachage from a lysimeter study conducted with fluopicolide. An assessment which establishes the non-relevance of the fluopicolide metabolites in groundwater is provided in Document N-0.

While fluopicolice and M-01 degraded slowly in laboratory studies other metabolites showed moderate to rapid rates of degradation except for M-75 which was a very minor soil metabolite not detected in parent soil degradation studies. Experiments have been conducted to investigate the behaviour of fluopicolide and its metabolite N-01 under field conditions.

Summary of field DT50 values for fluopicolide and its metabolites

Compound	Torigger ondpoints DT orange (up-normalised) (d)	SFO DT ₅₀ range (un-normalised) (d)	No. sites	Modelling endpoints Geometric mean DegT ₅₀ (normalised to 20°C & pF2) (d)
Fluopicolide	© 28© 403 °	177.4 – 457.6	12	183
M-01 (A) C653 711)	<u></u> ũ33 - 344	155 - 344	5	146



The degradation of rate of fluopicolide was similar under laboratory and field conditions, so an overall geometric mean DegT₅₀ value of 182 days was used in FOCUS modelling calculations. Lower-tier degradation study data for fluopicolide from laboratory and field studies have been evaluated to degive DegT_{50eq} values, which when combined with the higher-tier aged-sorption values yield an overall geometric mean DegT_{50eq} of 121 days for use in exposure modelling (in combination with the mean aged-sorption parameters: F_{ne} 0.508; k_{des} 0.0356).

Overall DegT_{50eq} evaluation results

Compound	DegT _{50eq} range (d)	No. datasets	Geometric	mean	egT ₅₀	(d) (
Fluopicolide	45.4-532.5	33		12Å	Q,		Ģ

Fluopicolide is of medium mobility in soil with a geometric mean K_{oc} value of 267.7 mL/g the metabolites of fluopicolide were more mobile than their parent (geometric mean K_{oc} values range from 0 to 106.9 mL/g). Detailed summaries of studies on adsorption to soil are provided in Document MCA 7, Part 2, along with summaries of studies on fate and behaviour in water and sediment and in air.

In aquatic water sediment systems Duopicolide dissipated from the water by a combination of degradation and partitioning to the sediment. The compound was shown to be stable to hydrolysis, aqueous photolysis and aerobic mineralization in other studies. An overview of DF values in aquatic sediment systems derived for floopicolide is provided below.

Summary of DT₅₀ values for fluopicolide in appratic / sediment systems &

	. %	9		0	A A/ -V		
Phase	Trigger endp	oints	SFO.		. datasets	W Geometi	ric mean DegT50
	Trigger endp DT50 range at	\$0°C√ \$1	DT50 range a	©2 0°C	any &		at 20°C
	(d)		(d)\(\frac{1}{2}\)			*	(d)
Total system	\$56.3 3 340	0.0~0.0	3 56.3 – 13	40:00 J	2	Z W	1071.2
Water phase	5% 228.	9 🖫	57.0 7 - 59	45 ⁷ B	3 5.	Ž	184.1

After removal addata points prior to the maximum in sediment (76% AR DAT 85), only three data points remained for each system which was insufficient to provide a robust preaning of fit.

M-01 and M-02 were observed at significant levels, in the water phase of one of the water sediment systems. M-03 was no observed in equation systems due to its instability in water with hydrolysis DT_{50} values ranging from 0.1 bours to 1.9 days at environmentally relevant pH values (pH 5 to 8). No metabolite requiring risk assessment were formed in sediment.

Comprehensive surveys of public monitoring databases for environmental data and summaries of relevant peer reviewed publications on furopical de and its metabolite M-01 are provide in Document MCA 7, Part 3.

A Pseudo-SEO DT₅₀ value derived from the FOMC DT 3.32

B Pseudo SFO DT50 values derived from the low phase of the DFOP fit



CA 7.1 Fate and behaviour in soil

The following summary provides an overview of the behaviour of fluopicolide in soil.

The fate and behaviour of fluopicolide (AE C638206) in soil has been investigated in a comprehensive series of laboratory studies and, when required, extended by data from field experiments. The laboratory studies were all conducted with ¹⁴C-labelled active substance. When required to fully define the fate of the molecule, studies have been separately performed with labelling in each of the two rings; uniformly labelled phenyl ring or labelled in the 2 and 6 positions of the pyridyl ring.

* = [2,6-Pyridyl-
14
C]-ring label & = [Phenyl-U-1]*C]-ring label

Additionally, where required, studies have been conducted or metaborites of Tuopicolide.

The primary metabolic pathway of fluoricolide in soil is oxidation to form the hodroxylated metabolite M-03 (AE 0608000). M-03 in turn is cleaved to form the metabolites M-05 (AE 653741, BAM) containing the phenyl ring and M-02 (AE C657188, PCA) containing the pyridyl ring. White M-02 was rapidly metabolised to a number of further minor metabolites no metabolites other than M-01 have been detected arising from the phenyl ring. Microbial breakdown of this ring slowly leads to the formation of carbon dioxide and soil bound residues with no intermediate products observed.

Unextracted soil bound residues account for between 5 and 23% of the applied thopicolide at the end of the studies. Mineralisation to carbon dioxide was flow, with less than 10% being produced in studies conducted with parent radiolabelled in either the pridy for phenyl ring.

Supplemental studies have also been conducted to investigate the metabolism of fluopicolide in soil under anaerobic and sterile conditions and to determine if photolesis contributed to the degradation of fluopicolide obsoil surfaces.

Under sterile conditions the cleavage of fluoricolide to M-Ø and Ø-02 proceeded at a rate no slower than in vable soil but the subsequent breakdown of the metabolites was not evident. Fluoricolide was slowly degraded under floored anaerobic conditions. The metabolic pathway was the same as that observed under according, with no unique metabolites formed under anaerobic conditions. Whilst the presence of light accelerated the rate of degradation on soil, no unique metabolites were formed exceeding 0.3% of applied radioactivity.

During the course of the studies, only three metaborites have been observed in significant amounts (i.e. >10% of applied or > 5% at two of more consecutive timepoints or > 5% at the final timepoint).

M-01 and M-03 can be defined as major metabolites exceeding 10% of applied radioactivity. M-01 has been identified in all soils exted with fluopicohide labelled in the phenyl ring, with maximum percentage ranging from 5 to 55%. The occurrence of M-03 has been shown to have a strong pH dependence and the metabolite was only observed as a major metabolite in acidic soils (<pH 6) at a maximum of 11%, whilst in neutral to alkali soils it was either not detected or detected occasionally at a maximum of 3%. M-02 was detected as a minor pretabolite in soil which exceeds 5% AR at two or more consecutive timepoint in acrobic soil incubated at 10° C and was observed at a maximum of 7%, exceeding 5% AR at one timepoint only index aerobic conditions at 20 °C before declining to less than 2%.

In studies conducted according to EU requirements for 120 days no other metabolites were detected at levels above 5%. Three further metabolites of M-02 were observed in soil laboratory studies conducted with [2,6-pyridyl- 14 C]-labelled fluopicolide according to EPA requirements at levels \leq 5% but were not identified.



Metabolite B was observed at maximum of 5.3% AR, exceeding 5% at one timepoint only. Metabolite C was reported to reach a maximum of 5.5% AR on DAT 273 and declined very slightly to 5.2% AR by DAT 369. This metabolite has been further investigated in a statement (KCA 7.1.2.1.1/06 M-685745-01-1) and it was concluded the region quantified as Metabolite C did not contain a single metabolite at > 5% AR. Metabolite D did not exceed 5% AR in either soil.

Soil metabolites formed from fluopicolide

Maximum observed	Metabolite	Aerobic	Anaerobic	Soil Photolysis &
in laboratory studies	M-01 (AE 653711)	55.0	2 ×	8.67
(as % of applied	M-02 (AE C657188)	7.3	\$.9	Q 32.6 Z
fluopicolide)	M-03 (AE 0608000)	1,00	not detected	not detected

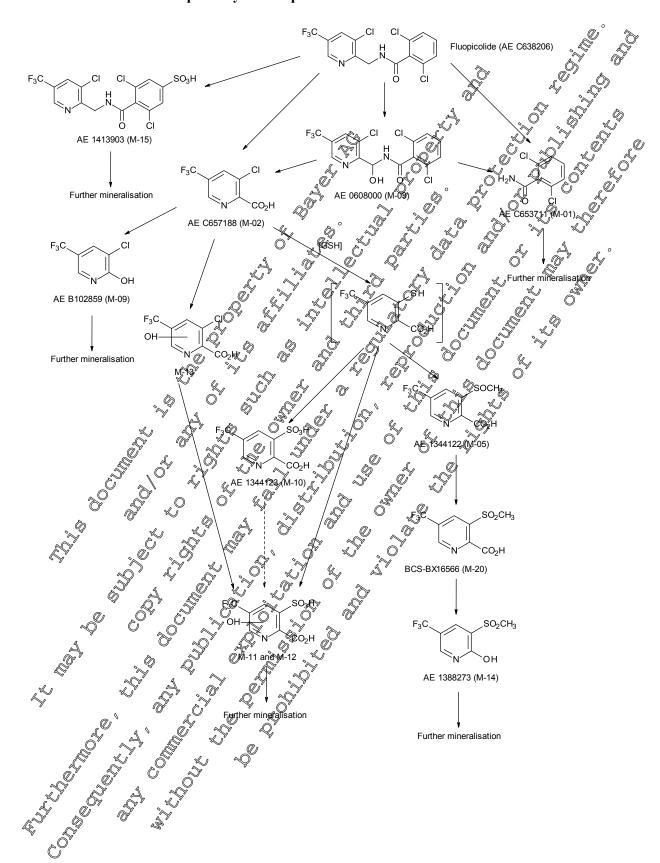
The primary metabolic pathway in soil involved speady degradation of fluoricolide initially by hydroxylation of the aliphatic bridge between the two aromatic ring more fles to form the hydroxylated metabolite M-03. This resulted in cleavage of the intact fluoricolide skeleton with formation of the metabolites M-01 containing the pheny ring and M-02 containing the pyridyl ring. The dritial hydroxylation of the parent was relatively slow while the subsequent cleavage of M-02 was generally extremely rapid, although under very acidic conditions it has been observed to be slightly slower. Neither step was enhanced by microbial activity. Microbial breakdown of M-01 slowly leads to the formation of carbon dioxide and soil bound residues with no significant intermediate products observed. M-02 was very rapidly metabolised by microbial activity in soil patially to further mirror metabolites and ultimately to carbon dioxide and uncorracted soil residues. Metabolism of M-02 proceeded via a number of pathways with the initial steps hydroxylation of the pyridyl ring to form the metabolites M-09 and M-13 and a postulated reaction with glutathrone to form a transfert informediate that can be oxidised to M-10, oxidised and hydroxylated to M-11 and M-12 or methylated and oxidised to M-05. M-10 may then be hydroxylated to M-11 and M-12, and M-05 oxidised to M-20 and then hydroxylated to M-14.

The metabolic oute of degradation of fluoricolide in sail is shown below. Further metabolism of the minor metabolite M-02 ledge the formation of very low revels of metabolites either detected in aerobic soil metabolism studies conducted with [2,6-pyridyl-C]-M-02 or in leachate from a lysimeter study conducted with fluoricolide. In the lysimeter study conducted with [2,6-pyridyl-\frac{14}{12}]-labelled fluoricolide, the pyridyl ring metabolites M-05, M-10, M-11, M-12, M-13 and M-14 were detected at annual average concentrations \(\text{0.1 ug/L} \) in leachate from the lysimeter study at annual average concentrations close to but < 0.1 ug/L.

In laboratory soil studies, pegT₅₀ values for fluoricolide at 20°C ranged from 93.5 to 1037.9 days (mean value 181, 6) days, normalised to 20°C and pF2.



Metabolic pathway for fluopicolide and its metabolites in soil





Summary of DegT₅₀ values derived for fluopicolide under laboratory conditions

Applied compound	Study	Soil	Model selected	DegT ₅₀ un- normalised (d)	DegT ₅₀ normalised to 20°C and pt
	, 2003	Münster	SFO	212.0	212, 🗗 💍
	, 2003	Sarotti	SFO	191.2 💇	191.2
	2003a	Abington (non-sterile)	SFO	348 i	3 40.2 3
	2003b	Lamberton	S O	1290.0	10379 S
	2002 -	Lamberton	SFO	Q 358.0	© 338.8 ×
	2003c	Pikeville	DFOP	612.9 ^a / 30.1 ^b	616:0° / 300° 6
		Albaro/Marcomcini	DFOP	146@a / 2.86	46.2ª/2.8b
		Great Chishill	DFOP	342.4ª / 2,7b	312.45 / 2.75
	016a	H	DFQP	\$155.5\text{3.2b}	155.5ª / 7.2°
		Mas du Coq	DEOP Q	216. [©] / 10.5 ^b	93.7° 59.4° &
F1		Parcey Meslay	ØFOP ₀	20 2.5° / 8 1 ° 6	202.5 8.1
Fluopicolide		Vilobi@ Onyar	© DEO	093.5% 7.8b	93,5ª / 78
		Dølendorfil .	DFOP (11154/0.6	\$11.4°\(\text{0.6}^b\)
		H	DFOP DFOP	197.7ª / DŽb	137 7 / 4.2b
	2016b	<u> </u>	C DF	141.30 6.3b	1/41.3ª / 6.3b
			DFOP	13365° / 9.4°	@33.5a / 9.4b
	Č	Abington 2	D FOP	142.1ª/1/9b	② 142.1 ^a / 1.9 ^b
	. PJ	A Lamberton	y df@p`	176.12 2.8b	145.1ª / 2.3b
	9	Lignieres C	DFOP ○	149k A ^a / 1.24b	141.4 ^a / 1.4 ^b
	2000	Münster 🍣	DFOP,	190.1ª / 5.3b	124.5 ^a / 3.9 ^b
		Pikeville >	DFOP	155.25 4.1b	129.4ª / 3.5 ^b
		Sarotti D	ADFOP &	161.2ª / 1.6b	143.6 ^a / 1.4 ^b
		Geometric mean	n (SFO and I	FQF slow phase)	181.6°

a – Pseudo-SPO value based on slow phase of decline (Occulated as In(2002 and normalised if applicable)

Experiments have been conducted to investigate the behaviour of fluopicolide under field conditions. Experiments have been conducted to investigate the behaviour of fluopicolide under field conditions. Fluopicolide was found to have a similar rate of degradation in the field, with DegT₅₀ values similar to those observed under laboratory conditions (range 111.9 to 317.4 days, mean 183 days, normalised to 20°C and pF2).

b – Pseudo SFO value based on fast prase of decline (calculated In(2)) and normalised if applicable) c – Geometric mean calculated of Deg T₅₀ values from Lamberton soils prior to calculation of overall geometric mean.



Summary of Deg T_{50} values (normalised to 20°C and pF2) derived for fluopicolide from terrestrial field dissipation studies

	Aerobic field conditions					
Soil type	Location (country)	pH (CaCl ₂)	Depth (cm)	St. (χ²err) (%)	Method of carculation	Deg T (d)
Silt loam	Burscheid (Germany)	5.9	0-30	9.80	SFO	*111.9\$*
Clay	Great Chishill (UK)	7.8	0-50	11.64	SFO O	216.9
Sandy loam	Lignieres de Touraine (France)	6.9	Q-20	4.82	SFQ	₹\$8.6 £
Clay loam	St.Etienne du Grès (France)	8.1	₹ 0-40	490	SEÔ	© 303.2°
Clay loam	Albaro di Ronco all'Adige (Italy)	7.75	0-30	(C),99	SFO Â	23 3.3
Sandy clay loam	Vilobi d'Onyar (Spain)	6.0	0-20	Q 6.20°	≪ SFO _€	\$66.8 L
Loamy sand	Philippsburg (Germany)	₹ 6.4	0-50	9. 4 77	SKO.	, 🕸 199 🔑 "
Sandy clay loam	Rödelsee (Germany)	7.40	0-30	2 1.59	ØFO 'n	146.4
Sand	Huntlosen (Germany)	4.9	0 -50	© 15. ≱6	®SFO.√	₹68.4 ∘
Loamy sand	Valencia (Spain)	7.3 ^	0-30	18.95	SFO	\$317 £
Sandy silt	Appilly (France)	7.1 ₀	0-30	₹1.16°>	SFO ≪	140.2
Sandy silt loam	Senas (France)	J.B	45	9.80	SFO	136.5
	A O	****		2 . A F	metric mean	₩ 183

An overall geometric mean Deg Γ_{50} value of **182 days** in soil was derived for Duopic vide for use in FOCUS modelling calculations, including both laboratory and field data.

Laboratory studies have also been conducted with the soil metabolites of fluoricolide. In addition, M-01 was observed to form from fluoricolide in parent studies and from M-03 in one study. M-03 was observed to form from fluoricolide in three soils. The number of soils and datasets evaluated to derived $DegT_{50}$ values for each metabolite is summarised below. The degradation rate of M-03 is extremely rapid except in soils which are highly acidic. In very acidic soils (a) H < 0) the degradation is bi-phasic with a rapid initial degradation phase followed by a second slower degradation phase.

Summary of DegT50 values (normalised to 20%C and pF2) derived for the fluopicolide metabolites under laboratory conditions

Compound Number	Number	Geometric Mean DegT50	Arithmetic Mean Molar Fraction
of datasets	W Solls	normalised to 20°C & pF2	Wiolar Fraction
M-01 (AE C656711)	180	© 569.5	0.80 (from parent)
M-02 (AE C657188) 7 7		1.6	NA ^C
M-03 (AF 0608000)	Ø 7 ≥ 3	17.9 A / 0.19 B	$0.53^{\text{ A}}$ / - $^{\text{B}}$ (from parent)
M-05 (ÆE 1344122)	Z	25.2	0.153 (from M-02)
M-10 (AE 1344123) 3 13 0		35.4	0.129 (from M-02)
M-11/M-12	@ *2 L	87.6	0.044 (from M-02)
M-13	₹ 3°€	20.7	0.049 (from M-02)
M-14 (AE 1388273)	<i>∞</i> 3	9.4	1 (from M-20)
M-15 (AE 141398) C 45	* 4	144.8	NA ^C
M-20 BCS-B 16566	6	6.1	0.021 (from M-02)
			0.559 (from M-05)

A Geometric mean for soils with pH < 6

^B Geometric mean for soils with $pH \ge 6$

^C Not applicable as degradation rates for M-02 and M-15 were derived from metabolite dosed studies. For M-02 the overall formation fraction from fluopicolide was set to 1.0 as a conservative assumption. For M-15 a molar formation fraction of 0.0016 from fluopicolide was estimated by inverse modelling of a lysimeter study (KCA 7.1.3.2/08, M-687165-01-1)



While M-01 was found to degrade slowly in these laboratory studies other metabolites showed moderate to rapid rates of degradation. Thus, terrestrial field dissipation studies have also been conducted to investigate the behaviour of M-01 under field conditions. Great care has been taken to exclude any potential enhancement of the degradation rate by surface or leaching processes. Degradation half-lives for M-01 derived from laboratory and field dissipation studies were compared using the EFSA DegT₅₀. Endpoint Selector (EFSA, 2014). This comparison indicated that the field DegT₅₀ values for M-01 were significantly shorter than the laboratory studies, therefore the geometric mean field DegT₅₀ value of 146 days was used for FOCUS modelling calculations for M-01.

Summary of Deg T_{50} values (normalised to 20°C and p 2) derived for M-01 from terrestrial field dissipation studies

	Aerobic field conditions	<u> </u>			
Soil type	Location (country)	PH (CaCl ₂)		galculation .	DegTso (d)
Silt loam	Burscheid (Germany)	5,0	0-\$10 A4.68	SSO .	24.0
Sandy loam	Lignieres de Touraine (França)	6 .9	@ +100 Q 7.82 O	SFO O	Ør91.1
Clay loam	St.Etienne du Grès (France)	8.1	⁷ 0-5 0 5, 8 √ .	O SFQ	179
Clay loam	Albaro di Ronco all'Adje (Italy)	72	0-60 3.93	, S PO C	10.8
Sandy clay loam	Vilobi d'Onyar (Spairi	% 9.9	Ø110, Ø10.945	SFO S	Ø136.3
	Q & C) Ö	G	eometric mean	146

The degradation rate of fluopicoline and M-01 indicate some persistence leading to residual residue levels remaining one year after application. Accumulation studies were conducted to determine fluopicolide and M-01 levels in soil following annual applications over a four year period. Levels in the soil at the end of the studies did not point to significant accumulation. Definitive assessment of the accumulation of fluopicolide and to metabolites in soil is addressed in Document MCP-9 by calculation.

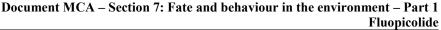
The mobility in soil of thopicolide and its metabolites was studied in batch equilibrium tests on a variety of different soils. A summary of the calculated adsorption constants and Freundlich exponents are presented below. Fluopicolide is of medium probility (McCall classification) or low mobility (Briggs classification) in soil. The geometric mean K was 267.7 mL/g. The metabolites of fluopicolide were found to be more mobile than their parent.

Compound Number of soils	Geometric Mean KormL/g)	Arithmetic Mean Freundlich Exponent 1/n
Fluopicolide Q Q 24	≥ 267.7	0.888
M-01 (AE 653711)	24.1	0.914
M-02 (ACC657188) 3 8 8	5.7	0.889
M-034(AE 0608000)	106.9	0.971
M-03 (AE 1344122)	25.8	0.960
M-10 (AE 1344 23) M-11/M-12	1.8 ^A	_ C
	_ B	_ C
M-13 & S -	0.41 ^B	_ C
M-14 (702 1388273) 4 9	9.9	0.942
M-15 (AE 14-3903) \$ 4	18.8	0.937
MQ0 (BCS BX16566) 4	2.1 ^A	_ C

A Single on t Koc measurements as adsorption to soil was too low to conduct Freundlich adsorption isotherms.

^B No reliable sorption parameters could be derived. A worst-case Koc of 0 is assumed

^C Default 1/n values of 1.0 assumed





The adsorption of fluopicolide to soil has been shown to increase significantly with time under laboratory conditions. A comprehensive set of time-dependent sorption studies in sixteen soils have been evaluated according to current guidance on aged sorption, resulting in mean aged-sorption parameters of F_{ne} 0.508 and k_{des} 0.0356 for fluopicolide. Comparison of the non-equilibrium and equilibrium K_{d_app} fits showed that strong aged-sorption effects occurred for all soils, as shown by equilibrium fits not being able to adequately describe the increased observed in K_d with time Lowestier degradation study data for fluopicolide from laboratory studies and field studies have been evaluated to derive DegT_{50eq} values, which when combined with the higher-tier aged-sorption values with ano

tier degradation study data for fluc			
to derive DegT _{50eq} values, which	when combined	with the higher-tier age	d-sorption values yield and
overall geometric mean Deg I 50eq	of 121 days for $v = 0.508$.	ise in exposure modeling	ig (in combination with the
mean aged-sorption parameters: I	Fne 0.508; K _{des} 0.03	36). 🐺	
Overall DegT _{50eg} evaluation res	ults		
6-3	DТ		
Son	(days)	Derivation "	
overall geometric mean DegT _{50eq} values, which overall geometric mean DegT _{50eq} mean aged-sorption parameters: For a soil Dollendorf	80.5	ABS - PÉARLPÉG	
Dollendorf	98.6	TDS EAR neq	
Н	69.8	TDS-PEARLneg	
W	Ø45.46	TOS-PEARLPO X	
Н	0 76 2 ·	TDS-PEAR Oneq	
Great Chishill	Q 170.9	TDS - PEARLneg	
Parcey Meslay	\$\frac{170.9}{111.0}	DDS - PBARLPEQ	
Mas du Coq	1080	TDS - PEAR Pheq Q	
Albaro	132.2	TDS - PEARLnes	
Vilobi d'Ònyar	52.2	DS - PPARLneq &	
Vilobi d'Ònyar Abington	97.5	TDS PEAR neq &	
Lamberton	S 2.6 S	TIDS - PEARLneq	*.
Munster O'	75.4	ATDS - REARL peq	
Pikeville O O	66.8	TDS - PEAR meq	
Sarrotti 💮 🥳 🗸	99.3	TES - PEARLneg	
Lignieres	6.8 °	TDS - PEARL neq	
Munster	178 N C	Lab Kier-1 Refit	
Sarrotti 🔊 🎸	,198.6 ×	Lah Tier-A Refit	
Abington 6	256.4C	Lab Tice 1 Refit	
Lamberton O	5323 6	Lab Torer-1 Refit	
Pikeville	7 295.2 5 ⁷	La Tier-1 Refit	
Burscheid (Germany)	84.3	Field Scaling factor 1	
Great Chishill (UK) Ligareres de Touraine (France)	155.8	Field Scaling factor 1	
	0 109.8	Field Scaling factor 1	
St. Etienne du Grès (France)	(7), = 0 ··· 🛝 /	Field Scaling factor 1	
Albaro di Ronco all'Adige (Italy)	205%	Field Scaling factor 1	
Vilobi d'Opper (Spain)	\$2.5	Field Scaling factor 1	
Philippsburg (Germany)	158.9	Field Scaling factor 1	
Rödelsee (Germany)	109.0	Field Scaling factor 1	
Hundosen (Germany) Valencia (Spain)	124.7 234.4	Field Scaling factor 1 Field Scaling factor 1	
Appillo (France)	107.6	Field Scaling factor 1 Field Scaling factor 1	
Senas (France)	107.6	Field Scaling factor 1	
Geometric mean	101.3	riciu Scaring factor f	
Geometric mean	141]



The fate and mobility of fluopicolide and its metabolites in soil were additionally investigated in outdoor experimental exposure assessments. A lysimeter study in acidic silty sand soil (pH 5.2) with low organic carbon content was conducted in Germany and in accordance with BBA guidelines. This study was complimented by a field leaching study conducted in a similar sandy soil. The results of these studies show fluopicolide, M-02 and M-03 will not reach groundwater. A number of metabolites wowed potential to reach groundwater in concentration in excess of 0.1 μg/L. The petabolites defected on leachate; M-05, M-10, M-11, M-12, M-13, M-14 and M-15 have been fully dentified or characterised to an extent which enabled full risk assessments to be conducted on them. The metabolite M-015 from the phenyl ring, is also mobile in soil and the concentration in groundwater at 1 m depth following use of fluopicolide was established using soils and climate conditions which represented worst-case conditions for leaching.

Definitive assessment of leaching potential of fluoricolide and its metabolites is addressed by FOCUS groundwater modelling provided in Document MCP-9.

CA 7.1.1 Route of degradation in soit

CA 7.1.1.1 Aerobic degradation

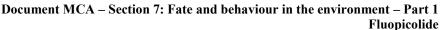
Two studies were evaluated during the previous EU review and are soil considered as reliable to assess the route of fluoricolide degradation in soil (K&A 7.1.1.1/00 and K&A 7.01.1/00).

the route of fluopicolide degradation in soil (KOCA 7.51.1/00 and KOCA 7.51.1/00).

			9 4	/ /// 8. //
Report reference	Author, Year 🐒	Phenyl	Pyridyl	Comment
		Æ abel ${\mathbb Q}$		
KCA 7.1.1.1/01	2003			Submitted and reviewed for first approval of
M-241049-01-1	2003			fluopicolide, 2005. Considered valid and
		<i>Q</i> 5		acceptable Additional summary provided
. *			, ~Ô	ander KCA 7.1@.2/02
KCA 7.1.1.1/02		✓ ~ ~ ″	Æ,	Subputted and reviewed for first approval of
M-201230-02			()	fluoricolide, 2005. Considered valid and
				acceptable.
KCA 7.1%/1/03	. 4) <u> </u>	-	New data not yet reviewed.
M-687284-01-1	29 20 🗬			(, O ·
	97	L ~ ` ~	<u> </u>	

The aerobic degradation of fluoricolide in soil has been investigated in a total of six studies at 20°C, one study at 25°C and one study at 10°C. The remaining aerobic soil degradation studies are summarised under Point KCA 7.1.2.1. No addition metabolites of fluopicolide are formed in aerobic soil studies summarised under KCA 7.1.2.1 to those observed in Studies KCA 7.1.1.1/01 and KCA 7.1.1.1/02.

The fungicide fluoricolide does not contain any stereogenic centres, but its metabolite M-03 (AE 0508000) contains a chiral carbon atom and M-05 (AE 1344122) contains a chiral sulfur atom. Consequently, either metabolite could exist as a pair of enantiomers. The EFSA guidance document (EFSA, 2019) on how to perform risks assessments for plant protection products that contain stereoisomers has been used to assess of any further information is required for M-03 or M-05. A statement of the potential for to mation of stereoisomers of M-03 is provided under KCA 7.1.1.1/03 (M-68724-01-0). No additional environmental fate information was required for M-05 as it does not exceed the trigger of 5% are in the environment given in EFSA (2019): Guidance of EFSA on risk assessments for active substances of plant protection products that have stereoisomers as components or impurities and for transformation products of active substances that may have stereoisomers.





D + D : +	W.C.A. 7.1.1.1/01
Data Point:	KCA 7.1.1.1/01
Report Author:	
Report Year:	2003
Report Title:	Route and rate of degradation of [2,6-14C pyridinyl] and [U-14C-benzoyl]-A
	C638206 in a European sandy loam under laboratory aerobic conditions at 200 deg.
	C and determination of aged in situ Kd values at 25 degrees C
Report No:	B004071
Document No:	<u>M-241049-01-1</u>
Guideline(s) followed in	EU (=EEC): 95/36/EC of July 1995
study:	
Deviations from current	Yes. The study design does not conform to current aged sorption guide the say the
test guideline:	aged sorption phase of the study had insufficient timepoints.
Previous evaluation:	yes, evaluated and accepted visualization of the second vi
	Tests on aerobic degradation evaluated and accepted in the DAR (2005). Tests on
	aged sorption evaluated with DAR (2003) and Addendum 1 to the DAR (2007).
GLP/Officially	Yes, conducted under GLP/Officially ocognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes A O A

Executive Summary

The route and rate of degradation of fluoricolide was prestigated in a European soil under laboratory aerobic conditions for up to 120 days. [Phenyl-U-14C] rabelled fluoricolide or [2,6 pyridyl-14C]-labelled fluoricolide was applied to soil samples at an application rate equivalent to 400 g/ha. Abington soil was classified as a sandy loam soil according to SDA classification. Soil samples were incubated in the dark, at a moisture content equivalent to pt under aerobic conditions at 20%. The radiochemical purity was > 99 % for both radio labelled test dems. The specific activities were \$33 and 5.88 MBq/mg for [phenyl-U-14C]- and [2,6-pyridyl-4C]-labelled fluoricolide, respectively.

Samples were taken for extraction and analysis immediately after treatment (day 0) and after 14, 28, 42, 56, 77, 98 and 120 days of incubation. Sterile samples were taken for analysis at 14, 56, 77 and 120 days. Soil samples were exhaustively extracted with up to four specessive extractions with acetonitrile / water (4 / 1, v/v) at ambient temperature followed by one Sox het extraction using acetonitrile. Concentrated soil extracts were analysed by reverse phase high performance liquid chromatography (HPLC) and normal phase this layer chromatography (TEC).

The material balances ranged from 93 to 103.5% of applied radioactivity (% AR). For samples incubated with pheny U-14C-fluoricolides extractable 94C]-residues decreased slightly from a maximum of 98.4% AR at DAT 0 to 92.5% AR by DAT 120. For samples incubated with [2,6-pyridyl-14C]-fluoricolide, extractable radioactivity decreased from 95.1% AR at DAT 0 to a minimum of 82.3% AR by DAT 120.

Non-extractable [14C] residue increased proportionately with the decrease in extractable radioactivity over the 120 day study. The maximum arount of non-extractable residues was 5.2% (DAT 120) in the phenyl label and 11.9% (DAT 120) in the pyricyl label.

Mineralization of carbon dioxade was a minor pathway, demonstrated by the low amount of radioactivity recovered in the ethanolamine volatile traps for both labels (maximum of 2% of applied). No significant levels of organic volatile were observed.

After 120 days incubation at 20 °C, fluopicolide degraded to 80.2% of the radioactivity applied in the pheny label and 772% in the pyridyl label. A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit un-normalised DT₅₀ value of 340.0 days and DT₉₀ values of 1156.0 days in Abington soil.



Fluopicolide degraded to oxidative cleavage products, M-01 (AE C653711) and M-02 (AE C657188). The quantity of M-01 ranged from 4.5% (DAT 14) to a maximum of 14.4% (DAT 56) and declined thereafter to 12.1% at the end of the 120 day incubation period. M-02 was generally observed at ca 1% except on DAT 42 when it reached 7.3% of the applied radioactivity. Two minor metabolites (each < 3% of the applied radioactivity) were detected in the pyridyl treated soil extracts only.

Microbial activity did not enhance fluopicolide degradation. This observation is supported by the presence of 77.2% of fluoricolide observed in the 120 day non-sterile samples compared to 61.2% of fluopicolide observed in the sterile samples during the same incubation, period. However, morobial activity did facilitate degradation of the key metabolites M-01 and M-02. Both M-01 and M-02 accumulated in sterile samples with a maximum of 36.2% and 25.7% respectively PAT 20), which compares to M-01 and M-02 maximum in the non-sterile samples of 94.4 and 7.3% respectively.

A. Materials

1. Test Items

[Phenyl-U-14C]-fluopicolide

Denote's position of [14C]-radiolabe

Specific Activity:

Radiochemical P



2. Test Soil

The study was performed using one test soil as characterized in Table 7.1.1.1-1.

Table 7.1.1.1- 1: Physico-chemical properties of test soil

performed using one test soil as characterized in	Table 7.1.1.1- 1.
1: Physico-chemical properties of test soil	Table 7.1.1.1- 1. Soil Abington England, UK Sandy loam About 1. About
Parameter	Soil S
Soil Designation	Abington
Geographic Location	A S S
	Alington A A
City Country	England, UK
Textural Classification (USDA)	& sandy loam
Sand [50 - 2000 μm] (%)	Sandy loani
Salit [30 - 2000 μm] (70) Silt [2 – 50 μm] (%)	Q 67 Q Q Q
Clay [< 2 μm]	
pH A O	
in $H_2O(1:1)$	7.40
Clay [< 2 μm] pH in H ₂ O (1:1) in CaCl ₂ (1:1) Organia Matter (%)	
Organic Watter (70)	2.2 5 5 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Organic Carbon (%)*	
Cation Exchange Capacity (meg 700 g)	
Water Holding Capacity (%)	
maximum V V V	56.1
at 1/10-bar	7 56.1 0 0 188
at 1/2 bar S S	14.6 0
Say Microbial Biomass (no microbial C soil)	
Amitial (DAT 1)	3768
Final (DAT 120) & S	2)*2.1

^{*} Calculated by dividing organic matter content by 1.72

B. Study Design

1. Experimental Conditions

Tests were performed in flow through systems consisting of glass flasks each containing 50 g soil and attached to an ethylene glycol trop to collect organic volatiles followed by an ethanolamine (or 3M sodium hydroxide on selected flasks) trap to collect carbon dioxide. Soil moisture was maintained during incubation with periodic additions of water throughout the study.

The tests were performed at a concentration of approximately 0.41 mg/kg dry weight of soil. The test concentration was based on a field rate of 400 g a.s./ha. The test items [phenyl-U-14C]- or [2,6-pyridyl-¹⁴C]-fluopicolide, dissolved in acetopitrile (406 and 460 μL, respectively), were applied drop wise onto the soil surface. Soil samples were adjusted to a moisture content of 18.2%, equivalent to pF 2, five to seven days prior to application. The samples were incubated at 20 ± 1 °C under aerobic conditions in the dark for 120 days.

Selected flasts were sterifized (gamma irradiation) prior to treatment with the test substance, while additional intreated sterile and untreated non-sterile flasks were used as controls and to monitor the viability of the test system by determination of biomass.



In addition, the effect of ageing on potential mobility of fluopicolide and its metabolites was also studied by determining partitioning ratios (in situ K_d values) between aqueous and soil phases in additional flasks incubated at 25 °C. The study design is no longer considered valid to assess aged sorption, in particular only four timepoints were taken. Details of this part of the study are provided in CA 7.1.3.2/02. The results are consistent with later fully complaint guideline studies.

2. Sampling

Single samples were removed for analysis after 0, 14, 28, 43, 56, 77, 98 and 120 days of incubation. For tests using sterile soil, single samples were removed after 14, 56, 37 and 120 days of oncubation. Untreated samples were analysed for biomass at the beginning and sad of the experiment

3. Analytical Procedures

Soil samples, including sterile samples, were extracted up to four times successively with acetonitrile/water (4/1, v/v) at ambient temperature followed by one Soxhlet extraction using acetonitrile. Radioactivity in extracts was determined by liquid scriptillation counting (LSC) Soil extracts were concentrated and analysed by WPLC with ratiodetection. Degraphtion or oducts were identified by comparison of the retention times of reference standards and confirmed by TLC cochromatography with reference items. A peak of 300 dpm, corresponding to 0.9 ng fluopicolide, was readily determined by TLC and HPLC quantitation methods used.

Volatile radioactivity in volatile traps was determined by ESC.

Following homogenisation non-extractable residues (NER) in extracted soils combustion. were determined by

4. Determination of degradation kinetics

The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance document of degradation Rineties and are no longer considered valid. DT50 and DT90 values for the degradation of fluopicolide and M-01 have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1). For fluopico Tide, as the degradation was investigated wing two radio abel positions, and similar behaviour was observed for each, these radio abels have been considered as true replicates, and included together in a single optimisation. Full dewils are provided in Document KCA 7.1.2.1.1/10 (M-685680-01-1). A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoint can initial comparison was performed between the SFO and FOMC fits for fluopicolide, For the non-sterile bington soil the FOMC fit resulted in a lower χ^2 err% value, and the DFOP model was also fitted however the KingUI run for the DFOP model did not complete successfully. The FOMC fit was not accepted, as extrapolation beyond the experimental period is not recommended for defiving robust 3T₉₀ values using this model (EFSA, 2009). The SFO model therefore provided the most appropriate description of tuopicolide degradation in the non-sterile Abington soil.

Metabolite optimisations were performed using the best-fit model for the applied compound and the SFO model for metabolity.



II. Results and Discussion

A. Data

The distribution and characterisation of radioactivity for the test soil incubated at 20 °C following application of [phenyl-U-14C]- and [2,6-pyridyl-14C]-fluopicolide are summarized in Table 7.1. [27-2 to Table 7.1.1.1-3. The corresponding data for sterile samples are summarized in Table 7.1.1.1-4to Table 7.1.1.1-5.

Table 7.1.1.1-2: Degradation of [phenyl-U-14C]-fluopicolide at 20 % in Abington aerobic conditions [% AR]

			*//							
Compound	Incubation time (DAT)									
Compound	0	14	28/	42	56 .	770	98	ر 120 را اگر 120 را		
Fluopicolide	98.4	93.3	№ 0.9	827	* 79 ,8	₹3.8	©81.5 _€	80		
M-01 (AE C653711)	n.d.	4.5 📞	6.70	8.00	J 4.4 __	♥11.6€	13.2	12 .1		
Ambient extract	98.4	92.80	9 % 1	¥85.3 g	\$ 85, 2 %	90,	86.9	§ 85.4 °		
Soxhlet extract	n.a.	A 6 ,	@2.5 <u>_</u>	V 5.8 V	§ .2	4 .5	0 ⁷ 7.8	7.5		
Total extractable radioactivity ^A	98.4	£97.4 ~	y 97. 6	9D1	\$9 4 .1 %	© 95.3%	94.7	2 2.5		
Non-extractable radioactivity	2.1	0,90	**9	¾ 1.9 ≼	ري ريخ 3.0	36	4 .0	© 5.2		
¹⁴ C-Carbon dioxide including other volatiles ^B	n a	9 .1	0.5	0.87		\$\display \tilde{0}.9 \tilde{0}	\$\ 0,2\\	0.7		
Total radioactivity	Ø100.5 ×	∮ 98.40°	100.0	3 .8	∑ 97.2 ©	998	\$28.9	98.4		

[2,6-pyridyl-14C fluopicolide at 20 C in Abington soil under

	(()	6	·~	is a si				
	l ĉo	4 2	Ç Çn	cubation	time (DA	T)		
Compound	₹0 €	14 0	28	Q42	© 56	77	98	120
Fluopicatide ,	95.1	27:0	3 2.2 ₩	J 80.70	85.5	83.2	77.4	77.2
M-02 (AE C657188)	p.d.	On.d. ≼	1.44	7.3	0.9	1.0	1.3	1.2
Unknown A (R _t 16 min)	n.d. 🖔	n.d	n.d.	҈∂n.d.	n.d.	n.d.	2.6	0.9
Unknown B (R 21 min)	n.do	md.	on.d.	n.d.	n.d.	2.4	3.0	2.8
Ambien extract	95 .1	92.6		83.1	83.2	84.5	79.8	77.6
Soxtalet extract	yn.a.	4:4	24	4.9	4.8	2.8	5.4	4.7
Total extractable radioactivity A	95.1	25.0°	€95.1	88.0	88.0	87.3	85.2	82.3
Nonzextractable radioactivity	20 4	©2.2 ×	3.8	4.6	7.4	8.5	10.0	11.9
other volatiles B	n.a.	0.4	0.4	0.5	1.2	1.9	0.1	0.9
Total radioact Oity	97.5	@99.4	99.3	93.1	96.6	97.7	95.3	95.1

n.a.: not analysed, n.d. not de Octed, DAT: days after treatment

n.a.: not analysed, n.d.: not detected DAT: days after reatment

All values expressed as percentage of total applied adiolabe.

A The total extractable radioactivity was calculated as sum of ambient and Soxhlet.

B Other volatile radioactivity was < 0.05 % AR at any time point

All values expresses as percentage applied radioactivity (% AR)

A The total extractable radioactivity was calculated as sum of ambient and Soxhlet extracts.

B Other volatile radioactivity was \$\square\$ 0.05 % AR at any time point



Table 7.1.1.1-4: Degradation of [phenyl-U-14C]-fluopicolide at 20 °C in sterile Abington soil under aerobic conditions [% AR]

C1	Incubation time (DAT)							
Compound	14		56	77	120			
Fluopicolide	86.9		75.3	71.3	6109° Ô			
M-01 (AE C653711)	7.3		24.0	27.70	36.2			
Ambient extract	93.7		95.1	9₹√7	93.0			
Soxhlet extract	n.a.		43	1.3	\$ 53 S			
Total extractable radioactivity A	93.7		99.4	Q 99.0 (Z \$98.3 L			
Non-extractable radioactivity	3.7		2.0	2.1	3.10			
¹⁴ C-Carbon dioxide including other volatiles ^B	n.a.	Q)	n.d.	n.d.	o ap.d.			
Total radioactivity	97.4	&	Ø101.4.2	194.1	101.4			

n.a.: not analysed, n.d.: not detected, DAT: days after treatments

All values expressed as percentage of applied radioaetivity. (PAR)

B Other volatile radioactivity was < 0.05 % AR wany time point @

in sterile Åbington soil Table 7.1.1.1-5: Degradation of [2,6 pyrid@]-14C Tuopicolide at under aerobic conditions % AR

,	Ÿ	· _ (U)		
Compound		hycubation	time (DAT)	_
Compound	140	√ 56 √ °		120
Fluopicolide 🔬 🔏	\$\frac{1}{2}5.2 \tilde{0}	72.® «	, 75.5° D	63.1
M-02 (AE C657188))	1.8 🖤	\$ \$6.7	O 19. 8 √	25.7
Ambient extract	38 8 N	, \$87.3 <i>t</i>	<i>≨</i>	85.2
Soxhlet extract	yn.a.	, \$\sqrt{4.8}	1.0	3.6
Total extractable radioactivity		Q.1 5	© 95.3	88.8
Non-extractable radioactivity		7.0 V	% 4.7	8.0
other volatiles B	n.a.	o n.d.	n.d.	n.d.
Total radioactivity	10375 O		100.0	96.8

B. Material Balance

For aerobic degradation samples of Soington soil incubated at 20 °C, material balances ranged from 93.8 to 100.5% AR for [photyl-U_C]-fluopicolide and from 93.1 to 99.4% AR for [2,6-pyridyl-\frac{14}{C}]fluopicolide

For sterile samples of Abington soil incubated at 20 °C, material balances ranged from 97.4 to 101.4% AR for [pheryl-U-C]-fluopicolide and from 96.8 to 103.5% AR for [2,6-pyridyl-14C]-

There were no signs for losses of radioactivity during work-up and processing.

A The total extractable radioactivity was calculated as sum of ambient and soxhle

n.a.: not analysed, n.d.: not detected DAT: dos after treatment.

All values expressed as precentage of applied radioactivity (QAR)

A The total extractable rachoactivity was calculated as sum of ambient and Soxhlet extracts.

BOther volatile radioactivity was < 0.00% AR at any time point of



C. Extractable and Non-Extractable Residues

For samples incubated with [phenyl-U-¹⁴C]-fluopicolide, total extractable radioactivity decreased from 98.4% AR at DAT 0 to 92.5% AR by DAT 120. The total of non-extractable residues (NER) increased from 2.1% AR at DAT 0 to 5.2% AR by the end of the study (DAT 120).

For samples incubated with [2,6-pyridyl-¹⁴C]-fluopicolide, total extractable adioactivity accreased from 95.1% AR on DAT 0 to 82.3% AR after 120 days of incubation. NER as 2.4% AR on DAT 0 and increased to 11.9% AR by the end of the study (DAT 120).

For sterile samples incubated with [phenyl-U-14C]-fluopicobide, total extractable radioactivity amounted to 93.7% AR by DAT 14, peaked on DAT 56 (99.4% AR) and then decreased to 98.3% AR by the end of the study (DAT 120). NER amounted to 3.7% AR by DAT 14 and decreased to 3.7% AR after 120 days of incubation.

For sterile samples incubated with [2,6-pyrico]-14C]-fluopicolide total extractable radioactivity decreased from 98.6% AR by DAT 14 to 88.8% AR after 120 days of incubation NER amounted to 4.9% AR by DAT 14 and increased to 8.0% AR at the end of the study (PAT 120).

D. Volatile Radioactivity

For samples incubated with [phenyl-UP C]-thropicolide, levels of C-carbon dioxide formed ranged from 0.1% AR (DAT 14) to 0.9% AR (DAT 77) during or cubation. Other vertaile radioactivity was < 0.05% AR at all timepoints.

For samples incubated with [2,6 pyridy] (C)-thiopicolide, whies of C-carbon doxide formed were in the range of 0.2% AR (DAT 14) and 179% AR (DAT 77) thring incubation. Other volume radioactivity was < 0.05% AR at all timepoints.

For sterile samples, total volatile radioactivity was < 0.05% AR at all time points.

E. Degradation of arent Compound

Following application of [phenyl-U-\C]-fluoricolide, the amount of parent in the total soil extracts (i.e. in ambient and Soxhlet soil extracts) decreased from 98.4% at DAT-0 to 80.2% AR by the end of the study at DAT 120. In corresponding sterile samples, the amount of the active substance decreased from 86.9% AR at DAT 14 to 61.9% AR at DAT 120.

Degradation of [pheix]-U-14]-fluopicolide in Abington soil was accompanied by the formation of the degradation product M-01 (AE C653714). M-01 was detected at a maximum of 14.4% AR at DAT 56 in non-sterile samples, declining slightly to 42.1% AR by DAT 120. Levels of M-01 increased to a maximum of 36,2% Ar by DAT 120 in sterile samples.

Following application of [3,6-pyrdyl-140]-fluoricolide, the amount of parent in the total soil extracts (i.e. in amount and Soxhlet soil extracts) decreased from 95.1% at DAT-0 to 77.2% AR by the end of the study at DAT 120 in corresponding sterile samples, the amount of the active substance decreased from 95.2% AR at DAT 14 to 63.4% AR at DAT 120.

Degradation of [2,6-pyridyl-¹⁴C]-fluonicolide in Abington soil was accompanied by the formation of the degradation product M 02 (ALC657088) and two minor unidentified metabolites. M-02 was detected at a maximum of 3% AR at D 17 42, exceeding 5% AR at one timepoint only before rapidly declining at 1% AR (1,2% by DAT 120). The total unidentified residues amounted to a maximum of 5.6% AR and no single component exceeded 3.0% AR at any sampling interval. In sterile soil only M-02 was observed, which increased to a maximum of 25.7% AR by DAT 120.



F. Degradation Kinetics

Fluopicolide degraded slowly in the Abington sandy loam soil under non-sterile conditions. The reported DT_{50} values were 291 and 274 days (mean = 283 days) for the phenyl- and pyridyl- labels, respectively. The experimental data has been re-evaluated according to the FOCUS guidance downent on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 2.1). Further details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting DT_{50} values for trigger endpoints are summarised below in Table 7.1.1.1- 6. Best fit kinetics are highlighted in bold.

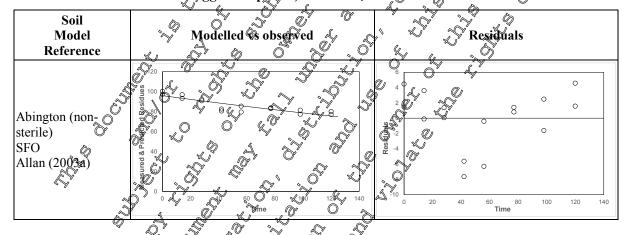
Table 7.1.1.1- 6: Degradation rate of fluopicolide under aerobic conditions at 20 °C (101 50 values for trigger endpoints)

Soil	Kinetic model	M ₀	(k, k1, k2, g, tb, α, β)	errøg	Prob	Lower	Upper © CI	ŐDT50© [days]	DT®
Abington (non-	SFO	96.04	k 0.001992	2.89	4.54E-07	9 .0014 22	0.003	348	1156 °
sterile), Allan (2003a)	FOMC	99.34	α 0,1403 β.25.08	2.17	n.r. n.o	0.02499 -17:32 ₂	© 256 €7.48≤	3482.5	>10000

Best fit model highlighted in bold

A graphical representation of the funal kineorc fit is shown below

Table 7.1.1.1-7: Degradation of fluopicolide under aerobic conditions at 20 °C (best-fit DT₅₀ value for tegger endpoints)



II. Conclusion

Fluopicotole slowly degraded in the non-sterile sandy loam soil under aerobic conditions with 80% and 77% of the applied radioactivity remaining as parent compound in the phenyl and pyridyl label treated soils at the end of 120 days. Less than 2% of the radioactivity was detected as ¹⁴CO₂ with both labels, indicating slow mineralization of fluopicolide to CO₂. Organic volatiles were not detected in either label. The primary metabolic pathway involved the oxidative cleavage of fluopicolide to form M-01 (maximum of 4.4% in the phenyl label treated soil) and M-02 (maximum of 7.3% in the pyridyl label treated soil). Further degradation resulted in the formation of minor metabolites only in the pyridyl label treated soil which did not exceed 3% of applied radioactivity.

A recvaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit un-normalised DT₅₀ value of 348 days for Abington soil.



Comparison of results from the sterile versus non-sterile soil indicates that the microbial activity did not appear to enhance fluopicolide degradation in the sandy loam soil. However, microbial activity did facilitate the degradation of M-01 and M-02.

Assessment and conclusion by applicant:

The study was conducted in accordance with SETAC 1.1 (1995) and USEPA (= EPA) N, 162-(1982). The study is considered valid to assess the aerobic degradation of [phenyl-U-10]-and [2,6] pyridyl-14C]-fluopicolide in soil.

Data Point:	KCA 7.1.1.1/02 & S S S S S S
Report Author:	
Report Year:	2003
Report Title:	Rate of degradation in two soits (amentment) (T4C)-AD C638206
Report No:	
Document No:	M-201230-6-1
Guideline(s) followed in	M-201230-8-1 EU (=EEC): 95/36/EEC
study:	
Deviations from current	none C . T C
test guideline:	
Previous evaluation:	yes, evaluated and accepted o
>	(2005) 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
GLP/Officially	Yes evanducted under GLP Officially recognised testing facilities
recognised testing facilities:	
facilities:	
Acceptability/Reliability:	Yes V V V V V

Executive Summary

The route and rate of degratation of fluoricolide was investigated in two European soils under laboratory aerobic conditions for up to 200 days. Phenyl-U-l-C-labelled fluoricolide was applied to soil samples at an application rate equivalent to 400 g /ha. The soils used were classified (ADAS classification) as a silty clay from (Sarotti soil) and a loamy sand (Münster). Soil samples were incubated in the dark of a moisture content equivalent to F 2 under aerobic conditions at 20 °C. The radiochemical purity was 100 % and the specific activity was 5.33 MBq/mg.

Samples were taken for extraction and analysis immediately after treatment (DAT 0) and after 7, 14, 22, 34, 49, 63, 78, 98, 120 days of incubation, and additionally in Münster soil only after 160 and 200 days. Soil samples were chaustively extracted with actonitrile / water (4/1, v/v) at ambient temperature followed by Soxhlet extraction using acconitrile (DAT 0 and DAT 7) or with acetonitrile, followed by acetonitrile / water (4/1, v/v) at ambient temperatures and finally by Soxhlet extraction with acetonitrile (after DAT 7). Concentrated soil extracts were analysed by reverse phase high performance liquid chromatography (HPLC). Selected samples were analysed by thin layer chromatography (TLC) to confirm the results obtained by HPLC. A selected sample was analysed by LC-MS to confirm the structural identity of the degradation products.

Material balances ranged from 98.9 to 86.7% AR in Sarotti soil (mean 91.7% AR) and 103.3 to 93.7% AR mean 6.6% AR) for Münster soil. Extractable [14C]-residues decreased from a maximum of 98.2% AR at DAT 0 to 77.8% AR by DAT 120 in Sarotti soil and from 102.1% AR on DAT 0 to 90.5% AR by DAT 200 in Münster soil. The amounts of unextractable radioactivity were low, reaching a maximum of 12.0% of applied radioactivity in Sarotti soil and 5.8% in Münster soil.



Radiolabelled carbon dioxide evolved accounted for a maximum of 3% of the applied radioactivity in the Sarotti soil by the end of the study and <1% in the Münster soil. No significant levels of organic volatiles were observed.

Fluopicolide was the principal radiolabelled component detected. Levels of parent accounted for 100% of extracted radioactivity at DAT 0 and declined to 53 and 55% of applied radioactivity at termination of the study in Sarotti and Münster soils respectively. A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in best-truinnormalised DT₅₀ and DT₉₀ values of 191.2 and 635 days in Sarotti soil, and 212.0 and 704.1 days in Münster soil.

In addition to parent, two metabolites M-01 (AE C653711) and M-03 (AE 0608000) referred to as RPA 427967 in the report) were detected. Levels of M-01 increased over the course of the increasing period and accounted for 25.4% AR at DAT 120 in Sarotty and DAT 200 in Minster soils. M-03 was detected in Münster soil only, and accounted for a maximum of 10.6% AR.

A. Materials 1. Test Item Denotes position of 14 Claradiolabel 5.34 MBorning 400% (wie an of HPLC and the Canalyses)



2. Test Soil

The study was performed using two test soils as characterized in Table 7.1.1.1-8.

Table 7.1.1.1-8: Physico-chemical properties of test soil

Parameter	Se	oil V
Soil Designation	Sarotti	Münster Münster
Geographic Location	Hattersheim, D-65795	
City	🖔 Frankfurt 🔏	Münster-Handorf
Country	Germany	Germany &
Textural Classification	Silty clay loam	LoamQsand
Sand [63 - 2000 μm] (%)	9.3	79.8 17.2
Silt $[2-63 \mu m]$ (%)	69 .7	
Clay [< 2 μm] (%)	21.1	2.9
pH		
in 0.01M KCl	7.4	\$ 4.9\$ \(\tilde{\Pi}\)
Organic Matter (%)	0 1.6	
Organic Carbon (%)		Ø.7
Cation Exchange Capacity (meq/100 g)	3.3	J 5 6,34
Water Holding Capacity (%)		
maximum	5000	33.8
maximum at pF 2 (1/10 bar) at pF 0	62.2	6.1
at pF 0	62.2 V 5	35.9
at pF 0.5	28 ³ 2 28 ³	9.2
Soil Microbial Biomass (mg microbial C /000g soft)		\$ "
Initial & O P P	\$\int\tag{50}_{\int}\tag{0}	12
DAT 120 0 3 4 4 4 4	30	20
Initial DAT 120 DAT 200 DAT 20		41
Tairial lais Assess		1 11 1 0 1 11 (41)

Initial biomass samples were untreated, later biomass samples were treated with non-labelled fluopicolide (41 µg) dissolved in acetonitrile (100 µL)

B. Study Design

1. Experimental Conditions

Tests were performed in flow through systems consisting of glass flasks each containing 100 g soil and attached to an ethanedial trap of collect organic volatiles followed by an ethanolamine trap to collect carbon doxide.

The tests were performed at a concentration of approximately 0.41 mg/kg dry weight of soil. The test concentration was based on a field rate of 400 g a.s./ha. The test item [phenyl-U- 14 C]-fluopicolide dissolved in actionity (100 μ L) was applied to the soil surface. Soil samples were adjusted to a moisture content equivalent to pF 2, seven days prior to application. The samples were incubated at 20 ± 1 °C under actionic anditions in the dark for up to 200 days.

2. Sampling

Single samples each were removed for analysis after 0, 7, 14, 22, 34, 49, 64, 78, 98 and 120 days incubation in Sarotti soil and 0, 7, 14, 22, 34, 49, 64, 78, 98, 120, 160 and 200 days incubation in Münster soil.



3. Analytical Procedures

DAT 0 and DAT 7 soil samples were extracted at ambient temperature initially with acetonitrile / water (4/1, v/v) followed by soxhlet extraction with acetonitrile. At timepoints after DAT 7 soil samples were extracted at ambient temperature initially with acetonitrile, followed by acetonitrile / water ($4\sqrt{2}$, v/v) and finally by soxhlet extraction with acetonitrile. After removal of the soil samples from the incorporation flasks, the flasks were soaked in acetone to remove any residual activity.

Radioactivity in extracts was determined by liquid scintillation countings (LSC). Soil extracts were concentrated and analysed by HPLC with radiodetection. Degradation products were identified by comparison of the retention times of reference standards selected samples were analysed by thin layer chromatography (TLC) to confirm the results obtained by HPLC. A selected sample was analysed by LC-MS to confirm the structural identity of the degradation products.

Volatile radioactivity in volatile traps was determited by LSC.

Following homogenisation, non-extractable residues NERD in extracted soils were determined by combustion. As a result of low recovery of radioactivity in the Saiotti soft the radioactivity remaining associated with soxhlet thimbles was quantified by combustion and / or extraction at ambient temperature with methanol.

4. Determination of degradation kinetics

The degradation kinetics determined in the report were conducted prior to the incuing of the FOCUS conducted prior to the incuing of the FOCUS

guidance document on degradation kinetics and are no longer considered valid. DT50 and DT90 values for the degradation of fluopicolide M-01 and M-03 have been re-carculated from the reported data following the recommendations of the BOCUS work group using the software KunGUI (version 2.1). approach for trigger endpoints is provided below.

To derive trigger and points, an initial comparison was performed for each soil between the SFO and FOMC fits for flyopicolide. For the Münster soil, the FOMC fit resulted in a lower χ^2 err% value than the SFO fit, anothe DFOP model was therefore also fitted. The resulting DFOP fit was similar visually to the SFO fit, with you confidence in rate constant k (p>0.2), and was not accepted. The FOMC fit was also not accepted, as extrapolation beyond the experimental period is not recommended for deriving robust \$100 values using this model (EFSA, 2009). The SFO model therefore provided the most value.

Metabolite optimisations were performed using the best-fit model for the applied compound and the SFO model for metabolites.



II. Results and Discussion

A. Data

The distribution and characterisation of radioactivity for the test soils incubated at 20 °C following application of [phenyl-U-14C]-fluopicolide are summarized in Table 7.1.1.1-9 to Table 7.1.1.1-00.

Table 7.1.1.1-9: Degradation of [phenyl-U-14C]-fluopicolide at 20 °C in Sarotti soil under aerobic conditions [% AR]

Compound	Incubation time (PAT)								
Compound	0	7	14	Øž.	30	49 2			
Fluopicolide	98.2	81.5	76.2	79.4	Ø5.6 Q	7293 0			
M-01 (AE C653711)	nd	4.4	6.4	₹ 7,7°	√ 10.0c	Q 2.2 Q			
M-03 (AE 0608000)	nd	n o	nd 🥎	, Ønd *	∜ n _P ° √	nd Q			
Total extractable radioactivity ^A	98.2	\$ 5.9 <i>Q</i>	82.36°	87.26°	\$5.8 °×	84.5			
Apparatus Wash	na	0.02	© 02 (0	0302	© 0.025	△ 0.01 €°			
Extracted thimble combusted	na 🦼	0.0	3.6	🚣 na 🦠	na	0.20			
Non-extractable radioactivity	0.7	, 9.7 Q	3.4	2.4	₹ 4.8 ≰				
¹⁴ C-Carbon dioxide ^B	na 🔍	© 0.1	9.2 ×	, QQ	0.40	0.8			
Total radioactivity	9 8.9	® 86.7°	89.5	3 9.8 8	950 °	پ» 91.5			

	A())		~ Ir		,
				4 %	~O (,
Compound		Incubation 1	time (DAT)		
Compound	% 64 %	D 785	⊘ 98 [⊸]	120	
Fluopicolide	75.7	\$0.2 S	6.4.5°	₩ 52 ,8 ް	
M-01 (AE C653711)	19.20	0 17.30	~\$\\\\\$8.8 \\\\\	2 5.0 %	
M-03 (AE 0608000)	and a	no no	nd	$\mathbb{O}_{\mathrm{nd}}^{r}$	•
Total extractable radioactivoy ^A	%5.9∜°	×87.4 ×	8.35	\$\frac{17}{2}	
Apparatus Wash	° 0. 6 9	0.01%	0.01	0%91	
Extracted thimble combusted	na	não	0.10	√ na	
Non-extractable radioactivity	₹ 5.2 €	3 4.4	®5 ~	7 12.0	
¹⁴ C-Carbon dioxide ^B	0.8	2.00	2.0 °	2.5	
Total radioactivity	\$1.9 Č	93,8	√ 91.86	92.4	

n.a.: not analysed, n. Chot detected, De T: days after treatment

All values expressed as percentage diapplied adioactivity (% AR)

A The total extracable radioactivity was calculated as sum of ambient and Soxhlet extracts, including extracts of Soxhlet The total extractable radioactivity was calculated as sum of thimbles.

B Other volatile radioactivity was negligible at all timepoints.



Table 7.1.1.1- 10: Degradation of [phenyl-U-¹⁴C]-fluopicolide at 20 °C in Münster soil under aerobic conditions [% AR]

Compound	Incubation time (DAT)						
Compound	0	7	14	22	34	49	
Fluopicolide	102.1	90.3	90.6	86.5	82.5	JØ 9.4 💍	
M-01 (AE C653711)	nd	1.6	2.4	3.2	5.0	6.8	
M-03 (AE 0608000)	nd	1.9	3.0	4.2,4	5.2 🔊 💍		
Total extractable radioactivity ^A	102.1	93.8	_∂96.0	93(8	92.6	×92.8 ×	
Apparatus Wash	na	nd	[™] 0.02	. 02.02	002	9 0.0 3	
Non-extractable radioactivity	0.2	0.2	¥ 0.4	4 0.5		<u></u>	
¹⁴ C-Carbon dioxide ^B	na	0.0	0.0	V 000°	0.0%	0.1	
Total radioactivity	102.3	94.0	96.4	34.4	9 3 .7	94.	

Commonad	Incubation time (DAT)						
Compound	64 🔏	78/ /	>> 98 _{>>} [™]	A120 6	160	200	
Fluopicolide	76.6 Ø	~8∕2.2 <u>_</u> €	72.4	O 68.0 ×	% 4.1 %	54. 8	
M-01 (AE C653711)	90	% 11,2°	9 4.5 6	145	© 16 . ₽	<u>25.4</u>	
M-03 (AE 0608000)	Ø	8.3° /	9.7	90.6 Ô	10.4	^ا 10.3	
Total extractable radioactivity ^A	© 93.72°	₽ 91.7 €	7 9 6 9	93.1	91.1 ₆	90.5	
Apparatus Wash	$\sqrt{2}$ 0.02	0.01	∜0.01 ©	[™] 0 % 99	ndO	0.01	
Non-extractable radioactivity	Ø.9 S		© 1.5	2.8	\$	5.8	
¹⁴ C-Carbon dioxide ^B	<u> </u>	30 .1 3	, 0,2	0.3	0.2	0.7	
Total radioactivity	» 94.9	0103,3	°>>98.3 °°	Q 6.2	95.1	97.0	

n.a.: not analysed, n.d.: not detected, DAT days after treatment

B. Material Balance

Material balances ranged from 989 to 867% ATV in Sarotti sort and 103.3 to 93.7% AR for Münster soil.

C. Extractable and Non-Extractable Residues

For samples of Sarotti soil insubated with [Dhenyl-V-14C]-fluopicolide, total extractable radioactivity decreased from 98.2% AR on DAT 0 to 77.8% AR by DAT 120. The total of non-extractable residues (NER) increased from 0.7% AR a DAT by to 12.0% AR byt the end of the study (DAT 120).

For samples of Münster soil incubated with Mhenyl-U-14C]-fluopicolide, total extractable radioactivity decreased from 102.1% AR on DAT 0 to 90.5% AR after 200 days of incubation. NER was 0.2% AR at DAT 0 and increased to 8.8% AR by the end of the study (DAT 200).

D. Volatile Radioactivity

Radiolabetted carbon diewide evolved accounted for a maximum of 2.5% of the applied radioactivity in Sarotti will by the end of the study and <1% in the Münster soil. Other volatile radioactivity was negligible at all timepoints.

All values expressed a percentage of applied radioactivity (% AKO

A The total extractable radioactivity was calculated as sum of ambient and Soxhl@extracts

B Other volatile ratioactivity was negligible at all time points.



E. Degradation of Parent Compound

Fluopicolide was the principal radiolabelled component detected. Levels of parent accounted for 100% of extracted radioactivity at DAT 0 and declined to 53 and 55% of applied radioactivity at termination of the study in Sarotti and Münster soils respectively. In addition to parent material, M-0 (AE, C653711, 2,6-dichlorobenzamide, BAM) was detected. Levels increased over the course of the incubation period and accounted for 25% of applied radioactivity at DAT 120% Sarotti and DAT 200 in Münster soils. A second metabolite M-03 (AE 0608000, called RPA 427967 in the report) was detected in Münster soil only, and accounted for 10% of applied radioactivity at study termination.

F. Degradation Kinetics

Fluopicolide degraded slowly in Sarotti silty clay loom and Münster loomy sand soils under non-sterile conditions. The reported DT₅₀ values were 194 and 266 days for Sarottland Münster soils, respectively. The experimental data has been re-evaluated according to the FOCL guidance cocument on degradation kinetics (FOCUS, 2014) using the software KinGLI (version 21). Full details of the evaluation are provided in the summary for KCAT.1.2. VI/10. The resulting best-find DT₅₀ Values for trigger endpoints are summarised below in Table 7.1.1.1 Best fit timetic are highlighted in wid.

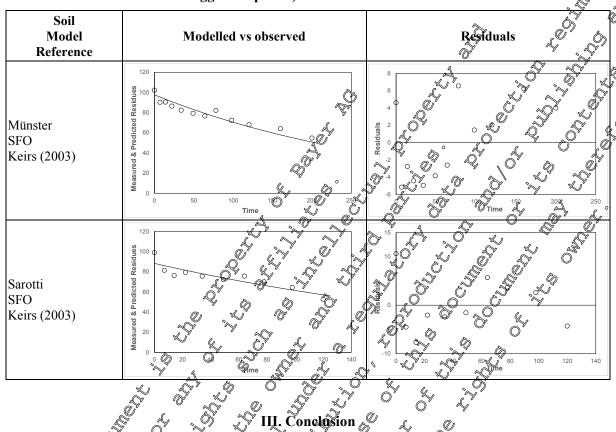
Table 7.1.1.1- 11: Degradation rate of fluoricolide under aerobic conditions at 20 % (DT s values for trigger endpoints)

			~~ /·U	//			() ~	ř . W	
Soil	Kinetic model	M	Parameter (k, k1, k2, g, tb, (5)	χ² %- error	Prob	Qower C1 0.002595 0.1406 -3.064 -0.9506	Upper Ei	DT50 Odays]	DT90 [days
		97.68	L 0 69227 @	4.43	7.63E-11	0,002595	>0.004 [©]	212	704.1
Münster,	FOMC	96.93	α 0.455 β 100.9	3 €6	n.r.	0.1406√ ✓ -3. Q 64	0.7 6 9 204.4	361.2	>1000
Keirs (2003)	FOMC	96. 5 9	k1 6255 & k2 6002841 kg 0.01594	3.70	0.2082 1.575-11	-0.9506 C00232 C.003087		238.3	804.9
Sanatti D	SECO	88.25	©k 0.0€3626 ∂	5.65	3.04E-05	0.092281	0.005	191.2	635
Keirs (2003)	FOMC	89. 46	α 0.5823 Φ 115.4	5.9	n.r.	4.488 -440.8	2.652 671.5	264	5901
Sarotti, Keirs (2003) Jest fit model high			k1 0 255		F,				



A graphical representation of the final kinetic fit is shown below.

Table 7.1.1.1- 12: Degradation of fluopicolide under aerobic conditions at 20 °C (best-fit DT₅₀ values for trigger endpoints)



[Phenyl-U-14C] be belled fluopicolide was slowly degraded in Sarotti and Münster soils under aerobic conditions, with 53% and 55% of the applied radioactivity remaining as parent compound, respectively, at the end of the incubation period. Less than 3% of the radioactivity was detected as 14CO₂, indicating very slow mineralization of fluopicolide to CO₂. Organic volatiles were not detected in either soil. The primary metabolic pathway involved the oxidation of fluopicolide to form the hydroxylated metabolite M-03 (AE 0608000) which was then cleaved to form M-02 (AE C653711) containing the phenyl ring. M-02 was detected as a major degradation product reaching a maximum of 25.4% at the end of the incubation period. M-03 was observed in the acidic Münster soil only, where it reached a maximum of 10.6% of applied at DAT 120.

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit our-normalised DT_{50} values of 191.2 days and 212.0 days were determined for the degradation fluoricolide in non-sterile Sarotti and Münster soils, respectively.

Assessment and conclusion by applicant

The study was conducted in accordance with SETAC 1.1 (1995). The study is considered valid to assess the aerobic degradation of [phenyl-U-14C]-fluopicolide in soil.



	•
Data Point:	KCA 7.1.1.1/03
Report Author:	
Report Year:	2020
Report Title:	Fluopicolide - Statement on potential for formation of stereogenic elements: No.03
	(AE 0608000)
Report No:	VC/19/039C
Document No:	<u>M-687284-01-1</u>
Guideline(s) followed in	
study:	
Deviations from current	None & & & &
test guideline:	
Previous evaluation:	No, not previously submitted &
GLP/Officially	not applicable
recognised testing	not applicable
facilities:	
Acceptability/Reliability:	Yes O' V V V V V A A

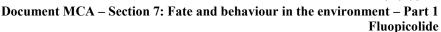
Executive Summary

This document addresses whether any further data or risk assessments are required for potential stereogenic elements associated with fluopicolide. Fluopicolide does not contain any stereogenic centres but forms a metabolite M-03 (AE 0608000) which contains one chiral carbon atom and consequently could exist as a pair of enantioners. The EESA guidance focument (EESA, 2019) or how to perform risks assessments for plant protection products that contain stereoisomers has been used to assess if any further information is required for M-03.

M-03 has been observed only in sojl matrices where it can exceed 5% AR in acidic soils dosed with parent. The metabolite is readily degraded in acidic soils and very rapidly degraded in soils at neutral or slightly alkaline soft pH. No into mation on the composition of possible mantiomers of M 03 formed in soil or their individual transformation or interconversion is available. M 03 has not been observed as a metabolite in plant, arimal or water matrices.

Ecotoxicological studies for M-03 are available with the soil organisms *Eisenia fetida* and *Folsomia candida*, and on microbial nitrogen transformation. No effects on survival and reproduction were seen for *E. fetida* and *F. candida* up to 100 mg/kg; the highest concentration tested. For *Hypoaspis aculeifer* no ecotoxicological study with M-03 is available. However, an endpoint is extrapolated from the study with the parent active substance assuming 10-fold higher toxicity compared to the parent active substance. Endpoints are corrected by a factor of 2 so the Log P for M-03 is > 2. The process of microbial nitrogen transformation was not adversely impacted up to 2.78 mg/kg (effects on nitrate formation rate < 25%), the highest concentration tested.

Information is not available on whether a specific stereoisomer of M-03 is enriched in ecotoxicological studies and/or whether the ecotoxicity properties of M-03 stereoisomers are comparable. An additional safety factor of 2 is advised by EVSA teaccount for the remaining uncertainty with regard to potential isomerization of M-03.





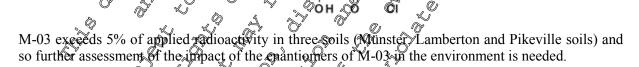
Ecotoxicological end	PECsoil	TER	Critical trigger	
E. fetida	NOEC _{corr} ≥ 25 mg/kg ^{a, b} (with uncertainty factor)	0.030 mg/kg	≥833.3	5 ©°
F. candida	NOEC _{corr} ≥ 25 mg/kg ^{a, b} (with uncertainty factor)	0.030 mg/kg	≥833.3	5 - 5
H. aculeifer	NOEC _{corr} = 25 mg/kg * a, b (with uncertainty factor)	0.030 mg/kg	≥8307.3	\$ 20
N-transformation	Effects < 25% at 1.39 mg/kg ^b (with uncertainty factor)	0.030 mg/kg	₹46.3	

^{*} NOEC extrapolated from Hypoaspis aculeifer reproduction study with the active obstance (NOE 1000mg as kg) assuming 10x higher toxicity of M-03 compared to the parent active substance

No unacceptable risk to soil organisms fluopicolide.

Formation and decline of M-Q3 in soil

In soil the primary degradation pathway of Tuopicolide initially involves oxidation of parent to form the hydroxylated metabolite M-03 (AE 0608000) which contains one chiral carbon atom and which consequently could exist as a pair of enantioners



Maximum formation of primary metabolites in aerobic soil studies treated ⁴CJFluopiçolide

Report	Soft Co	Soil pH (CaCl ₂)	Maximum M-03 detected (% AR)
2003; M 201230-0	<u>V-1</u> Münster √	4.9 A	10.6
2003; M-241052-0	1-1 © Lawberton (25°C)	5.9	6.3 / 7.8 ^B
201,7, WI 033050	Pikevill©	4.5	6.6

nd = Not detected

The extent of M-03 Cevels in soil has strong pH dependence and the metabolite was only observed as a major metabolite in acidio soils (<pH 6) at a maximum of 10.6% AR, whilst in neutral to alkali soils it was either not detected or detected only occasionally at low levels. The degradation rate of M-03 is extremely rapid except in soils which are highly acidic. In very acidic soils the degradation is bi-phasic with a rapid initial degradation phase followed by a second slower degradation phase.

^a As LogP for M-03 is >2 the ecotoxicological endpoints for E. Quida and F. carduda are divided by a correction fector of $(NOEC_{corr.} = NOEC corrected)$

^b Endpoint corrected by an additional safety factor of 2 to account for uncertainty M-03 (EFSA, 2019)

A pH in KCl

In soil treated with [U-14C-phenyl]-fluopicolide / [2,6-14C-pyridyl]-fluopicolide B Maximum



Table 7.1.1.1- 14: Best-fit soil DT₅₀ values for M-03 in laboratory soil studies determined at 20 °C

Report	Soil	pH (CaCl ₂)	Best- fit kinetic	χ2 err %	t-test	Best-fit DT50 (days)	Best-fit DA 0
	Abington	7.2	SFO	1.467	p=0.01147	0.1	\$\tag{0.3}
2002 16	Sarotti	7.1	SFO	3.113	p=0.02458	0.1	y Q3
2003; M- 241188-01-1	Münster	4.9	HS	12.22	k1: p=1.45e ² 06 k2: p= -	4.4	644.9
	Pikeville	5.4	DFOP	8.478 .0.	k1: p=458e 09 k2: p=0.149	2 /1 2	9,5
	Brierlow	5.3	SFO 🖟	9.455	p=6.21E-090°	2.5°	8.4
2016; M- 565219-01-1	Н	6.0	SFO [©]	7.977	20 4.53E√10		1,7° 2.5€\$

Kinetic evaluation of trigger endpoints is taken from M-685680-01-1

M-03 was included as an analytical target in animber of field dissipation and accomulation studies. The metabolite was detected in the 0-10 cm soil tepth at two out of the six total sites. In Hantlosen soil (pH 5.3) M-03 was found at concentrations in individual replicates ranging from < LOO to 019 mg/kg throughout the trial. In Philippsburg soil (pH 6.4) M-03 was detected only on two soil samples throughout the trial at a maximum of 0.006 mg/kg. In all other soils M-03 was analysed for but not detected (LOQ 0.005 mg/kg). It was never detected in the accumulation phase of field trials.

A lysimeter study (2004; M218 66-01-4) was conducted in Münster soil with [2,6-14C-pyridyl]-fluopicolide. Leachate samples were collected regularly for 3 years M-03 was included as reference standard but the metabolite was never detected in leachate throughout the duration of the study. M-03 was also included as an analytical target in a field leading study (2003; M-223180-01-2) conducted with fluopicotide at the Philippsburg site. Suction samplers (45) were employed to collect soil water at 5 different depths (at 30, 50, 85, 120 and 150 cm soil depth) throughout the soil profile at ca. To timepoints over three years. M-03 was detected only once throughout the three years of the study at a concentration of 0.067 µcft at 30 cm depth.

Formation and derine of M-03 in aquatic environments

M-03 (AE 0608000) was not detected in aquatic environments.

As discussed earlier the motabolite was not detected in lysimeter leachate and was detected only once in soil water in a field leaching study. Both studies were conducted with acidic soils in which there is greatest potential for detecting M-03 which is less rapidly degraded in such soils.

The hydrolysis of M-93 (2004) M-236241-01-2) was investigated to provide further information on its fave in the aquatic environment. The metabolite was shown to be hydrolytically labile under acidic, neutral and alkabine conditions at 20°C. The fate of hydrolysis was strongly dependent on pH with best-fit DT50 values of 7.4 minutes, 39.4 minutes, 4.4 hours and 45.5 hours at pH 8, 7, 6 and 5, respectively.



Table 7.1.1.1- 15: Best-fit aquatic DT₅₀ values for M-03 in a sterile hydrolysis study determined at 20 °C

Buffer pH	Best-fit kinetic	χ2 err %	t-test	Best-fit DT ₅₀ (hours)	Best-fit DT (hours)
5.1	SFO	0.423	p < 0.01	45.5	156
6.1	DFOP	0.491	k1 < 0.01, k2 < 0.01	4.43	¥6\$
7.1	DFOP	1.24	k1 < 0.01, k2 < 0.01	0.651	\$2.76
8.1	DFOP	1.12	k1 < 0.01, k2 0.01	Ø 121	0.5

II. Results and Discussion

The fluopicolide metabolite M-03 has not been observed as a metabolite in plant animal or water matrices, but exceeds 5% AR in soil and so further assessment of the impact of the enantiomers of M-03 in the environment is needed. No information on the corresponding of possible mantiomers formed in soil or their individual transformation or interconversion is available.

Ecotoxicological risk assessment for M-03 in soil

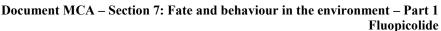
Ecotoxicological studies for M-03 are available with the soil organisms *Eisenia feuda* and *Folsomia candida*, and on microbial nitrogen transformation. No effects on survival and reproduction were seen for *E. fetida* and *F. candida* up to 100 mg/kg, the highest concentration tested. For *Hypoaspis aculeifer* no ecotoxicological study with M-03 is available. However, an endpoint is extrapolated from the study with the parent active substance assuming 10 fold higher toxicity compared to the parent active substance. Endpoints are corrected by a factor of 2 as the Log P for M-03 is 2. The process of microbial nitrogen transformation was not adversely impacted up to 2.78 mg/kg (effects on nitrate formation rate < 25%), the highest concentration (ested)

Test system Study Relevant, ecotoxicological duration endpoint	Reference
Eisenia fettera, reproduction (OEQD 56 days NOECcorr >50 mg/kg a	2016; <u>M-</u>
	<u>557757-01-1</u>
Folsomia candida, reproduction 28 das NOEC corr ≥ 50 mg/kg a	2016; <u>M-</u>
(OECD 232)	<u>558337-01-1</u>
Hypoaspis aculeifer, reproduction (extrapolated NOECcore 50 mg/kg*a	2015; <u>M-</u>
from a.s. study assum of 10x figher toxicity of an 10 0	<u>548042-01-1</u>
the parent active substance O	
N-transformation (OECD 216) 28 days Effects < 25% at 2.78 mg/kg	2016; <u>M-</u>
	<u>555852-01-1</u>

^{*} NOEC extrapolated from Hypologopis active reproduction study with the active substance (NOEC \geq 1000 mg a.s./kg), assurating 10x higher to xicity of M-03 compared the parent active substance

The soil risk assessment for Mo3 for *E. fetida*, *F. candida*, *H. aculeifer*, and N transformation has a high margin of rafety. The ordical trigger values in the soil risk assessment for M-03 are exceeded by factor 333 for *E. fetida*; *F. candida*, *H. aculeifer* and by factor > 92 for N-transformation.

^a As LogP for M-03 is 2 the cotoxicological endpoints for *E. fetida*, *F. candida*, and *H. aculeifer* are divided by a correction factor of 2 (NOEC. NOEC corrected).





Ecotoxicological end	PECsoil	TER	Critical trigger	
E. fetida	NOEC _{corr} ≥ 50 mg/kg ^a	0.030 mg/kg	≥1666.7	5
F. candida	$NOEC_{corr} \ge 50 \text{ mg/kg}^{a}$	0.030 mg/kg	≥1666.7	5 Q
H. aculeifer	NOEC _{corr} ≥ 50 mg/kg *a	0.030 mg/kg	≥1666.7	5
N-transformation	Effects < 25% at 2.78 mg/kg	0.030 mg/kg	≥920°	

^{*} NOEC extrapolated from Hypoaspis aculeifer reproduction study with the active substance NOEC \geq 1000 mg a.s. (20) assuming 10x higher toxicity of M-03 compared to the parent active substance

Information is not available on whether a specific stereoisopher of M-030 is enriched in the ecotoxicological studies listed above and/or whether the ecotoxicity properties of M 3 stereoisomers are comparable. For this case EFSA (2019) proposes an uncertainty factor is used in the ecotoxicological risk assessment. For two isomers the EFSA gurdance document (EFSA, 2019) advises the No Observed Effects Concentration (NOEC) can be divided by provided the TER's exceeded Considering an additional safety factor of 2 the risk assessment would still indicate no unacceptable risk for soil organisms. The risk assessment shows a high margin of safety

Applying an additional safety factor = 2 on cotoxicological endpoints to account for remaining uncertainty with regard to potential isomerization of Me03					
Ecotoxicological endp		Critical trigger			
E. fetida	NOE Corr > 25 mg/kg b 0.030 mg/kg > 833.3 (with uncertainty factor)	5			
F. candida	NØEC ≥ 25 mg/kg 1 \bigcirc 0030 mg/kg $\bigcirc \ge 833$ \bigcirc (with surcertainty factor)	5			
H. aculeifer	NOEC _{corr} $\stackrel{\bullet}{\Rightarrow}$ 5 mg/kg * a, b $\stackrel{\bullet}{\Rightarrow}$ 0.030 mg/kg $\stackrel{>}{\Rightarrow}$ 833.3 (with uncertainty factor)	5			
N-transformation (Effects 25% at 1.39 mg/kg 0.030 mg/kg ≥46.3 (with Oncertainty factor)	1			

^{*} NOEC extrapolated from Hypoaspis & uleifer reproduction study with the active substance (NOEC ≥ 1000 mg a.s./kg),

"As Logp for M-03 is >2 the ecotogleological endpoints for Estetida and F. earlida are divided by a correction factor of 2 (NOEC corrected by an additional safety factor of 2 to account for uncertainty with regard to potential isomerization of M-03 (EFSA, 2019)

No unacceptable risk to soil organisms is concluded from enantiomers of M-03 forming from fluopicolide.

a As LogP for M-03 is >2 the ecotoxicological endpoints for E. fetida and F. candida are the ride by a correction factor $(NOEC_{corr.} = NOEC corrected)$

assuming 10x higher toxicity of M-03 compared to the parent active substance a As LogP for M-03 is >2 the ecotox cological endpoints for a As LogP for M-03 is >2 the ecotox cological endpoints for a As LogP for M-03 is >2 the ecotox cological endpoints for a As LogP for M-03 is >2 the ecotox cological endpoints for a As LogP for M-03 is >2 the ecotox cological endpoints for a As LogP for M-03 is >2 the ecotox cological endpoints for a As LogP for M-03 is >2 the ecotox cological endpoints for a As LogP for M-03 is >2 the ecotox cological endpoints for a As LogP for M-03 is >2 the ecotox cological endpoints for a As LogP for M-03 is >2 the ecotox cological endpoints for a As LogP for M-03 is a As LogP for M-0



III. Conclusion

The fungicide fluopicolide does not contain any stereogenic centres. The primary degradation pathway initially involves oxidation of parent to form the hydroxylated metabolite M-03 (AE 0608000) which contains one chiral atom and which consequently could exist as a pair of enantiomers. However this metabolite is transient, being rapidly cleaved to form further metabolites which also do not commin any stereogenic centres.

It has been demonstrated that there is no unacceptable risk from enantiomers of M-03 from fluopicolide.

Assessment and conclusion by applicant:

The state of the s The state of degraph of the state of the sta The position paper is considered valid to aid assessment of the route of degradation of in soil. f fluopicolide



CA 7.1.1.2 Anaerobic degradation

The route of anaerobic degradation of fluopicolide in soil has been investigated in KCA 7.1.1.2/01, which was evaluated during the previous EU review and is still considered acceptable to assess the anaerobic degradation of fluopicolide. No new anaerobic data is submitted.

Report reference	Author, Year	Phenyl Label	Pyridyl Label	Comment
KCA 7.1.1.2/01 M-241050-01-1	2003	√	S Y	Submitted and reviewed for first approval of fluopicolide, 2005. Considered valid and accoptable.

Data Point:	KCA 7.1.1.2/01
Report Author:	
Report Year:	
Report Title:	Route and rate of degradation of [2,6-1@C-pyridinyl] and [U-14C-benzoyl]-AC
	C638206[in acturopean sand loan under laboratory anaeropic conditions of 20
	C638206[in a Turopean sand loam under laboratory anaeronic conditions at 20 degrees C
Report No:	B0040724 6 Y Y Y X X X X
Document No:	IM-2410
Guideline(s) followed in	EU (- (EEC); 93/36/EO of July 1995
study:	
Deviations from current	Yes. The soil was not inspoted under aerobic conditions for 30 days prior to
test guideline:	flooding. Due to the rate of degradation of fluoricolide in aerobic soil this will not
	impact, significantly on the results of the study.
Previous evaluation:	yes evaluated and accepted yy of sy
Previous evaluation:	DAR (2005)
GLP/Officially recognised testing facilities:	Yes, conducted under GLP/Orocially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes a variety of the contract

Executive Summary

The route and rate of degradation of fluopicoffee was investigated in a European soil flooded with an overlying layer of water under laboratory anaerobic conditions. Abington soil was classified as a sandy loam soil according to USD Classification. Once the systems were anaerobic [phenyl-U-\frac{14}{C}]-labelled fluopicolide or [2,6-pyridyl-\frac{14}{C}]-labelled fluopicolide was applied to evenly over the surface of the water at an application rate equivalent to 400 g /ha. The radiochemical purity was > 99 % for both radiolabelled test items. The specific activities were 5.33 and 5.88 MBq/mg for [phenyl-U-\frac{14}{C}]- and [2,6-pyridyl-\frac{14}{C}]-labelled fluopicoffee, respectively. Soil samples were then incubated in the dark under flooded anaerobic conditions at 20 °C for up to 120 days.

Samples were taken for extraction and analysis immediately after treatment (DAT 0) and after 16, 28, 56, 84 and 120 days of incorpation. For each analysis, the water and soil were separated and analyzed separately soil samples were exhaustively extracted with up to four successive extractions with acetonitrile. Water (4 / 1, 40) at ambient temperature followed by one Soxhlet extraction using acetonitrile. Water samples and concentrated soil extracts were analysed by reverse phase high performance liquid chromatography (HPLC) and the identity of degradation products confirmed by normal phase thin layer chromatography (TLC).



Recovery of radioactivity was quantitative throughout the study except for one sample (DAT 84 treated with [2,6-pyridyl-14C]-fluopicolide). Overall mean mass balances were 95.9% AR samples treated with [phenyl-U-14C]-fluopicolide and 94.5% AR for samples treated with [2,6-pyridyl-14C]-fluopicolide [2,6-pyridyl-14C].

The majority of the applied radioactivity was extractable using acetonitrile/water at applient temperature. Radioactivity from Soxhlet extractions, which used acetonitrile only showed only a slight increase over the course of the study. At study termination (DAT 120) in the prent labelled treatment 11%, 72%, and 8% AR was recovered in the water phase, ambient extract, and Soxblet extract, respectively. Similarly in the pyridyl labelled treatment, 14%, 71%, and 7% of applied were recovered. in the water phase, ambient extract and Soxhlet extract, respectively at termination.

Non-extractable residue increased proportionately with the decrease in extractable radioactionty over the 120 day study. The maximum amount of non-extragrable residues was 4.5% AR (DAY 1200 in the phenyl label and 4.4 % AR (DAT 120) in the pyride label.

Mineralization to carbon dioxide was a very minor pathway under anxerobio concitions (maximum of 0.1% AR). There was no volatilization of fluoricolide or its metabolites.

After 120 days anaerobic incubation at 20 \(\text{\$\infty} \), fluorescolide flowly degraded to \$\(\text{\$\infty} \). 6% of the radioaction at 20 \(\text{\$\infty} \). applied in the phenyl label and 83.0% in the pyridyl label. A me-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best fit unnormalised DT₅₀ value of 585.4 days and DT₅₀ value of 1945 days in Abungton soil.

The metabolic pathway under anaerobic conditions was the same as that observed under aerobic conditions, with cleavage of fluopicolide to from M-QI (maximum of 2.10 in the phenyl label treated soil) and M-02 (maximum of 89% in the paridyl label treated soil. No unique metabolites were formed under anaerobic conditions,

A. Materials

1. Test Items

Denotes position of [14C]-radiolabel

Radiochemical Purity:

100% (mean of HPLC and TLC analyses)

* Denotes position of [14C]-radiolabel

Specific Activity: $5.88 \, MBq/mg$

Radiochemical Purity: 99.97% (mean of HPLC and TLC analyses)



2. Test Soil

The study was performed using one test soil as characterized in Table 7.1.1.2-1.

Table 7.1.1.2-1: Physico-chemical properties of test soil

performed using one test soil as characterized in	Table 7.1.1.2- 1.
1: Physico-chemical properties of test soil	Table 7.1.1.2- 1. Soil Abington England, UK Sandy loam Abington Control of the control of
Parameter	Soil Soil
Soil Designation	Abington
Geographic Location	
City	Abington
Country	England, UK
Textural Classification (USDA)	sandy loam Q Q Q
Sand [50 - 2000 μm] (%)	67 5
Silt [2 – 50 μm] (%)	
Clay [< 2 μm] (%) (%)	Sandy loan Control of
pH S S	
in H_2O (1:1)	7.45
PH in H ₂ O (1:1) in CaCl ₂ (1:1)	
Organic Matter (%)	0.8 5 7
Organic Carbon (%)*	¥ 5 2.2 5 5 V
Cation Exchange Capacity (meg 300 g)	189 0 4
Water Holding Capacity (%)	
maximum	56.1
at 1/10-bar	
at 1/2 bar	14.6 0
Bulk Density (disturbed, &cm³)	© 1.26 % "
Buffk Density (disturbed, @/cm³) Soil Microbial Blomass fug microbial O/g soil Initial (DAT 1)	
Initial (DAT'b)	290.8
Fight (DAP126) O & S	71.6

^{*} Calculated by Awiding organic matter content by 1.72

Biomass samples were intreated.

B. Study Design

1. Experimental Conditions

The test system consisted of flasts containing 50 g soil (dry weight basis) that were flooded with an overlying layer of dejonised water. The depits of the surface water was approximately 1 are about 1 1. Experimental Conditions

The test system consovering overlying layer of deionised water. The depth of the surface water was approximately 1 cm above the soil surface and was traintained throughout the ourse of the study. Humidified nitrogen was passed through each treated lask continuously to maintain anaerobic conditions. Tests were performed in flow through systems consisting of glass flasks each containing 50 g soil and attached to an ethylene glycol trap to collect organic volatiles followed by or ethanolamine trap to collect carbon dioxide. Soil samples were flooded 4 days prior application in order to allow the system to become anaerobic.

The tests were performed at a concentration of approximately 0.41 mg/kg dry weight of soil. The test concentration was based on a Geld rate of 400 g a.s./ha. The test items [phenyl-U-14C]- or [2,6-pyridyl-¹⁴C]-fluopicoble, dissolved in acetonitrile (406 and 460 μL, respectively), were applied drop wise onto the surface of the water. The samples were incubated at 20 ± 1 °C under anaerobic conditions in the dark for up to 120 days.



2. Sampling

Single samples were removed for analysis after 0, 16, 28, 56, 84 and 120 days of incubation. Untreated samples were analysed for biomass at the beginning and end of the experiment.

3. Analytical Procedures

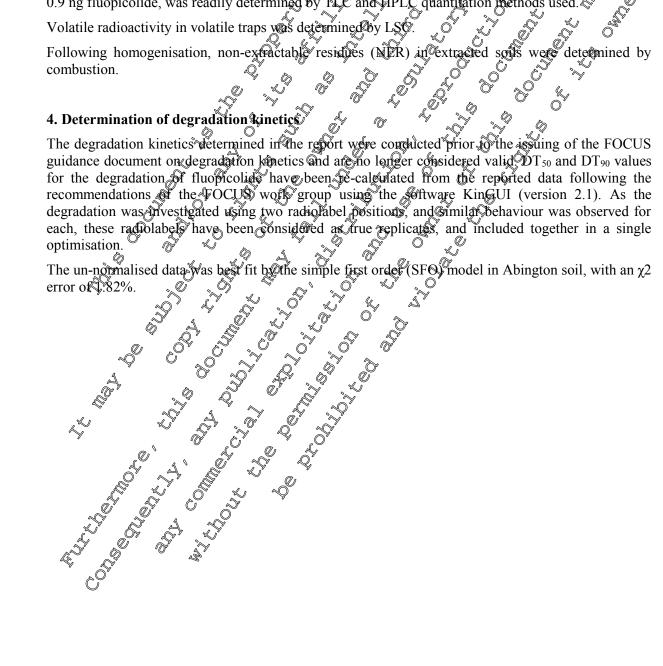
For each analysis, the water and soil were separated and analyzed separately. The soil was expected extracted up to four times at ambient temperature with acetonitrile/water (4/1, v/v). After ambient extractions, the soil was further extracted by Soxhlet using only acetonic ile. Radioacq vity in the water phase, extracted from soil and in the volatile traps was quantified by liquid scintillation counting (LSC) The remaining soil residue was combusted to quantify non-extractable soil residue

Water samples were filtered and analysed by HPLO with radiodetection directly. Ambient soil extracts and Soxhlet extracts were concentrated and analysed separately by HPLC with radiodetection. Degradation products were identified by comparison of the retention times of reference standards and confirmed by TLC co-chromatography with reference items. A beak of 300 dpm, corresponding to 0.9 ng fluopicolide, was readily determined by TLC and IPLC quantitation pethods used.

Volatile radioactivity in volatile traps was determined by LSO

Following homogenisation, non-extractable residues (NPR) in extracted soils were determined by combustion.

4. Determination of degradation kinetics





II. Results and Discussion

A. Data

The distribution and characterisation of radioactivity for the test soil incubated at 20 °C following application of [phenyl-U-14C]- and [2,6-pyridyl-14C]-fluopicolide are summarized in Table 7.1. Table 7.1.1.2-3.

Table 7.1.1.2- 2: Degradation of [phenyl-U-14C]-fluopicolide at 20 °C in Abington so anaerobic conditions [% AR]

				~ %	.~	
Compound			Incubation	time (DAT)	O	9
Compound	0	16	∀ 28	ىر [©] *56	84 🖏	, 1 3 70 9
Fluopicolide	96.3	97.2	91.6	₽° 9 @ _7	% 85. 6 €	88.6
M-01 (AE C653711)	nd	1.60	0.4	№ 0.4	~ 0/6 ×	\$ 2.J
Water Phase	76.2	48.3	12,0	13.8	2.6	11.0
Ambient Extracts	21.1	₄ 76 ∜	Ø5.2 Ø	7 6 4	[©] 67. 7 ∜	₹1.9 _€ °
Soxhlet Extracts	n/a 🔏	4.5	4.5	4.4	6.2	₹ 7. %
Total Soil Extracted A	21.1	/×80.5 @	799	O 77.8 Y	₹ 3.9 ₹	79 .7
Non-extractable radioactivity	1	£ 1.7 £	~ 2 .8 ~	3.8	3.70	4.5
¹⁴ C-Carbon dioxide including other volatiles ^B	Qna Q	and a	nd	nd	ind %	0.1
Total radioactivity	98%	100.5	₽5.2 ®	95.4	90.3	95.3

n.a.: not analysed, n.d.: not detected, DAC; days after treatment All values expressed as percentage of total applied radiolatel

-fluopicolide at 20°C in Abington soil under Table 7.1.1.2- 3 argaerobio conditions & AR

	, , , , , , , , , , , , , , , , , , ,	2.		
Compound	Incubation	tome (DAT)		
		56	84	120
Fluopicolide 95.5 9 93	90 5	92.9	82.5	83.0
M-02 (AE C657188) Ond Ond		0.5	0.7	8.9
Water Phase 70.9 21	15 57.5	14	12.2	14.3
Ambient Extraets 24.6 4	8 69.2	74.6	65.5	70.6
Soxalet Extracts na Andrew 28.	5 © 3.9	5.0	5.7	7.0
Total See Extracted A 24.6 272	§ 73.1	79.6	71.2	77.6
Non-extractable radioactivity 7.1 2	3.0	3.8	4.3	4.4
14C-Carbon dioxide including other volatiles Bo	l nd	nd	nd	nd
Total radioactivity \$\frac{96.6}{2}\$ 95	.5 93.6	97.4	87.7	96.3

n.a.: not analysed, n.d./ not desected, WAT: days after treatment

A The total soil extractable radioactivity was calculated as sum of ambient and Soxhlet extra

B Other volatile radioactivity was \$10.05 % &R at anotime point

All values expressed as percentage obtatal applied radiolabel

A The total soil expractable radioactivity was calculated as sum of ambient and Soxhlet extracts.

B Other volatil Oradioactivity was \$\infty\$ 0.05 % AR at any time point



B. Material Balance

For samples of Abington soil incubated at 20 °C, material balances ranged from 90.3 to 100.5% AR for [phenyl-U-¹⁴C]-fluopicolide (mean 95.9% AR) and from 87.7 to 97.4% AR for [2,6-pyridyl-¹⁶C]-fluopicolide (mean 94.5% AR).

C. Extractable and Non-Extractable Residues

The majority of the applied radioactivity was extractable throughout the study. For samples incubated with [phenyl-U-14C]-fluopicolide, total extractable radioactivity ranged from 98.8% AR at DAT 84. At study termination (DAT 120) 15.0%, 71.9% and 7.8% was recovered in the water phase, ambient extracts and Soxhlet extracts, respectively. The total of non-extractable residues (NER) increased from 1.4% AR at DAT 0 to 4.5% AR by the end of the study (DAT 120)

For samples incubated with [2,6-pyridyl-¹⁴C]-fluoricolide, total extractable radioactivity ranged from 95.5% AR at DAT 0 to 83.4% AR at DAT 84. At study termination (DAT 120) 14.3%, 70.6% and 70% was recovered in the water phase, ambient extracts and Soxhler extracts, respectively. The total extracts are covered in the water phase, ambient extracts and Soxhler extracts, respectively. The total extracts are covered in the water phase, ambient extracts and Soxhler extracts, respectively. The total extracts are covered in the water phase, ambient extracts and Soxhler extracts, respectively. The total extracts are covered in the water phase, ambient extracts and Soxhler extracts.

D. Volatile Radioactivity

Mineralization to carbon dioxide was a very minor pathway under anaerobic conditions. Only trace amounts of radioactivity were recovered in the volatile traps containing ethanolars (maximum of 0.1% of applied). There was no volatilization of fluoricolide of its metabolities.

E. Degradation of Parent Compound

Fluopicolide slowly degraded in soil under anaembic conditions with 88.6% and 850% of the applied radioactivity remaining as parent compound in the phonyl and pyridyl label treated soil by DAT 120.

Following application of [phonyl-U-JC]-fluopicolde, the active substance was degraded to form M-01 (called AE C65371) BAM in the eport, which was observed at peak levels of 2.1% AR by DAT 120 in anaerobic soil.

Following application of [2,6-pyrids] ²¹⁴Cl-Duopiconde, the active substance was degraded to form M-02 (called AE C657) 88, PCA in the report), which was observed at a maximum of 8.9% AR by DAT 120.

F. Degradation Kinetics

Fluopicolide degraded slowly in the Abington saidy learn soil under anaerobic conditions. The reported DT_{50} values were 71 and 77 days (mean = 424 days) for the phenyl- and pyridyl- labels, respectively. The experimental data has been to evaluated according to the FOCUS guidance document on degradation whetics (FOCOS, 2014) using the software KinGUI (version 2.1). The resulting best-fit DT_{50} values for trigger endpoints are summarised below in Table 7.1.1.2- 4.

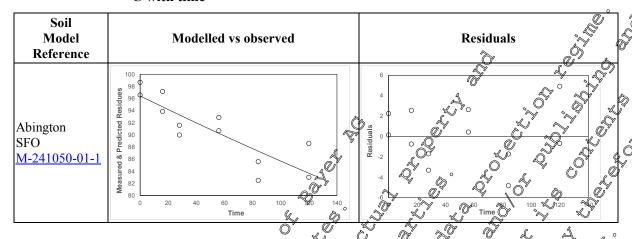
Table 79.1.2-4: Degradation rate of floopicotide under anaerobic conditions at 20 °C (best-fit D150 yatues for trigger endpoints)

Kinetic model	Ma	Parameter (k, k1, k2, g, tbζu, β)	₹,%- Çerror	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT90 [days]
SFO	9 6.45	10 .001184	1.82	0.000204	0.0007368	0.002	585.4	1945
	97.86	α 0.1 0 11 β 9 7.7	1.77	n.r. n.r.	-0.07646 -84.84	0.279 160.2	>10000	>10000
POP C	©∀ U 197.83	\$\int 0.01462 22.34E-14 g 0.1602	2	0.427 0.5 n.r.	-0.1359 -0.01288 -1.973	0.165 0.013 2.294	>10000	>10000

Best fit wodel highlighted in bold



Table 7.1.1.2-5: Degradation of fluopicolide under anaerobic conditions in Abington soil at 20 °C with time



VIII Çöncluşiön

Fluopicolide slowly degraded in sandy loans soil under anaerobic conditions. Initial dissipation of fluopicolide into the soil phase during the first two weeks of the study was rapid but thereafter the rate of dissipation from the water phase was slower. Approximately 89% and 83% of the applied radioactivity remained in the combined aqueous and soil extracts as fluopicolide in the phenyl and pyridyl label treated soils, respectively, at the end of 120 days. Less than 1% of the adioactivity was detected in the ethanolamine traps indicating very slow mineralization of the opicolide to CO₂ under anaerobic conditions. Organic volatiles were not detected with either radioabelled treatment. Unextracted soil bound residues accounted for 5% AR at the end of the study.

The metabolic pathway under anaerobic conditions was the same as that observed under aerobic conditions, with cleavage of fluopicolide to form M to (maximum of 2.1% in the phenyl label treated soil) and M-02 (maximum of 8.9% in the pyridyl label treated soil) No unique metabolites were formed under anaerobic conditions

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in best-fit un normalised DV50 value of 585.4 days for Abington soil under anaerobic conditions.

Assessment and concresion by applicant:

The study was conducted in accordance with SETAC 1.1 (1995) and USEPA (= EPA) N, 162-1 (1982). The study is considered valid to asses the anaerobic degradation of [phenyl-U-14C]- and [2,6-pyridyle C]-fluopicolide in Soil.



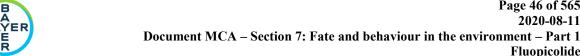
CA 7.1.1.3 Soil photolysis

The soil photolysis of fluopicolide has been investigated in Studies KCA 7.1.1.3/01, KCA 7.1.13/02 and KCA 7.1.1.3/03 which were evaluated during the previous EU review and are still considered acceptable. No new soil photolysis data is submitted.

Report reference	Author, Year	Phenyl Label	Pyridyl Babel	Comment
KCA 7.1.1.3/01 M-201037-03-1	2009	×		Submitted and reviewed for first approval of fluoricolide 2005 Considered valid and acceptable.
KCA 7.1.1.3/02 M-201033-03-1	1999			Sulfanitted and reviewed for first approval of fluoricolide, 2005. Considered value and acceptable.
KCA 7.1.1.3/03 <u>M-201038-03-1</u>	2005			Submitted and revioued for first approval of fluopicolide, 2005.
KCA 7.1.1.3/04 M-300764-03-1	2009			Subnutted and reviewed for first approval of Tuopicolide, 2008 and 2009. Sugerseded
KCA 7.1.1.3/05 <u>M-286182-01-1</u>	2007	T - 5		Submitted and Seviewed for first approval of fluopicolide, 2007 and 2009. Not accepted. Superseded.

In addition, two statements submitted to the PRACER Expert Meetings in 2007 to 2009 are included in the supplementary dossier for procedural reasons. However, both statements have been superseded as they were written prior to FOCL/S guidance document on degradation kinetics (2014). Neither statement is valid as all field dissipation studies have been re-evaluated according to EFSA guidance document (2014) following the procedures recommended for determining bulk soil DegT_{50matrix} values for use in exposure modelling, which exclude soil surface processes such as soil photolysis. Consequently KCA 7.1.1.3/04 and KCA 7.1.1.3/05 are not summarised in this dossier.

Fluopicolide



Data Point:	KCA 7.1.1.3/01
Report Author:	
Report Year:	2009
Report Title:	(Pyridyl-2, 6-14C) labelled AE C638206: photodegradation on sandy loam soil report amendment 2
Report No:	18768
Document No:	M-201037-03-1
Guideline(s) followed in	EU (=EEC): 91/414
study:	
Deviations from current	none & A
test guideline:	
Previous evaluation:	yes, evaluated and accepted
	DAR (2005)
GLP/Officially	Yes, conducted under GLD Officially recognised setting facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes O V V V V V V V V V V V V V V V V V V

The original soil photolysis report M-2010 7-01 which was evaluated and accepted in the DAR (2005), is included in the Baseline dossier. This report has subsequently been amended twice. The first opport amendment (M-201037-02-1) added the initials 'ORCD' to the GLP statement and has no been included in either the Baseline Dossier or this MCA 7 Dossier because it has been superseded by a second report mendinent (KSA 7.1.1.3/01, M-201037-03-1) which is summarised below. In the second report amendment part & Appendix 7 has been removed. In the original report Appendix 7 contained an extrapolation of natural sunlight measured outdoors with a Radiolux sensor to justify the light intensity used in the Herneus suntest unit. However the light intensity value measured outdoors was unrealistically high as the sensor was not appropriate for measurements of natural sunlight outdoors. It should be noted that this had no effect on the conculation of the light intensity in the suntest experiment, which was measured by the Racholux sensor under the correct conditions. The only impact of the outdoor measurements on the study is that the coil samples will have been irradiated and higher levels or for a longer period than was strictly necessary. To avoid Confusion the report was amended by removing the extrapolation calculation from Appendix 7.

The photolytic degradation of Juopicolide on soil sorfaces was investigated in air-dried Abington sandy loam soil, prepared as a thin-Tayer on glass incubation ressels with a thickness of about 3 mm. The test item, [2,6-pyridy] [2]-fluopicologe, dissolved in acconitrile, was applied evenly to the soil surface at an application rate equivalent of 11.2 mg/kg. Treated soil samples were exposed to artificial irradiation from a Xenon camp (with < 000 nm cut-of Pilter) with continuous irradiation for a period of 15 days at 20 ± 3 °C. A set of dark control samples created at the same application rate were incubated in the dark at 20 ± 3

and 96.6 % AR for the irradiated and dark controls, The mean recoveries of radioactivity were 97 respectively.

Fluopicolide was, the principal adiolabelled component detected. In the irradiated samples, fluopicolide slowly degraded to 8.2% AR after 1.3 days. Mineralization to carbon dioxide was low at < 1 % AR. The degradation atte of Nuopicolide was slightly enhanced in the presence of light leading to the formation of M-02 Called XE C 7188 in the report) at 3% AR and two other very minor photodegradation product (each 50.3% AR), No degradation of fluopicolide occurred during incubation in the dark.



A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014). A summary of the results is shown below. The best fit DT_{50} value calculated for fluopicolide was 235 days summer sunlight at 30-50 °N.

S.J.	Dogt St model	χ² – error	DT50	DT90
Soil	Best fit model	[%]	[days summer sunlight? @ 30-50 °N]	days summer sunlight
Abington – pyridyl label	SFO	1.26	235	~ \$980 ; \$\delta^{\delta}\$ \

I. Materials and Methods

A. Materials

1. Test Items

[2,6-Pyridyl-¹⁴C]-fluopicolide

* Denotes position of [14C] cadiolabel

5.29 MBg/mg (162 μCi/mg)

99.8% mean of HPIC and TLC analyses

Specific Activity: Radiochemical Purity

2. Test Soil

The study was performed using one test soil as characterized in Table 7.4.1.3-1

Table 7.1.13-1: Physico-chemical properties of test soil

Parameter &	O Soil
Soil Designation & Soil Designation	Abington
Cographic Location (7)	
City City City City City City City City	Abington
Country Y Y Y	England, UK
Textural Classification (PSDA)	sandy loam
Sand \$50 - 2000 μm	64.72
\$\text{\$\pi\$}[2 - 5\Q \mu m] \tag{\pi} (\%) \tag{\pi}	18.64
Clay [Dum] Q (Co	16.65
CpH & S	
int N2O (1897)	7.6
Xin CaCto (1:1) ✓ ♥	7.4
Organic Carbon (%)	2.1
Cation Exchange Capacity (meq/100 g)	14.6
* USDA textural classification data taken from Append	ix 5



B. Study Design

1. Experimental Conditions

Portions of fresh soil (5 g) were added to borosilicate glass incubation vessels, fitted with quartz lass covers. Water was added to form a slurry and the soil air dried at ambient temperature to give a soil depth of ca. 3mm. The soil samples were incubated inside glass units with most ened carbo dioxide free air drawn over the soil surface. A series of three traps for volatile products was connected to each unit. The first trap was empty (to prevent flow back), the second contained ethanediol to trap volatile organic components and the third contained ethanolamine to trap liberate CO₂.

A preliminary investigation was conducted over three days to determine an approximate rate photodegradation of fluopicolide.

The test item [2,6-pyridyl-14C]-fluopicolide (56 µg), dissolved in acetomitrile (100 µL), was applied evenly to the soil surface. Units were either irradiated continuously will light from an Herakus Sunfest xenon lamp, or incubated in the dark (non-irradiated samples). The application rate was equivalent to 11.2 mg/kg. The temperature of both irradiated and non-irradiated samples was maintained at a temperature of 20 ± 3 °C throughout the incubation period. The Photolytic degradation of floopicolide was studied with continuous illumination under artificial somlight for a period of up to 15 days, equivalent to 30 days of natural summer sunfight. The artificial such ight was provided by a xeron arc lamp with filters to cut off any radiation below 2900m.

2. Sampling

In the preliminary investigation a single replicate was removed at time zero. and 3 days. A nonirradiated sample was maintained for 3 days.

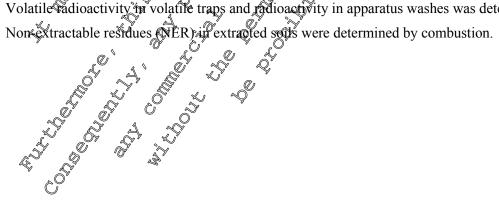
In the definitive study duplicates oil samples were taken from both irradiated and non-irradiated systems after 0, 3, 5, 7, 10 and 15 days. One replicate was taken for analysis and the other was stored without further analysis. The replicate samples were planted for structural analysis of potential photodegradation products which we're not formed

3. Analytical Procedures

Soil samples were extracted an ambient temperature initially with acetonitrile, followed by acetonitrile / water (4/1, v/v). After removal of the soil@amples from the incubation flasks, the flasks were soaked in acetone to remove any residual activity. Radioactivity expracted from soil was quantified by liquid scintillation counting (QSC).

Soil extracts were pooled and concentrated prior to analysis by HPLC. Degradation products were identified by comparison of the retention time of reference standards.

Volatile adioactivity in volatile traps and radioactivity in apparatus washes was determined by LSC.





4. Determination of degradation kinetics

No degradation kinetics were determined in the report. DT₅₀ and DT₉₀ values for the degradation of fluopicolide under irradiated conditions have been calculated from the reported data.

The total recovery of radioactivity reported for each sample was variable and the recovery in the DAT samples was higher than the other samples (especially for the phenyl label KCA 7.1.1.3002). fluopicolide residues were, therefore, corrected based on the total recoveries reported for each sample prior to entry in kinetic models. This study with [2,6-pyridyl-14C]-fluopicolide and the soil photolysis study with [phenyl-U-14C]-fluopicolide (KCA 7.1.1.3/02) used the same (Abington) soil but weit conducted two years apart. They were therefore considered to be separate incubation systems and analysed in separate sets of optimisations.

The radiation intensity in both studies was measured fre incubation and at termination for each sample these intensity measurements were used to normalise the sampling interval of each cample to days of summer sunlight days at 30-50 °N in accordance with OECD anidance.

Where d days of summe@sunlight

> hours of continuous study icradiation h

hours of continuous study in adiation ratio of study radiation intensity (irradiance) to that of summer sunti r

correction for differnal variation of natural sumfight 0.75 =

conversion of hours to days

Draft OECD guidance for soil photolysis studies reports a mean mid-symmer solar jaradiance intensity of 67 W/m² at 30-50 °N₂ in the UVA wavelength (300-400 nm). The radiation intensity in the studies was measured and reported in W/m² for the wavelength 360-800 nm. The irradiance reported for each sample was therefore factor for comparison with summer surfight intensity (calculation of r factor) according to the following breakdown of the sunlight spectra provided by CIE (1989)1: Led

Proportion of total global radiation Wavelength

300-400 nm: 8.8% 400-800 nm: 55.48% 800-2450 nm: 37.8%

Kinetic wodel input data are summarised below

Kinetic input data

Actual DAT (days)	Label	Reported Wypr (300-800 thm)		r	Days summer sunlight @ 30-50°N	Fluopicolide (%AR corrected for total recovery)
0	Pyridyl				0.0	97.9
3	Pyridyl	779.0	Q 5 9.4	0.78	6.3	92.6
5	Pyrid y l [°]	461.5	∕ _€ 50.5	0.75	10.0	91.9
7	Pyrjelyl /	454.5	49.7	0.74	13.8	90.9
10	Pyridyl	409.0	44.7	0.67	17.8	89.7
15	©Pyrid®	4195	45.9	0.68	27.4	90.0

¹ CIE (Commission Internationale De L'Eclairage) (1989): Solar Spectral Irradience Publication CIE, No. 85 (Technical Report)



The input data were fitted with single first order (SFO), first order multi compartment (FOMC) and dual first order in parallel (DFOP) kinetics using KinGUI v2.1 in accordance with the FOCUS (2006, 2014) guidance for deriving trigger endpoints. Confidence in the resulting parameters was assessed visually and from probability values for a t-test of the rate parameters for the SFO and DFOP model and assessment of the confidence intervals of the α and β FOMC parameters. The χ^2 error% metric was used to determine statistical goodness of fit.

Fluopicolide residues in samples incubated under dark conditions showed negligible decline and all decline in residues observed under irradiated conditions was assumed to be attributable to photogysis

II. Results and Discussion

A. Data

The distribution and characterisation of radioactivity under conditions and in the dark following application of [2,6-pyridyl-14C]-fluoricolide are summatized in Table 7.1.1.3-3 and Table 7.1.1.3-4.

Photodegradation of 2,6-pyridy C|-firopicolide at 20 °C in Abington soil Table 7.1.1.3- 3: under continuous radiated conditions [% AR]

		<u> </u>	- 22 - 40	<u> </u>		-Cn
Compound			Incubation	timedDATE		S.
-		90.87	Incubation 5	Z 7 2 9	910 85.98	15
Fluopicolide	98.44	90.87	84.97 _@	N 81,33	©85.98¥	86.68
M-02 (AE C657188)	nd ©	0 1.84	_അ വ വ ?∜	`& ~ C	⁹ 2 ₆ 64	2.6
AE C648995	and 🖏		nd.	2/.35 N	hd nd	0.29
Unidentified 1	nd©	Ond &	nd \	nd 🦠	nd	0.22
Unidentified 1 Soil Extracts	98 44 2 na	© nd © 0 92 \$\frac{1}{2}\$	90.19	© .68 4	88.62	89.80
Apparatus Wash	na 🖏	√ √ 2 °.	y 0.03	& 0.0 <u>1</u> €	0.02	0.02
Non-extractable adioactivity	2.12	5.30	5.38	6:47	6.83	6.12
¹⁴ C-Carbon dioxide	na	5.30	0.12	2 0.21	0.32	0.35
Organic volatiles	Ina A		© 0. 9 3	© 0.02	0.04	0.03
Total radioactivity	100.56	98.14	\$5.76 O	⁹ 96.09	95.83	96.32
Total radioactivity na: not analysed, nd: not detected. All values expressed as percentage.						



Table 7.1.1.3- 4: Degradation of [2,6-pyridyl-14C]-fluopicolide at 20 °C in Abington soil under non-irradiated conditions in the dark [% AR]

Comment	Incubation time (DAT)							
Compound	3	5	7	10	15			
Fluopicolide	96.65	92.99	91.65	4 .35	92 .95 💍			
M-02 (AE C657188)	nd	nd	nd	o nd	nd			
AE C648995	nd	nd	nd 🎤	nd , (
Unidentified 1	nd	nd 🖔	nd 🗸	nd 🔊	and s			
Soil Extracts	96.65	92.99	91.60	94.35	\$92.95			
Apparatus Wash	0.08	Q 4	0.009	0.05	Q 0,08			
Non-extractable radioactivity	3.18	2 .46	3.22 ©	2 .17	2.82			
¹⁴ C-Carbon dioxide	nd	nd nd	nd nd	nd	0.02			
Organic volatiles	nd 🖔	y fa £	P nd &		9.01			
Total radioactivity	99.90 🚜	\$95.59 ©	9 4.97 🔊	96.58	₹3.86 £,°			

nd: not detected, DAT: days after treatment

All values expressed as percentage of total applied radiolabe

B. Material Balance

Material balances ranged from \$8.8 to 100.6% AR for irradiated samples treated with [26-pyridyl-14C]-fluopicolide (mean 97.1% AR) and from \$8.0 to 99.9% AR for samples incubated in the dark (mean 96.6% AR).

C. Extractable and Son-Extractable Residues

The majority of the applied radioactivity was extractable throughout the sady. For irradiated samples treated with [2,6 pyrigyl-14C]-ruopicolide total extractable radioactivity ranged from 98.4% AR at DAT 0 to 886% ARCat DAT 10. At study tempination (DAT 15) 89.8% AR was recovered in soil extracts. The total of non-extractable residues (NER) was low throughout the study, increasing from 2.1% AR at DAT 0 to 6.3% AR by DAT 10, and then decreasing slightly to 6.1% AR by the end of the study (BAT 15).

For samples incubated in the dark with [2,6-pyridylo C]-fluopicolide, total extractable radioactivity ranged from 96.7% AR at DAT 3 to 97.7% AR at DAT 7. At study termination (DAT 15) 93.0% AR was recovered in the soll extracts. The total of non-extractable residues (NER) was low ranging from 2.2% to 3.2% AR throughout the study

D. Volatile Radioactivity

Radiolabelled carbon dioxide evolved accounted for <1% of the applied radioactivity in both the irradiated and non-irradiated samples only face amounts of radioactivity were recovered in the volatile traps containing ethanediol maximum of 0.04% of applied) confirming there was no volatilization of ins metabolites. fluopicolide rits metabolites.



E. Degradation of Parent Compound

Fluopicolide was the principal radiolabelled component detected. Levels of parent accounted for all extracted radioactivity in Day 0 soil extracts and in non-irradiated samples throughout both the preliminary and main studies. Levels of parent declined over the irradiation period of the main study to 87% of applied radioactivity after 15 days. The degradation product M-02 (called AE C6571.89 in the report) accounted for 3% at the end of the irradiation period. Two other minor metabolites, AEC648955 and an unidentified metabolite were detected at the final sampling point. Each accounted for <0.33 applied radioactivity.

The proposed photolytic route of degradation of [2,6-px dyl-14C]-fluoricolide in soil is Figure 7.1.1.3-1. CJ-fluopicolide in soil

Figure 7.1.1.3- 1: Photolytic route of degradation of [2,6-pyrid

were not reported. The experimental data has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS 2014) using the software KinGUI (version 2.1). A summary of the fit statistics in the standard of SA Chetics template are shown below.

calculated for The best fit DT_{50} value calculated for Juopiconde was 235 days summer sunlight at 30-50 °N.



Table 7.1.1.3- 5: Degradation rate of [2,6-pyridyl-¹⁴C]-fluopicolide under irradiated conditions at 20 °C (best-fit DT₅₀ values for trigger endpoints)

Kinetic model	\mathbf{M}_0	Parameter [k, k1, k2, g, tb, a, β]	χ², %-error	Prob >t	Lower CI	Upper CI	DT50 [days]	DTo
SFO	95.6	k=0.002952	1.26	0.0163	0.001149	0.005	235	√ 780 √ °
FOMC	97.9	α=0.023527 β=0.631907	0.3545	n.r. n.r.	0.010801 -0.547341	0.036 1.84J	>1000	>1000
DFOP	97.9	k1=0.1501 k2=2.418E- 14 g=0.0838	0.3413	0.1315 0.5 n.r.	©0.04065 -0.003132 3.213E-03	₹341 ○ 0.003 ▼ 0.164	\$\$00 £	7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

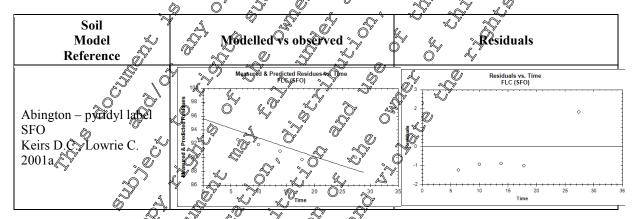
Decision summary (persistence endpoints): FOM and DFOP both provided a slight decrease in a error However, parameter confidence was poor for both biphasic models and there were too fee samples to ascertain a definitive biphasic behaviour. The SFO moder provided an acceptable fit and was selected for trigger endpoints

n.r. not relevant

Best fit model highlighted in bold

A graphical representation of the final kinetic fit is shown below

Table 7.1.1.3- 6: Graphical representation of final kinetic fit of [2,6-pyridy]-14 Filuopicolide under irradiated conditions at 20% C

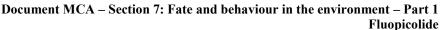


III Conclusion

The degradation rate of [2,6-pyridyl-¹⁴C]-monicolide was slightly enhanced in the presence of light leading to the formation of M-02 (AE C657188) and two other very minor photodegradation products. No degradation of fluopisplide occurred during incubation in the dark.

Assessment and conclusion by applicant.

The study was conducted in accordance with SETAC 1.1 (1995) and USEPA (= EPA) N, 161-3 (1982). The study as considered valid to assess the photolytic degradation of [2,6-pyridyl-14C]-fluoricolide in soil.





Data Point:	KCA 7.1.1.3/02
Report Author:	
Report Year:	2009
Report Title:	[14C]-AE C638206: soil photolysis - Report amendment 3
Report No:	17299
Document No:	<u>M-201033-03-1</u>
Guideline(s) followed in	EU (=EEC): 91/414; SETAC: March 1995
study:	
Deviations from current	none vi
test guideline:	
Previous evaluation:	yes, evaluated and accepted
	DAR (2005)
GLP/Officially	Yes, conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities:	Yes, conducted under GLP/Officially recognised testing facilities
Acceptability/Reliability:	Yes & & & & & & & & & & & & & & & & & & &

The original soil photolysis report M-2010; 01-1, which was evaluated and accepted in the DAR (2003), is included in the Baseline dossier. This report has subsequently been amoded twice. A report intendment (M-201033-02-1) added the initials 'OECD's the GLP statement and has not been included in other the Baseline Dossier or this MCA 7 Dossier because it has been superseded by a later report amendment (CCA 7.11.3/02, M-201033-03-1) which is summarised below. In the later report amendment, part of Appendix 7 has been removed. In the original report Appendix 7 contained an extrapolation of natural sunlight measured outdoors with a Radiolux sensor to justify the light intensity used in the Heraeus suntest unit. However the light intensity value measured outdoors was unrealistically high as the sensor was not appropriate for measurements of natural sunlight outdoors. It should be noted that this had no effect on the calculation of the light intensity in the suntest experiment, which was measured by the Radiolux sensor under the correct conditions. The only impact of the outdoor measurements on the study is that the soil samples will have been irradiated at higher levels or for a longer period than was strictly necessary. To avoid confusion the poort was amended by removing the extrapolation calculation from Appendix 7.

Executive Summarx

The phototytic degradation of this picotode on soil surfaces was investigated in air-dried Abington sandy loam soil prepared as a thin-layer on glass incubation vessels with a thickness of about 3 mm. The test item, [phenyl-U- 14 Cf-fluoricolide dissolved in action trile was applied evenly to the soil surface at an application rate equivalent to 103 mg/kg. Treated soil samples were exposed to artificial irradiation from a Xenon lamp (with < 290 nm cot-off titer) with cortinuous irradiation for a period of 15 days at 20 ± 3 °C. A set of dark control samples treated at the same application rate were incubated in the dark at 20 ± 3 °C.

The measurecoveries of adioactivity were \$7.5 % and 99.0 % AR for the irradiated and dark controls, respectively.

Fluopicolide was the principal radiolabelled component detected. In the irradiated samples, fluopicolide slowly degraded to 72% AR after 15 days. Mineralization to carbon dioxide was low at <3 % AR. The degradation rate of fluopicolide was slightly enhanced in the presence of light leading to the formation of M-01 (AE C653711) at 8.6% AR. No degradation of fluopicolide occurred during incubation in the dark.



A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014). A summary of the results is shown below. The best fit DT_{50} value calculated for fluopicolide was 158 days summer sunlight at 30-50 °N.

Soil	Best fit model	χ² – error [%]	DT ₅₀ [days summer sunlight @ 30-50 °N]	DT ₉₀ days summer sunlight @ 30 50 °N
Abington – phenyl label	DFOP	0.70	158	\$\text{952} \text{\$\tilde{Q}\$}

I. Materials and Methods

A. Materials

1. Test Items

[Phenyl-U-14C]-Fluopicolide

Denotes position of 14C Sadiolabel

Specific Activity:

Radiochemical Purity:

5.36 MBg/mg (1/44 μCi/mg)

2. Test Soil

The study was performed using one test soil as characterized in Table 7.1.3-7.

Table 7.1.1.3-7: Physico-chemical properties of test soil

Parameter & & &	Soil
Soil Designation &	Abington
Goographic Location City Country	
City 5	Abington
Country Sy Sy Sy	England, UK
Textural Classification (CSDA)	sandy loam
Sand 250 - 2000 μm (%)	61.64
$Sin[2-50 \mu m]$ (%)	20.81
Clay [Jum] Q ()	17.55
QβH ↓ ↓ Q ↓	
in Al ₂ O (la)	8.0
xin CaCb (1:1) Q	7.3
Organi Carbon (%)	2.4
Cation Exchange Capacity (meq/100 g)	21.0
~ ¥ ° .	

^{**}OSDA Lextural classification data taken from Appendix 5 (Soil Batch 99/01)



B. Study Design

1. Experimental Conditions

Portions of fresh soil (5 g) were added to borosilicate glass incubation vessels, fitted with quartz glass covers. Water was added to form a slurry and the soil air dried at ambient temperature to give a soil depth of ca. 3mm. The soil samples were incubated inside glass units with most ened carbon dioxide free air drawn over the soil surface. A series of three traps for volatile products was connected to each unit. The first trap was empty (to prevent flow back), the second contained ethanediol to trap volatile organic components and the third contained ethanolamine to trap liberated $^{14}CO_2$.

A preliminary investigation was conducted over three days to determine an approximate rate of photodegradation of fluopicolide.

The test item [phenyl-U- 14 C]-fluopicolide (56.5 µg), dissolved in acetonitrile 100 µl), was applied evenly to the soil surface. Units were either irradiated continuously with light from an Heracus Sunfest xenon lamp or incubated in the dark (non-irradiated samples). The application rate was equivalent to 11.3 mg/kg. The temperature of both irradiated and non-irradiated samples was maintained at a temperature of 20 ± 3 °C throughout the incubation period. The photolytic degradation of fluopicolide was studied with continuous illumination under artificial samlight for a period of up to 15 days, equivalent to 30 days of natural summer sunfight. The artificial samlight was provided by a xerion arc lamp with filters to cut off any radiation below 2900m.

2. Sampling

In the preliminary investigation a single replicate was removed at time zero, 2, 2 and 3 days. A non-irradiated sample was maintained for 3 days.

In the definitive study duplicate soil samples were token from both irradiated and non-irradiated systems after 0, 3, 5, 7, 10 and 15 days. One replicate was taken for analysis and the other was stored without further analysis. The replicate samples were planted for structural analysis of potential photodegradation products which were not formed.

3. Analytical Procedures

Soil samples were extracted at ambient temperature initially with acetonitrile, followed by acetonitrile / water (4/1, v/v). After removal of the soil amples from the incubation flasks, the flasks were soaked in acetone to remove any residual activity. Radioactivity extracted from soil was quantified by liquid scintillation counting (LSC).

Soil extracts were pooled and concentrated prior to malysis by HPLC. Degradation products were identified by comparison of the petention times of reference standards.

Volatile adioactivity in volatile traps and radioactivity in apparatus washes was determined by LSC.

Non-extractable residues (NER) in extracted softs were determined by combustion.

4. Determination of degradation kinetics

No degradation function were determined in the report. DT₅₀ and DT₉₀ values for the degradation of fluorico de under irradiated conditions have been calculated from the reported data.

The total recovery of radioactivity reported for each sample was variable and the recovery in the 0 DAT samples was higher than the other samples. All fluopicolide residues were, therefore, corrected based on the total recoveries reported for each sample prior to entry in kinetic models. This study with [phenyl-U-14C]-fluopicolide and the soil photolysis study with [2,6-pyridyl-14C]-fluopicolide (KCA 7.1.1.3/01) used the same (Abington) soil but were conducted two years apart. They were therefore considered to be separate incubation systems and analysed in separate sets of optimisations.



The radiation intensity in both studies was measured pre incubation and at termination for each sample, these intensity measurements were used to normalise the sampling interval of each sample to days of summer sunlight days at 30-50 °N in accordance with OECD guidance.

$$d = \frac{h \times r}{0.75 \times 12}$$

Where d days of summer sunlight

> hours of continuous study irradiation h

ratio of study radiation intensity (Cadiance) to that of summer sunlight

correction for diurnal variation of natural sunlight 0.75

12 conversion of hours to days

Draft OECD guidance for soil photolysis studies reports a mean mid-summer solvar irradiance intensity of 67 W/m² at 30-50 °N in the UVA wavelength 300-400 nm). The radiation intensity in the studies was measured and reported in W/m² for the wayelength 300.300 nm. The irradiance reported for each sample was therefore factored for comparison with summer sunlight intensity (calculation of a factor) included in the second of the according to the following breakdown of the sunlight spectra provided by CIE (1989)

Proportion of total global radiatio Wavelength

300-400 nm: 6.8% 400-800 nm: 55.4% 800-2450 nm: 37.8%

Kinetic model input data are summarised below

Table 7.1.1.3-8:

Actual DAT (days)	Label		Calculated W/m² (340-400 / nm)	r	Days summe Quilight @ 30-50°N	Fluopicolide (%AR corrected for total recovery)
0	Pheny			1	Ø.0	93.5
3	Phenyl	\$ 4.8.0	45.00	0.68		86.4
5	Menyl	423 0	£ 2 0°	069	9.2	86.7
7 📈	Phenyl	0 4700	\$1.4°	J 9.77	14.3	83.7
10	Phenyl	480 .0 👟	52,5% &	0.78	20.9	80.9
15	Phenyl	470.00	<i>5</i> 97.4 °	6. 77	30.7	78.8

The input data were fitted with single first order (SBO), first order multi compartment (FOMC) and dual first order in Parallel (DFQP) kinetics using Kin UI v2 in accordance with the FOCUS (2006, 2014) guidance for deriving trigger enopoints. Confidence in the resulting parameters was assessed visually and from probability values for a t-test of the rate parameters for the SFO and DFOP models and assessment of the confidence intervals of the α and β FOMC parameters. The χ^2 error% metric was used to determine statistical goodness of fit. Q

Fluopicolide residues in samples in whater funder dark conditions showed negligible decline and all decline in residues observed ander wradiated conditions was assumed to be attributable to photolysis.

² CIE (Commission Internationale De L'Eclairage) (1989): Solar Spectral Irradience Publication CIE, No. 85 (Technical Report)



II. Results and Discussion

The distribution and characterisation of radioactivity under irradiated conditions and in the dark following application of [phenyl-U-¹⁴C]- fluopicolide are summarized in Table 7.1.1.3- 9 and Table 7.1.1.3- 10.

Table 7.1.1.3- 9: Photodegradation of [phenyl-U-14C]- fluopicolide at 20 % in Abington soil under continuous irradiated conditions [% AR]

Compound	Incubation time (DNT)						
Compound	0	3) 5		10	O 15, O	
Fluopicolide	102.10	81.35	4 79.51	\$2.84	80 .92	71. © 0 (
M-01 (AE C653711) ^A	nd	4.20	4.55	Q 5. <u>9</u> 5 _°	6.94	Ø.58 €	
Soil Extracts	102.10	85. 55	84.06~>	88 .79	[®] 87.86″	Ø 80.180	
Apparatus Wash	nd	0 .85	⊚° 0.7,6	Ø.19	©:24 ×	0.44	
Non-extractable radioactivity	7.13	9.58 L	686 B	7.99	8.01	△ 7.24 . ∘	
¹⁴ C-Carbon dioxide	na	<i>-</i> 0.16°	√ 0.55 [№]	2.90	3.72	2.93	
Organic volatiles	na 🖇	nd	ndr	\$\display 0.02 \times	Ø:18 🔬	0.02	
Total radioactivity	109.20	94 .14	9173	98.99	\$100.0 6 \$	90.81	

na: not analysed, nd: not detected, DAT: days after reatment

All values expressed as percentage of to applied radio abel

Table 7.1.1.3- 10: Degradation of Thenyl-U-14 (9- fluopicolide at 20%C in Abington soil under non-irradiated conditions in the dark [%, AR]

		<u>() </u>	
Company of the local state of th	abation time (D)	ÅΤ)	
Compound 5 5 5	7 0,	10	15
Fluopicolide 91.61 \$9861	94.61	96.96	95.13
M-01 (ALC653711) A C and	y And	nd	nd
Soil Extracts 91.61 91.61 89.61	94.61	96.96	95.13
Apparatus Wash 2 0.20 200	1.59	0.93	0.65
Non-extractable radioactivity \$ 426 \$ 4.23	3.87	4.17	4.38
14C-Carbon dioxide of one of nd one of nd of	nd	nd	nd
Organic volatiles ng ng ng	nd	nd	nd
Total radioactivity \$\omega\$ 96.54	100.10	102.10	100.20

nd: not detected, DAT: day's after treatment

All values expressed as percentage of total applied radiolabel

B. Material Balance

Material balances ranged from 90.8 to 109.2% AR for irradiated samples treated with [phenyl-U-¹⁴C]-fluopicolide (mean 97.5% AR) and from 96.1 to 102.1% AR for samples incubated in the dark (mean 99.0% AR).

A This metabolite was incorrectly identified as AE C643805 in the report but was subsequently correctly identified as M-01 (AE C653711) in Document KCA 1.3/03 M-201038-03-10

B Residue was further extracted using acctonitrile water (4, 1, v/v) and released 2.94% AR

A This metabolite was incorrolly identified as AE C640805 in the report but was subsequently correctly identified as M-01 (AE C653711) in Document KCA 1.1.3/0\(\mathbb{L}\) M-20\(\mathbb{L}\)38-03-1.



C. Extractable and Non-Extractable Residues

The majority of the applied radioactivity was extractable throughout the study. For irradiated samples treated with [phenyl-U-¹⁴C]- fluopicolide, total extractable radioactivity ranged from 102.1% At at DAT 0 to 80.2% AR at DAT 15 at study termination. Non-extractable residues (NER) were low reaching a maximum of 8.0% AR (DAT 10) in the irradiated samples.

For samples incubated in the dark with [phenyl-U-¹⁴C]-fluopicolide, total extractable radioactivity ranged from 89.6% AR to 97.0% AR throughout the incubation period. At study termination (DAT 15) 95.1% AR was recovered in the soil extracts. The total of non-extractable residues (NER) was low ranging from 3.9% to 4.4% AR throughout the study.

D. Volatile Radioactivity

Radiolabelled carbon dioxide evolved accounted for < 4% of the applied radioactivity in the irradiated samples. Only trace amounts of radioactivity were recovered in the volatile traps containing ethanediol (maximum of 0.2% AR) confirming there was no volatilization of those or its methodites. Neither carbon dioxide nor volatile organic compounds were detected in the non-irradiated experiment.

E. Degradation of Parent Compound

Fluopicolide was the principal radiolabelled component detected. Levels of parent accounted for all extracted radioactivity in Day 0 soil extracts and in non-irradiated samples throughout both the preliminary and main studies. Levels of parent declined over the irradiation period of the main study to 72% of applied radioactivity after 15 days. A degradation product accounted for 9% AR at the end of the irradiation period. This metabolite was incorrectly identified as AE C643805 in the report but was subsequently correctly identified as Mo01 (AP C655711).

F. Degradation Kinetics

The presence of light Sightly enhanced the degradation rate of thropicalide on soil surfaces. DT₅₀ values were not reported. The experimental data has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 2.1). A summary of the fact statistics in the standard EFSA kinetics template are shown below.

The best fit DT₅₀ value calculated for fluopicolide was 158 days summer sunlight at 30-50 °N.

Table 7.1.1.3-11: Degradation rate of [phonyl-U-4C]- Quopicolide under irradiated conditions at 20 C (best-fit VT₅₀ values for trigger endpoints)

Kinetic a	M ₀	Parameter (k. 121, k20) «gytb, a β	%-error	Prob	Lower CI	Upper CI	DT50 [days]	DT90 [days]
SÆÖ	91.	K=0.00\$308	√1.37 ©	0 00186	0.003594	0.007	131	434
FOMC	93.30	α=0.0872 β=\$.31869	0.7893	n.r. n.r.	0.02787 -2.35883	0.147 12.996	>1000	>1000
DFOP	93.5	k1=582.4 k2=0.004077 g=0.0492	0.7018	<2e-16 0.0116 n.r.	582.4 0.002839 1.984E-02	582.381 0.005 0.079	158	552

Decision supports the persistence endpoints): FOMC provided an improved fit over SFO. DFOP provided the best of and both k1 and k2 parameter estimates were statistically robust. DFOP selected as best fit for trigger endpoint.

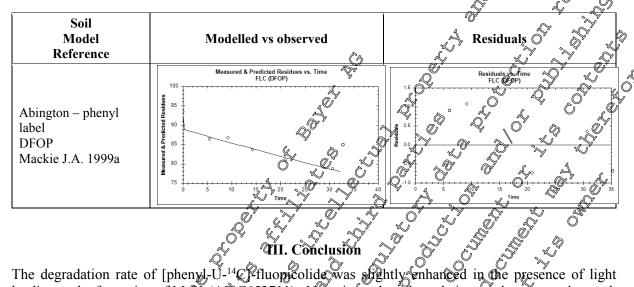
n.r. not relevant

Best fit model highlighted in bold



A graphical representation of the final kinetic fit is shown below.

Table 7.1.1.3- 12: Graphical representation of final kinetic fit of [phenyl-U-14C]- fluopicolide fluopicolide under irradiated conditions at 20 °C fluopicolide under irradiated conditions at 20 °C



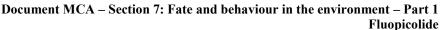
leading to the formation of M 01 (AE C653711). No unique photogradation products were detected. No degradation of fluopicolide occurred during invubation in the dark

ace with SET of 1.1. (1.1.)

alid to assess the photoly,

A state of the state of t The study was conducted in accordance with SET of 1.1 (1995) and USEPA (= EPA) N, 161-3 (1982). The study is considered valid to assess the photolytic degradation of [phenyl-U-14C]-fluopicolide in soil.

0





Data Point:	KCA 7.1.1.3/03
Report Author:	
Report Year:	2005
Report Title:	(Benzene Ring-U-14C)-AE C638206: Re-analysis of soil photolysis extracts
	generated from Inveresk project no. 394309 (Agredoc reference number C0) \$\delta \delta 45) a
Report No:	18816
Document No:	<u>M-201038-03-1</u>
Guideline(s) followed in	EU (=EEC): 91/414; SETAC: March 1995; EPA Pesticide Assessment Guidelines,
study:	Subdivision N, Paragraph 161-3 (Oktober 1982)
Deviations from current	none & & & &
test guideline:	
Previous evaluation:	yes, evaluated and accepted &
	DAR (2005)
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	Yes, conducted under GLP Officially recognised setting facilities
facilities:	
Acceptability/Reliability:	Yes O

The original report M-201038-01-1, which was evaluated and accepted to the DAR (2005), is included in the Baseline dossier. This report has subsequently been amended twice. The first report aroundment (M-201038-02-1) corrected some typographical errors and has not been included in wither the Baseline Dossier or this MCA 7 Dossier because it has been superseded by a second report mendment (KCO 7.1.15/03, M201038-03-1) which is summarised below. The second report amendment (M201038-03-1) corrected some typographical errors and added the initials 'OECD' to the CLP statement

Executive Summary

A degradation product of [phonyl-L-V-C]-fluopic of ide was incorrectly dentified as AE C643805 in the report KCA 7.1.1.3.02, -201038-69-1. Self extracts from the photolysis study were re-examined by HPLC and LCMS and the degradation product was shown to be M-01 (AE C653711).

Materials and Methods

This study was conducted as supplementary study to that summarised previously [KCA 7.1.1.3/02, 10-201638-034]. The objective was to remainly se selected soil photolysis extracts to confirm the identity of the degradation product detected. generated in Report M-201038

1. Experimental Conditions

Not applicable.

Soil extracts from DAT 10 and DAT 15 irradiated samples were re-analysed.



3. Analytical Procedures

Analytical standards of fluopicolide, AE C643805 and M-01 (AE C653711) were used.

HPLC analysis of the soil extracts in the original report characterised the degradation product as AE C643805 based on its retention time in the HPLC system used in that study. The retention times of certified standards of AE C643805 and M-01 (AE C653711) were very close in this HPLC system (A) new HPLC system was developed to separate these compounds. The soil extract from the irradiated DAT 10 sample was re analysed using the new HPLC method. The soil extract from the irradiate DAT 15 sample was analysed by LC-MS.

4. Determination of degradation kinetics

Not applicable.

II. Results and Discussion

Analysis of DAT 10 irradiated soil extract in an HPCC method which separated the compounds fluopicolide, AE C643805 and M-01 (NE C653711) Confirmed the presence of radio belled peaks which co-chromatographed with fluor colide and M-01. Floopicolide and M-01 accounted for 80% and 7% of the applied radioactivity respectively These values are signifiar to hose found in the original study and provide confirmation of the stability of the residue during storage. No radio belled peak with a retention time corresponding to AE C643805 was observed.

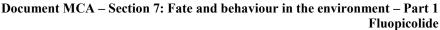
Analysis of DAT 15 irradiated soil extract by LC-MS confirmed the presence of fluoricolide as the main component and M-01 (AE @6537 Pl). AP C643 805 was not present at detectable levels.

III. Conclusion

The degradation product detected during the soil photologis study conducted with [phenyl-U-14C]fluopicolide [KOA 7, 10.3/02, M-20.7038-00-1] was identified as M-01 (AE C653711).

Assessment and conclusion by applicant:

The study was conducted in accordance with SETAC 1.1 (1995) and USEPA (= EPA) N, 161-3 to Assess (1982). The study is considered valid to assess the protolytic degradation of [phenyl-U-14C]-





Data Point:	KCA 7.1.1.3/04
Report Author:	
Report Year:	2009
Report Title:	Statement (Version 3) - The light intensity measured during the studies on the
	phototransformation of fluopicolide on soil surfaces and the transfer of
	experimental results to environmental phototransformation alf-lives
Report No:	MEF-08/185
Document No:	<u>M-300764-03-1</u>
Guideline(s) followed in	not applicable
study:	
Deviations from current	
test guideline:	
Previous evaluation:	yes, evaluated and accepted v v v v
	Addendum 2 to the DAR (2008)
GLP/Officially	not applicable
recognised testing	
facilities:	
Acceptability/Reliability:	Yes Q Q O Q

The original statement M-300764-02-1 which was evaluated and accepted in the Addendum 2 to the DAR (2008), is included in the Baseline dossier. This statement was subsequently amended in response to a data requirement from the PRAPER Expert Meeting 62 (January 2009). In the final version of the statement (KCA 7.1.1.3/04, M-300764-03-1), soil photolysis DT 50 values derived using data from KCA 7.1.1.3/01, M-201037-03-1 and KCA 7.1.1.3/02, M-0103-03-1 in samples irradiated continuously with light from an Heraeus Suntest xenon lamp were used to provide environmental phototransformation DT 50 values at different focations in Europe as requested by the PRAPER Expert Meetings. However, M-300764-03-1 has been superseded as the experimental DT values (reported in the original dosser and DAR, 2005) were derived prior to the issuing of the FOC 8 guidance document on degradation kinetics and are no longer considered valid. O onsequently M-300764-03-1 is not summarised in this desire. However, for proceeding reasons the position paper is included in the dossier.

Data Point: Report Author:	KGA 7.1.53/05 60 20 20 20
Report Author.	
Report Year	2007
Report Title:	Fluoricolide Relevance of Photolysis in soil degradation studies
Report No:	MET-06/495 \$\infty \tag{\chi}
Document No:	<u>M-286</u> , <u>2-01</u> , <u>1</u>
Guideline(s) followed in A	not applicable
study:	not applicable of the control of the
Deviations from current	yes, evaluated and accepted
test guideline:	
Previous of aluation:	yes, waluated and accepted was a superior of the superior of t
	Addendum 1 to the DAR (2007)
GLP/Officially	No, not conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability?	Y

The purpose of statement & CA & 1.1.3/05, M-286182-01-1 was to assess the impact of photodegradation on the sold degradation rate of Puopicolide in field dissipation studies. The statement is summarised in Addendom 1 to the DAR (2007) and was discussed, but not accepted, at the PRAPeR report of meeting 37 (December 2007) on Ruopicolide. The document was superseded by the later statement addressing the photologic half-life carculations for latitudes 40° N and 45° N prepared in response to the requests from the PRAPeR report of meeting 62 (January 2009) on fluopicolide (KCA 7.1.1.3/04, M-300764-03-1). Consequently M-286182-01-1 is not summarised in this dossier. However, for procedural reasons the position paper is included in the dossier.



CA 7.1.2 Rate of degradation in soil

On overall summary of the trigger endpoint DT₅₀ values and modelling endpoint DegT₅₀ values derived for fluopicolide and its metabolite in laboratory studies is summarised below.

Summary of laboratory aerobic soil DT₅₀ values for fluopicolide and its metabolites

Compound	Trigger endpoints DT50 range (un-normalised) (d)	No. datasets	No. soils	Modelling endpoints Geometric Mean DegT ₅₀ normalised to 20°C & pF2 (d)	Arithmetic Wean Molar Fraction
Fluopicolide	47.7 - 1290	22	16	∯81.6 _≪	
M-01 (AE C653711)	135.9 - 3461	26	18	\$ 569.5	0.80 (from parent)
M-02 (AE C657188)	0.7 – 4.4	7 🖳		1.6	NA C
M-03 (AE 0608000)	0.1 – 62.6		70	Q17.9 A 0.19 B	(from parent)
M-05 (AE 1344122)	5.6 – 172.1	13 7		25.27	0.155 (from M-02)
M-10 (AE 1344123)	3.6 – 1000	ra ra	7 7 7	\$5.4 \$\hat{5}\$	5.129 (from M-02)
M-11/M-12	31.7 – 242.5	Ų 2 0°	\$\frac{1}{2} \text{\tin}}\text{\ti}\text{\texi{\text{\texi{\text{\texi{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\texi}\text{\tex{\texit{\text{\texi{\texi{\texi{\texi{\texi}\texi{\texit{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi}	87.60	0.044 (from M-02)
M-13	13.3 🚜 8.4		3	2 0 0.7	0.949 (from M-02)
M-14 (AE 1388273)	4.9-21.7	\$ 5 Kg		9.4	1 (from M-20)
M-15 (AE 1413903)	3102.7 \$\int 13.2 \times			O 144.8 2	NA ^C
M-20 (BCS-BX16566)	29 - 14 1 .7		\$\frac{1}{2}\text{6} \text{5}	6.10	0.021 (from M-02) 0.559 (from M-05)

A Geometric mean for soils with pt < 6

It should be noted M-05 M-10 M-11 M-12 M-13 M-14 M-15 and M-20 are minor soil metabolites, detected in aerobic soil metabolism studies conducted with [2,6-pyridyl-14C]-M-02 or in leachate from a lysimeter study conducted with fluoricolide. White fluoricolide and M-01 degraded slowly in laboratory studies other metaborites showed proderate to rapid rates of degradation, except for M-15 which was a very minor soil metabolite not detected in parent soil degradation studies. Experiments have been conducted to investigate the behaviour of fluopicolide and its metabolite M-01 under field conditions. which was a very minor soil metabolite not detected in parent soil degradation studies. Experiments

B Geometric mean for solds with $pH \ge 6$ C Not applicable as degradation rates for M-02 and M-02 were derived from methodite dosed studies. For M-02 the overall formation fraction from fluoricolide was set to 1.0 as a conservative assumption. For M-15 a molar formation fraction of 0.0016 from fluoricolide was estimated by inverse modelling of a lysimeter study (KCA 7.1.3.2/08, M-687165-01-1)



Summary of field DT₅₀ values for fluopicolide and its metabolites

Compound	Trigger endpoints DT ₅₀ range (un-normalised) (d)	SFO DT ₅₀ range (un-normalised) (d) ^B	No. sites	Modelling endpoints Geometric Mean Deg (normalised to 20°C & p. 2) (d)			
Fluopicolide	28 ^A - 403	177.4 – 457.6	12	¥ 183 ¥ \$			
M-01 (AE C653711)	133 - 344	155 - 344	5	146 ° 💸 💸			

A Lowest value from cropped soil site, not considered for SFO DT₅₀ range (un-normalised)

Fluopicolide was found to have a similar rate of degladation in the field with DegT 50 values similar to those observed under laboratory conditions. An overall geometric mean Deg T50 value of 182 days in soil was derived for fluopicolide for use in FQCUS modelling calculations including both laboratory and field data.

CA 7.1.2.1 Laboratory studie

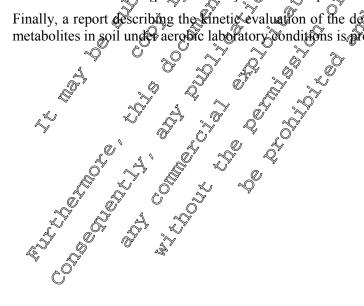
Aerobic degradation of the active substance CA 7.1.2.1.1

The aerobic degradation of fluopicolide in Soil has been investigated in a total of six studies at 20°C, one study at 25°C and one study at 25°C and one study at 25°C and one study at 25°C. one study at 25°C and one study and 0°C

Five studies were evaluated during the previous Elifeview and are still considered as reliable to assess the behaviour of flugoricolide in soft (KCA 7.1.2) 1/01 KCA 7.1.2 1/02 KCA 7.1.2.1.1/03, KCA 7.1.2.1.1/04 and KCA 7.1.2,1.1/05) For procedural reasons two of the previously submitted studies also have to be included under Point KCA 7.1.2.1.1 in the current dossier (KCA 7.1.2.1.1/04 and KCA 7.1.2.1.1/05) but the sommaries are provided in full only in Point KCA 7.1.1.1. A statement about the levels of an unidentified minor metabolite (called Metabolite © in the study) is provided in document KCA 7.1.2. \$\oldsymbol{Q}\$. 1/06.

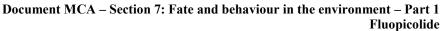
In addition, studies KGA 7.1.23.1/07, KCA 7.1.2.107/08 and KCO7.1.2.1.1/09, time dependent sorption studies conducted with [phonyl-U-4C]-labelled filopicolide, are provided as new data not yet reviewed.

Finally, a report describing the finetic evaluation of the degradation behaviour of fluopicolide and its metabolites in soil under aerobic laboratory conditions is provided (KCA 7.1.2.1.1/10).



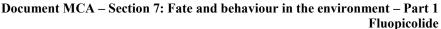
B Worst-case SFO DT₅₀ (un-normalised) used for PEC_{soil} calculation

^C Geometric mean field DegT₅₀ value (normalised to 20°C & pF2) used for FOCUS modelling





Report reference	Author, Year	Phenyl Label	Pyridyl Label	Comment
KCA 7.1.2.1.1/01 M-241052-01-1	2003	✓	✓	Submitted and reviewed for first approval of fluopicolide, 2005. Considered valid and acceptable.
KCA 7.1.2.1.1/02 M-241051-01-1	2003	✓	✓	Submitted and reviewed for first approval of fluopicolide, 2005 considered valid and acceptable.
KCA 7.1.2.1.1/03 M-241053-01-1	2003	✓		Submitted and reviewed for first approval of fluopicolid 2005. Considered valid and acceptable.
KCA 7.1.2.1.1/04 M-241049-01-1	2003	✓ & &		Submitted and reviewed for first approval of fluopicolide 2005. Considered valid and acceptable Summary provided under SEA 7 S. 1/01 Additional summary provided under provided under CA 1.3.2/02
KCA 7.1.2.1.1/05 <u>M-201230-02-1</u>	2003			Submitted and reviewed for first approval of floopicolide, 2000 Considered valid and acceptable. Summary provided under ECA 7.1.1 \(\frac{1}{2}\)702.
KCA 7.1.2.1.1/06 M-685745-01-1	2620	-6" 6		New data not yet reviewed
KCA 7.1.2.1.1/07 M-555570-01-1	016 🗸 🖔		*6	New out a not yet reviewed. Additional sunmary provided under KCA 7.1.3.2/03
KCA 7.1.2.1.1/08 M-550687-01-1	2016		×	New data not yet reviewed. Additional summary provided under KCA 7.1.3.2/04
		V 0 .		
KCA 7.1.2.1.1/10 M-685680-01-1	20204	J- ~		New data not xet reviewed.





Data Point:	KCA 7.1.2.1.1/01
Report Author:	
Report Year:	2003
Report Title:	The route and rate of degradation of [2,6-14C-pyridinyl] and [U-14C-benzoyleAE
	C638206 in two soils under laboratory aerobic conditions at 25 degrees C
Report No:	B004074
Document No:	M-241052-01-1
Guideline(s) followed in	USEPA (=EPA): Sec. N 162-1
study:	
Deviations from current	Yes. According to OECD 307 soil@boratory studies should not normally exceed
test guideline:	120 days. The soils were incubated under aerobic conditions for \$69 days as
	required by US EPA guidelines at the time the study was conducted. Final biomass
	samples are low compared to mitial measurements.
Previous evaluation:	yes, evaluated and accepted y
	DAR (2005)
GLP/Officially	Yes, conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes A O A

Executive Summary

Executive Summary

The route and rate of degradation of flyopicoside was investigated in two soils from the USA under laboratory aerobic conditions for up to 369 days. [Plenyl-W-14C] abelled fluopeolide or [2,6-pyridyl-¹⁴C] labelled fluopicolide was applied to soil samples at an application rate equivalent to 400 g /ha. Lamberton soil was classified as a sandy clay from and Pikeville soil as a loamy sand according to USDA classification. Soil samples were incubated in the dark, at a moisture content equivalent to 75% of 1/3 bar under aerobic conditions at 23 °C. The radiochemical profity was > 99.% for both radiolabelled test items. The specific activities were 533 and 5.88 MBq/mg for [phenyl-V-14C]- and [2,6-pyridyl-14C] labelled fluopicolide respectively.

Samples were taken for extraction and analysis immediately after treatment (day 0) and after 14, 31, 60, 94, 116, 188, 273, and 369 days of incubation. Soil samples were exhaustively extracted with up to four successive extractions with acetomtrile water 4/1, v/v) at ambient temperature followed by a Soxhlet extraction using acetoritrile Concentrated soil extracts were analysed by reverse phase high performance liquid chromatography (HPLC). Results from HPLC characterization were confirmed by mass spectrometry

Mass balances in the Lamberton soil ranged from \$6.3% 97.6% of the applied radioactivity (mean 92.5% AR) for samples treated with pheny-U-14CJ-fluopicolide and 84.8% to 96.1% AR (mean 89.8% AR) for samples treated with [2,6 pyrid@-14C] Quopicolide. Mass balances in the Pikeville soil ranged from 83.3% to 98.3% AR (mean 94.5% AR) for samples treated with [phenyl-U-14C]-fluopicolide and 78.5% to 98.0% AR (mean 91.5% AR) for samples treated with [2,6-pyridyl-14C]-fluopicolide. The low recoveries in mass balance could not be attributed to a single factor such as dosing errors, extraction losses, volatile losses or a sorption to laboratory equipment.

The majority of the radioactivity was extractable in both soils. Radioactivity in soil extracts from Lamberton sold decreased from 94.4 and 84.8% AR at DAT 0 to 84.1 and 62.1% AR at DAT 369 in the phenyl and pyridy labe led samples, respectively. Radioactivity in soil extracts from Pikeville soil decreased from 8.1 and 97.8% AR at DAT 0 to 70.3 and 64.3% AR at DAT 369 in the phenyl and pyridy Våbell samples, respectively.



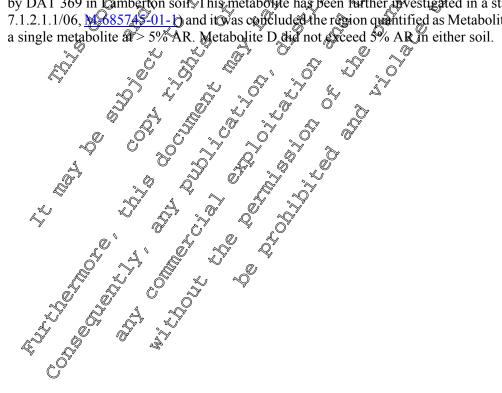
Non-extractable soil residues increased concurrently with the decrease in extractable radioactivity in both soils. In Lamberton soil at DAT 369, non-extractable residues reached a maximum of 23% in the pyridyl treatment, compared to 5% AR in the phenyl treatment at the same timepoint suggesting the formation of soil residues from the pyridine ring. Similar differences were observed in Pikeville soil where non-extractable residues reached a maximum of 19% AR in the pyridyl treatment (DAT 188) compared to 11% AR in the phenyl treatment at the same timepoint.

Mineralization to carbon dioxide was a minor pathway, demonstrated by the low amount of radioactivity recovered in the ethanolamine volatile traps for both labels (maximum of 1.6% of applied). No significant levels of organic volatiles were observed.

After 369 days incubation at 25 °C in Lamberton soil, fluopicolide degraded to 40.4% of the radioactivity applied in the phenyl label and 45.3% of the pyrityl label. In Dikeville soil over the same time period, fluopicolide degraded to 49.3% of the radioactivity applied in the phenyl label and 53.5% AR in the pyridyl label. A re-evaluation of the degradation kinetics in accordance with FQCUS guidance document on degradation kinetics (2014), resulted in best-fit uniformalised DF50 values of 358 days in Lamberton soil and 424.9 days in Pikeville soil.

The primary metabolic pathway for fluopic ride in soil was praposed to be the formation of an oxidative addition product M-03 (AE 0608000), followed by cleavage to forth M-01 (AE 0653741) and M-02 (AE C657188).

M-03 was observed in both radiotabelled treatments in both soils, reaching a maximum of 7.8% in Lamberton soil in the pyridyl labelled samples (DAT 116) before declaring to 6.0% by the next timepoint and to 3.3% AR by the final timepoint. Mo01 was also observed in both soils in the phenyl samples, increasing steadily to a maximum of 40.2% AR in Lamberton soil and 19.3% AR in Pikeville soil by the end of the study (DAT 369). M-02 was observed at a maximum of 4.7% AR (DAT 94) in Lamberton soil and 3.2% AR (DAT 369) in Pikeville soil. In addition, three minor unidentified metabolites were detected in the pyridyl treated soil extracts only. Metabolite B was observed at maximum of 5.3% AR, exceeding % at one timepoint only in Lamberton soil on DAT 273. Metabolite C was reported to seach a maximum of 5.5% AR on DAT 273 and declined very slightly to 5.2% AR by DAT 369 in Kamberton soil. This metabolite has been further investigated in a statement (See KCA 7.1.2.1.1/06, 19.8574-01-1) and it was concluded the region quantified as Metabolite C did not contain a single metabolite at 5% AR. Metabolite D did not seceed 5% AR in either soil.





I. Materials and Methods

A. Materials

1. Test Items

[Phenyl-U-14C]-fluopicolide

Senot Programme of the Canadyses) Factority:
Specific Activity:
Radiochemical Purity:

9997% (Grean of HPLC and TEC analyses)

oel of the state o



2. Test Soil

Table 7.1.2.1.1- 1: Physico-chemical properties of test soil

study was performed using one test soil as char	racterized in Table 7.1.2.1.1-1.
e 7.1.2.1.1- 1: Physico-chemical properties o	
Parameter	Soil & O
Soil Designation	Lamberton Pikeville
Geographic Location	
City	Camberton Pikewille V
Country	Minnesota, USA North Carolina, USA
Batch Number	EFS-92 EFS-9Q
Textural Classification (USDA)	Sandy clay learn & Loams sand
Sand [50 - 2000 μm] (%)	48 3 86 3
Silt $[2-50 \mu m]$ (%)	
Clay [$< 2 \mu m$] (%)	
pH 🗸 💢	A S . S .
in $H_2O(1:1)$	6.3
in $CaCl_2$ (1:1)	5.9 5.9 5 50
Organic Matter (%)	
Organic Carbon (%) *	1.6
Cation Exchange Capacity (meq/100 g)	© 4 24.6
Water Holding Capacity (%)	
maximum 😽 🐧 🐧	√ √ √ √ √ 35.5
at 1/10 bar 📞 🖓 🙋 🔘	39.44
at 1/3 bar	30.9 0 11.5
at 15 bar & A	© 69.3 & 4.2
Moisture Content During Invubation (%)	23.1 8.6
Bulk Denorty (disturbed, Q/cm ³)	1.39
Soil Microbial Biomass (µg microbial C/g soil)	
Initial (DAT 0)	85.4
Final (DAT 369)	164.9 30.5

^{*} Calculated by dividing organi

B. Study Design

1. Experimental Conditions

Tests were performed in flow through systems consisting of glass flasks each containing 50 g soil and attached to an ethylene glacol trap to collect organic volatiles followed by an ethanolamine (or sodium hydroxide) trap to collect carbon dioxide. Humidified air was passed through the samples. Soil was adjusted to 75% of the 1/3 ber water holding capacity which was maintained throughout the course of the study.

The tests were performed at a concentration of approximately 0.41 mg/kg dry weight of soil. The test concentration was based on a field rate of 400 g a.s./ha. The test items [phenyl-U-14C]- or [2,6-pyridyl-¹⁴C]-Huopicolide, dissolved in acetonitrile (406 and 460 μL, respectively), were applied drop wise onto the soil surface. Soil samples were adjusted to a moisture content equivalent to 75% of ½ bar, at least two day prior to application. The samples were incubated at 25 ± 1 °C under aerobic conditions in the dark for 369 days.



2. Sampling

Single samples each were removed for analysis after 0, 14, 31, 60, 94, 116, 188, 273, and 369 days of incubation. Untreated samples were analysed for biomass at the beginning and end of the experiment.

3. Analytical Procedures

Soil samples were extracted up to four times successively with acetonitrile water (4/1, 1/2) at applient temperature followed by a Soxhlet extraction with acetonitrile. Radioactivity in extracts was determined by liquid scintillation counting (LSC). Soil extracts were concentrated and analysed by HPLC with radiodetection. Degradation products were identified by comparison of the retention times of reference standards. Selected extracts were analysed by LC/MS/MS for confirmation of the pajor peaks identified by HPLC. A peak of 300 dpm, corresponding to 0.9 ng fluopicolide was readily determined by the TLC and HPLC quantitation methods used.

Volatile radioactivity in volatile traps was determined by LSC

Following homogenisation, non-extractable residues (NER) in extracted soils were determined by combustion.

4. Determination of degradation kinetics

The degradation kinetics determined in the report were conducted prior to the iouing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. DT₅₀ and DT₉₀ values for the degradation of fluopicolide, M-01 and M-03 have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KunGUI (version 2.1). For fluopicolide, as the degradation was investigated using two radiotabel positions, and similar behaviour was observed for each, these radiolabels have been considered as true replicates, and included together in a single optimisation. Full details are provided in Document KCA 7.1.2.1.1/10 (M-685680-01-1). A brief summary of the approach for trigger empoints is provided below.

To derive trigger endions, an initial comparison was performed for each soil between the SFO and FOMC fits for fluoricolide. For the Lamberton soil, the SPO model provided the best fit to the fluoricolide residues, with the lowest perrovalue. For the Pikevide soil, the FOMC model provided a better for than the SFO model to the fluoricolide residues, and the DFOP model was therefore also fitted. DFOP was selected as the most appropriate model for thropicolide, with the best visual fit and lowest χ^2 err% value.

Metabolite optimisations were performed using the best-fit model for the applied compound and the SFO model for metabolites

グッグ 〜 II. Results and Discussion

A. Data

The distribution and characterisation of phenyl U-14C and [2,6-pyridyl-14C]-fluopicolide are summarized in Table 7.1.2.1.1-2 to Table 7.1.2.1.1-5.



Table 7.1.2.1.1- 2: Degradation of [phenyl-U-14C]-fluopicolide at 25 °C in Lamberton soil under aerobic conditions [% AR]

C	Incubation time (DAT)								
Compound	0	14	31	60	94	116	188	273	369
Fluopicolide	94.4	85.0	82.3	85.8	65.3	69.4	\$64.2	63.0	40.45
M-01 (AE C653711)	nd	0.4	nd	3.5	11.1	18.1 ©	20.6	25.3	40,2
M-03 (AE 0608000)	nd	nd	nd	4.5	6.5	4:3	4.5	3 .3	3.1 ₄
Ambient extract	89.9	75.7	69.6	74 3	70.1	\$75.6	71.5 🕊	74.5	66,6
Soxhlet extract	4.5	9.7	12.7	¥9.5	12.8	16.2	18.8	200	18/1
Total extractable radioactivity A	94.4	85.4	82.3	[⊮] 93.8	82.9	91.8	20 .3	% 5.1	©84.1 [©]
Non-extractable radioactivity	0.6	1.4	4,0	2.9	6.5	\$4 .9	5 [*] 4.2 6	2.3	4.8
¹⁴ C-Carbon dioxide including other volatiles ^B	na	0.0	0.0	° 0.1	0.0	0,10		~Q,2	₹ 9 .2
Total radioactivity	95.0	86.8	86%	96.8	89.4	3 6.8	94.5	§ 97.6	89, <u>t</u> ,°

n.a.: not analysed, n.d.: not detected, DAT: days after treatment

Table 7.1.2.1.1- 3: Degradation of [2,6-pyridyl-14@-fluopicolide at 25 C in Camberton soil under aerobic conditions [% AR]

				0			(C)		
Company	Incubation the (DAT)								
Compound	0,0	140	3%	°€®°	[©] 94	, 116 _%	ॐ 88 🕏	273	369
Fluopicolide	830	8 Q 6	6	\$\$1.3 _@	69.2 (. 8	63.4	54.6	45.3
M-02 (AE C657188)	> nd	nd ~	, nd, <		4.7	40	3.4	3.0	2.6
M-03 (AE 0608000)	[™] nd 🥾	nd net	nd /	4.8	₹ \$ 7.8	₩.8	6.0	3.9	3.3
Metabolite B	nd	net	© ad	Ind (ond ℚ	nd	nd	5.3	2.3
Metabolite @^	Ind	⇔nd (nd	nd _@	n đ	nd	nd	5.5	5.2
Metabolite D	nd 🖏	~ °	ná	and a	Ond	nd	nd	4.8	2.3
Ambient extract	0289	Ð.8	70.8	66.9 🙎	×64.1	66.5	54.0	55.4	47.9
Soxhlet extract	3 .9	(10.8 ₄	© 10.2 [©]	192	13.6	13.6	19.4	21.7	14.2
Total extractable radioactivity B	84.8		84.0	\$6 ?1	77.7	80.1	73.4	77.1	62.1
Non-extractable radioactivity	0.3	30	\$8.2	5.1	10.5	14.8	22.6	18.8	22.6
¹⁴ C-Carbon dioxide including other volatiles ^C	~\L	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1
Total radioactivity	857	85 .6	\$\frac{7}{8}6.2	91.3	88.2	94.9	96.0	96.1	84.8

n.a.: not analysed, n.d.: not detected, DAT: days after treatment

n.a.: not analysed, n.d.: not detected, DAT: days after treatment
All values expressed as percentage of total applied radiolabel

A The region quantified as Metabolite C district contain a single metabolite at > 5% AR. See statement KCA 7.1.2.1.1/06,

2020; M-6.5745-1 for further details.

B The total extractable radioactivity was calculated as sum of ambient and Soxhlet extracts.

C Other volutile radioactivity was < 0.06 % AR at all timepoints



Table 7.1.2.1.1- 4: Degradation of [phenyl-U-14C]-fluopicolide at 25 °C in Pikeville soil under aerobic conditions [% AR]

C 1	Incubation time (DAT)									
Compound	0	14	31	60	94	116	188	273	369	
Fluopicolide	97.6	91.1	81.7	80.3	68.6	68.6	\$ 78.5	57.3	49.36	
M-01 (AE C653711)	nd	4.7	14.3	12.5	20.5	20.5 ©	4.5	18.6	19,3	
M-03 (AE 0608000)	nd	nd	nd	1.4	nd	ı rd)	1.2	, O.8	\$1.6 ₄	
Ambient extract	97.6	83.5	80.3	703	67.7	\$ 7.7	57.6 🕊	60.9	47.00	
Soxhlet extract	0.5	12.3	15.7	21.9	21.4	23.0	29.6	189	2813	
Total extractable radioactivity A	98.1	95.8	96.0	[⊮] 94.2	89A	90.7	8 7.2	9 9.8	070.3 [©]	
Non-extractable radioactivity	0.1	0.7	25	3.1	6.6	Q 4.9	Ĵ [*] 10.8 Ĵ	6.4	13.6	
¹⁴ C-Carbon dioxide including other volatiles ^B	na	0.8	0.1	° 0.2	0.1	0,10		~Ø,4	\$5.0	
Total radioactivity	98.2	97.3	98:30	97🕃	JS .8	3 5.7	98.0	86.6	83. 3 , °	

n.a.: not analysed, n.d.: not detected, DAT: days after treatment

C in Pikeville soil under

A The total extractable	radioactivity v	was calcul	ated as ou	m of amb	ient and S	oxhlet extr	acts	W.		0
^B Other volatile radioac	tivity was < 0	0.05 % AB	at all tim	epoints		_ ~~~			Ü Ö	
		a de la companya de l	10	. ") Ö	Ţ	.″.€_a	
		~\\	, Q							
Table 7.1.2.1.1- 5:	Degradati	on of 12	6-pyrid	lyl-146	-flugpic	olide at	25°C	inPike	ville soi	lunde
B Other volatile radioac Table 7.1.2.1.1- 5:	aerobic co	nditions	S [% AR		~	4 %)	
Compound	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	4		\$ 4		tion time	(DAT)	~\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
1 -	4 A	7 0 0	140	37	~ 60 °	[©] 9⁄4	<u>, 116 %</u>	Ž 188	273	369
Fluopicolide		9608	89 /1	82 .4	₹8 1.3 @	75.5 🤇	[®] 67.2∜	74.2	58.3	53.5
M-02 (AE C657188)		°>nd	€nd ∧	1.1,	nd	1.5	10	nd	2.6	3.2
M-03 (AE 0608000)		৺ nd 🖔		ŋď	0.5	A .3	₹ 1.5	0.5	2.0	2.8
Metabolite B		nd	her	© nd	and (nd @	2.7	nd	3.3	0.8
Metabolite @	W	Ind	⇔nd (nd	nd	nd	nd	nd	nd	nd
Metabolite D	. Ø, . Ĉ	nd 🖏	2.8	3	3,5	Ond	nd	nd	2.2	4.0
Ambient extra	jet Z	96.8	8 3.75 €	76.1	€ ,64.8 ∠	√59.2	54.4	52.1	51.6	43.5
Soxhlet extra	=	Ø.0 s	€ ⁷ 9.8 €	© 12.6 [©]	21%	19.1	20.6	23.3	17.8	20.8
Total extractable rad	ioactivity A	§ 97.8°	92 3	889	85 .8	78.3	75.0	75.4	69.4	64.3
Non-extractab@radi		0.2	333	7 .6	10.0	12.2	16.2	19.3	8.9	16.7
¹⁴ C-Carbon dioxide i	ncluding	Sna	0.3	1.0	1.6	0.2	0.4	0.0	0.2	0.2
other volutiles B		Ž <u> </u>		·~						
Total radioactivity	5 4	980	95 .9	×27.3	97.4	90.7	91.6	94.7	78.5	81.2

n.a.: not analysed, n.d.: not detected, DAT: days after treatment

All values expressed as percentage of total applied radiolabel

All values expressed as percentage of otal applied radiolabel

A The total extractable radioactivity was capplated assum of ambient and Soxhlet extracts.

B Other volatile adioactivity was 0.05 % AR at all timepoints



B. Material Balance

Mass balances in the Lamberton soil ranged from 86.3% to 97.6% of the applied radioactivity (mean 92.5% AR) for samples treated with [phenyl-U-\frac{14}{C}]-fluopicolide and 84.8% to 96.1% AR (mean 828%) AR) for samples treated with [2,6-pyridyl-¹⁴C]-fluopicolide.

Mass balances in the Pikeville soil ranged from 83.3% to 98.3% AR (mean 9.5% AR) for samples treated with [phenyl-U-14C]-tluopiconae and with [2,6-pyridyl-14C]-fluopicolide.

The low recoveries in mass balance could not be attributed to a single factor such as dosing errors, extraction losses, volatile losses or adsorption to laboratory equipment.

C. Extractable and Non-Extractable Residue

The majority of the radioactivity was extractable in both soils for samples of Lamberton soil incubated with [phenyl-U-14C]-fluopicolide, total extractable rathoactivity decreased from \$4.4% AR at DAT 0 to 84.1% AR by DAT 369. For Lamberton soil incubated with [2,6-pyridyl-14C]-foopical de, total extractable radioactivity decreased from \$4.8% AR on DAT to a minimum of 62.1% AR after 369

Radioactivity in the combined soil extracts of Pikeville soil incubated with [phenyl-U-C]-floopicolide decreased from 98.1% at Day 0 to 0.3% at DAT 369 and from 97.8% at DAT 0 to 64.3% at DAT 369 in samples incubated with [2,6-pyridyle C]-floopicoline

Non-extractable soil residues increased concurrently with the decrease in extractable radioactivity in both soils. In Lamberton soil, at DAT 369 non-extractable residues cached a maximum of 22.6% AR in the pyridyl treatment, compared to 4.8% ARON the phenyloreatment at the same impoint suggesting the formation of soil residues from the pyridine ring Similar differences were observed in Pikeville soil where non-extractable residues reached a maximum of 19.3% AR in the pyridyl treatment (DAT 188) compared to 10.8% in the shenyl@eatment at the same timen int.

D. Volatile Radioactivity

The presence of COm the than plamine trap reached a maximum of \$6% AR only in the pyridyl label treatment of Pikeville soil at DAT 60 At Dr other intervals, the recovery of radioactivity in the ethanolarpine traps was minimal, regardless of soil or label Volatilization of fluopicolide and metabolites was not considered to be a dissipation pathway under aerobic conditions in soil as indicated by the lack of radioactivity detected (< 0.05% AR) in the ethylene glycol traps during the study.

E. Degradation of Parent Compound

In Lamberton soil treated with the phenyl label, fluropicolide declined to 40.4% AR after 369 days of incubation at 25°C under aerobic conditions. In the same soil, treated with the pyridyl label, fluopicolide declined to 45.3% AR over the same time period Oxidative cleavage of fluoricolide to form M-01 (AE C653711) and M-02 (AFOC657488) was considered the major degradation pathway. Prior to cleavage, formation of an addition product M-CF (AE \$608000) reached maximum levels of 6.5% and 7.8% and 6.5% in the pheny DATE 94) and pyridyl (DAT 116) labels, respectively before declining to approximately 3% in both labels at and termination. Other metabolites occurred in the pyridyl treatment only, manely Metabolites B to D, however no single metabolite exceeded 6% of applied. Metabolites Band Davere observed at maxima of 5.3 and 4.8%, respectively, after 273 days incubation before declining to 3% at the end of the incubation period (369 days). Metabolite C was observed at a maximum of 5.5% after 273 days incubation before declining slightly to 5.2% by DAT 369. This metabolice has been further investigated in a statement (See KCA 7.1.2.1.1/06, M-685745-01-1) and it was concluded the region quantified as Metabolite C did not contain a single metabolite at > 5% AR. It was only detected at these two timepoints throughout the incubation period in Lamberton soil by which point the soil biomass had declined by 70% of the initial level. Levels of M-02 reached a maximum of



4.7% at DAT 94 before declining to 2.6% at termination. Levels of M-01 increased steadily to 40.2% by DAT 369.

In the Pikeville soil treated with the phenyl label fluopicolide declined to 49.3% of the applied radioactivity after 369 days incubation. In the pyridyl treatment fluopicolide declined to 53.5% over the same time period. M-03 reached maximum levels of 1.8% (DAT 273) and 28% (DAT 369) in the phenyl and pyridyl labels, respectively. Metabolites B and D were observed in the pyridyl treatment only, at maximum levels of 3.3% (DAT 273) and 4.0% (DAT 369), respectively. Metabolite C was not observed in Pikeville soil. Levels of M-02 reached a maximum of 3.2% by DAT 369. Levels of M-01 increased steadily to 19.3% AR at study termination.

On the basis of the chromatographic and mass spectrometric investigations the presence of Miopic Orde, M-01 and M-02 were confirmed and Metabolite A was concluded to be M-03. The primary route of degradation in soil was assumed to be via the addition product, M-03 before oxidative cleavage to form two products, M-01 (2,6-dichlorobenzamide, AE 6537M) and M-02 (AE C657188). Association with soil or soil constituents to form non-extractable residues occurred with both radiolabels. Non-extractable soil residues were higher in the respective pyridyl labelled treatments compared to the phonyl treatments suggesting that M-02 degrades to components that are associated with the soil matrix.

F. Degradation Kinetics

Fluopicolide degraded slowly in the Lamberton and clay loam and Pikeville loamy sand soils under non-sterile conditions. In Lamberton soil reported DT_{50} values were 282 and 270 days (mean = 276 days) for the phenyl- and pyridyl labels, respectively. In Pikeville soil reported DT_{50} values were 323 and 336 days (mean = 330 days) for the phenyl- and pyridyl- labels, respectively. The experimental data has been re-valuated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 2.1). Fall details of the evaluation are provided in the summary for KCA 7.1-2.1.1/10. The resulting best-fit III_{50} values for trigger endpoints are summarised below in Table 7.1.2.1.1-6. Best fit kinetics are highlighted in bold.

Table 7.12.1.1- 6: Degradation rate of fluopicolide under aerobic conditions at 25 °C (DT₅₀ values for trigger endpoints)

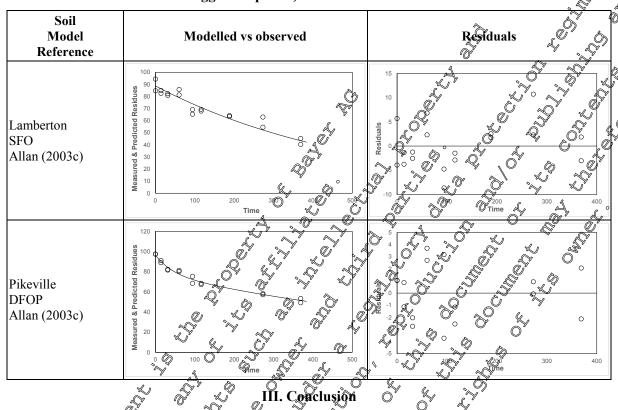
Lamberton, Allan (2003c) FOMC 88 6 835 7 n.r4.007 7.513 405.2 227 n.r2357 4028 405.2 227 n.r2357 4028 405.2 227 n.r. 0.00129 0.002 414.4 137 Pikeville, FOMC 96.85 0.2417 5.16 n.r. 0.08526 0.398 725.8 >10	Soil	Kinetics mode	Mag	Parameter (k. k1, k2, g, tb, oo)	χ^2 , %-	Poob S>t	Lower CI	Upper CI	DT ₅₀ [days]	DT90 [days]
Allan (2003c) FOMC 88 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	•	SFO	88.71 ^	yk 0.001936 Ø	4.25	<2e-16	0.001752	0.002	358	1189.4
Pikeville,	<i>←</i> \.′		88	β 835 6	427				405.2	2271.9
Pikeville, FOMC 96.85 0.0.2417 5.16 n.r. 0.08526 0.398 725.8 >10	Z.	ŞFÖ	9 1.14		¥5.64	6.52E-09	0.00129	0.002	414.4	1376.5
Allan (2003 6	Pikeville,	₽ ∧	96,82	\$43.75 ⁵	5.16				725.8	>10000
BFOP 96.55 k2 0001131 1.97 6.56E-06 0.0007505 0.002 424.9 184 g 0.1914 n.r. 0.11 0.273	Allan (2003c)	DFOP	®6.5 5 €	k2 0 0 01131	1.97		0.0007505	0.002	424.9	1847.5

Best fit model highlighted in bold



A graphical representation of the final kinetic fit is shown below.

Table 7.1.2.1.1-7: Degradation of fluopicolide under aerobic conditions at 25 °C (best-fit DT₅₀ values for trigger endpoints)



Fluopicolide slowly degrated in Camberron and Pike The soils under aerobic conditions at 25°C. Less than 2% AR was detected in the ethanolamine traps indicating ver slow mineralization of fluopicolide to CO₂. Organic volatiles were not detected in either of the treated soils regardless of label position.

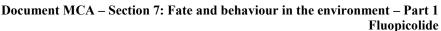
The primary metabolic pathway was proposed to be the formation of an oxidative addition product M-03, followed by cleavage to form M-01 and M-02. M-03 was observed at a maximum of 7.8% AR before declining to 3.3% AR by the thal timepoint, M-01 was observed in the phenyl samples only reaching a maximum of 40.2% AR by the end of the study M-02 was observed in the pyridyl samples only at a maximum of 4.7% AR.

Levels of non-extractable residues were higher in generation the pyridyl labelled treatments suggesting that M-02 and other degradates from the pyridyl ring are closely associated with the soil matrix. A number of minor unidentified metabolites were detected from the pyridyl treatments in both soils, none of which individually exceeded 6% AR. It was concluded that these metabolites accumulated to these levels because the microbial viability of the soil had declined significantly on ageing for 273 and 369 days and were unlikely to form at significant levels in the environment (see KCA 7.1.2.1.1/06, 2020; M-88574 201-1).

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2015), resulted in best-fit un-normalised DT_{50} value of 358 and 424.9 days for Lamberton and Dikeville soils respectively.

Assessment and conclusion by applicant:

The curdy was conducted in accordance with USEPA (= EPA) N, 162-1 (1982). The study is considered valid to assess the aerobic degradation of [phenyl-U-¹⁴C] and [2,6-pyridyl-¹⁴C]-fluopicolide in soil.





	1
Data Point:	KCA 7.1.2.1.1/02
Report Author:	
Report Year:	2003
Report Title:	The kinetics of degradation of [2,6-14C-pyridinyl] and [U-14C-benzoyl]-AE C638206 in a U.S. loam under laboratory aerobic conditions at 20 degrees C
	C638206 in a U.S. loam under laboratory aerobic conditions at 20 degrees C
Report No:	B004073
Document No:	<u>M-241051-01-1</u>
Guideline(s) followed in	EU (=EEC): 95/36/EC of July 1995
study:	
Deviations from current	none & & & &
test guideline:	
Previous evaluation:	yes, evaluated and accepted &
	DAR (2005)
GLP/Officially	Yes, conducted under GLP officially recognised testing facilities
recognised testing	Yes, conducted under GLP Officially recognised setting facilities
facilities:	
Acceptability/Reliability:	Yes O & & & & & & & & & & & & & & & & & &

Executive Summary

The rate of degradation of fluopicolide was investigated in an USA coil under laboratory aerobic conditions for up to 120 days. Phenyl-U-14C]-labelled fluopicolide was applied to soil samples at an application rate equivalent to 400 g/ha. Lamberton soil was classified as a loam soil a cording to USDA classification. Soil samples were incubated in the dark, at a moisture content equivalent to F 2.5 under aerobic conditions at 20 °C. The radiochemical purity was > 99 % for both radioabelled test tiems. The specific activities were 5.33 and 5.88 MBq/mg for [phenyl-U-14C]- and [2,6-pyridyl-14C] labelled fluopicolide respectively.

Samples were taken for extraction and analysis insmediately after treatment (day 0) and after 14, 28, 42, 56, 77, 98 and 120 days of incubation. Soil samples were exhaustively extracted with up to four successive extractions with accountrile / water (4 / 1, v/v) at ambient temperature followed by Soxhlet extraction with accountrile. Concentrated soft extracts were analysed by reverse phase high performance liquid chromatography (HPLC). Selected samples were analysed by thin layer chromatography (TLC) to confirm the results obtained by HPLC.

Material balances ranged from 88.8 to 99.0% AR for samples incubated with [phenyl-U- 14 C]-fluopicolide (mean 94.9% AR) and from 87.4 to 99.7% AR for those treated with [2,6-pyridyl- 14 C]-fluopicolide (mean 94.7% AR). Extractable radioactivity decreased slightly from a maximum of 94.0% AR at DAT 0 to 87.5% AR by DAT 920 for the [14 C phenyl]-residues and from 96.2% AR on DAT 0 to 90.9% AR after 120 days of incubation for the [14 C pyridyl]-residues. Non-extractable residues increased slightly with the decrease in extractable radioactivity over the 120 day study. The maximum amount of non-extractable residues was observed at DAT 98 at levels of 7.4% in the phenyl label and 9.2% in the pyridyl label. Very little mineralization to carbon dioxide was observed with \leq 0.1% of applied radioactivity detected in volatile was at the end of the study.

The quantity of fluopicolide ranged from 96% and 94 % AR at DAT 0 and declined to 81.6% and 90.9% AR at DAT 120 in the phenol and pyridy labels, respectively. A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit unmormatised D_{50} value of 1290.0 days and DT_{90} values of 4285.0 days in Lamberton soil. This result is no consistent with the overall behaviour of fluopicolide in all other soils, including a study conducted with the same seed incubated at 25°C, and may be considered as an outlier.



Fluopicolide was degraded initially to a minor metabolite, presumed to be M-03 (AE 0608000), which was degraded to the oxidative cleavage product, M-01 (AE C653711) in the phenyl labelled samples. The corresponding cleavage product M-02 (AE C657188) was not detected in the pyridyl labellêd samples. M-03 was observed in both radiolabelled treatments but did not accumulate, reached a maximum of 2.7% in the phenyl labelled samples (DAT 56) and 3.1% in the pyridyl samples (DAT 77)? After 42 days, levels of M-01 began to form (2.1% AR) and gradually increased to 4.8% AR by D by 120.

I. Materials and Methods A. Materials 1. Test Items [Phenyl-U-14C]-fluopicolide

Specific Activity:

Radiochemical Purity:



2. Test Soils

The study was performed using one test soil as characterized in Table 7.1.2.1.1-8.

Table 7.1.2.1.1- 8: Physico-chemical properties of test soil

Formed using one test soil as characterized in Table 7.1.2.1.1-8. Physico-chemical properties of test soil Parameter Soil Soil City Country	
H in H ₂ O (1:1) in CaCl ₂ (1:1) Organic Matter (%) Organic Carbon (%) Cation Exchange Capacity (med 200 g) Vater Holding Capacity (%) maximum at 1/10 bar at 1/2 bar at 1/3 b	
H in H ₂ O (1:1) in CaCl ₂ (1:1) Organic Matter (%) Organic Carbon (%) Cation Exchange Capacity (med 200 g) Vater Holding Capacity (%) maximum at 1/10 bar at 1/2 bar at 1/3 b	
H in H ₂ O (1:1) in CaCl ₂ (1:1) Organic Matter (%) Organic Carbon (%) Cation Exchange Capacity (med 200 g) Vater Holding Capacity (%) maximum at 1/10 bar at 1/2 bar at 1/3 b	
H in H ₂ O (1:1) in CaCl ₂ (1:1) Organic Matter (%) Organic Carbon (%) Cation Exchange Capacity (med 200 g) Vater Holding Capacity (%) maximum at 1/10 bar at 1/2 bar at 1/3 b	
H in H ₂ O (1:1) in CaCl ₂ (1:1) Organic Matter (%) Organic Carbon (%) Cation Exchange Capacity (med 200 g) Vater Holding Capacity (%) maximum at 1/10 bar at 1/2 bar at 1/3 b	
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H in H ₂ O (1:1) in CaCl ₂ (1:1) Organic Matter (%) Organic Carbon (%) Cation Exchange Capacity (med 200 g) Vater Holding Capacity (%) maximum at 1/10 bar at 1/2 bar at 1/3 b	
in H ₂ O (1:1) in CaCl ₂ (1:1) Organic Matter (%) Organic Carbon (%) Cation Exchange Capacity (mea 100 g) Water Holding Capacity (%) maximum at 1/10 bar at 1/2 bar at 1/3 bar	
Cation Exchange Capacity (mea 100 g) Vater Holding Capacity (%) maximum at 1/10 bar at 1/3 bar at 1/3 bar at 1/3 bar at 1/3 bar doisture Content During Incubation (%) soil Office ball Biomass (µg/microbial C/g/oil)	
Cation Exchange Capacity (mea 100 g) Vater Holding Capacity (%) maximum at 1/10 bar at 1/3 bar at 1/3 bar at 1/3 bar at 1/3 bar doisture Content During Incubation (%) soil Office ball Biomass (µg/microbial C/g/oil)	
Cation Exchange Capacity (mea 100 g) Vater Holding Capacity (%) maximum at 1/10 bar at 1/3 bar at 1/3 bar at 1/3 bar at 1/3 bar doisture Content During Incubation (%) soil Office ball Biomass (µg/microbial C/g/oil)	
Cation Exchange Capacity (mea 100 g) Vater Holding Capacity (%) maximum at 1/10 bar at 1/3 bar at 1/3 bar at 1/3 bar at 1/3 bar doisture Content During Incubation (%) soil Office ball Biomass (µg/microbial C/g/oil)	
Vater Holding Capacity (%) maximum at 1/10 bar at 1/2 bar at 1/3 bar 20 5 Coil Onicrobial Biomass (µs microbial C/goil)	
maximum at 1/10 bar at 1/3 bar at	4
at 1/10 bar at 1/3 bar	
at 1/3 bar at 30.2 of at 35 bar at 30.2 of	
at 8 bar 205 Coisture Content During Incubation (%) \$0.2 Sulk Density (disturbed, g/cm) \$1.06 Soil Microbial Biomass (µg/microbial C/g/oil)	
oil Microbal Biomass (µs microbal C/goil)	
oil Microbal Biomass (µs microbal C/goil)	
oil Microbal Biomass (µs microbal C/goil)	
Initial (DAT 0)	
Initial (DAT U) \$\frac{1}{2} \text{\$\frac{1}{2}\$ \text{\$\fin}\$ \text{\$\fin}\$ \text{\$\fin}\$ \	
Final (DAT (21) 344.0	

B. Study Design

1. Experimental Conditions

Tests were performed in flow through systems consisting of glass flasks each containing 50 g soil and attached to an ethylene glycol trap to collect organic volatiles followed by an ethanolamine (or sodium hydroxide) trap to collect Carbon dioxide

The tests were performed at a concentration of approximately 0.41 mg/kg dry weight of soil. The test concentration was based on a field rate of 400 g a.s./ha. The test items [phenyl-U-14C]- or [2,6-pyridyl-¹⁴C]-fluopiconde, dissolved in acetonitrile (406 and 460 μL, respectively), were applied drop wise onto the soil surface. Soil samples were adjusted to a moisture content of 30.2%, equivalent to pF 2.5, two days prior to application. The samples were incubated at 20 ± 1 °C under aerobic conditions in the dark for 120 days

Additiona untreated flasks were used to monitor the viability of the test system by determination of biomass.



2. Sampling

Single samples each were removed for analysis after 0, 14, 28, 42, 56, 77, 98, and 120 days of incubation. Untreated samples were analysed for biomass at the beginning and end of the experiment.

3. Analytical Procedures

Soil samples were extracted up to four times successively with acetonitrile/water (4/1, v/v) at ambient temperature followed by one Soxhlet extraction using acetonitrile. Radioactivity in extracts was determined by liquid scintillation counting (LSC). Soil extracts were conventrated and analysed by HPLC with radiodetection. Degradation products were identified by comparison of the retention times of reference standards and confirmed in selected samples by TLC co-chromatography with reference items. A peak of 300 dpm, corresponding to 0.9 ng fluopicolide, was readily determined by TLC and HPLC quantitation methods used.

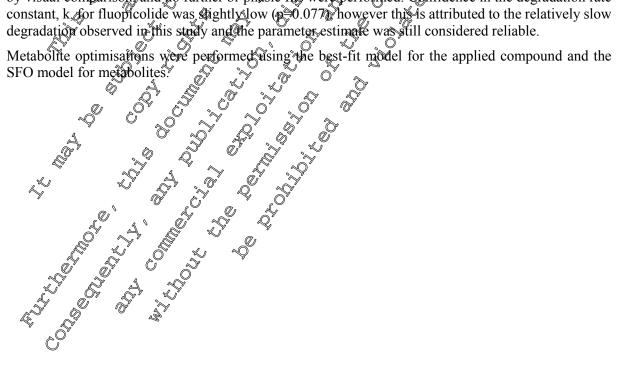
Volatile radioactivity in volatile traps was determed by LSC

Following homogenisation, non-extractable residues (NER) in extracted soils were determined by combustion.

4. Determination of degradation kinetics.

The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are notonger considered wild. DP50 and DT90 values for the degradation of fluopicol de and M-01 have been regulated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1). For fluopicolide, as the degradation was investigated using two radiolabed positions, and similar behaviour was observed for each, these radiolabels have been considered as true replicates, and included together in a single optimisation. Full details are provided in Document KCA 7.1.2.1.1/19 (M-685680-01-1). A brief summary of the approach for rigger endpoints is provided below

To derive trigger endpoints, an initial comparison was performed between the SFO and FOMC fits for fluopicolide in the Lamberton soil. The FOMC fit provided no significant improvement on the SFO fit by visual comparison and pofurther bi-phasic fus were performed. Confidence in the degradation rate constant, k, for fluoricolide was stightly low (p=0.077) however this attributed to the relatively slow





II. Results and Discussion

A. Data

The distribution and characterisation of radioactivity for the test soil incubated at 20 °C following application of [phenyl-U-14C]- and [2,6-pyridyl-14C]-fluopicolide are summarized in Table 7.1 21.1 to Table 7.1.2.1.1-10.

Table 7.1.2.1.1- 9: Degradation of [phenyl-U-14C]-fluopicolide at 20 °Cain Lamberton aerobic conditions [% AR]

					- 7			· / 68		
Compound	Incubation time (DAT)									
Compound	0	14	28	42	£36	77	98)	ĴŽO S		
Fluopicolide	94.0	86.4	88.3	90.3	₹91. % °	86.8	\$ 4.5	81.6		
M-01 (AE C653711)	nd	nd	₽nd	2.1	2,\$	1.2	2.9	A.S		
M-03 (AE 0608000) ^A	nd	nd 🖔	√ nd 🖁	2,2	2.7	¥ 1.95	2.1	Y .1		
Total extractable radioactivity	94.0	86.4	\$\$.3 ×	©94.6 <	96.9	89.6	089.5	87 <i>5</i>		
Non-extractable radioactivity	3.5	2.3 %	¥ 4.00	,20	2 .1 3	¥ 4.9.	744	3 .4		
¹⁴ C-Carbon dioxide including other volatiles ^C	na Ĉ	\$\ 0.*\	~ %	Z ⁹ 0.1	nd		nd g	nd		
Total radioactivity	97.5	Ø 8.8	92.40	975	Ø.0 _%	© 94.5 ©	96.9⁄	92.9		

n.a.: not analysed, n.d.: not detected DAT: days after treatmen@

4C Fuopicolide at 20 °C in Lamberton soil Degradation of [2,6-pyridy) 1 under aerobic conditions [%AR]

		V	\sim		(//)			
Compound (b)		<i>△</i> . ?	Y H	cubation	time (DA'	Γ)		
Compound		14	28	42	≫ 56	77	98	120
Fluopicolide	² / ₂ /96.2	820,7	\$0.4 ₍₄	91.1	90.0	89.9	86.8	90.9
M-02 (AE C657188)	The state of the s	nd a	nd 💍	nd	nd	nd	nd	nd
M-03 (AE 060800®) A	nd	0.5	Q:9	A .8	nd	3.1	2.7	nd
Total extractable radioactiv	vity 96.2	\$3 ⁹	81.3°	®92.9	90.0	93.4	89.5	90.9
В		Q z						
Non-extractable radioactivi	tv 🕽 🔊 5	\$\int 3.4\times	4:4	3.6	3.7	5.2	9.2	6.0
14C-Carbon dioxide includi:	ng na	0.0	~ 00.1	0.1	nd	nd	nd	nd
other walatiles C								
Total radioactivity	Ø 09.7	87.4°C	86.1	96.6	93.7	98.6	98.7	96.9

n.a.: not analysed f.d.: not detected DAT days after reatment

All values expressed as percentage of total applied a diolabel

^A Metabolite A proposed to be M-03 (AF 0608000)

^B The total extractable radioactivity was calculated as support ambient and Soxhlet expressions.

^C Other volatile radioactivity was < 0.05 % AR at any threpoint

All values expressed as percentage of applied radioactivity (% AR)

A Metabolite (Proposed to be N-03 (AE 0608060)

^B The total extractable radioactivity was calculated as sum of ambient and Soxhlet extracts. ^C Other worklile radioactivity was <05 % AR at all timepoints



B. Material Balance

Material balances ranged from 88.8 to 99.0% AR for samples incubated with [phenyl-U-¹⁴C]-fluopicolide (mean 94.9% AR) and from 87.4 to 99.7% AR for those treated with [2,6-pyridyl-C]-fluopicolide (mean 94.7% AR).

C. Extractable and Non-Extractable Residues

For samples incubated with [phenyl-U-1⁴C]-fluopicolide, total extractable radioactivity secreased from 94.0% AR at DAT 0 to 87.5% AR by DAT 120. For samples incubated with [2,6-pyrdyl-140]-fluopicolide, total extractable radioactivity decreased from 96.2% AR of DAT 0 to a minimum of \$9.5% AR after 98 days, and was 90.9% AR after 120 days of incubation.

Non-extractable residues increased slightly with the decrease in extractable radioactionty over the 20 day study. The maximum amount of non-extractable residues was observed at DAT 98 at levels of 2.4% in the phenyl label and 9.2 % in the pyridyl label.

D. Volatile Radioactivity

Very little mineralization to carbon devide was observed with $\leq 0.1\%$ of applied radioactivity detected in volatile traps at the end of the study. Only trace amounts of radioactivity were recovered in the volatile traps containing ethanolamine (maximum of 0.05% of applied). There was no volatilization of fluopicolide or its metabolites.

E. Degradation of Parent Compound

Fluopicolide was the principal radiotabelled component detected Levels of parent accounted for 100% of extracted radioactivity at DAT and declined lightly to 81,6 and 90.9% of applied radioactivity by the end of the study of the study in the soil samples treated with [phenyl-1.4 C]- and [2,6-pyridyl-14 C] labelled fluopicolide, respectively. It addition to parent material M-01 (AE C653711) was detected at a maximum of 8.8% AR in the soil samples treated with [phenyl-14 C]- fluopicolide. The corresponding cleavage product M-02 (AE C657188) was not detected in the pyridyl labelled samples. A second metabolite M-03 (AE 0608000) was detected in soil samples treated with both [phenyl-U-14 C]- and [2,6-pyridyl-2 C]- fluopicolide at maxima of 2.7 and 3.0% AR, respectively.

F. Degradation Kinetics

Fluopicolide degraded slowly in the Lamberton Toam soil under non-sterile conditions. The reported DT_{50} values were 365 and 463 days (mean = 444 days) for the phenyl- and pyridyl- labels, respectively. The experimental data has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 2.1). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting best-fit DT_{50} values for trigger endpoints are summarised below in Table 7.1.2.1.1- 11. Best fit kinetics are highlighted in bold.

Table 7.1.2.1 11: A Degradation rate of fluopicolide under aerobic conditions at 20 °C (DT₅₀ alues for trigger endpoints)

Soil	* Kinetic « *foodel *	Õ ≱M₀	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT90 [days]
Lamboton,	SFO	91.25	k 0.0005374	3.63	0.077	-0.0001734	0.001	1290	4285
Allan (2003b)	FOMC	98.46	α 0.00493 β 1.05E-09	2.36	n.r. n.r.	0.00493 9.89E-10	0.005	>10000	>10000

Best fit model highlighted in bold



A graphical representation of the final kinetic fit is shown below.

Table 7.1.2.1.1- 12: Degradation of fluopicolide under aerobic conditions at 20 °C (best-fit DT₅₀ values for trigger endpoints)

Soil Model Reference	Modelled vs observed	Residuals &
Lamberton SFO Allan (2003b)	120	10 8 6 4 2 9 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10

Two studies with Lamberton soil were conducted in the same laboratory by the same study director shortly after each other. However, degradation in this study incubated at 20 cappeared significantly slower than the study conducted at 25 °C (see KCA 71.2.1 1001), which cannot be accounted for by temperature or moisture effects. The calculated DT₅₀ of 1210 days is therefore not consistent with either the replicate study, or the overall behaviour of fluoricolide in all other soils and may be considered as an outlier.

III. Conclusion

Fluopicolide slowly degraded in the non-sterile loam soft under aerobic conditions. Approximately 82% and 91% of the applied radioactivity remained in the combined soil extracts as fluopicolide in the phenyl and pyridyl label treated soils respectively at the end of 120 days. Less than 0.1% of the radioactivity was detected in the ethanolamine traps indicating very slow mineralization of fluopicolide to CO₂. Organic volatiles were not detected with either radiolabel. The primary metabolic pathway involved formation of M-03 (AF 0608000, maximum of 3.1% AR) followed by cleavage to form M-01 (AE C653711, maximum of 4.8% AR).

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit up normalised DT₅₀ value of 1290 days for Lamberton soil. This result is not consistent with the overall behaviour of fluopicolide in all other soils, including a study conducted with the same soil incurated at 25°C and may be considered as an outlier.

Assessment and conclusion by applicant

The study was conducted in accordance with SETAC 1.1 (1995) and USEPA (= EPA) N, 162-1 (1982). The study is considered will do assess the aerobic degradation of [phenyl-U-14C] and [2,6-pyridyl-14C] fluopicolide in soil.



Data Point:	KCA 7.1.2.1.1/03
Report Author:	
Report Year:	2003
Report Title:	Kinetics of Degradation of [2,6-14C-pyridinyl] and [U-14C-benzoyl]-AE C63 206
	in One Soil at 10 Degrees C under Laboratory Aerobic Conditions
Report No:	B004075
Document No:	<u>M-241053-01-1</u>
Guideline(s) followed in	EU (=EEC): 95/36/EC
study:	
Deviations from current	none & & &
test guideline:	
Previous evaluation:	yes, evaluated and accepted &
	DAR (2005)
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes O' V V V V V A A

Executive Summary

The rate of degradation of fluopicolide was investigated in a European soil mider laboratory aerobic conditions for up to 131 days. Thenyl-U-14C]-labelled fluopicolide or 2,6-px fidyl-14C] labelled fluopicolide was applied to soil samples at an application rate equivalent to 400 g/ha. Abington soil was classified as a sandy loan soil according to USDA classification. Soil samples were incubated in the dark, at a moisture content equivalent to 40% maximum water trolding capacity under aerobic conditions at 10 °C. The radiochemical parity was > 98 % for both radiolabelled test items. The specific activities were 5.74 and 5.99 MBq/mg for [phenyl-U-4C]-and [2.6-pyridyl-14C] tabelled fluopicolide, respectively.

Samples were taken for extraction and analysis immediately after treatment (DAT 0) and after 14, 27, 49, 63, 88, 105 and 13 N days of incubation. Soil samples were extracted with up to four successive extractions with acetonity / water (4/1, v/2) at ambient temperature followed by Soxhlet extraction with acetonity / Concentrated ambient soil extracts were analysed by reverse phase high performance liquid chromatography (FPLC) Soxhlet extracts were not analysed as the levels of radioactivity did not exceed 3% AR at any time throughout the study. The HPLC results were confirmed by LC/MS/MS.

Material balances ranged from 100.7 to 100.4% AR for samples incubated with [phenyl-U-14C]-fluopicolide (mean 103.5% AR) and from 94.4 to 102.5% AR for those treated with [2,6-pyridyl-14C]-fluopicolide (mean 20.4% AR). The majority of the applied radioactivity was extractable at all the timepoints. Percentages of radioactivity were greater than 94% AR in both radiolabelled treatments over the entire length of the study. Non-extractable residues in the pyridyl labelled samples reached 6.1% AR by DAT 131 compared to only 1.2% AR in the menyl treatment. Very little mineralization to carbon dioxide was observed with 0.4% of applied radioactivity detected in volatile traps at the end of the study.

The quantity of fluopicolide tanged from 919% to 96.3 % AR at Day 0 in the pyridyl and phenyl labels, respectively, and degraded 84% in bot clabels by Day 131. A re-evaluation of the degradation kinetics in accordance with FOCLYS guidance document on degradation kinetics (2014), resulted in a best-fit unnormalised DT. Value of 6710 days and DT. values of 2393.0 days in Abington soil.

Fluoricolide degraded to form the cleavage products, M-01 (AE C653711) and M-02 (AE C657188). The formation of M-01 steadily increased to a maximum of 16% AR at study termination. M-02 reached a maximum of 6.4% in the pyridyl labelled soil by DAT 63 before degrading slightly to 5% at study termination (DAT 131). This metabolite was degraded to at least four minor unidentified metabolites detected at DAT 131 at < 1% AR each.



I. Materials and Methods

A. Materials

1. Test Items

[Phenyl-U-14C]-fluopicolide

Denote position of [1°C] distributed by the state of the study was performed using the test soil another receipt Table 7.1.2.1.1-13.



Table 7.1.2.1.1- 13: Physico-chemical properties of test soil

Parameter	Soil	
Soil Designation	Abington	
Geographic Location		
City	Abington	
Country	Cambridge hire, UK Sardy loam 71 22 7	
Textural Classification (USDA)	Sartay loam	
Sand [50 - 2000 μm] (%)	\$ 71 \$ S	
Silt [2 – 50 μm] (%)	22	
Clay [< 2 μm] (%)	7 0	
pH	7,4	
in H ₂ O (1:1)	7,4	
in H ₂ O (1:1) in CaCl ₂ (1:1)	Z Z Z	
1 O · M + + + + + + + + + + + + + + + + + +	6 4.7 6 A	
Organic Matter (%) Organic Carbon (%) *	A 25° 1.	
Cation Exchange Capacity (meq/100 g)	71.1 S	
Cation Exchange Capacity meg/100 g) Water Holding Capacity meg/100 g) maximum at 1/10 bar at 1/3 bar	71.1 78.2 15.8	
maximum	\$ 635 \S	
at 1/10 bar at 1/3 bar	\$8.2	, A
at 1/3 bar at 15 bar	15.8 0	
at 15 bar Sy O Sy		
Moisture content During incubation (%)	₩ 25.0 X	
I Darlla Danasta (darebanka da a/ana 1)	1.1,10	
Soil Microbial Biomass (µg microbial C/g soil)		
Soil Microbial Biomass (μg microbial C/g soil) Imital (DAT 0)	₹ 40.6	
Final DAT 13 by & S	236.9	

Calculated by dividing organic matter content by 15

B. Studîv Design

1. Experimental Conditions

Tests were performed in flow through systems consisting of glass flasks each containing 50 g soil and attached to an changlamine trap to collect carbon dioxide.

The tests were performed at a concentration of approximately 0.41 mg/kg dry weight of soil. The test concentration was based on a field rate of 400 g a.s. ha. The test items [phenyl-U- 14 C]- or [2,6-pyridyl- 14 C]-fluopicolide, dissolved in acetonitrile 456 and 522 μ L, respectively), were applied drop wise onto the soil surface. Soil samples were adjusted to a moisture content of 25%, equivalent to 40% of maximum water holding capacity, two days prior to application. The samples were incubated at 10 ± 1 °C under aerobic conditions for the dark for 131 days.

Additional intreated flasks were used to monitor the viability of the test system by determination of biomass.

2. Sampling

Single samples each were removed for analysis after 0, 14, 27, 49, 63, 88, 105, and 131 days of incubation. Untreated samples were analysed for biomass at the beginning and end of the experiment.



3. Analytical Procedures

Soil samples were extracted up to four times successively with acetonitrile/water (4/1, v/v) at ambient temperature followed by a Soxhlet extraction with acetonitrile. Radioactivity in extracts was determined by liquid scintillation counting (LSC). Ambient soil extracts were concentrated and analysed by PLC. with radiodetection. Soxhlet extracts were not analysed as the levels of radioactivity did not exceed 3% at any time throughout the study. Degradation products were identified by comparison of the retention times of reference standards and confirmed in selected samples by LC/MS/MS. A peak of 300 cpm, corresponding to 0.9 ng of fluopicolide in samples treated with [2,6-pyridy] 4C]-fluopicolide of 0.8 ng of fluopicolide in samples treated with [phenyl-U-14C]-fluopicolide, was readily determined by YLC and HPLC quantitation methods used.

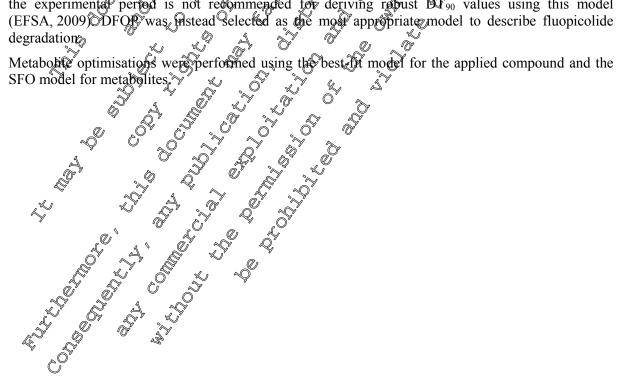
Volatile radioactivity in volatile traps was determined by LSC.

Following homogenisation, non-extractable residues (NER) in extracted softs were determined combustion.

4. Determination of degradation kinetics

The degradation kinetics determined in the report were conducted in the issuing of the BOCUS guidance document on degradation kinetics and are no longer considered valid DT 50 and DT 90 values for the degradation of fluoricolide and M-01 have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUP (version 2.1). For fluopicolide, as the degradation was investigated using two radio and smallar behaviour was observed for each, these radiolabels have been considered as true replicates, and included together in a single optimisation. Full details are provided in Document KCAS.1.2.13/10 (M-685680-01-1). A brief summary of the approach for trigger endpoints is provided below.

An initial comparison was performed between the FO and FOME fits for fluoricolide in the Abington soil. The FOMC model provided better it than the SFO model, and the DFOP model was therefore also fitted. The FOMC flogave the lowest χ^2 ear% value but was not accepted, as extrapolation beyond the experimental period is not recommended for deriving reduct DT_{90} values using this model (EFSA, 2009) DFOR was instead selected as the most appropriate model to describe fluopicolide





II. Results and Discussion

A. Data

The distribution and characterisation of radioactivity for the test soil incubated at 10 °C following application of [phenyl-U-14C]- and [2,6-pyridyl-14C]- fluopicolide are summarized in Table 7.2.1.1.2 14 to Table 7.1.2.1.1- 15.

Degradation of [phenyl-U-14C]-fluopicolide at 100°C in Abington Table 7.1.2.1.1- 14: aerobic conditions [% AR]

C1	Incubation time (DAT)								
Compound	0	14	2 5	49 🔏	[©] 63	88	Q 05 É	131	
Fluopicolide	96.3	95.4	9 2.4	86.9 🗣	8 9 3	84.1	87.0 [©]	84.3	
M-01 (AE C653711)	4.0	6.1 "	♥ 7.8	193	% 1.8 _@	12.4	14.4	6.3	
Ambient extracts	100.3	101.5%	1002	297.5 J	√101 ≴ √	9675	102.0	[©] 100.6	
Soxhlet extract	1.1	1,8	2 .1	2.60	26	<u>"2</u> .7 ਨੂੰ	√ 3.0°	ا گھ	
Total extractable radioactivity A	101.4	403.3	¥102,3¥	100.1	A04.1 6	99,2	169.0	¥03.7	
Non-extractable radioactivity	na	v 1.2° ≫	J.Øv″		1.2	4 ©2	≈ 1.3 6	1.3	
¹⁴ C-Carbon dioxide	na	052	, ©0.3 ×	© 0.3	ana	©0.3 Q	0.1	0.0	
Total radioactivity	10,54	104.7	103.6	101.4	\$\text{905.3}	100	106.4	105.0	

n.a.: not analysed, n.d.: not detected, DAT: days after treatment

All values expressed as percentage of total applied radiolabel

Table 7.1.2.1.1- 15: Degradation of [2,6-pyrido] ′aerøbic conditions [% AR]

		, ¥	(\mathcal{O})	v			
	I do a la l						
Compound	00" \$14	27 🔊	49	_{@/} 63	88	105	131
Fluopicolide	99 .9 4 89.9	8925	89.2 g	87.4	87.8	85.7	83.9
M-02 (AFC 657188)	0.7	Ø5.2 °€	§ 5.8	6.4	3.6	5.2	5.0
Ambient extraos	934 92.5	y 95.Z	93.6	94.3	95.5	93.7	93.0
Soxhlet extract	Ø.70 → 1.8 ®	20	2.0	3.0	2.7	2.7	1.6
Total extractable radioacovity A	94.4.0 94.3	\$ 7.8	§ 97.6	97.3	98.2	96.4	94.6
Non-extractable radio out vity	nay ~0.6	1.3	2.9	3.3	3.9	5.0	6.1
- L	⊙na \$\text{\$0.2} \text{\$\text{\$\infty}\$}	00	0.3	na	0.4	0.1	0.2
Total radioactivity	94.4 953	>9 9.2	100.8	100.6	102.5	101.5	100.9

n.a.: not analysed, n.d.: not detected, DAT: days after treatment All values expressed as percentage of total applied radio are

Four minor unidentified pyridylying metabolites were also detected but were not quantified as they accounted for a maximum of co. 4% in total (such less than 1%) at Day 131.

A The total extractable radioactivity was calculated a sum of ambient and Soxblet extra

A The total extractable radioactivity was calculated as such of ambient and Soxhlet extracts.



B. Material Balance

Material balances ranged from 100.7 to 106.4% AR for samples incubated with [phenyl-U-14C]fluopicolide (mean 103.5% AR) and from 94.4 to 102.5% AR for those treated with [2,6-pyridyl-©] fluopicolide (mean 99.4% AR).

C. Extractable and Non-Extractable Residues

The majority of the applied radioactivity was extractable at all the timepoints. Percentages radioactivity were greater than 94% AR in both radiolabelled treatments over the entire length of the study. Non-extractable residues in the pyridyl labelled samples reached 1% AR by DAT 130 compared to only 1.3% AR in the phenyl treatment.

D. Volatile Radioactivity

Very little mineralization to carbon dioxide was observed with < % AR detected in the at the end of the study (maximum of 0.4% of applied in the pyrical labelled samples)

E. Degradation of Parent Compound

The quantity of fluopicolide range from 91.9% to 96.3% AR DATE in the pyridy and phenyl labels, respectively, and degraded to \$4% in both labels by DAT 131. Aluopicolide degraded to form the cleavage products, M-01 (ABC653711) and M-02 (AE 657188). The formation of M-01 steadily increased to a maximum of 16% AR at study termination. No other metabolities were detected from the phenyl labelled treatment. Devels of MAZ reached a maximum of 6.4% in the pytidyl labelled soil by DAT 63 before degrading slightly to 5% at study termination (DAT 131). This metabolite degraded to at least four minor metabolites which were detected at DAV 131 @ ca. 4% AR inviotal, each individually less than 1%.

Fluopicolide degraded slowly in the Abangton andy fram soil under aerobic conditions at 10 °C. The reported DT₅₀ values were 5 2 and 252 days (mean = 667 days) for the phenyl- and pyridyl- labels, respectively. The experimental data has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS 2014) using the software KinGUI (version 2.1). Full details of the evaluation are provided in the summary for ACA 7.1.2.1 \$\times 10\$. The resulting best-fit DT50 values for trigger endpoints are sommarfied below in Table 1.2.1.1 16. Best fit kinetics are highlighted in bold.

Table 7.1.2.1.1- 16: Degradation rate of Mopicolide under aerobic conditions at 10 °C (DT₅₀ yalues for trigger endpoints)

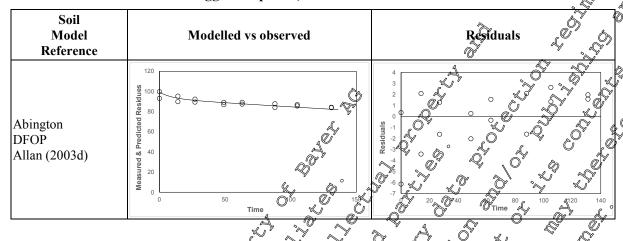
	Kinetic modes	M	Parameter (β, k1, 12, g, tb, g, β)	χ², %- error	Prob >t	Lower CI	Uppe r CI	DT ₅₀ [days]	DT90 [days]
A S		₹96.4 6		1.79	1.52E-05	0.0008619	0.002	510	1694
Aumgion, Milan	FOMO	98.93	β 9.129	1.13	n.r. n.r.	0.03328 -1.463	0.089 19.72	>10000	>10000
(206) d) Q	Prop	© 99.35	k1 0.104 k2 0.0009347 g 0.06329	1.51	0.000806 9.46E-07 n.r.	0.0006634	0.159 0.001 0.081	671.6	2393

Best fit model highlighted in bold



A graphical representation of the final kinetic fit is shown below.

Degradation of fluopicolide under aerobic conditions at 10 °C (best-fit DT₅₀ Table 7.1.2.1.1- 17: values for trigger endpoints)



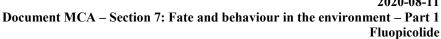
Fluopicolide slowly degraded in the Abington sandy loam soil under aerobic conditions at 10 °C. Approximately 84% of the applied radioactivity remained in the soil extracts as parcent in both the phenyl and pyridyl label treated soils at the end of 139 days Less than 0,0% of the radioactivity was detected in the ethanolamine traps indicating very stow mineralization of thuopicolide to CO2.

The primary metabolic pathway involved the oxidative cleavage of Diopicsuide to form M-01 (AE C653711) and M-02 (AE 657188) at maxima @ 16.3% ARat DAT 131 and 6.4% AR at DAT 63. respectively.

A re-evaluation of the degradation kinetics in accordance with FOCHS guidance document on degradation kinetics (2014), resulted in a best-fit un normalised DTO value of 671.6 days for Abbington soil.

rdance with SET.

Figure 1. The second of th The study was conducted in accordance with SETAC 1.1 (4995). The study is considered valid to assess the aerobic degradation of [phenyl-ULO4C] and [2,6 pyridyl-14C]-fluopicolide in soil.





Data Point:	KCA 7.1.2.1.1/04
Report Author:	
Report Year:	2003
Report Title:	Route and rate of degradation of [2,6-14C pyridinyl] and [U-14C-benzoyl]-A
	C638206 in a European sandy loam under laboratory aerobic conditions at 20 deg.
	C and determination of aged in situ Kd values at 25 degrees C
Report No:	B004071
Document No:	<u>M-241049-01-1</u>
Guideline(s) followed in	EU (=EEC): 95/36/EC of July 1995
study:	
Deviations from current	Yes. The study design does not conform to current aged sorption guide the
test guideline:	aged sorption phase of the study had insufficient timepoints.
Previous evaluation:	yes, evaluated and accepted visualization of the second vi
	Tests on aerobic degradation evaluated and accepted in the DAR (2005), Tests on
	aged sorption evaluated with DAR (2003) and Addendum 1 to the DAR (2003).
GLP/Officially	Yes, conducted under GLP/Orgcially recognised testing facilities ">
recognised testing	
facilities:	
Acceptability/Reliability:	Yes D D D D D D D D D D D D D D D D D D D

Acceptability/Reliability:	Yes A O A
	Yes A A A A A A A A A A A A A A A A A A A
TP1 1 4 11 C41 1 4 1	re fully swimarised under point KCA 71.1.1.01.
The details of this study a	ire fully summarised under point KCA 191.1.1201.
Data Point:	KČÁ 7.1\(7.1\(\text{ 7.1\(\ext{ 7.1\(\ext{\q
Report Author:	KCA 7.12 1.1/06 4 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
Report Year:	2003 1 Rate of degradation in two soils (aspendment) (14C)-AE 638206
Report Title:	Rate of degradation in two Soils (agreendment) (14C)-AEC538206
Report No:	C037459
Document No: Guideline(s) followed in	M-20120-022
Guideline(s) followed in	EU (\$EEC): 95/36/\$EC & S
stady.	
Deviations from current	Tatome " S & S O S O S
test guideling:	
Previous evaluation:	yes evaluated and accepted DAR (2005)
***	yes evaluated and accepted PAR (2005) Wes, conducted under SEP/Officially recognised testing facilities
GLP/Officially	Yes, conducted under GLP/Officially recognised testing facilities
GLP/Officially recognised testing facilities:	Ves, conducted under SEP/Officially recognised testing facilities
facilities:	
Acceptability Keliability:	
The details of this stud	re fight summarises under point KCA 7 1 1 1/02
	a point Herry,, voz.
, A	
(V)	
Ö F	
29 S A	
	•
Ö	Yes, conducted under CLP/Officially recognised testing facilities The property of the propert



Data Point:	KCA 7.1.2.1.1/06
Report Author:	
Report Year:	2020
Report Title:	Fluopicolide - Statement on the levels of soil metabolite C from M-241052-01
	(Allan, 2003)
Report No:	VC/19/039B
Document No:	<u>M-685745-01-1</u>
Guideline(s) followed in	None
study:	
Deviations from current	none & & & & & & & & & & & & & & & & & & &
test guideline:	
Previous evaluation:	No, not previously submitted 4
GLP/Officially	not applicable
recognised testing	not applicable
facilities:	
Acceptability/Reliability:	Yes O V V V V V V A A

Executive Summary

This document addresses an unidentified metabolite formed in an aerobic soil study treated with [2,6-pyridyl-14C]-fluopicolide (KCA 7Q.2.1.1/01, 2003; M-241/52-014) which requires further consideration according to current data requirements. The study was conducted in 2003 at which time there was no need to identify metabolites formed at 10% AR and an unidentified metabolite (Metabolite C) was reported at levels above 5% AR at two consecutive timepoints.

Following re-examination of the study raw that it was possible to confirm the reported levels of Metabolite C at the final two timepoints in the camberton soil extracts represented a region of radioactivity which contained multiple mixor peaks just above the baseline detection level of the HPLC system. It is concluded the region quantified as Metabolite does not contain a single metabolite at > 5% AR. Consequently, none of the metabolites reported in this study require further consideration in fluopicolide risk assessments

A. Materials and Methods

In Document KCA 1.2.14701, \$\frac{1}{2}\delta 2410\frac{1}{2}\delta 0114\$ the route and rate of degradation of fluopicolide was investigated in two soils from the USA under laboratory aerobic conditions for up to 369 days. [2,6-Pyridyl-\delta 0] labelled fluopicolide or fine the USA under labelled fluopicolide was applied to soil samples of Lamberton and Pikeville soils soils amples were incubated in the dark, at a moisture content equivalent to 75% of \darksquare 13 bis under aerobic conditions at 25 °C.

In soil samples treated with [26-pyridyl-14C) labelled fluopicolide three minor unidentified degradates were observed in addition to M-02 (AE 057188) and M-03 (AE 0608000); Metabolite B, Metabolite C and Metabolite D.

Metabolite B was only reported to exceed 5% at one timepoint (Maximum 5.3% AR, Day 273). It was observed at a maximum of 5.3% AR after 273 days incubation in Lamberton soil before declining to 2.3% at the end of the incubation period (369 days). In Pikeville soil Metabolite B was observed at a maximum of 3.3% AR after 270 days incubation, declining to 0.8% by 369 days.

Metabolite Coxas reported to reach a maximum of 5.5% AR on Day 273 and declined very slightly to 5.2% AR by Day 369 in Lamberton soil. It was not observed at earlier timepoints in Lamberton soil and was not observed at all in Pikeville soil.



Metabolite D did not exceed 5% AR (maximum 4.8% AR, Day 273). It was observed at a maximum of 4.8% AR after 273 days incubation in Lamberton soil before declining to 2.3% at the end of the incubation period (369 days). In Pikeville soil Metabolite D was observed throughout the incubation period at levels ranging from 2.2 to 4.0% AR.

According to the guidance applicable at the time the study was conducted there was no need to dentify metabolites formed at <10% AR. However Metabolite C requires further consideration according to current data requirements as it exceeded 5% at two consecutive timepoints.

II. Results and Discussion

Biomass levels in soil

Soils in Document KCA 7.1.2.1.1/01, M-241052 of -1 were incubated under aerobic conditions for a total of 369 days as required by US EPA guidelines (EPA 162-101982. Intreated samples were analysed for biomass at the beginning (DAT 0) and end of the experiment (DAT 369). Final biomass measurements compared to initial measurements are summarised below.

Table 7.1.2.1.1- 18: Biomass measurements

Parameter	Soile O
Soil Designation	Lamberton D Pikeville
Organic Carbon (%) *	2 2 2 3.5 2 5 L.6
Soil Microbial Biomass	(μg microbial C ^y g soil)
Initial (Day 0)	© 508.3 V Q 85.4
Final (Day 369)	
Soil Microbial Biomas	(c) (% or (c) or
Initial (Day 0)	
Initial (Day 0) Final (Day 369)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

^{*} Calculated by dividing organic matter content by 172

Initial biomass levels were 508.3 µg microbial C/g soil in Lamberton soil and 85.4 µg microbial C/g soil in Pikeville soil, which represented 1.5 and 0.5% of the total organic carbon, respectively. By the end of the incubation period biomass levels had dropped to ca. 30% of initial levels in Lamberton soil and 35% of initial levels in Pikeville soil. The final biomass levels at DAT 369 were 164.9 µg microbial C/g soil in Lamberton soil and 30.5 µg microbial C/g soil in Pikeville soil, which represented 0.5 and 0.2% of the total organic carbon, respectively. These values are both well below the OECD 307 recommendation to have at least 1% of total organic carbon soil microbial biomass.

HPLC Radiochromatogramo of Lamberton soil extracts

The raw data in Document KCA 7.1.2 10/01 M-241052-01-1 was re-examined to confirm whether reported levels of 'Metabolite C' represented of ingle metabolite. Metabolite C was only detected in soil extracts of Lamberton soil treated with [2,65 C-pyridyl]-fluopicolide after incubation for 273 and 369 days. It was not detected at earlier timepoints or in soil extracts of Pikeville soil treated with [2,6-14C-pyridyl]-fluopicolide.

Metabolite C was observed largely in the ambient soil extracts. Metabolite C was a wide region of radioactivity oldring between 14 to 20 minutes (with RRT values ranging from 0.3 to 0.5). In chromatograms from both Day 273 and 369 the region quantified as Metabolite C was not a single peak but a region containing multiple minor peaks just above the baseline detection level of the HPLC system. Thus, the region quantified as Metabolite C does not contain a single metabolite at > 5% AR. This region was detected when the microbial viability of the soil had declined significantly on ageing for 273 and 369 days and consequently is unlikely to form at significant levels in the environment under natural conditions.



III. Conclusion

Following re-examination of the HPLC chromatograms from KCA 7.1.2.1.1/01 (M-241052-01-1, 2003) it was possible to establish the unidentified Metabolite C was a region of radioactivity containing multiple minor peaks which eluted over a period of 5 minutes rather than a distinct single peak. It was concluded the region quantified as Metabolite C did not contain a single metabolite at > 5% AR. Consequently none of the metabolites reported in this study requires wither consideration in fluopicolide risk assessments.

Assessment and conclusion by applicant:

The position paper is considered valid to aid assessment of the roote and rate of degradation of 2,6 pyridyl-14C]-fluopicolide in soil.

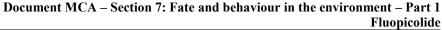
Data Point:	KCA 7.1.2.1.1/07
Report Author:	
Report Year:	2016
Report Title:	[Phenyl-UL AC] Ruopicolode: Degradation and time - Dependent orption in soils
Report No:	EnSa-15-0475 0 7 2 2 2 2
Document No:	M-555574-01-26 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
Guideline(s) followed in	OECO Test Odideline No. 307
study:	U& FPA OCSPP #6st Guideline No. 835,4400 (835.4200)
	QECD Test Guideline No. 106 (Only in parts)
2	Guidance on how age Corption studies for pesticides should be conducted,
4	analysed and used in the regulatory process: Food and Environmental Agency,
	Y 00 K, UK 2012
Deviations from current	none of the state
test guideline:	
Previous evaluation:	No, not previously submitted
Previous evaluation:	
GLP/Officially	Yes, conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities.	
Acceptability/Reliability:	Yes w Si iy w iy

Executive Summary

The degradation and time dependence of corption of flyopicolide was studied in four soils under aerobic conditions in the laboratory in the dark at 20 × 1 °C and 54.3% of the maximum water holding capacity for 126 days. In addition, the rate of degradation of fluopicolide was determined in the study.

Soil Textere (USDA)	pH (CaCl ₂)	% Organic Carbon
L sandy loam	6.5	1.5
Dollendorf Le Clay bam	7.3	4.8
L loam	5.0	1.8
H silt loam	6.1	1.9

[Pheny -14C]-labelled fluopicolide was applied to soil samples at an application rate of 0.44 mg/kg dry weight. The radiochemical purity and specific activity were > 98% and 5.50 MBq/mg, respectively.





Samples were taken for extraction and analysis immediately after treatment (day 0) and after 2, 7, 10, 14, 28, 57, 85 and 126 days of incubation. Soil samples were first desorbed with 0.01M calcium chloride solution for 24 hours at 20 °C at a soil : solution ratio of 1:3 (w/w) to determine the desorbable portion of the test item from aged soil. The soil residue was then exhaustively extracted with three further successive extractions with acetonitrile/water 4/1 (v/v) at ambient temperature, followed by a microwave extraction with acetonitrile/water (4/1, v/v) at 70 °C. Desorption supernatures and concentrated soil extracts were analysed by reverse phase high performance liquid chromatography (HPLC).

Recovery of radioactivity was quantitative throughout the study. Overall mean mass balances were
98.9% AR for L soil, 99.0% AR for Dollendorf soil, 100.1% AR for D
soil and 100.0% AR for H
Desorbable residues in aqueous 0.01 M calcium charide solution reached 32,6 20.0 32.6 and 28.9
AR in L , Dollendorf, L , and H , and H
respectively by the end of the study (DAT-126). Total extractable festidues (i.e. residues desorbed by
aqueous 0.01 M calcium chloride solution an Presidues in organic soil extracts) decreased from 97.8%
AR at DAT-0 to 84.1% AR by DAT-126, in Lease soil, from 87.8 % 77.2% AR in
Dollendorf soil, from 96.8 to 81.3% AR in Land and and and from 95.7 to 86.7% OR in
Hone-extractable soil residues (NER) increased concurrently with the decrease in extractable
Non-extractable soil residues (NFR) increased concurrently with the decrease in extractable
radioactivity in all soils, reaching roxxima of 11 7, 13.7 and 11.0% Apon L
and H soil Servels reached a
maximum of 17.6% AR at DAY 57 before declining slightly to 1423% AR by DAT-126.
The maximum amount of carbon doxide formed was 4.9, 8.9, 5.5 and 4.5% AR in the four soils by the

The maximum amount of carbon boxide formed was 4.9, 8.9, 5.5 and 4.5% 7kR in the four soils by the end of the study (DAT-126). No significant levels of organic volatiles were observed ($\leq 0.1\%$ AR).

After 126 days incubation at 0° C Quopicolide degraded to 460, 45.731.3 and 43.3% of the applied radioactivity in the four soils. M-60 (AE 65371) was also observed in all soils, increasing steadily to maxima of 37.7, 320, 470 and 43.5% AR by the end of the study. It was identified by LC/MS/MS after isolation from concentrated desorption solutions in addition, a minor unidentified metabolite was detected in L. Soil at a maximum 64.6% AR on AT-10 which declined to 2.6% AR by DAT-126.

The effect of aged sorption to soil was determined for flaopicolole and showed a significant increase with time. Apparent sorption coefficients $K_{d,app}$ increased with time in all soils by a factor of 1.96 to 2.98 (mean 2.60). Further details specific to the aged corption of fluopicolide are provided in Section 7.1.3.2.

Degradation konetics for fluoricolide provided in the report were conducted in accordance with FOCUS guidance document on degradation kinetics (2014). The best-fit DT₅₀ values were 107, 112, 48.0 and 96.4 day on Land Document of the degradation kinetics resulted in similar best-fit un-normalised DT₅₀ values of 47.7 to 110 2 days

Soil A Soil A Sold Sold Sold Sold Sold Sold Sold Sold	Best Fit Kadetic Model	DT ₅₀ (days)	DT ₉₀ (days)	Chi ² Error (%)	Visual Assessment
L Sandy(loam)	DFOP	107	431	1.4	Good
Dollendorf II (clay loam)	DFOP	112	982	2.3	Good
L (loan)	DFOP	48.0	308	1.2	Good
H (silt loam)	DFOP	96.4	418	1.0	Good





Table 7.1.2.1.1- 19: Physico-chemical properties of test soils

Parameter		So	oil	· · · · · · · · · · · · · · · · · · ·	
Soil Designation	L	Dollendorf II		H	
Soil ID		DD		Ô	
Geographic Location			7		
City	Monheim,	Blankenheim,	Monheim,	Furscheid,	
Country	Germany	Germany	Germany	Germany C	
Batch Number	20140828	20140827	20140828	20040828	
Soil Taxonomic Classification (USDA)	Sandy, mixed, mesic Typic Cambudoll	Fine-loamy, mixed, active frigid Typic Eutrud	Loamy, mixed, mesic Typic Argudalf	Loamy, mixed, mesic Typic Aggudalf	
Textural Classification (USDA) Sand [50 - 2000 μm] (%) Silt [2 – 50 μm] (%) Clay [< 2 μm] (%)	Sandy loasy	Claydoan 25 25 44 44 5	Oam 5 49 49 49 49 49 49 49 49 49 49 49 49 49	Silt loam 68 17	
pH in CaCl ₂ (1:1) in H ₂ O (1:1)	6.5	7.3 5	55.3 D	6.1 6.4	
Saturated paste in KCl (1:1)	6.85 S S	7.5 0° 7.1	\$ 5.3 \$ 4.9 \q	©* 6.3 5.9	
Organic Matter (%) *	Q2.6 \$\frac{1}{2}\frac	\$ 8.6x \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	3.1	3.3	
Organic Carbon (%) Cation Exchange Capacity (meq/100 g)		18.8	0 9.7 0 0 9.7	1.9	
Water Holding Capacity Maximum (2012O per 100 g DW) at 1/10 bab/(%)	56,5 13.2	95.3	© 68.9 20.4	71.4 34.7	
Moisture Content During Incubation (%)	543% MWHC	\$54.3% MWHO	54.3% MWHC	54.3% MWHC	
Bulk Density (disturbed, g/cm³)	7 23	0.87	1.04	1.04	
Soil Microbial Biomass (Trg microbial C /g soil) Initial (DAT 57)	B(O B(O+	0.87 BIO BIO ⁺	BIO- BIO+	BIO- BIO+	
Initial (DATO)	623 V V	2064	798	854	
Mid (DA 57)	377	¥800 1764	471 460	661 514	
Final (SAT 126)	226 211	¥ 1449 1408	305 265	406 397	
* Calculated by multiplying organic card MWMC = Maximum Water Holding Call BIO samples were untreated BIO samples were treated with 400 µL	pacity 24 pacity 25 pacity	:1 v/v)			



B. Study Design

1. Experimental Conditions

Tests were performed in static systems consisting of an Erlenmeyer flask containing 100 g soil dry weight equivalents) fitted with a trap attachment (permeable for oxygen) containing soda lime for absorption of carbon dioxide and a polyurethane foam plug for adsorption of volatile organic compounds.

The tests were performed at a concentration of approximately 0.44 mg/kg dry weight of soil. The test item [phenyl-U-14C]-fluopicolide dissolved in methanol/water (1:1, v/v) (400 µL) was applied drop wise onto the soil surface. Soil samples were adjusted to a moisture content equivalent to 54.3% of maximum water holding capacity, four days prior to application. The samples were incubated at 20 1 °C index aerobic conditions in the dark for 126 days. Soil moisture was maintained during incubation by addition of de-ionized water after 29, 70 and 98 days of incubation. No significant lesses of moisture were observed throughout the study.

2. Sampling

Duplicate samples were removed for analysis after 0, 2, 7, 10, 14, 28, 57, 85 and 126 days of incubation. Microbial soil biomass samples were analysed at the start unidpoint and ord of the experiment (DAT 0, 57 and 126).

3. Analytical Procedures

Soil samples were first shaken with 0.01M concium chloride solution for 24 hours at 20 °C on an overhead shaker at 16 rpm to determine the desorbable portion of the test item from aged soil. A soil-to-solution ratio of 13 was used for all soils. Soil samples were then extracted three times with acetonitrile/water ($\sqrt{1}$, $\sqrt{\nu}$) at ambient temperature followed by a microwave extraction with acetonitrile/water ($\sqrt{1}$, $\sqrt{\nu}$) at $\sqrt{1}$ 0°C. After each extraction step extract and soil were separated by centrifugation.

Radioactivity in extracts was determined by liquid scintillation counting (LSC). Desorption supernatants were analysed directly by HPLQ with radiodetection. Ambient and microwave soil extracts were pooled and concentrated prior to analysis by HPLQ. The maximum HPLQ LOD was determined as 0.5%AR. The concentration procedure for soil extracts was established as quantitative (recovery 96.4%). HPLQ column recovery was also quantitative (recovery 10.9 to 103.3%). The maximum HPLQ LOD was determined as 1.3%AR. The primary chromatographic method for analysis of soil extracts was a reverse phase C18 HPLQ method. Selected extracts were analysed by a second confirmatory phenyl-hexyl phase HPLQ method. Selected desorption supernatants (DAT-57) were concentrated and the radiopeak corresponding to the major degradation product solated, prior to analysis by LC/MS/MS for identification of M-01.

With the exception of the time zero samples trap attachments were removed for analysis at each sampling time. Soda lime from the trap attachment was transferred into an Erlenmeyer flask, aqueous hydrochloric acta (18%) added drop was and any liberated carbon dioxide collected in trapping vessels containing so itililation cockail. The polyurethane foam plug was extracted with ethyl acetate for approximately 5 connutes in an ultrasonic bath to desorb any volatile organic compounds. The radioactivary content of these samples was determined by LSC.

The polyurethane form plug was extracted with ethyl acetate for approximately 5 minutes in an ultrasonic both to desorb any volatile organic compounds. The radioactivity content was determined by LSC.

Following homogenisation, non-extractable residues (NER) in extracted soils were determined by combustion.



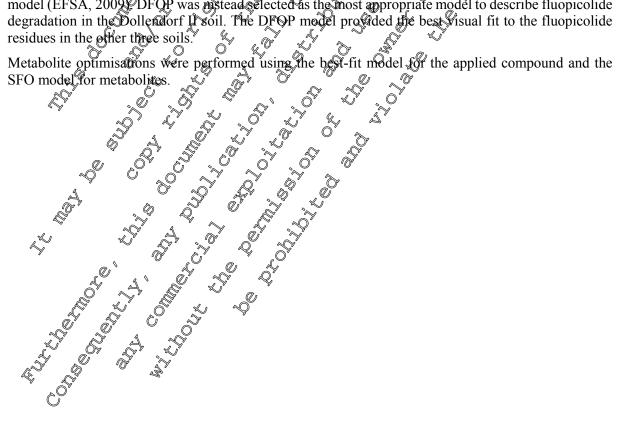
A test of the extraction efficiency using a simplified extraction method, suitable for terrestrial field dissipation samples, was performed with spare samples of all soils. Duplicate samples of each soil were processed at DAT-126 and single samples at DAT-130. At DAT-126 soil samples were extracted for \$15\$ minutes by microwave extraction with acetonitrile/water (4/1, v/v) at 70 °C. At DAT-130 soil samples were extracted for 3, 15 and 30 minutes by microwave extraction with acetonitrile/water (4/1, \sqrt{x}) at 70° °C. After the extraction step, extract and soil were separated by centrifugation. Radioactivity in extracts was determined by LSC and the microwave soil extracts were concentrated poor to analysis by HPFC. The extraction efficiency of the simplified and standard (exhaustive) extraction methods for total extractable residues, fluopicolide and M-01 were shown to be comparable.

4. Determination of degradation kinetics

The degradation kinetics determined in the reportation evaluated according to the EOCUS guidance document on degradation kinetics using the software KinGUIZ. The degradation of fluoricolide was best described by the double first order in parallel (DFOP) model in all soils based on lowest chi² error values and visual assessments of fits.

Additionally, modelling endpoints for the degradation of fluoppolide and M.Ol have been re-calculated from the reported data following the recommendations of the FOCO'S work group using the software KinGUI (version 2.1) along with all other aerobic soil data refled on Full details are provided in Document KCA 7.1.2.1.1/10 (M-655680-09-1). A brief summary of the approach for trigger endpoints is provided below. 0

To derive trigger endpoints, an initial comparison was performed for each soil between the SFO and FOMC fits for fluopicolide. For all four soils, the FOMC model provider a better fit than the SFO model to the fluopicolide residues, and the DEOP model was therefore also fitted. For the Dollendorf II soil, the FOMC fit resulted in the lowest χ^2 err% value; this fit was not accepted, however, as extrapolation beyond the experimental period is not recommended for deriving robust DT₉₀ values using the FOMC model (EFSA, 2009) DFQP was instead selected as the most appropriate model to describe fluoricolide degradation in the Dolleworf It soil. The DFOP model provided the best visual fit to the fluopicolide





II. Results and Discussion

A. Data

The distribution and characterisation of radioactivity for the test soils incubated at 20 °C following application of [phenyl-U-14C]- fluopicolide are summarized in Table 7.1.2.1.1- 20 to Table 7.2.1.1-22 23.

Table 7.1.2.1.1- 20: Degradation of [phenyl-U-14C]-fluopicolide in L aerobic conditions at 20 °C [% AR]

Compound	Mean				Incurba	tion time	(Ø ÅT)	Ĉ		
•	SD	0	2	7	£10	14 6	₹ 28	57	83	£26
Fluopicolide	Mean	93.4	92.3	86.2	®83.4	79.8	74.3	69.4	53.3	0 46.4 @
	SD	± 0.7	± 0.6	± 0,40	± 1.0	≠0.8°	2 0.1	0.6 C	± 0.0	± 101
M-01 (AE C653711)	Mean	2.6	5.0	€ 8.4	9.8	\$12.5 £	× 18.00°	273	32,7	3 7.7
	SD	± 0.0	± 0.1	Œ 0.6,	₽± 0.6°	± 0,6	±000	# 0.1	± 0.7	± 0.6
u3	Mean	1.5	n.d.	n,d@	n.W.	nQi.	n.d.	y n.d. 🤇	n.d.	n 🎻
	SD	± 0.1							4 1	S
u4	Mean	n.d.	Qn.d.	∜n.d. ≾	n.d.	n.d	p.d.	Ø.d.	Ģĥ.d.	O _{n.d.}
	SD	Z.		n.d.	Z,					
u5	Mean	< LOD	næl.	ĝ₀d.	ညn.d. ૄ	n.d.	n.do	n.C	n.d.	n.d.
	SD			o' á			0,		W	
Sum of Unid./Diff.	Mean	√4.2 《	n.d.	n.dt.	n.d.	√h,d.	"n.d. "	n.d.	n.d.	n.d.
Residues ^A	SD 🖗	± 0.P				. 3		Z,		
CaCl ₂ solution	Mean	3-3 7	29.8	29.1	27.95	28.2	28.3	3 9.2	30.8	32.6
CaC12 solution	ŞSD.	ر 0.4	9 ± 0.5	± 0.0	±0.6	₹0.6	©¥ 0.3 €	± 0.3	± 1.0	± 0.2
Ambient Extract	Mearly	61.Ø	6459	62.5	© 2.5	©60.8 _C	60.	53.8	49.7	45.7
Timorent Extract	SP	±\$0.5 .	± 0.3 ^	يِّ± 0.7	± 0.90°	± 0%	±0.2	± 0.6	± 0.2	± 0.1
Microwave	Mean	© 2.3 ©) 2.7 <u>%</u>	3.00	208	3 .3	4 .1	4.6	5.5	5.8
Extract	SD	± 000	± Q .1	20.0	@ 0.0	± 0.2%	$f \pm 0.0$	± 0.2	± 0.1	± 0.2
Total Extractable	Mean	97 .8	9 7.2	94.7	93,2	92.3	92.3	88.6	86.0	84.1
Residues	SD 2	y¥ 0.8√	± 0.75	± 1.0	± 0.4	\$\frac{1}{2}0.2	± 0.0	± 0.5	± 0.7	± 0.5
Carbon Dioxide	Mean	n.a.S	0×8	J.1	© ¹ .2 ≈	1.2	1.7	2.7	1.8	4.9
Q	\$D		0.0	± 0.0	± 0,0°	± 0.0	± 0.0	± 0.0	± 1.8	± 0.0
Volatile Organ	Mean	Õn.a. 🦴	< 0.10	<.09	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Compounds	SD		± Q 0	£0.0	\mathbb{Q}^2 0.0	± 0.0	± 0.0	± 0.0	± 0.0	± 0.0
Non-Extractable	Mean	± 0.1	© 2.6	¥ 2.9 _×	4.0	3.7	5.3	7.0	9.6	11.7
Residues	ŠD 🔏		$t \pm 0$	±,09.	± 0.4	± 0.0	± 0.0	± 0.1	± 0.7	± 0.1
Total Recovery	Mean	99.3	100,6	\$98.6	98.5	97.2	99.4	98.4	97.4	100.7
@ [^]	SD	£0.8	©± 0.7 €	5 ± 1.2	± 0.0	± 0.1	± 0.0	± 0.6	± 1.9	± 0.4

n.d.: not detected, n.a. not analysed, DAT: days after treatment, SD: standard deviation All values expressed as percentage of total applied radiolabel $^{\Lambda}$ Sum of minor unidentified components and diffuse residues.



Table 7.1.2.1.1-21: Degradation of [phenyl-U-14C]-fluopicolide in Dollendorf II soil under aerobic conditions at 20 °C [% AR]

Compound	Mean				Incuba	tion time	(DAT)			, W
	SD	0	2	7	10	14	28	. 57	85	¥26
Fluopicolide	Mean	84.3	90.6	83.8	81.5	78.9	71.9	\$ 4.4	51.6	45.7
	SD	± 0.7	± 0.0	± 0.2	± 0.9	± 0.2	± 0.3 %	± 2.2	± 1.3	±04
M-01 (AE C653711)	Mean	2.3	5.8	8.1	9.5	10.8	16,4	22.4	28 .5	\$\frac{3}{2}.0_{\tau}
	SD	± 0.2	± 0.3	± 0.2	± 0.3	± 0.2	±0.4	± 0.5 §	Ž 0.3Ž	¥ ± 0.75
u3	Mean	< LOD	n.d.	n.d.	n.d.	n.d.	Qn.d.	n.d	n.aQ	nKd.
	SD				Z 7)) * 	.0	Ž,	
u4	Mean	< LOD	n.d.	n.d.	n.d.	n.d.∕	₫ŋď.	Pr.d.	∜ n.d. ˈ	n.d.
	SD			<i>\Q</i>	0	m.d.v		* 10		
u5	Mean	< LOD	n.d.	w.d.	Ön.d.	n.d,	n.đ	nca.	n.d.	n.d.
	SD		.4				80			\$ 45°
Sum of Unid./Diff.	Mean	3.1	n.d	n.d.	nxd.	n.d.	🗐 n.d. 💍	n.d.	n.đ.	n d.
Residues ^A	SD	± 0.6								
CaCl ₂ solution	Mean	13.7	6¥4.0 &	714 ₆ 0	14.5	150	\$.0	3 8.1	20.2	20.0
CaC12 Solution	SD	± 0.0	± 0.0°	± 0.3	± 0.1	0.4	©± 0.2 €	$y \pm 0$	±,0.3	± 0.2
Ambient Extract	Mean	68.4 ^v	Z §.0	⊕ 2.2 €	♥72.4 _®	P 70.4	643	,5 © 3	_{€ 50.8}	51.6
Amorem Extract	SD	√ \$1.6	°¥ 0.4€	≥ ± 0.4	± 0.24	±0.4	₽ 0.8	±4.4 ($)$ \pm 4.5	± 0.9
Microwave	Mean	5.7	4.4	507	% 1	4.3	78.0	6.30	9.1	6.2
Extract	SĎ≫	±.0.5	±0.2	2 0.6	\$± 0.7€	* ± 0.2	± 0.0	±01.3	± 2.7	± 0.1
Total Extractable	Mean	8 7.8	<i>\$</i> 96.4 [©]	91.9	91:0	89.7	&88.2 g	≈76.8	80.1	77.7
Residues	©, SD [™]	± 1.35%	±0\$	± 0 4	1 .2	$g \pm 0.0$	O± 0.6	$^{\prime} \pm 2.7$	± 1.6	± 1.1
Carbon Dioxide	Mean	n.a.	* 6 .6	≫ 1.0 %	9 1.3 Q	1.2%	2	4.0	5.7	8.9
	&p		\$± 0.0@	± 0.0	±0.0	±0.1	≝ 0.1	± 0.0	± 0.2	± 0.3
Volatile Organic	Mean≼	n.a.	< 0.1	\$ 6 01	© 0.1	© 0.1	 ∅< 0.1	< 0.1	< 0.1	< 0.1
Compound	S₽		50 .0	2 0.0	± 0.00	± 0.00	± 0.0	± 0.0	± 0.0	± 0.0
Non-Extractable	Mean	∂ 9 .2	[©] 4.2 _€	5.60°	6.3	509	9.0	17.6	14.0	14.5
Residues	SD (*± 1.0	± 00	±0.3	%± ₂ 0.4	å±0.1	± 0.1	± 2.9	± 1.5	± 0.2
Total Recovery	Mean	9 J Ç0	¥01.2	J98.5	©98.6©	96.8	99.3	98.4	99.8	101.2
Ø1		0.3)± 0.1	$\neq 0$	± 008	± 0.3	± 0.6	± 0.2	± 0.1	± 0.6

n.d.: not detected, n.a.: not analysed, DAT days after treatment, Sp; standard deviation

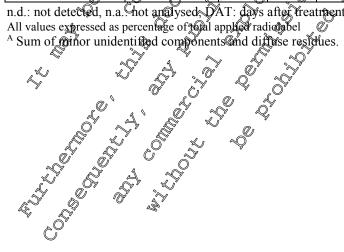
n.d.: not detected n.a.: not analysed, DAT days after treatment, Stall values expressed as percentage of total applied radiotable a Sum of manor unidentified components and diffuse residues.



Degradation of [phenyl-U-14C]-fluopicolide in L Table 7.1.2.1.1- 22: soil under aerobic conditions at 20 °C [% AR]

Compound	Mean		Incubation time (DAT)								
	SD	0	2	7	10	14	28	57	85	¥26	
Fluopicolide	Mean	93.8	90.3	76.2	72.6	67.9	57.3	\$ 5.4	38.3 @	31.36	
	SD	± 0.4	± 0.2	± 0.4	± 1.1	± 0.9	± 0.7 %	± 0.0	± 0.3	±0.1	
M-01 (AE C653711)	Mean	2.3	5.1	12.9	15.5	20.4	31.8	39.1	6 7.7	4 7.4 _	
	SD	± 0.1	± 0.2	± 0.6	± 0%	± 0.0	±0.2	± 0.5 §	Ž 0.3	± 0.60	
u3	Mean	< LOD	n.d.	n.d.	n.d.	n.d.	Qn.d.	n.d	n.aQ	nkd.	
	SD				\$ 7)) ^v		Q		
u4	Mean	n.d.	2.9	4.4	4.6	3.5	Ø5.7°	2.6	§ 2.6	2.6%	
	SD		± 0.1	± 69	± 0.0	0.7	¥ 0.1	± 0, 1	± Q.\$	±0.3	
u5	Mean	< LOD	< LOD	&¥.OD ॄ	n.d.	₹ LOÐ	n.đ.	< 100D	n.d.	n.d.	
	SD		.4				%			> & °	
Sum of Unid./Diff.	Mean	< LOD	2.9	4.4	4 6	3.5	🗐 1.7 💍	2.6	2.6	28	
Residues ^A	SD		± 0 0.1	~ * 70.1 √	@# 0.Q	± 0,70°	± Q.ĵ	±0.1	2 0.1	0.3	
CaCl ₂ solution	Mean	26.4	2 5.7 &	Z25 ₈ 8	27.0	27/3	29 .1	3 1.1	© 32.9 _©	32.6	
CaC12 solution	SD	± 0.10	± 0.3	± 0.0	± 0.1	$\sqrt{0.0}$	©± 0.1 €) ± 0,50°	±,0.4	± 0.1	
Ambient Extract	Mean	67.5 °	69.4	∂ \$3.8 €	Ç61.5 _€	60.0	5 <i>5</i>	4905	45 .2 €	40.7	
Ambient Extract	SD	√ \$0.3	°¥ 0.1√	≥ ± 0.1	± 0.3	±0.1	₽ 0.7	±0.1 €	$\bigcirc \stackrel{\text{\tiny{y}}}{\pm} 0.1$	± 0.1	
Microwave	Mean	2.8	3,4	407	20.2	4.9	6.0	6.70	8.5	8.0	
Extract	SĎ≫ຶ	±0.1	± % .1	0.3	\$± 0.1€	* ± 0.2	± Q.)	≠ 00.1	± 0.1	± 0.1	
Total Extractable	Mean	9 6.8 4	<i>9</i> 98.5	93.2	92.7	92.1	6 90.9	×87.3	86.6	81.3	
Residues	VSD .	± 0.65	±,0,80	± 0 1	₹0.4	\mathcal{Q}_{ℓ}^{\pm} 0.2	©± 0.9 Å	$^{\prime} \pm 0.6$	± 0.5	± 0.2	
Carbon Dioxide	Mean	n.a.	* 6 .8	→ 1.1 ×	9 1.0 J	1.3	1	3.0	4.1	5.5	
	(Sa)		\$± 0.0@	$y \pm 0.0$	±0.1	±0.0	≨ 0.0	± 0.1	± 0.0	± 0.1	
	Mean≼	n.a.	< 0.1	€ 9 21	© 0.1		U < 0.1	< 0.1	< 0.1	< 0.1	
Compound	S _D		50 .0	2 0.0	± 0.00	± 0.00°	± 0.0	± 0.0	± 0.0	± 0.0	
Non-Extractable	Mean	3 .2	₹ 3.1	4.30	4.9	~ D	7.4	9.7	12.2	13.7	
Residues	SD &	± 0.0	± 03	±0.1	4 ,0.0	₩ 0.1	± 0.1	± 0.2	± 0.3	± 0.4	
Total Recovery	Mean	9 & 9	¥02.4	9 9.3	O _{98.5}	98.5	100.2	100.0	102.8	100.6	
Ø 1	SD)	0.6	± 0.2	± 0	± 05	± 0.1	± 0.8	± 0.5	± 0.2	± 0.3	

n.d.: not detected, n.a. not analysed, DAT: days after treatment, SD: standard deviation





Degradation of [phenyl-U-¹⁴C]-fluopicolide in H under aerobic conditions at 20 °C [% AR] Table 7.1.2.1.1- 23:

soil

Compound	Mean				Incuba	tion time	(DAT)			W
	SD	0	2	7	10	14	28	57	85	¥26
Fluopicolide	Mean	92.0	90.2	81.0	79.1	75.2	69.2	\$8.3	50.9	43.35
	SD	± 0.3	± 0.8	± 0.3	± 0.1	± 0.1	± 0.1	± 0.9	± 0.6	±07
M-01 (AE C653711)	Mean	2.6	6.6	12.5	14.4	16.6	23.0	32.2	8 8.0	\$\frac{4}{3}.5
	SD	± 0.2	± 0.1	± 0.1	± 0.2	± 0.2	±0 .1	± 0.5 ×	Ž¥ 0.4.Ž	± 0.00
u3	Mean	< LOD	< LOD	n.d.	n.d.	n.d.	Qn.d.	n.d	n.aQ	nKd.
	SD				Z 7)) * 	.0	Q,	
u4	Mean	< LOD	n.d.	n.d.	n.d.	n.d.√	₫ŋď.	A.d.	∜ n.d. (n.d.
	SD			<i>\Q</i>	0	m.d.				
u5	Mean	< LOD	< LOD	w.d.	Ön.d.	n.d,	n.đ	na car.	n.d.	n.d.
	SD		.4			, O'	80			
Sum of Unid./Diff.	Mean	3.4	3.2	n.d.	n.d.	n.d.	🖣 n.d. 💍	n.d.	n.đ.	n d.
Residues ^A	SD	± 0.5	±Ø.0							
CaCl ₂ solution	Mean	23.1	6 21.4 &	Z22,5©	23,2	225	2 9.3	2 6.0	© 27.5 _©	28.9
CaC12 solution	SD	± 0.50	± 0.0°	± 0.2	± 0.1	0.3	©± 0.3 €	± 0	±,053	± 0.0
Ambient Extract	Mean	69.4 [*]	ZJ .9	<i>~</i> 67 _	\$65.5 ₀	P 64.5	620	,5 <u>®</u> 1	§ 53.3	49.8
Ambient Extract	SD	√ \$0.1	°¥ 0.6€	= 0.5	± 0.3	± 0 .3	₽ 0.4	£1.0 €	$\bigcirc \stackrel{\text{\tiny y}}{\pm} 0.4$	± 0.1
Microwave	Mean	3.2	3.8	400	4 0.7	4.7	6.0	6.40	8.1	8.0
Extract	SĎ≫	±.0.1	± 9 .1	0.0	\$± 0.0€	* ± 0.0	± 0.0	≠ (0).1	± 0.0	± 0.0
Total Extractable	Mean	9 5.7	<i>\$</i> 97.0 (P 93.5	93.5	95.77	&92.2	90.5	88.9	86.7
Residues	VSD .	± 0.8	±08	±405	3 0.3	@± 0.1	O± 0.0 ~	$\ell \pm 1.3$	± 0.2	± 0.1
Carbon Dioxide	Mea	n.a.	. 1647	≫ 1.0 %	9 1.3	1.2	12	2.5	3.2	4.5
	&p		\$± 0.0@	± 0.0	±0.2	±0.0	≨ 0.0	± 0.0	± 0.0	± 0.0
Volatile Organic	Mean≼	n.a.	< 0.1	<i>€</i> 021	© 0.1	© 0.1	 ∅< 0.1	< 0.1	< 0.1	< 0.1
Compound	S₽		50 .0	2 0.0	± 0.00	± 0.00	± 0.0	± 0.0	± 0.0	± 0.0
Non-Extractable	Mean	3 .4	₹3.2 _€	3,90	4:25	401	6.2	8.3	9.8	11.1
Residues	SD (*± 0.0	± 000	±0.2	% ± ₀ .1	å 0.1	± 0.2	± 0.2	± 0.2	± 0.0
Total Recovery	Mean	9 % 1	\$0 1.0	J98.5	⁰ 99.0	97.6	100.2	101.3	102.0	102.3
Ø1	ŠĐ	0.8)± 0.9	$\neq 0$	± 000	± 0.1	± 0.3	± 1.5	± 0.0	± 0.2

n.d.: not detected, n.a.: not analysed, DAT days after treatment, Sp; standard deviation

All values expressed as percentage of total applica radio abel

All values expressed as percentage of total applier radiotabel

A Sum of nord unidentified components and diffuse residues



B. Material Balance

Mean mass balances were 98.9% AR for L soil (range from 97.2 to 100.7% AR), 99.0% AR for Dollendorf soil (range from 96.8 to 101.2% AR), 100.1% AR for L (range from 98.5 to 102.8% AR) and 100.0% AR for H soil (range from 97.6% to 102.3% AR).

The results confirm there were no significant losses of radioactivity during sample processing

C. Extractable and Non-Extractable Residues

Desorbable residues in aqueous 0.01 M CaCl₂ solution ranged from 33.7 to 27.9% AR Least part of the study (mean 30.1 % AR), initially declining from 33.7 % AR at DAT-0 to 27.9% AR at DAT-10 and then increased to 32.6% AR at DAT-126 in Devendor and Least part of the study (DAT-126). Desorbable residues in Heart part of the study (DAT-126). Desorbable residues in Heart part of the study (DAT-126). On the DAT-28 and increased to 28.9% AR at DAT-26.

Total extractable residues (i.e. residues desorbed by aqueous 0.010M CaCl₂ solution and residues in organic soil extracts) decreased from SAT-0 to DAT-126 from 97-8 to 84.1% Are in L soil, from 87.8 to 77.7% AR in Dollandorf soil, from 96.8 to 81.3% Are in L soil and from 95.7 to 86.7% AR in H

Non-extractable soil residues increased concurrently with the decrease in extractable radioactivity in all soils. Non-extractable residues (NKR) increased from DAT-0 to DAT-126 from 1.6 to 11.7% AR in L soil, from 9.2 to 14.5% AR in Dollendorf soil, from 2.20 13.7% AR in L soil and from 2.4 to 11.1% AR in H

D. Volatile Radigactivito

The maximum amount of carbon dioxide formed was 4.9, 8.9, 55 and 4.5% AR in Lagrangian pollendorf, Lagrangian and Harmonian compounds (VOC) was insignificant with values of $\leq 0.1\%$ AR at all time points in all soils.

E. Degradation of Parent Compound

The amount of fluopicolide for the total soil extracts (i.e. in aqueous desorption solution and organic soil extracts) decreased from \$3.4 at \$\times AT-0.00 \text{ 46.4% AR }\times DAT-126 in L soil, from \$4.3 to 45.7% AR in Dollendorf soil from \$3.8 to \$1.3% AR in L soil and from \$92.0 to 43.3% AR in H

Degradation of fluoricolide was accompanied by the formation of one degradation product, M-01 (AE C653711) which was observed at a maximum of 47.4% AR at DAT-126 in L soil. M-01 was identified by cochromatography with an analytical standard and by LC/MS/MS after isolation of the radio peak from desorption solutions. The total unidentified residues amounted to a maximum of 4.6% AR and no single component exceeded 4.6% AR at any sampling interval in any soil.



F. Degradation Kinetics

Reported DT₅₀ values of fluopicolide under aerobic conditions were 107, 112, 48.0 and 96.4 days in Dollendorf, L and H and H and H and H are provided below in Table 7.1.2.1.1-24.

Table 7.1.2.1.1- 24: Reported degradation rate of fluopicolide under aerobic conditions at 20 °C (best-fit DT₅₀ values for trigger endpoints)

Soil	Kinetic model	M_0	Parameter (k, k1, k2, g, tb, α, β)	X ² , %-error	Riob >t	Lower	Upper CL	DT ₅₀	DT@ (days)
I	DFOP	98.42	k1 1.477e-01 k2 4.960e-03 g 1.511e-01	1.4	0.00114 5.44e-11	Q- - Q 1.146e-01	° Q	107	© 431 ©
Dollendorf II	DFOP	94.52	k1 0.034062 k2 0.001829 g 0.397855	2.3	0.00638 0.15099	0.150 <u>8</u> 30		112	982
I	DFOP	98.36	k1 1.165e-04 k2 6.1886-03 g 3.289e-01		3.65e-08 2.65e-¥1	29948e-05) 0.563 .	O'	\$08
H	DFOP	97.65	k1 1001e-01 k2 5.010e-03 v 1.897e-01		78e-06 71.41e	1.680e-01	0.2PI	96-3°	418

and degradation of fluogic document on degradation kinet alls of the evaluation for disposition with the control of the contro In addition, the experimental data for the degradation of fluoricolide and M-01 has been re-evaluated according to the FOCUS Quidance document on degradation function (FOCUS, 2014) using the software KinGUI (version 2.1). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting DT₅₀ values for trigger endpoints for Suopicolide are summarised below in Table 7.1.2.1.1-25. Best fit kinetics are highlighted in bold. The results are very similar to reported best fit



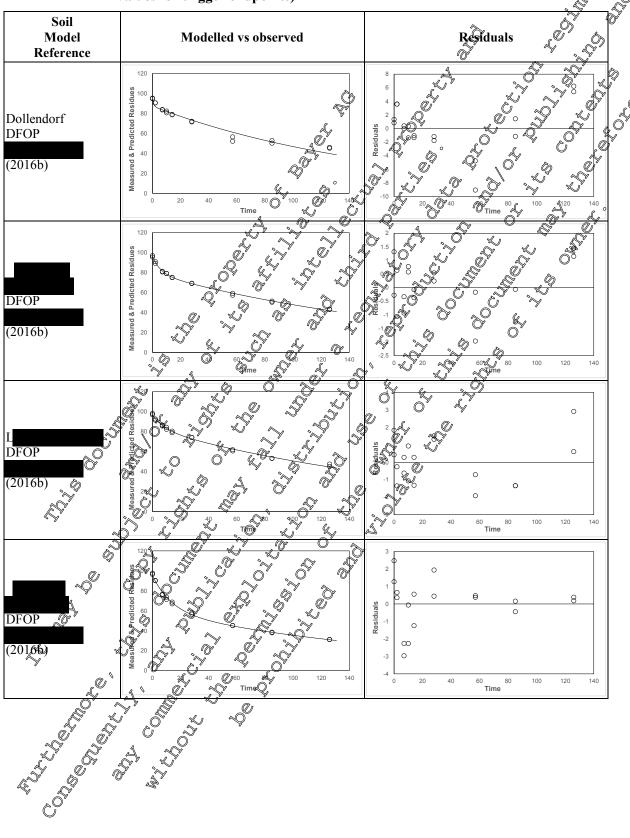
Table 7.1.2.1.1-25: Re-evaluated degradation rate of fluopicolide under aerobic conditions at 20 °C (DT₅₀ values for trigger endpoints)

Soil	Kinetic model	\mathbf{M}_0	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DF9
	SFO	90.88	k 0.007374	4.95	1.94E-13	0.006143	Ø 009	94 🖇	312
Dollendorf, (2016b)	FOMC	95.01	α 0.3622 β 19	1.95	n.r. n.r.	0.2842 10.62	0.44	109.8	\$1000
	DFOP	94.06	k1 1.097 k2 0.006222 g 0.07153	4.13	00456 <2e-16 n.r.	0.3256 0.063461 0.05601	1.868 0.007 © 0.08	99.5	358.
	SFO	94.64	k 0.01008	8.95		% .0074 7 8	0.613	L& 68 8	≥ 228.
	FOMC	95.38	α 0.2929 β 11.39 🐇	1.97	n.r.	0:2494 \$\mathcal{Q}.52 \langle	0.336 15.20		>100
(2016b)	DFOP	95.88	k1 0.1652 k2 0.00 3 033 g 0,1751	0 0906	2.17E-10	0.1295 0.004696 0.1 5 45	0.201 0.005 0.196	Ó 99.5	419
	SFO	94.88	k Ø.00787	~	~ //	Ø9065 96	0.0	88.1	2 92.
I	FOMC	96.43	k 4.00787 γ © 0.3766 γ β 22.33	°¥.54	In.r. n.r.	0.3039 14043	09437 30.24	122.6	>100
(2016b)	DFOP	96,5 7	k1 0.1103 k2 0.004904 g 0.14 75	1.32	3.59 €206 42 e-16 @ n.r. √	9:0704 0:004362 0:1041	0.16 0.605 0.179	10.2	438.
	SFO 🦃	9 89.2 [©]	k 0 1235	8.69	1.76E _₹ 09	0.009337	0.01	56.1	186.
	FOMC	95,96	β 12.5	1049	ON.r. 《 ②n.r. 〇	0.4098 10 %2	0. 69 5 1¥.97	45.3	201
(2016b)	FOR	95,32	k1 007342 k2 0.00519* %g 0.374	1.74	9.1412-13 7.082-13 n.r.	0.06062 0.00429 0.3268	0.086 0.006 0.421	47.7	353
(2016b) Best fit model high									



A graphical representation of the final kinetic fit is shown below.

Table 7.1.2.1.1- 26: Degradation of fluopicolide under aerobic conditions at 20 °C (best-fit DT_{.50} values for trigger endpoints)





G: Time-Dependent Sorption

The sorption of fluopicolide in soil increased steadily with time. Apparent sorption coefficients ($K_{d, app}$) increased from DAT-0 to DAT-126 in all four soils. The values are summarised in Table 7.1.2.1.1.27.

Table 7.1.2.1.1-27: Apparent sorption coefficients (K_{d, app}) (expressed as mL/g)

DAT	Mean SD	L	Dollendorf	L	
0	Mean	5.69	16.19	7.02	0° 8,7 Q
0	SD	± 0.00	± 0.00	# 0.01	±0,01
2	Mean	6.52	20,66	€ 7.9 ₄	Ø 30.21
2	SD	± 0.00	#0 .00	± 0.00	± 0.00° _0
7	Mean	7.69	©20.67 _∼	9 .33 2	O 11,61 O
,	SD	± 0.02	± 0.00	**\delta = 0.04\delta \rightarrow \rightar	. \$\\\\$\\\\$\\\\$\\\\$\\\\\$\\\\\\$\\\\\\\\\\
10	Mean	8.13	2 247 × 3	1008	12.44
10	SD	± 0.02	©± 0.010 °	£0.01	± 001 001
14	Mean	8.63	21:12	10.490	13 65
14	SD	± 0.01	₹0.06	± \$4.03	13.65 ± 0.00 1464 20.01
28	Mean	10,29	23.18	Ø 252.1 5	1464
28	SD	±Q,02	± 0.02		≈ 0.01
57	Mean	@11.74 [©]	© 25.98 ©	14.97	18.32
37	SD	± 0.03	ہ ± 0.10 ہ	©° ≥ £0.04 ⊜	© ± 0.02
85	Mean	© 10.32 ©	26.41	\$\tag{16.7\text{\$\exitity}\$\$\$\text{\$\exititit{\$\text{\$\text{\$\text{\$\exitit{\$\text{\$\text{\$\text{\$\te	20.89
83	SD	± 0.07	26.41	± 6.02	± 0.02
126	Mean	⊗ y / ∞/5 'J'		20.36	25.97
120	ŞØ	£ ± 0.05	± 0.07 @	± 0.03	± 0.03
	or A	2.57 × /	J. 34.96	290	2.98
Mean	Factor				

Apparent Sorption Coefficients (Kd, app) are called Time Dependent Sorption Ratios (R_{TDS}) in the report.

A Calculated as Kd, app DAT-126 divided by K, DATO

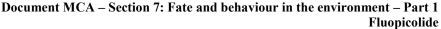
The results are more fully discussed under Section 7.15.2 (see KCA 7.1.3.2/03).

VIII. Conclusion

Fluopicoliste was moderately degraded and mineralized in four Germans soils; L pollendorf, L and H pollendorf, L under aerobic conditions at 20° C in the dark. Reported best fit DT walue tranged from 48 to 112 days in the tested soils. Re-evaluated best fit DT so values were very similar, ranging from 47.7 to 110.2 days.

The primary objective of the study was to investigate the sorption of fluopicolide, determined under equilibrium on ditions, following its aging in soil under aerobic conditions in the dark under laboratory conditions. The time-dependent sorption ratio increased throughout the incubation period (126 days) by a factor of 1.96 2.98 in the our soils tested.

Formation of Carbon dioxide was significant (up to 8.9% AR) by the end of the study indicating the potential for complete mineralization of fluopicolide and its degradation products. One major degradation product, M-01 (AE C653711), was identified with a maximum of 47.4% AR.





Formation of non-extractable residues (NER) was up to 14.5% AR at study end, which is an indication for biotic degradation of fluopicolide.

Assessment and conclusion by applicant:

The study was conducted in accordance with OECD 307 (2002), US EPA 835, \$100 / 835.4260 (2008) and in parts, where relevant, to OECD 106 (2000). The study is considered valid to assess the aerobic degradation of [phenyl-U-14C]-fluopicolide in soil.

The study is valid to assess the changes in sorption of luopicolide with time in accordance guidance provided by Food and Environment Research Agency (2019) on conducting aged sorption studies. A kinetic assessment of the time dependent sorption (TDS) parameters provided in 7.1.3.2.

Data Point:	KCA 7.1.2.1.1/08
Report Author:	
Report Year:	2016
Report Title:	[Phenyl-UL 14C] Ruopicolide: Degradation and time- degendent corption in 6
	soils from field dissipation trials \times \
Report No:	EnSa-15-0510
Document No:	
Guideline(s) followed in	LODAN Tark Andrews No. 207 "Y W" & O
study:	US EPA 3PPTS Pest Guideline No. 835.4100 835.4200 SECD Test Guideline No. 106 (only in parts) Guidance on how aged sorption studies for pesticides should be conducted,
2	SECD Test Goodeling To. 106 (only in parts) Second Test Goodeling To. 106 (only in parts)
√ n	Guidance on how aged sorption studies for pesticides should be conducted,
S S	analysed and used in the regulatory process, Food and Environmental Agency,
<u></u>	York, UK 2012 3 3 4
Deviations from current	Study none; Analytical methods partonone
test guideline:	
Previous evaluation:	Guidance on how aged sorption studies for pesticides should be conducted, analysed and used in the regulatory process. Food and Environmental Agency, York, UK 2012 Study none; Analytical methods part none No not previously submitted
GLP/Officially	Yes, conducted under GLP/Officiall Crecognized testing facilities
recognised testing facilities.	
Acceptability/Reliability:	Yes S S

Executive Summary

The degradation and time-dependence of sorption of fluopicolide was studied in six soils under aerobic conditions in the laboratory in the dark at 200 1 % and 53.9% of the maximum water holding capacity for 120 days. In addition, the rate of degradation of fluoricolide was determined in the study.

Soft A C	Texture (USDA)	pH (CaCl ₂)	% Organic Carbon
Н	Silt Cam	6.1	0.7
Great Chishall	Š Člay	7.3	2.1
Great Chishall Parcey Meslay	Loam	6.7	1.3
Mas de Coq V	Clay loam	7.6	0.9
Alearo/Marcomcini	Silty clay	7.2	2.1
Vilobi Onyar	Sandy loam	6.3	0.8



[Phenyl-U-¹⁴C]-labelled fluopicolide was applied to soil samples at an application rate of 0.44 mg/kg dry weight. The radiochemical purity and specific activity were > 99% and 5.73 MBq/mg, respectively.

Samples were taken for extraction and analysis immediately after treatment (day 0) and after 7, 10/30, 44, 59, 91 and 120 days of incubation. Soil samples were first desorbed with 0.01M calcium chloride solution for 24 hours at 20 °C at a soil : solution ratio of 1:3 (w/w) to determine the desorbable portion of the test item from aged soil. The soil residue was then exhaustively extracted with three further successive extractions with acetonitrile/water 4/1 (v/v) at ambient temperature, followed by a microwave extraction with acetonitrile/water (4/1, v/v) at 70 °C. Desorption supernataris and concentrated soil extracts were analysed by reverse phase high performance liquid chromatography (HPLC).

Recovery of radioactivity was quantitative throughout the study overall mean mass balances were 99.9% AR for H soil, 99.4% AR for Great Chishill soil, 99.3% AR for Parcey Meslay soil, 98.9% AR for Mas du Coq soil, 99.6% AR for Albaro soil and 99.4% AR for Volobi soil.

Desorbable residues in aqueous 0.01 M calcium chloride solution were 417, 20,632.2.33.5, 35.4 and 48.0% AR in Harmonic Chishill, Parcey Weslay Mas do Coq, Albaro and Vitobi soils, respectively by the end of the study (DAI-120) of otal extractable residues of e. residues desorbed by aqueous 0.01 M CaCl₂ solution and residues in organic soil extracts decreased from 98.7% at DAT-0 to 89.2% AR by DAT-120 in Harmonic Chishill soil, from 97.3 to 89.5% AR in soil FR09B, from 97.2 to 86.5% AR in Parcey Meslay soil, from 96.1 to 85.8% AR in Albaro soil and from 96.7 to 85.2% AR in Vilobisoil.

Non-extractable soil residues (NER) increased concurrently with the decrease in extractable radioactivity in all soils, reaching maxima of 8.9, 8.3, 9.6, 10.0% AR in Harmonia and Albaro soils NER levels reached maxima of 12.6% and 8.8% AR at DAT-120. In Great Chushill and Albaro soils NER levels reached maxima of 12.6% and 8.8% AR at DAT 91 before declining slightly to 10.6% and 8.6% AR by DAT-120.

The maximum amount of carbon poxide formed was 2.0, 1.7, 0.9, 3.0, 4.6 and 3.8% AR in the six soils by the end of the study (DAT-120). No significant levels of organic voluntes were observed ($\leq 0.1\%$ AR).

After 120 days incubation at 20 °C, fluopicolide degraded to 46.2, 66.5, 57.9, 59.8, 52.6 and 30.2% of the applied radioactivity in the six soils M-01 VAE C65371 V was also observed in all soils, increasing steadily o maxima of 45.0, 2009, 31.5, 26.7, 33.2 and 55.0% AR by the end of the study. It was identified by LC/MS/MS after isolation from a concentrated desorption solution. No other degradation products were detected (LQD 1.3% AR).

The effect of aged sorption to soil was determined for fluoricolide and showed a significant increase with time. Apparent corption coefficients (K_{d, app}) increased with time in all soils by a factor of 1.93 to 3.12 (mean 2.49). Further details specific to the aged orption of fluoricolide are provided in Section 7.1.3.2.

Degradation kinetics for fluopicolide provided in the report were conducted in accordance with FOCUS guidance document on degradation kinetics (2014). The best-fit DT₅₀ values were 101, 251, 167, 180, 131 and 54.7days in Harman American Chishill, Parcey Meslay, Mas du Coq, Albaro and Vilobi soils, respectively. A re-evaluation of the degradation kinetics resulted in similar best-fit unnormalised by 50 values of 54.9 to 250.7 days.





Soil	Best Fit	DT ₅₀	DT90	Chi ² Error	Visual
(USDA texture)	Kinetic Model	(days)	(days)	(%)	Assessment
Great Chishill (alax)	DFOP	251	4/1	0.65	Good
Paraey Maslay (loam)	DEOP	167	6/12	0.03 >0.70	Good
Mas du Coa (alex Joan)	DEOD	107	672	Ø.70	Good
Albaro (silty clay)	DEOP	131	181 a	0.33	O Cood
Vilobi d'Ònyar (sandy loam)	DEOP	54.7	277	0.78	2 Good 2
viiooi d Oilyai (saildy loaiii)	DIOI		<u> </u>	0.72	isyou (
Soil (USDA texture) H (silt loam) Great Chishill (clay) Parcey Meslay (loam) Albaro (silty clay) Vilobi d'Ònyar (sandy loam) A. Materials 1. Test Items [Phenyl-U-14C]-fluopicolide Specific Activity: Radiochemical Purity:	I. Materials :	and Metho	ds &		
A. Materials					
1 Tost Itams	~				
Fol and Medical Control of the Contr	Ŏ ,				<i>A</i>
[Phenyl-U-14C]-fluopicolide	A. Õ		Q , O		
	F _y C .	Ça ÇıÇ			
		P HÀ			Õ
<u> </u>					Q K
Q,	, Q Q		y dio ~c		*
	% Denotes po	Sition of [14	⁴Carradiolabe		
Specific Activity:	, 2 MBalm	.a			
Specific Activity.		g ·			
Radiochemical Purity:	>99% FILC	(String)	4 6		
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2. Test Soil

The study was performed using six European soils from terrestrial field dissipation sites used for fluopicolide (five sites) and its metabolite M-01 (all six sites) as characterized in Table 7.1.2.1.1228. The same batches of all six soils were also used in OECD 106 adsorption desorption studies (see CA 7.1.3.1.1/04).

Table 7.1.2.1.1- 28: Physico-chemical properties of test soils

Parameter	- Pa	Soil	
Soil Designation		Great Conshill	(Parcex Meslay)
Soil ID	VG084®	ENG2 .	FR09B
Geographic Location	000		O & O
City	Burscheid,	Cambridgeshile,	Centre-Val de Dire
Country	German 🗸 🗦	England tok	France
Batch Number	<u> 1</u> 20141/21 ©	Q20141125	© 2014 0r24 /
Textural Classification (USDA)	Şilt Joan	Tay O	Loam G
Sand [50 - 2000 μm] (%)	0° 2719 20° 2	35 × (\$\times 31 0
Silt $[2 - 50 \mu m]$ (%)	* 57, 57, 57	~ 235° . S	490
Silt $[2-50 \mu m]$ (%) \mathbb{O} Clay $[< 2 \mu m]$ (%)	24° 8		<i>\$</i> ≈ 20
pH			6.7
in CaCl ₂ (1:1)	6.1	7. \$	6.7
in CaCl ₂ (1:1) in H ₂ O (1:1)		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	7.0
Saturated paste	6.4	7.3 V	7.7
in KCl (1:1)	5.60	694 3	6.5
Organic Matter (%)		3.6	2.2
Organic Carbon (%)	V ~~ 0.7 ~~ 2	2.1	1.3
Cation Exchange Capacity (meg/100 g)	60 112 ×	27.2	10.7
Water Holding Capacity			
Maximum (g H ₂ O per 100 g DW)	©54.1	© 65.3	58.0
at 1/10 bar (%)	26.5	, O″ 34.7	23.9
Moisture Content During Incubation (%)	\$3.9% MWHC	△\$3.9% MWHC	53.9% MWHC
Bulk Density (disturbed cm ³)	1.08\$	1.12	1.09
Soil Microbia Biomass (µg microbia)	BIO- N BIO+	BIO BIO	BIO- BIO+
C/g soil)	BIO ⁻ BIO ⁺	DIO DIO	BIO BIO
Initial (Pay 1)	BIO BIO	907	433
Mid (Day 67)	184	697 675	258 233
	Q 161 \$ 154	657 623	250 233
BIO samples were untreated	i, 4		
BIO samples were intreated BIO+ samples were treated with 400 µL of the	ethano water (1:1 v/v)		
	·		
J & A F			



Parameter		Soil	
Soil Designation	Mas de Coq	Albaro/Marcomcini	Vilobi d'Ònya °
Soil ID	FR08	IT09	SPA1
Geographic Location		ð	
City	St Etienne du Gres,	Albaro, Ronco	Vilobi d'Ònyar
-		Alladige	Catalonia
Country	France	Italy 🗸 "	Spain
Batch Number	20141121	20141224	2014 725
Textural Classification (USDA)	Clay loam	Silty clay	Sandy loan
Sand [50 - 2000 μm] (%)	25	Q 17	9 57 ° (°
Silt $[2 - 50 \mu m]$ (%)	43,00	4 4 V	
Clay [$< 2 \mu m$] (%)	<u>32</u> [™] °	~0° ~42 ~0°	
рН	O JŮ		, A
in $CaCl_2$ (1:1)	∆ 7.60°	Q 7.2	
in H ₂ O (1:1)	7.6% (2) 3. 7.6% (2) 7.7 (2) 7.7 (2) 7.4 (3)		∠ 6.5 ° .5
Saturated paste	0° 47.7	7.4 × 0	6.6
in KCl (1:1)	7.4, \$	7.2 7.4 7.4 7.4 7.6 9	509
Organic Matter (%) *	1,6		J.4
Organic Carbon (%)	V 00 .9 S	2.1 °	0.8
Cation Exchange Capacity	11.2	[™] 20.\$0	© 8.7
(meq/100 g)			Ž
Water Holding Capacity 👸 🙏		S' L' J' S	
Maximum (g H ₂ O per 100 g PW)	46.50	684	43.8
at 1/10 bar (%)	2937 5	36.3	18.3
Moisture Content Buring to Cubation	₹ 53.9 % MW£	\$ 53.9% MW\C	53.9% MWHC
Bulk Density Onsturbed, g/cm	1.15	1,00	1.16
Soil Microbal Biomass (ug microbal	ABIO BIO	BIO ⁻ BIO ⁺	BIO- BIO+
C/g soil)		× 2	220
Initial (Day 1)	Q50 \$ 32 \$	248 201 402	339
Final (Day 121/129)	339 336	491 483	204 186

BIO samples were intreated

BIO+ samples were treated with 400 μL of methan water (1 v/v)

B. Study Design

1. Experimental Conditions

Tests were performed in static systems consisting of an Erlenmeyer flask containing 100 g soil (dry weight equivalents) fitted with a trap attachment (permeable for oxygen) containing soda lime for absorption of carbon dioxide and a polyurethane foam plug for adsorption of volatile organic compounds.

The test were performed at a concentration of approximately 0.44 mg/kg dry weight of soil. The test item [plenyl-0²] Concentration of approximately 0.44 mg/kg dry weight of soil. The test item [plenyl-0²] Concentration in methanol/water (1:1, v/v) (400 μ L) was applied drop wise onto the soil surface. Soil samples were adjusted to a moisture content equivalent to 53.9% of maximum water holding capacity, three days prior to application. The samples were incubated at 20 ± 1 °C under aerobic conditions in the dark for 120 days. Soil moisture was maintained during incubation by addition of de-ionized water after 30, 63 and 91 days of incubation. No significant losses of moisture were observed throughout the study.



2. Sampling

Duplicate samples were removed for analysis after 0, 2, 7, 10, 30, 44, 59, 91 and 120 days of incubation. Microbial soil biomass samples were analysed at the start, midpoint and end of the experiment (Day 1, Day 67 and Day 121/123) for Hamiltonian (Day 1, Great Chishill and Parcey Meslay soils and at start and end of the study (Day 1 and Day 121/123) for Mas de Coq, Albaro and Vilobi d'On a soils.

3. Analytical Procedures

Soil samples were first shaken with 0.01M calcium choride solution for 24 hours at 20 °C organ overhead shaker at 16 rpm to determine the desorbable portion of the test item from aged soil. A soil-to-solution ratio of 1:3 was used for all soils. Soil samples were then extracted three times with acetonitrile/water (4/1, v/v) at ambient temperature followed by a microwave extraction with acetonitrile/water (4/1, v/v) at 70 °C. After each extraction step, extract and soil were separated by centrifugation.

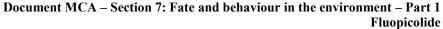
Radioactivity in extracts was determined by liquid scintillation counting (DSC). Desorption supernatants were analysed directly by HPLC with radiodetection. Ambient and microwave soil extracts were profiled and concentrated prior to analysis by HPLC. The concentration procedure for soil extracts was established as quantitative (recovery 26.3% HPLC column recovery was also quantitative (recovery 101.1%). The maximum HPLC LOD was determined as 1.3% AR. The primary chromatographic method for analysis of soil extracts was a reverse phase C18 HPLC method. Selected extracts were analysed by a second confirmatory phenythexyl phase HPLC method. A selected desorption supernatant (DAT-59, Here and the radiopeak corresponding to the major degradation product isolated, prior to analysis by LC/MS/MS for identification of M-01.

With the exception of the time zero samples, tran attachments were removed for analysis at each sampling time. Soda time from the trap attachment was transferred into an Extenmeyer flask, aqueous hydrochloric acid (18%) added dropwise and any liberated carbon dioxide collected in trapping vessels containing scintillation cocktail. The polysisthane foam plug was extracted with ethyl acetate for approximately minutes in an uttrasonic battle desorb any volatile organic compounds. The radioactivity content of these samples was determined by LSC.

Following homogenisation, non-extractable residues (NFR) in extracted soils were determined by combustion.

M-15 (AE 1413903) was included as an analytical standard to determine its retention time in the HPLC method (35 minutes). Using this retention time, it was possible to establish that M-15 did not occur at any sampling interval or any of the soils.

A test of the extraction discipled using a simplified extraction method, suitable for terrestrial field dissipation samples, was performed with space samples of all soils. Duplicate samples of each soil were processed at DAT-140. Soil samples were extracted for 15 minutes by microwave extraction with acetonitrile/water (41, v/s) at 700°C. After the extraction step, extract and soil were separated by centrifugation. Radioactivity in extracts was determined by LSC and the microwave soil extracts were concentrated proof to analysis by HPLC. The extraction efficiency of the simplified and standard (exhaustive) extraction methods for total extractable residues, fluopicolide and M-01 were shown to be comparable.



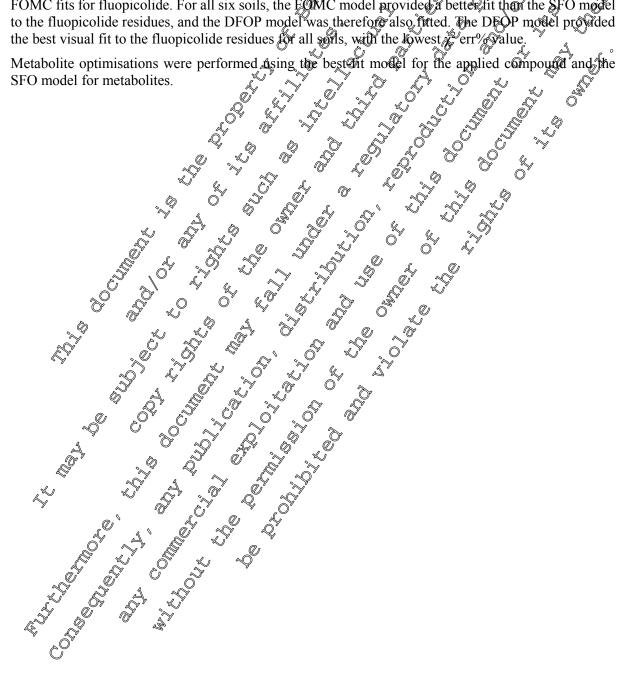


4. Determination of degradation kinetics

The degradation kinetics determined in the report were evaluated according to the FOCUS guidance document on degradation kinetics using the software KinGUI 2. The degradation of fluopicolide was best described by the double first order in parallel (DFOP) model in all soils based on lowest chiverror values and visual assessments of fits.

Additionally, modelling endpoints for the degradation of fluopicolide and M-07 have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1) along with all other aerobic soil data relied on Full details are provided in Document KCA 7.1.2.1.1/10 (M-685680-01-1). A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints, an initial comparison was performed for each soil between the SFO and FOMC fits for fluopicolide. For all six soils, the EOMC model provided in the SFO and t to the fluopicolide residues, and the DFOP model was therefore also fitted. The DFOP model provided the best visual fit to the fluopicolide residues for all sons, with the lowest ferr y value.





II. Results and Discussion

A. Data

The distribution and characterisation of radioactivity for the test soils incubated at 20 °C following application of [phenyl-U-14C]- fluopicolide are summarized in Table 7.1.2.1.1-29 to Table 7.2.1.1-29 34.

Table 7.1.2.1.1- 29: Degradation of [phenyl-U-14C]-fluopicolide in H under aerobic conditions at 20 °C [% AR]

Inembation time (DAT) Compound Mean SD 44 0 2 7 £.10 30 97 Fluopicolide Mean 92.4 87.1 81.8 68*A* 63.6 **2**0.9 SD ± 0.2 ± 0.9 ≠ 0.3́ **₩** 0.2 ± 0.4 ©15.9 ₆10.2 <u>43</u>.0 39,6 M-01 (AE C653711) 4.9 30,0% Mean 1.6 **#**0.0 SD ± 002 ± 0.1 ± 0.2 Œ 0.2 ± 0.0 ± 0.2 ± 0.2 n⊋i. n 🔊 Mean < LOD n.d.⊿ m.d. u3 n.d. SD n.d. ېآ.d. u4 Mean n.d. n.d. "Sh.d. 🤊 n.d. SD $nd^{\mathbb{Q}}$ ô∂d. m.d. u5 Mean n.d. næj. n.d W SD <u>n.d.</u> n.d. Sum of Unid./Diff. . ŽľO₽ Mean n.d. n.d. n.d. n.d. √h√d. 0 Residues A SD 🖏 41.3 Mean **4**,3 42.1 **3**7.1 41.7 41.7 **¥**0<u>.1</u> CaCl₂ solution **£**0.1 ©ŠD ®± 1.0. $^{8}\pm 0.7$ ± 0.0 ± 0.4 49.0 500 B 51.5 \$49.3 /47.7_s Mearl 47. 46.4 42.4 41.6 Ambient Extraç ZYD ± 9.4 ±**%**.4 ± 0.2 ₹ 0.1 ± 1.60 ± 1.2 ± 0.4 ± 0.1 3.3 Mean 2.1 2.7% 5.2 5.8 6.0 6.0 Microwave 2 $\sqrt[8]{0.1}$ Extract SD ± 0 £0.2 ± 0 . ± 0.3 ± 0.3 ± 0.0 ± 0.1 **9**7.3 Total Extractable **₽**₹.6 97:₹ 93.6 93.4 90 89.2 Mean $^{\circ}_{20.8}$ \mathcal{L}_{D} Residues ± 0.7 ± 0.2 ± 0.3 ± 0.6 n.a **0**.2 $0.\overline{2}$ 0.1 0.4 0.9 Carbon Dioxide Mean 0.6 1.5 2.0 sp) 0.0 ± 0.0 ± 0 ± 0.0 ± 0.0 ± 0.1 ± 0.0 ± 0.0 <<u>Q</u>.P ∝Mẽan < 0.1 < 0.1 Volatile Organ < 0.1 < 0.1 < 0.1 < 0.1 🕽 n.a. 🧞 Compounds $^{\circ}_{9.0}$ SDO £0.0 $0.0 \pm$ ± 0.0 ± 0.0 ± 0.0 0.0Non-Extractable 2.8 5.5 5.2 6.2 7.6 8.9 Mean 2.3 Residues »ŠD ±,09 $\pm~0.0$ ± 0.5 ± 0.2 $\pm^{'}$ 0.1 ± 0.5 $\pm~0.2$ ± 0.2 **39**.7 Total Recovery 99.7 Mean 905 100.7 100.3 99.5 100.4 99.1 100.2 £0.2 SĎ **#** 0.3 = 0.4 ± 1.1 ± 0.1 ± 0.4 ± 0.1 ± 0.3

n.d.: not detected, n.a. not analysed, DAT: days after treatment, SD: standard deviation n.a.: not detected, n.a. not analysed, 12A1: days after treatmen All values expressed as percentage of total applied radiolabel

A Sum of minor undentified components and diffuse residues.

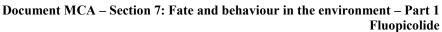




Table 7.1.2.1.1- 30: Degradation of [phenyl-U- 14 C]-fluopicolide in Great Chishill soil under aerobic conditions at 20 °C [% AR]

Compound	Mean				Incuba	tion time	(DAT)			W
	SD	0	2	7	10	30	44	59	91	7 20
Fluopicolide	Mean	96.2	92.7	87.3	84.1	80.5	77.6	9 6.0	69.4	66.5
	SD	± 0.2	± 0.0	± 0.7	± 0.0	± 0.5	± 0.1	± 0.3	± 0.4	±0.5
M-01 (AE C653711)	Mean	< LOD	2.2	7.3	4.5	8.7	11.4	13.6	D8 .6	2 0.0
	SD		± 0.2	± 0.1	± 0.76	± 0.1	±0 .1	± 0.1 &	Ž 1.3.	± 0.30
u3	Mean	< LOD	n.d.	n.d.	n.d.	n.d.	Qn.d.	n.d	n.aQ	nKd.
	SD				\$ 7)) * 		Q,	
u4	Mean	n.d.	n.d.	n.d.	n.d.	n.d.√	₫ŋď.	Pr.d.	∜ n.d.	n.d.
	SD			<i>\Q</i> \(\text{\tint{\text{\tin}\text{\texi\text{\texi}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\texi}\text{\text{\text{\texi}\text{\text{\text{\text{\text{\texi}\text{\texi}\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\texi}\text{\t		m.d.		* 1°		
u5	Mean	n.d.	n.d.	w.d.	Ön.d.	n.d.	n.đ.	næ.	n.d.	n.d.
	SD		4				8			
Sum of Unid./Diff.	Mean	< LOD	n.d.	n`dz	n.d.	≫n.ď.	🗐 n.d. 💍	n.d.	n.đ.	n.d.
Residues ^A	SD		Ű		O					
CoCl colution	Mean	28.6	6 26.2 €		24.4	22	29.1	2 0.9	© 20.3	20.6
CaCl ₂ solution	SD	± 0.0	± 0.1	± 0.2	± 0.0	$\sqrt[3]{0.1}$	O± 0.1€	± 0.0	±,0.3	± 0.6
Ambient Extract	Mean	62,6	64 .0	∂ 94.1 .	\$54.9	D 57.25	578	<i>5</i> 9 0	<u>€</u> 56.8	54.7
Amorem Extract	SD	2 ° 0.4	°¥ 0.0√	* ± 0.8	± 0.3	±001	₽ 0.8	±0.6	0.1	± 0.3
Microwave	Mean	5.5	4.8	60	9 .4	10.0	9.8	9.80	11.0	11.3
Extract	SĎ≫	±0.6	±0.2	0.4	\$± 0.5€	*± 0.7	± Q.8	±0.3	± 1.9	± 0.1
Total Extractable	Mean	96.2	<i>\$</i> 95.0 ⁽	D 94.60°	88.6	89.2	&88.6	×89.7	88.0	86.5
Residues	Z SD	± 0.2	±.0\$	±06	₹0.1	$n^{\pm} 0.5$		$/ \pm 0.2$	± 1.7	± 0.8
Carbon Dioxide	Mean	n.a.	%'ľ	√ 0.2 %	90.1	0.4%	Q.\$\tag{\tau}	0.8	1.2	1.7
	\$b		\$± 0.0€	± 0,0	±0.1	±0.0	≨ 0.0	± 0.0	± 0.0	± 0.0
Volatile Organic	Mean≼	n.a,	< 0.1	€ 0 01	\$ 0.1	® 0.1	©< 0.1	< 0.1	< 0.1	< 0.1
Compound	S.D.		₽ 0.0	0.0	± 0.00	± Q.00°	± 0.0	± 0.0	± 0.0	± 0.0
Non-Extractable	Mean	3 .8	[©] 4.4 _. ~	4.80	9.4		9.3	8.6	12.6	10.6
Residues	SD	± 0.0	± 00	±0.6	4 0.8	Æ 1.1	± 0.4	± 0.1	± 2.2	± 0.3
Total Recovery	Mean	9 % 0	29 .4	J 99.5	O _{98.1}	99.5	98.5	99.0	101.8	98.8
	SD"	0.2)± 0.2	± 0.00	± 00	± 0.6	± 0.4	± 0.3	± 3.9	± 1.1

n.d.: not detected, n.a. hot analysed DAT: days after freatment All values expressed as percentage of total applied radioabel of Sum of minor unidentified components and differences residues. n.d.: not detected, n.a. not analysed, DAT: days after treatment, SD: standard deviation



Table 7.1.2.1.1-31: Degradation of [phenyl-U-14C]-fluopicolide in Parcey Meslay soil under aerobic conditions at 20 °C [% AR]

Compound	Mean				Incuba	tion time	(DAT)			w .
	SD	0	2	7	10	30	44	59	91	¥20
Fluopicolide	Mean	97.3	95.9	90.2	88.3	80.3	73.8	9 0.6	63.0	57.95
	SD	± 0.2	± 0.8	± 0.8	± 0.2	± 0.3	± 0.7 %) ± 1.4	± 0.2	±0.5
M-01 (AE C653711)	Mean	n.d.	3.1	6.0	7.5	15.1	19.0	22.2	2 5.8	\$1.5
	SD		± 0.0	± 0.5	± 0.0	± 0.1	±0.7	± 0.2 ×	Ž¥ 0.6Ž	± 1.60°
u3	Mean	n.d.	n.d.	n.d.	n.d.	n.d.	Qn.d.	n.d	n.aQ	nKa.
	SD) * 		Q,	
u4	Mean	n.d.	n.d.	n.d.	n.d.	n.d.∕	₫ŋď.	Pr.d.	∜ n.d. (n.d.
	SD			<i>\Q</i>	0	m.d.		* 10		
u5	Mean	n.d.	n.d.	ør.d.	Ön.d.	n.d,	n.đ	ncar.	n.d.	n.d.
	SD		.4				80			
Sum of Unid./Diff.	Mean	n.d.	n.d	n.d.	nxd.	n.d.	🗐 n.d. 💍	n.d.	n.đ.	n.d.
Residues ^A	SD									
CaCl ₂ solution	Mean	35.6	6 \$2.3 €	×30,2	30.9	2805	2 9.5	2 9.1	© 30.5	32.2
CaC12 Solution	SD	± 0.10	± 0.9	± 0.0	± 0.0	0.1	©± 0.7€	$y \pm 0$	±,0.4	± 0.8
Ambient Extract	Mean	59.5 °	63.9	63 .0	Ç60.1 _€	61.4	588	<i>,</i> 5⊗2	§ 54.3	50.6
Ambient Extract	SD	√ \$0 .3	°¥ 0.2€	$\approx \pm 0.3$	± 0.76	±0.3	₽ 0.6	€0.7 (0.8	± 0.3
Microwave	Mean	2.3	2.9	30F	4 0.9	4.8	¥4.5 ×	5.50	6.1	6.7
Extract	SĎ≫	±0.2	±0.3	0.1	≸± 0.4¢	*± 0.2	± 0.0	±0.4	± 0.0	± 0.1
Total Extractable	Mean	9 7.3 4	<i>\$</i> 99.0 (^D 96. 3	95.8	95.4	&92.7	×92.7	90.8	89.5
Residues	VSD .	± 0.2\$	±0.	± 0 3	3 0.2	$\mathcal{O}_{\mathcal{I}}^{\pm}$ 0.3	O± 1.4 ~	# ± 1.6	± 0.9	± 0.5
Carbon Dioxide	Mea	n.a.	6 4Î	№ 0.2 %	9 0.2 Q	0.5	Q.F	0.9	1.4	1.9
	&p		\$± 0.0@	± 0.0	±0.0	±0.0	≨ 0.0	± 0.1	± 0.0	± 0.0
Volatile Organic	Mean≼	n.a.	< 0.1	\$ 6 01	© 0.1	@ 0.1 ₄	 ∅< 0.1	< 0.1	< 0.1	< 0.1
Compound	S₽		50 .0	2 0.0	± 0.00	± 0.00	± 0.0	± 0.0	± 0.0	± 0.0
Non-Extractable	Mean	3 9.9	♥1.4 _~	2.10	2:8	401	5.0	6.0	7.5	8.3
Residues	SD ()*± 0.1	± 00	±0.1	% ± ₀ .3	± 0.3	± 0.1	± 0.1	± 0.1	± 0.0
Total Recovery	Mean	982	100.5	9 8.6	©98.70	99.9	98.4	99.7	99.7	99.6
Ø1	ŠĐ	0.3	£ 0.8€	$\neq 0$	± 000	± 0.0	± 1.2	± 1.4	± 0.8	± 0.5

n.d.: not detected, n.a. not analysed, DAT: days after treatment, SD: standard deviation

n.d.: not detected, n.a. hot analysed DAT: days after freatment All values expressed as percentage of total applied radioabel of Sum of minor unidentified components and differences residues.



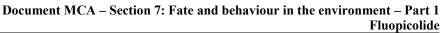
Degradation of [phenyl-U-14C]-fluopicolide in Mas du Coq soil under Table 7.1.2.1.1- 32: aerobic conditions at 20 °C [% AR]

Compound	Mean				Incuba	tion time	(DAT)			
	SD	0	2	7	10	30	44	59	91	¥20
Fluopicolide	Mean	95.8	95.1	91.6	88.7	81.4	75.8	\$ 2.6	65.2	59. %
	SD	± 0.3	± 0.3	± 0.6	± 1.0	± 0.9	± 0.8 %	± 0.3	± 0.1	±0.2
M-01 (AE C653711)	Mean	<lod< td=""><td>2.6</td><td>4.5</td><td>5.6</td><td>11.6</td><td>16.4</td><td>18.7</td><td>23.3</td><td>26.7</td></lod<>	2.6	4.5	5.6	11.6	16.4	18.7	2 3.3	2 6.7
	SD		± 0.1	± 0.3	± 0.76	± 0.0	±0.2	± 0.4 ×	يِّــــــــــــــــــــــــــــــــــــ	# ± 0.4\$
u3	Mean	<lod< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>Qn.d.</td><td>n.d</td><td>n.aQ</td><td>nKa.</td></lod<>	n.d.	n.d.	n.d.	n.d.	Qn.d.	n.d	n.aQ	nKa.
	SD			.() *		Q	
u4	Mean	n.d.	n.d.	n.d.	n.d.	n.a.∜	ø∂d.	Ard.	∜ n.d. ົ	n.d.C
	SD			40	0	II.d.		* * 1°		
u5	Mean	n.d.	n.d.	pr.d.	n.d.	⊌ n.d√ເຶ	n.đ	12GF.	n.d.	n.d.
	SD		.4				~ ~	<i>"O"</i>		> 4
Sum of Unid./Diff.	Mean	<lod< td=""><td>n.d</td><td>n.d.</td><td>nxd.</td><td>⊳n.ď.</td><td>🗐 n.d. 💍</td><td>n.d.</td><td>n.đ.</td><td>n.d.</td></lod<>	n.d	n.d.	nxd.	⊳n.ď.	🗐 n.d. 💍	n.d.	n.đ.	n.d.
Residues ^A	SD									
CaCl ₂ solution	Mean	49.5	4 4.0 %	¥40,3\$	40.9	340	3 \$3.0	3 4.2	© 33.3	33.6
CaC ₁₂ solution	SD	± 0.70	± 0.1	± 0.3	± 0.4	$\sqrt[3]{0.1}$	O± 0.1€	± 0,1	±,0.4	± 0.2
Ambient Extract	Mean	46.2	5).3	% 2.6 ₄	\$48.6	® 53.0€	500	,500 l	√ 48.6	45.5
Ambient Extract	SD	2 90.1	°¥ 0.1€	≠ 0.1	± 1.3	±0.5	₽ 0.1	£0.0 @	0.2	± 0.4
Microwave	Mean	1.6	2.4	307	1 0.8	*§.2 ~	$\sqrt[8]{6.0}$	6.10	6.6	7.5
Extract	SĎ∀	±.0.0	± % .1	0.0	\$± 0.7.€	z^\± 0.4	± Q.5	±0 .0	± 0.1	± 0.4
Total Extractable	Mean	9 7.0	<i>\$</i> 97.7 [©]	D 96.10°	94.3	S.	\$9 1.9	91.3	88.5	86.5
Residues	D SD	± 0.3	±0\$	±02	# 1.1	$\mathcal{O}_{\mathcal{A}} \pm 0.8$	O± 0.6	f = 0.2	± 0.4	± 0.7
Carbon Dioxide	Men	n.a.	% ∮1	√ 0.2 %	9 0.2 Q	0.6%	Q	1.4	2.2	3.0
	(Sp)		> ± 0.00	*\pm 0.0\frac{1}{2}	±0.0	±0.0	≨ 0.0	± 0.0	± 0.0	± 0.0
e e	Mean∢	n.a.	< 0.1	<i>≨</i> 6 01	5 0.1	© 0.1 (2 < 0.1	< 0.1	< 0.1	< 0.1
Compound	S _I D _J	7	1 0.0	0.0	± 0.00	$p \pm 0.00$	± 0.0	± 0.0	± 0.0	± 0.0
Non-Extractable	Mean	5 9.7	©1.6	2.50	4:3	, O	6.5	6.5	8.2	9.6
Residues	SD	± 0.0	± 00	±0.1	% 0.8	2 0.1	± 0.1	± 0.1	± 0.0	± 0.1
Total Recovery	Mean	9 J	29.4	J 98.7	©98.8	98.5	99.3	99.2	98.9	99.2
-	SD"		1 0 1 ×	± 0.4	± 0 3	± 0.7	± 0.5	± 0.3	± 0.3	± 0.5

n.d.: not detected, n.a.: not analysed, DAT days after treatment, Sp; standard deviation

All values expressed as percentage of total applier radiotabel

A Sum of nonor unidentified components and diffuse residues.





Degradation of [phenyl-U-14C]-fluopicolide in Albaro soil under aerobic Table 7.1.2.1.1- 33: conditions at 20 °C [% AR]

Compound	Mean				Incuba	tion time	(DAT)			
	SD	0	2	7	10	30	44	59	91	¥20
Fluopicolide	Mean	95.2	94.8	87.6	87.5	78.4	73.7	\$ 7.9	58.4	52.65
	SD	± 1.3	± 1.0	± 0.8	± 0.6	± 0.7	± 0.4 %	± 0.7	± 0.3	±0.4
M-01 (AE C653711)	Mean	< LOD	3.0	7.6	6.8	13.7	19,2	23.1	29 .1	\$3.2 J
	SD		± 0.0	± 0.0	± 0.3	± 0.2	±0.3	± 0.8 ×	Ž 0.3Ž	± 0.75
u3	Mean	< LOD	n.d.	n.d.	n.d.	n.d.	Qn.d.	n.d	n.aQ	nKa.
	SD				\$ 7)) *		Q	
u4	Mean	n.d.	n.d.	n.d.	n.d.	n.d.∕	₫ŋď.	Pr.d.	∜ n.d. ˈ	n.d.
	SD			<i>\Q</i>	0	m.d.		A 10		
u5	Mean	n.d.	n.d.	ør.d.	Ön.d.	n.d,	n.đ	ng.	n.d.	n.d.
	SD		.4				~ ~			
Sum of Unid./Diff.	Mean	< LOD	n.d	n.d.	n.d.	n.d.	🗐 n.d. 💍	n.d.	n.đ.	n d.
Residues ^A	SD				@" ~ ~					
CaCl ₂ solution	Mean	35.4	6 ₹3.9 &	×32,3©	3 3 .¶	323	3 € .5	3 4.0	235.1 ₀₀	35.4
CaC12 Solution	SD	± 0.20	± 0.10°	± 0.0	± 0.3	0.3	©± 0.1€) ± 0,40°	±,0%3	± 0.2
Ambient Extract	Mean	56,6 °	60 .1	<i>®</i> 9.7 €	\$54.1 _@	₽ 53.0°F	5 <i>5</i>	,5 © 2	_{& 47} .9	45.2
Ambient Extract	SD	2 €0.7	¥ 0.4	± 0.4	± 0.8	± 2	₽ 0.3	±0.4	0.1	± 0.4
Microwave	Mean	4.1	4.0	<i>30</i>	<i>P</i> :1	6.8	$\sqrt{4.5}$	4.90	4.6	5.2
Extract	SĎ≫	±.0.0	± 9 .4	0.4	≸± 0.3€	* ± 0.5	± Q.2	±0.6	± 0.5	± 0.3
Total Extractable	Mean	9 5.2 4	<i>\$</i> 97.9 (P 95.2	94.3	92.1	&92.9	√ 91	87.5	85.8
Residues	VSD .	± 1.30	± 1 8	± 0 8	3 0.3	# 0.9	$O_{\pm} 0.2$	$f' \pm 0.2$	± 0.0	± 0.3
Carbon Dioxide	Mea	n.a.	6 91	0.2	90.2	0.7	12	2.0	3.3	4.6
	&p		\$± 0.0@	± 0.0	±0.0	±0.0	≨ 0.0	± 0.0	± 0.0	± 0.2
Volatile Organic	Mean≼	n.a.	< 0.1	\$ 6 01	© 0.1	© 0.1	2 0.1	< 0.1	< 0.1	< 0.1
Compound	S₽		60 .0	2 0.0	± 0.00	± 0.00	± 0.1	± 0.0	± 0.0	± 0.0
Non-Extractable	Mean	3 .2	[®] 2.6 _∞	3.86	5:3)	601	6.4	6.9	8.8	8.6
Residues	SD (*± 0.0	± 00	±0.8	4 0.1	± 0.4	± 0.3	± 0.2	± 0.4	± 0.1
Total Recovery	Mean	9 J ZA	100.6	J 99.2	O99.9	99.2	100.6	99.8	99.6	99.1
Ø1	ŠĐ	1.3)± 0.9	7 ± 0	± 002	± 0.5	± 0.2	± 0.0	± 0.4	± 0.0

n.d.: not detected n.a.: not analysed, DAT days after treatment, Stall values expressed as percentage of total applied radiotable and of sum of nonor unidentified components and diffuse residues. n.d.: not detected, n.a.: not analysed, DAT days after treatment, Sp; standard deviation



Table 7.1.2.1.1- 34: Degradation of [phenyl-U-¹⁴C]-fluopicolide in Vilobi d'Ònyar soil under aerobic conditions at 20 °C [% AR]

Compound	Mean				Incuba	tion time	(DAT)			<u> </u>
	SD	0	2	7	10	30	44	59	91	¥20 a
Fluopicolide	Mean	94.4	91.3	82.2	78.6	59.4	53.4	4 6.6	36.8	30.25
	SD	± 0.1	± 0.4	± 0.8	± 1.2	± 0.4	± 0.1	± 0.3	± 0.3	±0.2
M-01 (AE C653711)	Mean	2.3	6.5	13.5	20.2	34.8	40,4	45.0	<u>.</u> 62 .1	\$5.0 ₁
	SD	± 0.0	± 0.0	± 0.3	± 0.0	± 0.6	±0.7	± 1.0 §	€£ 0.4	y ± 1.20
u3	Mean	n.d.	n.d.	n.d.	n.d.	n.d.	Qn.d.	n.d	n.aQ	nKd.
	SD				\$ 7)		"		Q	
u4	Mean	n.d.	LOD	n.d.	n.d.	n.d.√	∂ gd.	M.d.	∜ n.d. (n.d.C
	SD			<i>\Q</i>	0	7 ·				
u5	Mean	n.d.	LOD	w.d.	n.d.	n.d.	n.đ.	na car.	n.d.	n.d.
	SD		.4				8			\$ _&_°
Sum of Unid./Diff.	Mean	n.d.	LON	n.d.	n.d.	≫n.d.	🗐 n.d. 💍	n.d.	n.đ.	n.d.
Residues ^A	SD				@" ~ ~					
CaCl ₂ solution	Mean	44.1	4 4.6 %	¥42,3©	44.5	45,2	£ .0	4 6.5	© 48.3	48.0
CaC ₁₂ solution	SD	± 0.10	± 0.2	± 0.1	± 0.3	0.3	©± 0.3 €	± 0.9	±.0%3	± 1.5
Ambient Extract	Mean	5 0 .8	5) ?5	\$ 0.8	\$50.8 _©	D 45.3	433	400	36.2	32.9
Ambient Extract	SD	2 €0.3	°¥ 0.2€	= 0.5	± 0.8	± Ø. Y	₽ 0.3	£0.1 @	0.1	± 0.4
Microwave	Mean	2.0	2.3	20	D .5	3.7	$\sqrt[8]{4.0}$	4.10	4.5	4.4
Extract	SĎ≫	±.0.2	± © .0	0.2	\$± 0.2€	* ± 0. 1 ×	± Q.7	≠ 0.1	± 0.3	± 0.1
Total Extractable	Mean	9 6.7	<i>\$</i> 97.8 [©]	P 95. 7	98.9	94.2	£93.4	91.6	88.9	85.2
Residues	Z SD	± 0.1	±0\$	±405	1 .2	\mathcal{Q}_{l}^{\pm} 0.2	$O_{\pm 0.5}^{\star}$	= 0.7	± 0.1	± 1.1
Carbon Dioxide	Men	n?az	. %!	№ 0.2 %	90.2	0.7	14	1.8	2.8	3.8
	&p	_ (\$± 0.1@	± 0.0	±0.0	±0.0	≨ 0.0	± 0.0	± 0.0	± 0.1
Volatile Organic	Mean∢	n.a.	< 0.1	\$ 6 01	© 0.1		U < 0.1	< 0.1	< 0.1	< 0.1
Compound	SD	Z.	60 .0	⊕"0.0	± 0.00	± Q.00°	± 0.0	± 0.0	± 0.0	± 0.0
Non-Extractable	Mean	∂ Ø.7	1.3	2.00	2:46	, 4 01	5.5	6.2	8.5	10.0
Residues	SD (*± 0.0	± 00	±0.0	4 0.1	± 0.2	± 0.3	± 0.2	± 0.3	± 0.2
Total Recovery	Mean	9 T A	29 .1	9 7.9	901.	98.9	100.0	99.6	100.2	99.0
Ø1	SD	0.1)± 0.5	± 05°	± 167	± 0.4	± 0.3	± 0.9	± 0.4	± 1.0

n.d.: not detected, n.a.: not analysed, DAT, days after treatment, Sp; standard deviation

B. Material Balance

Mean mass balances were 99% AR for Harmonic (range from 99.1 to 100.7% AR), 99.4% AR for Great Chiskol soil (range from 98.1 to 101.8% AR), 99.3% AR for Parcey Meslay soil (range from 98.2 to 100.8% AR), 98.9% AR for Mas de Coq soil (range from 97.9 to 99.4% AR), 99.6% AR for Abaro soil (range from 98.3 to 100.6% AR) and 99.4% AR for Vilobi d'Onyar soil (range from 97.4 to 101.6% AR)

The results confirm there were no significant losses of radioactivity during sample processing.

All values expressed as percentage of total applicarradio bel

A Sum of nonor unidentified sompoperits and diffuse residues.



C. Extractable and Non-Extractable Residues

Desorbable residues in aqueous 0.01 M CaCl2 solution decreased from DAT-0 to DAT-120 from 47.3 to 41.7% AR in H soil, from 28.6 to 20.6% AR in Chishill soil, from 35\$\mathbb{G}\$ to 32.2% AR in Parcey Meslay soil and from 49.5 to 33.5% AR in Mas du Coq soil. In Vilob soil desorbable residues in aqueous 0.01 M CaCl2 solution increased from DAT-0 to DAT-120 from 44.0 to 48.0% AR. In Albaro soil desorbable residues in aqueous 0.01 M CaCl2 solution ranged from 32.3% to 35.4% AR over the course of the study (mean 33.9 % AR), initially declining from 35.4% at DXT-0 to 32.2% AR at DAT-30 and then increased to 35.4% AR at DAT-120.

Total extractable residues (i.e. residues desorbed by aqueous 0.01 M & aCl2 solution and residues in organic soil extracts) decreased from DAT-0 to DAT-120 from 987 to 89.2% AR in A soil, from 96.7 to 86.5% AR in Chichill soil, from 97.3 to 89.5% AR in soil, PR091 from 97.2 to 86.5% AR in Parcey Meslay soil, from 96.1 to 85.8% AR in Albaha soil and from 96.74to 85.2% AR in Vilobi soil.

Non-extractable soil residues increased concurrently with the decrease in extractable radioactivity in all soils. Non-extractable residues (NER) increased from DAT-0 to DATO 20 from 1.1 to 8.9% ARcjin soil, from 0.9 to 8.3% AR in Parcey Meslay soil from 0.7 to 86% AR in Mas du Coq soil, and from 0.7 to 10.0% AR in Vilobi soil. In Chishill soil, NER increased from DAT-0 to DAT-91 from 2.8 to 12.6% AR and decreased then slightly to 10.6% AR a DAT 20. In Albaro soil, NER increased from DAT-0 to DAT-97 from 2.2 to 8.8% AR and decreased then slightly to 8.6% AR at DAT-120.

D. Volatile Radioactivity

The maximum amount of earbon dioxide formed was 2.0, 1.9, 3.0, 4.6 and 3.8 % AR in H , Chishill, Parcey Mestay, Mas du Coq, Albaro and Vilobi soils, Pespectively by the end of the study (DAT-129). Formation of volvile organic compounds (VOC) was insignificant with values of $\leq 0.1\%$ AR at all time points in all soils.

E. Degradation of Parent Compound

E. Degradation of Parent Compound

The amount of fluopicolide in the total soil extracts (i.e. in queous desorption solution and organic soil extracts decreased from 97.0% at DAT-0-to 46.2% at DAT-120 in H from 96.2 to 66.5% AR in Chiship soil, From 97.3 to \$7.9% AR in Parcey Meslay soil, from 95.8 to 59.8% AR in Max du Coq soil from 95.2 to 52.6% AR in albaro soil and from 94.4 to 30.2% AR in Vilobi soil.

Degradation of fluoricolide was accompanied by the formation of one degradation product, M-01 (AE C653711) which was observed at a maximum of 5\%.0% AR at DAT-120 in Vilobi soil. M-01 was identified by co-chromatography with an applytical standard and by LC/MS/MS after isolation of the identified by co-chromatography with an acceptant standard and by LC/MS/MS after isolation of the radiopeak from a desorption solution. The total unidentified residues were < LOD at any sampling interval in any soil.



F. Degradation Kinetics

Reported DT₅₀ values of fluopicolide under aerobic conditions were 101, 251, 167, 180, 131 and 54,7 days in Harmonic Chishill, Parcey Meslay, Mas du Coq, Albaro and Vilobi Chis, respectively. The experimental data was best described by a double first order in parallel (DFOP) whetic model. Details are provided below in Table 7.1.2.1.1-35.

Table 7.1.2.1.1- 35: Reported degradation rate of fluopicolide under perobic conditions at 20 °C (best-fit DT₅₀ values for persistence endpoints)

Soil	Kinetic model	M_0	Parameter (k, k1, k2, g, tb, α, β)	X ² , %-error	Prob >t	Lower	Upper CL		DT&
	DFOP	98.68	k1 9.178e-02 k2 4.354e-03 g 2.237e-01	1.2	4.29e-06 2.39e-10	- © 1.898ۥ01	% Q 9.258	101	7 471 ©
Great Chishill	DFOP	99.38	k1 2.77e-01 k2 2.175e-03 g 1.374e-01		2.45e-06 8.62-013	7.241g401		251	991
Parcey Meslay	DFOP	98.13	k1 8.558 \$\frac{1}{2} \text{ k2 3.380e-03 g 1.208e-01 }\text{ g 1.208e-01 }\text{ k2 3.380e-01 } k2 3.380e-0		000453 1.02e-10	9769e-02	∫ - √ 0\$50 4	16 7	643
Mas du Coq	DFOP	97.67	k1	9.5 0	0.900539 3.19e-b2	7 <u>~</u> 29e-02	0.122	Q81	673
Albaro	DFOP	98.46	k1 2/3/27e-0 k2 4.592 3/3 3,8.785e-02	0.5	0. 0 0287 3.56e-14	6,684e-02*		131	481
Vilobi d'Ònyar	DFOP	96.87	k1 7 9 7 8e-02 k2 7 223e 63 g2.624& 01	0.75	7.73e-08 53e-13	2.288e-01	© 0.296	54.7	277

In addition, the experimental data for the degradation of the projective and M-01 has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 2.9). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting DT₅₀ values for trigget endpoints for fluoricolide are summarised below in Table 7.1.2.1.1- 36. Best fit sufficiently are highlighted in bold. The results are very similar to reported best fit DT₅₀ values.



Table 7.1.2.1.1- 36: Re-evaluated degradation rate of fluopicolide under aerobic conditions at $20~^{\circ}\text{C}$ (DT₅₀ values for trigger endpoints)

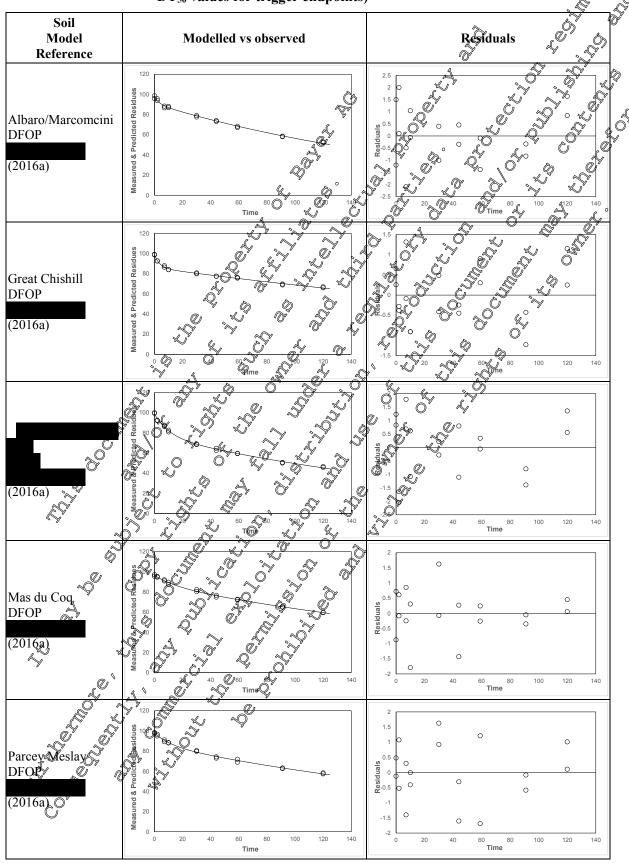
Soil	Kinetic model	M ₀	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	0	DF 90 Jdays]
	SFO	94.24	k 0.005383	2.18	<2e-16	0.00489	0.006	128.	4278
Albaro/Marcomcini,	FOMC	95.86	α 0.5563 β 65.09	1.55	n.r. n.r.	0.3198 25,61	0.793 106.6 _%	∯81.2	\$4019
(2016a)	DFOP	97.2	k1 0.2499 k2 0.004742 g 0.06658	0.913	0.00172 <2e-16 n.r.	0.004432 0.04564	0.404 0.005 0.088	130.6	2471 0
	SFO	92.7	k 0.003447	3.66	1.50E 1	0@02764	√0.004Ç	, 201.1 [©]	66 %
Great Chishill,	FOMC	96.37	α 0.1233 β 7. 6 92	1.9	n.r. &	Ø.08991 1.826	0.157 13.38	.2096	\$1 9 000
(2016a)	DFOP	98.54	k1 0.2582 k2.0.002219 g 0.1279	0.6 3 8	2.831 08 <2 16 n.r.	0.002038 0.11©	0.33 0.00 0.441	2500	97 5 ,9
	SFO	99.34	I) . <i>i</i>	8.61	7.05Ę-Po	0.007872	0.012	69.1	5229.6
H	FOMC	9898 Q	9.3038 \$ 12.15	15.6 15.6	nø.	\$.2679 8.93 6	0.34 1536	106,8	>10000
(2016a)	₩"	98.67) %	g 0.2171	1.1 %	7.06E-4A <2@16 h/r.	0.08116 0.00399 0.1882	0.111 0.005 0.246	⁷ 100.6	461.6
	ŞFO	94.56	© 1.004277	1.84	≼2e-1 6	0.003\$62	QU 005	162.1	538.4
Mas du Coq,	«FOMC	96,\$	α 63824 Q β 50.86	0.666	nor.	0.29 31.11	0.475 70.62	260.7	>10000
(2016a)	DOP OF	96.57	<u>∞∩∞1 ∩ ∩ 6≊02</u>	0.495	€42E-06 €<2e-16 n .G.	0.04119 0.062847 0.06684	0.091 0.004 0.123	185.5	688.6
8	SEO	95.27	k 0.004899	2 63	Øe-16	2 0.004258	0.005	142.7	473.9
Parcey Meslay,	FOMC S	97.68 97.68	α 0. 6 01 β 29.62	0.981	n.r.	0.2456 18.24	0.375 41.01	247.3	>10000
(2016a)	.4 .4	\$8.02	15 0.08553 12 0.003422 1 0.0172	0 .702	4.50⁄E-08 <2e-16 n.r.	0.06156 0.003065 0.09078	0.109 0.004 0.144	166.1	636.4
w .	Ő [♥] SFO [™]	94.07	kg).01266	6.93	4.99E-15	0.01078	0.014	55	182.5
Vilobi d'Òn (ar,	FOMC (7.02	α 0.5 9 35 β.2 9 07	91.61	n.r. n.r.	0.5141 17.12	0.681 29.03	50.5	1065
(201 6 a)	DFOP	97.15	k10.08873 k2 0.007416 Q g 0.2516	0.76	4.20E-14 <2e-16 n.r.	0.07528 0.006893 0.2231	0.102 0.008 0.28	54.9	271.4

Best fit model highlighted in bold

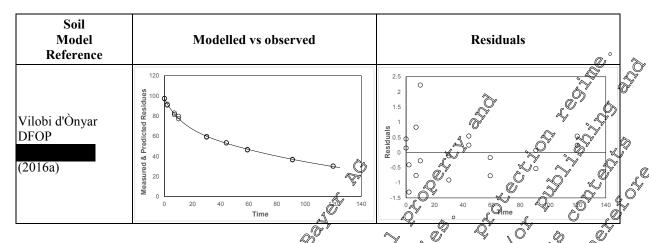


A graphical representation of the final kinetic fit is shown below.

Table 7.1.2.1.1-37: Degradation of fluopicolide under aerobic conditions at 20 °C (best-fit DT₅₀ values for trigger endpoints)







G: Time-Dependent Sorption

The sorption of fluoricolide in soil increased steadily with time. Apparent sorption coefficients increased from DAT-0 to DAT-120 in all six soils. The value are summarised in Table 7.1.2

Apparent so ption coefficients (Kd, app) expressed a mL/g) Table 7.1.2.1.1- 38:

			O' <u>`</u>				- 🖒
	Mean	H	Great "O"	Parcey	Mas du Orq	Albaro	" «Vilobi
DAT	SD		Chistoill	A Meslay		Marconicini	്∀d'Ònyar
0	Mean	2.87 🗳 ^v	ر 6.57 م	4.89	L, 2.62	\$\times 4.66	3.46
U	SD	± 0.00	O ± 0.00	± 0,00°	± 0,00 ×	± 0.01	± 0.00
2	Mean	3.34	\ 7.5Š	° 6013 6	³ €3.32	ž 3 23	3.90
2	SD	₹ 0.00 %	0.01	2 0.03	₹ 3.32 ⊕ 0.00	£ 0.01	± 0.02
7	Mean	4.20	8.175	~ 6.25°	© 3.92	ر 5.49	4.70
,	SD 💍	±\0.01 \(\(\)	# 0.00 ×	±0.01	± © .02	± 0.02	± 0.00
10	Mean	A.12 _{.0}	7.96¢	№ 6.91 🏷	3.86	5.52	4.78
10	ŞD	© ± 0.01		± 0.00°	± 0:00	± 0.00	± 0.01
30	Mean	<i>5.</i> 21	J 10038	8,83	/5,52	6.55	5.89
30	SD	$\sqrt[4]{0.03}$	± 0.01	Q 0.01 V	°≠ 0.01	± 0.01	± 0.01
44	Mean	\$ 5.92	11:38	9.7 4	6.05	7.19	6.47
44	SD 🦃	() V V V V	±0.01 ×	±0.00 \$	± 0.00	± 0.01	± 0.01
69	Me	Ö.26 Ö	\$\text{92.37} \tilde{\pi}	, Oğ.90 <i>O</i>	6.36	7.48	6.77
	«SD	± 0.00	± 0,00°	\$\times 0 \tag{90}	± 0.00	± 0.02	± 0.02
91	Mean	7 41	1290	<u>,</u> 1⁴ 4.21	7.61	8.00	8.12
*	SD	₹0.02	≠ 0.04 √	, \$\sqrt{0.03}	± 0.03	± 0.02	± 0.01
120	Mean	√ 8.26 √ 3	15.000	\$ 11.14	8.16	9.00	8.55
	$SD_{\mathcal{Q}_{\mathcal{I}}}$	± 0.01	±00.02 ×	± 0.02	± 0.03	± 0.05	± 0.01
Facto	or ^A	<u> </u>	₹2.28	2.28	3.12	1.93	2.47
Mean I	Factor			2.4	49		

Apparent Sorption Crefficients (Kd and are called Time-Dependent Sorption Ratios (R_{TDS}) in the report. A Calculated as K Dpp DAT-120 directed by Kd, app DAT-0

The results are more fully discussed under Section 7.1.3.2 (see KCA 7.1.3.2/04).



III. Conclusion

Fluopicolide was well to moderately degraded and mineralized in six European field soils; H , Great Chishill, Parcey Meslay, Mas du Coq, Albaro and Vilobi d'Onyar, under aerobic conditions at 20°C in the dark. Best fit DT₅₀ values ranged from 54.7 to 251 days in the tested soils. Re evaluated best fit DT₅₀ values were similar, ranging from 54.9 to 250.7 days.

The primary objective of the study was to investigate the sorption of fluopicolide, determined under equilibrium conditions, following its aging in soil under aerobic conditions in the dark under laboratory conditions. The time-dependent sorption ratio increased throughout the increased throughout the increased (120 days) by a factor of 1.93 to 3.12 in the six soils tested.

Formation of carbon dioxide was significant (up to 46% AR) by the end of the study indicating the potential for complete mineralization of fluopiconde and its degradation products. One major degradation product, M-01 (AE C653711), was identified with a maximum of \$3.0% AR.

Formation of non-extractable residues (NER) was up udy End, which is an indication for biotic degradation of fluopicolide.

Assessment and conclusion by applicant:

The study was conducted in accordance with OECD 307(2002) US EPA 835(100/885.4200 (2008) and in parts, where relevant, to OPCD 106 (2000). The study is considered alid to assess the aerobic degradation of [phenyl-U-14C] fluopicolide in soil.

to assess the overlood and Encette assessment of the same of the s The study has been designed so that it is ralid to assess the changes in sorption of fluopicolide with time in accordance with guidance provided by food and Environment Research Agency (2019) on conducting aged sorption studies. A kinetic assessment of the time dependent sorption (TDS)



Data Point:	KCA 7.1.2.1.1/09
Report Author:	
Report Year:	2019
Report Title:	[phenyl-UL-14C]fluopicolide: Degradation and time - Dependent sorption in
	soils
Report No:	EnSa-16-0983
Document No:	<u>M-655056-01-1</u>
Guideline(s) followed in	- OECD Test Guideline 307 (April, 2002)
study:	- US EPA OCSPP Test Guideline No. 835.4100 / 835.4200
	- OECD Test Guideline No. 106 (Canuary, 2000; of y in parts)
	- Guidance on how aged sorption studies for pesterides should be conducted,
	analysed and used in the regulatory process; Food and Environmental Agency
	York, UK, 2012
Deviations from current	none Q Q Q Q Q
test guideline:	
Previous evaluation:	No, not previously submitted of the state of
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities with the second seco
recognised testing	
facilities:	
Acceptability/Reliability:	Yes O O O O O O O O O O O O O O O O O O O

Executive Summary

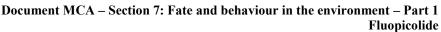
The degradation and time-dependence of sorption of fluoricolide was studied in six soils under aerobic conditions in the laboratory in the dark at 20 ± 1 °C and 53.9% of the maximum water holding capacity for 120 days, with the exception of Lignieres soil which was unintentionally incurated at a soil moisture content equivalent to 72.9% of the maximum water holding capacity. In addition, the rate of degradation of fluoricolide was determined in the study.

Texture (USDA) pH (QCl ₂)	% Organic Carbon
Lamberton loam S S.6	2.6
Sarotti Sussilty Say loan 6.9 0	1.4
Münster	1.2
Pikeville JoanyQand J 4.5	1.8
Abington sandy loan 7.3	2.6
Lignieres andy loam 5.7	0.8

[Phenyl-10-4C]-labelle@fluopicolide was applied to soil samples at an application rate of ca. 0.41 mg/kg dry weight. The radio hemical purity and specific activity were > 98% and 5.50 MBq/mg, respectively.

Samples of Lamberton and Munster soils were taken for extraction and analysis immediately after treatment (day wand 2, 8, 13, 30, 44, 66, 90 and 119 days of incubation and samples of Sarotti, Pikeville, Abington and Lignieres soils after 0, 2, 8, 10, 28, 45, 59, 85 (86, Lignieres soil) and 120 days of incubation, Soil samples were first desorbed with 0.01M calcium chloride solution for 24 hours at 20 °C at a soil; solution ratio of 13 (w/w) to determine the desorbable portion of the test item from aged soil. The soil assidue was then exhaustively extracted with three further successive extractions with acetoutrile/water 47 (v/v) at ambient temperature, followed by a microwave extraction with acetoutrile water (4/1, 4v) at 70 °C. Desorption supernatants and concentrated soil extracts were analysed by reverse phase high performance liquid chromatography (HPLC).

Recovery of radioactivity was quantitative throughout the study. Overall mean mass balances were 95.4% AR for Lamberton soil, 98.6% AR for Sarotti soil, 96.9% AR for Münster soil, 98.5% AR for Pikeville soil, 97.5% AR for Abington soil and 98.8% AR for Lignieres soil.





Desorbable residues in aqueous 0.01 M calcium chloride solution were 16.8, 26.3, 35.9, 17.3, 26.5 and 35.7% AR in Lamberton, Sarotti, Münster, Pikeville, Abington and Lignieres soils, respectively by the end of the study (DAT-119/120). Total extractable residues (i.e. residues desorbed by aqueous 0.01 M CaCl2 solution and residues in organic soil extracts) decreased from DAT-0 to DAT-119/120 from 0.2 to 80.2% AR in Lamberton soil, from 96.4 to 79.6% AR in Sarotti soil, from 95.4 to 86.8% AR in Münster soil, from 96.1 to 80.6% AR in Pikeville soil, from 94.3 to 78.3% AR in Abington soil and from 101.0 to 84.9% AR in Lignieres soil.

Non-extractable residues (NER) increased from DAT-0 to DAT-119/120 from 3.8 to 3.3% AR in Lamberton soil, from 3.6 to 13.4% AR in Sarotti soil, from 0.8 to 6.5% AR in Münster soil, from 1.7% 13.4% AR in Pikeville soil, from 2.6 to 10.2% AR in Abington soil and from 1.4 to 8.9% AR in Ligarieres soil.

The maximum amount of carbon dioxide formed was 3.2, 5.3, 3.8, 3.7, 8% and 4.3% AR in the six softs by the end of the study (DAT-120). No significant levels of organic volatiles were observed (<0.4% AR).

After 119/120 days incubation at 20 °C, fluopicolide degraded to \$2.2, 541, 50.4, 47.9 45.9 and 50.1% of the applied radioactivity in the six soils. M. 01 (AF C653711) was also observed in all soils, increasing steadily to maxima of 24.8, \$4.7, 22.8, 285 and 34.8% AR by the end of the study DAT-119/120) in Lamberton, Münster, Pikeville, Abington and Lignieres soils. In Sarotti soil M-01 reached a maximum of 23.4% AR at DAT-85 before declining slightly to 21.1% AR by the end of the study. M-03 was observed in Pikeville soil only at a maximum of 6.6% AR at DAT-85 before declining slightly to 5.2% AR by DAT-120. M201 and M-03 were identified by LC/MS/MS after isolation from concentrated extracts. No other unidentified degradation products exceeded 3.3% AR.

The effect of aged sorption to soil was determined for fluopicolide and showed a significant increase with time. Apparent sorption coefficients (K_d, sp_p) increased with time in all soils by a factor of 1.62 to 2.53 (mean 2.22). Further details specific to the aged sorption of fluopicolide are provided in Section 7.1.3.2.

Degradation kinetics for Diopiconde provided in the report were conducted in accordance with FOCUS guidance document or degradation kinetics 2014). The best-fit DT₅₀ values were 149, 131, 135, 114, 116 and 117 days in Lamberton, Sarotti, Münster Pikeville, Abrigton and Lignieres soils, respectively. A re-evaluation of the degradation kinetics resulted for similar best-fit un-normalised DT₅₀ values of 119.2 to 158.3 days.

CUSDA texture Best Fit Gunetic Model Lamberton (losen) DPOP Sarotti (silty clay loam) DFOP	ODT56 (days)	DT90 (days)	Chi ² Error (%)	Visual Assessment
Lamberton (lossin)	149	597	1.6	Good
Sarotti (silty clay loam) OFOPO	2 131	515	1.4	Good
	135	524	0.7	Good
Pikeville (loamy sand)	114	480	1.4	Good
Abington (sandy loam) S OFOR	116	451	1.3	Good
Lignieres (sandy loam) DFOP	117	453	1.5	Good
Münster (bamy sand) Pikeville (loamy sand) Abrigton (sandy loam) Lignieres (sandy loam) DFOP DFOP DFOP				



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2. Test Soils

The study was performed using six soils from agricultural areas as characterized in Table 7.1.2.1.1-39. Five of these soils were collected from the same sites as earlier laboratory aerobic soil studies (Lamberton, Sarotti, Münster, Pikeville and Abington soils) and one soil was from a terrestrial field dissipation site used for fluopicolide and its metabolite M-01 (Lignieres soil). The same batches of all six soils were also used in OECD 106 adsorption desorption studies (see CA 7.3.3.1.1/05).

Physico-chemical properties of test soils Table 7.1.2.1.1- 39:

	<i>&</i> .		, 7 ~
Parameter		Soft	
Soil Designation	Lamberton	Sarotti	Münster C
Soil ID	LB 💆	SR2 .	MS O
Geographic Location		~ ° ° ° ° °	O O
City	Lamberton, ° Minnesota, °	Thattersheim@	Münster, Northrine-
		V Hesse	Westfalia
Country	USA	Germany	Germany
Batch Number	100476-S	20/6/109	20161014
Textural Classification (USDA)	V Z Zoam Z	Silt Oclay koam	Loamy sond
Sand [50 - 2000 μm] (%)	515 5	7 145 S	78
Sand $[50 - 2000 \mu\text{m}]$ (%) $[50 + 2000 \mu\text{m}]$ (%) Silt $[2 - 50 \mu\text{m}]$ (%)		54 C 5 32 5 5	\$\tag{2}^0
Clay [< 2 μm]	√ °21 √	7 32 F	P & 1
pH 🗸 🛴	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
in CaCl ₂ (1:1)			5.6
in H_2O (1:1)	5.70	7.0	6.0
Saturated paste	5.70		6.0
in KCl (1:1)		Q, 0,4 ×	5.4
Organic Matter (%)	✓ ×4.5 ×	② √ 2.4 √	2.1
Organic Carbon (%)		1.4	1.2
Cation Exchange Capacity (meq/100 g)	2007	O 16/2	6.6
Water Holding Capacity 📞 💢			
Maximum (g H ₂ O per 900 g DW)	59.6	⁷	32.9
at 1/10 bar (%)	2 ² 42 ² 42	35.1	27.4
Moisture Content During Incubation	53,9% MWIPC 6	53.9% MWHC	53.9% MWHC
Bulk Density disturbed, g/cp 3	1AD9	1.08	1.37
Soil Microbial Biomass (µg/microbial	BIO BIO+	BIO- BIO+	BIO- BIO+
			• • • •
Initial (Day 0)	468	447	204
Mig (Day 60)	© 377 × 424	458 461	114 136
Final (Day 120)	342 324	370 371	116 124

BIO* samples were untreated BIO* samples were treated with 00 µL of methapol/water (1:1 v/v)



Parameter		Soil	
Soil Designation	Pikeville	Abington	Lignieres
Soil ID	PV	AB2	LN &
Geographic Location			Ž
City	Pikeville, North	Abington,	Dignieres de Touraines
	Carolina	Cambridgeshire	Indre-et 1≥oire 🎺
Country	USA	UK 🐧	France ~
Batch Number	100516-S	16/069	20160912
Textural Classification (USDA)	Loamy sand	Sandy lown	Sandy Jam
Sand [50 - 2000 μm] (%)	73	60°	
Silt $[2 - 50 \mu m]$ (%)	26	2 0	() 16 C
Clay [$< 2 \mu m$] (%)	1	14 000	
pH	W. O°		
in CaCl ₂ (1:1)	Ã.5 , Q°	7.3	5.7
in H ₂ O (1:1)	A 4.90° ~	7.4 Q	6.00
Saturated paste	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		6.0
in KCl (1:1)	4.3	\$ P.O \$	\$5.2 O
Organic Matter (%) *	3.1	y ~ \$\tag{4.5} \tag{5}	1.40
Organic Carbon (%)	& B 3	2.6	E 98
Cation Exchange Capacity (meq/100 g)	6.0		%11.8 0
Water Holding Capacity	\$ \$\text{\$\tilde{\pi}\$} \text{\$\tilde{\pi}\$}		, Q
Maximum (g H ₂ O per 100 g DW)	Q 44.5 %	\$ 59.7 D	41.6
at 1/10 bar (%)	O _{31.0}	20.3%	20.3
Moisture Content During Incubation (%)	3.9% NWHC5	\$3.9% MWHC	72.9% MWHC
Bulk Density (disturbed g/cm³)	1 20 %	N 11 V	1.25
Soil Microbia Biomas (µg, mcrobial	BIO- BIO+	PGO @BIO+	BIO- BIO+
C/g soil)			
Initial (Day 0)	© 182 💸 🔅	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	284
Mid (Day 60)	194 × 186,	1059 1035	188 180
Final (Day 120)	132 2 136	840 849	116 129
RIO samples were entreated	W Zi	<u>' O</u>	1

BIO samples were entreated

BIO+ samples were treated with 400 µL of methan water (1) v/v)

B. Study Design

1. Experimental Conditions

Tests were performed in static systems consisting of an Erlenmeyer flask containing 100 g soil (dry weight equivalents) fitted with a trop attachment (permeable for oxygen) containing soda lime for absorption of carbon dioxide and a polyurethane foam plug for adsorption of volatile organic compounds.

The test were performed at a concentration of 0.399 mg/kg dry weight of soil to Lignieres soil, 0.41 mg/kg DW to Lignieres and Münster soils, and 0.42 mg/kg DW to Abington, Pikeville and Sarotti soils. The test item [phenyl-U- 14 C]-fluopicolide dissolved in methanol/water (1:1, v/v) (400 μ L) was applied thop wise onto the soil surface. Samples from five soils (Lamberton, Sarotti, Münster, Pikeville, Abington) were adjusted to a moisture content equivalent to 53.9% of maximum water holding capacity, three to four days prior to application. Samples Lignieres soil were unintentionally incubated at a mean soil moisture content equivalent to 72.9% of the maximum water holding capacity. This does not appear



to have had an impact of the degradation of fluopicolide. All samples were incubated at 20 ± 1 °C under aerobic conditions in the dark for 120 days. Soil moisture was maintained during incubation by addition of de-ionized water after 30, 60 and 90 days of incubation. No significant losses of moisture were observed throughout the study.

2. Sampling

Duplicate samples of Lamberton and Münster soils were removed for analysis after 0, 2, 8, 13, 30, 44, 56, 90 and 119 days of incubation and duplicate samples of Sarotti, Pikeville, Abington and Dignieres soils after 0, 2, 8, 10, 28, 45, 59, 85 (86, Lignieres soil) and 120 days of incubation. Microbial soil biomass samples were analysed at the start, midpoint and end of the experiment day 0, Day 67 and Day 120).

3. Analytical Procedures

Soil samples were first shaken with 0.01M calcount chloride solution for 24 hour at 20 °C or an overhead shaker at 30 rpm to determine the deso bable portion of the test item from aged soil. A soil-to-solution ratio of 1:3 was used for all soils. Soil samples were then extracted three times with acetonitrile/water (4/1, v/v) at ambient temperature followed by a microwave extraction with acetonitrile/water (4/1, v/v) at 70 °C. After each extraction step, extract and soil were separated by centrifugation.

Radioactivity in extracts was determined by liquid schitillation coming (LSC). Desorption supernatants were analysed directly by HPLC with radiodetection. Ambient and microwave soil extracts were pooled and concentrated prior to analysis by HPLC. The concentration procedure for soil extracts was established as quantitative (recovery 97.1 to 103.6%). HPLC column recovery was also quantitative (recovery 104.1%). The maximum HPLC LQD was determined as 1.6% AR. The primary chromatographic method for analysis of soil extracts was a reverse phase C18 HPLC method. Selected extracts were analysed by a second confirmatory pheast-hexylphase HPLC method. Selected desorption supernatant and ambient soil extracts were concentrated and codiopeaks corresponding to the two degradation products solated, prior to analysis by LC/MS/MS for identification of M-01 and M-03.

With the exception of the time zero samples, trap attachments were removed for analysis at each sampling time. Soda lime from the trap attachment was transferred into an Erlenmeyer flask, aqueous hydrochloric acid (18%) added dropwise and any interacted carbon dioxide collected in trapping vessels containing scintillation cocktail. The polyurethane foam plug was extracted with ethyl acetate to desorb any volatile organic compounds. The adioactivity content of these samples was determined by LSC.

Following homogenisation fron-extractable residues (NER) in extracted soils were determined by combustion.

4. Determination of degradation kinetics

The degradation kinetics determined in the report were evaluated according to the FOCUS guidance document on degradation kinetics using the software KinGUI 2. The degradation of fluopicolide was best described by the doubte first order in parallel (DFOP) model in all soils based on lowest chi² error values and visual assessments of fits.

Additionally, modelling endpoints for the degradation of fluopicolide, M-01 and M-03 have been recalculated from the reported data following the recommendations of the FOCUS work group using the software Kangui (version 2.1) along with all other aerobic soil data relied on. Full details are provided in Document KCA 7.1.2.1.1/10 (M-685680-01-1). A brief summary of the approach for trigger endpoints is provided below.



To derive trigger endpoints, an initial comparison was performed for each soil between the SFO and FOMC fits for fluopicolide. For all six soils, this comparison indicated a bi-phasic pattern in the fluopicolide residues, and the DFOP model was therefore also fitted. The DFOP model provided the best visual fit to the fluopicolide residues for all of the soils, with the lowest χ^2 err% value.

Metabolite optimisations were performed using the best-fit model for the applied compound and the SFO model for metabolites.

II. Results and Discussion

A. Data

The distribution and characterisation of radioactivity for the test soils incubated at 20 °C following application of [phenyl-U-14C]- fluopicolide are summarized in Table 7.2.1.2.40 to Table 7.1.2.41-45

Table 7.1.2.1.1- 40: Degradation of [phenQ-U-14Q]-fluopicolide in Lamberton soil under aerobic conditions at 20 °C 1% AR

C 1	1.6		T.		×	 		* 		
Compound	Mean		- Ö		dricuba	tion time			\sim	
	SD	0	$\sqrt{2}$ $\sqrt{2}$	× 8	13	376	A A	3 6	Ø 90	[©] 119
Fluopicolide	Mean	88.0 🔏	× 84.20	79.Î	77.5	269 .2	3 66.9	66.7\$	58ZJ	52.2
	SD	± 0.3	± 0 24	₽ 1.1	2 0.1	5± 1.10) ± Q.	±002	± 0.3	± 0.3
M-01 (AE C653711)	Mean	₹ DOD	°~~2.3	5.0 °C	6.34	105	11.8	Фб.0 ₍	22.9	24.8
	SD	*	, ± 0.20°	± 0.4	±20.5	≜ ⁄1.3	>± 0.4	0.4 ± 0.4	± 1.0	± 1.2
M-03 (AE 0608000)	Mean	n.d.	ncol."	₹Ø.d.	Çn.d.	,≪ LOĐŴ	< LOO	< [20]	< LOD	< LOD
	,SP		Ö (W _y	4			
ROI 2	Mean	PLOD	< LOD	n	Md.	n.d.	⊙n.d. ∢	n.d.	n.d.	n.d.
S	SD			~	% 0		w			
Sum of Unid./Diff.	Mean	ñ∕d.	n.d.	y n.d. 🎸	n.d.	n d.	≪DÖD	n.d.	n.d.	2.1
Residues A	ŞSD 🐇					V	W			
CaCl ₂ solution	Mean	15.9	13,0	Ž Ž.4	©11.9 _@	, 11.3	11.6	13.1	14.0	16.8
CaC12 Soyution	SD	9 7.3	© 0.2	0.2	0.3		0.3	0.6	0.3	0.1
Ambient Extract	Mean	¥70.0¢	667	64.4	€63.1	3 7.8	56.0	59.1	58.5	48.4
Amoient Extract	SD	0	ÓM	€ 1.3	©″1.7 _⊘	0.2	0.6	0.4	0.8	0.4
Microwave	Mean	3 7.8	.@7.6 %	7.4	8.9	11.1	11.8	11.6	10.6	15.0
Extract ~	O'SD	0.2	0.46	0:1	0.9	0.3	0.1	0.4	0.4	0.3
Total Extractable	Mean	820"	865	% 4.1	©83.8	79.7	78.7	82.7	81.6	79.1
Residues	, ŠD	1.5	$^{Q'}_{0.2}$	± 1.5	± 0.6	± 0.2	± 0.6	± 0.6	± 0.7	± 0.6
Carbon Dioxide	Mean_	n.a.	0.7	1.6	1.8	2.2	2.5	2.5	3.0	3.2
**	SD		±0€0	0.0	± 0.0	± 0.0	± 0.0	± 0.1	± 0.0	± 0.0
Volatile Organi	Mean	An.a.	& 0.1 ₀	∀ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Compounds	⇒SD €		± 0,0 °	± 0.0	± 0.0	± 0.0	± 0.0	± 0.0	± 0.0	± 0.0
Non-Extractable	Meg	3.8	~ Q 9	8.4	9.9	11.4	12.4	10.4	11.6	13.3
Residues V	$\int_{A} SD$	⊕0.2	± 0.8	± 1.2	± 0.3	± 0.6	± 0.7	± 0.5	± 0.1	± 0.6
Total Recovery	Mean	§ 92.9	95.1	94.2	95.5	93.4	93.6	95.6	96.1	95.6
	SD	± 1.6	± 0.7	± 0.4	± 0.3	± 0.4	± 1.2	± 0.0	± 0.6	± 0.1

n.d.: not desected, n.a.: not analysed, DAT: days after treatment, SD: standard deviation

All values expressed as percentage of total applied radiolabel

A Sum of minor unidentified components and diffuse residues.



Table 7.1.2.1.1-41: Degradation of [phenyl-U-14C]-fluopicolide in Sarotti soil under aerobic conditions at 20 °C [% AR]

Compound	Mean				Incuba	tion time	(DAT)			
	SD	0	2	8	10	28	45	59	85	1 20
Fluopicolide	Mean	93.4	90.5	83.7	83.2	77.0	73.1	© 6.7	58.1	54.16
	SD	± 1.4	± 0.5	± 1.3	± 1.5	± 1.4	± 0.7 %	$^{2}\pm 0.3$	± 1.7	±0.4
M-01 (AE C653711)	Mean	2.1	4.2	5.9	7.9	11.4	15.	16.9	3 .4	2 1.1
	SD	± 0.1	± 0.5	± 0.7	± 0.7	± 0.1	±0.1	± 0.2	€¥ 0.4	± 1.00
M-03 (AE 0608000)	Mean	n.d.	n.d.	n.d.	n.d.	n.d.	Q n.d.	n.d	n.aQ"	rKd.
	SD				Ž Ž	4	, ·		Q,	
ROI 2	Mean	< LOD	n.d.	n.d.	n.d.	n.a.♥	ø₃å.	Q ^M .d.	∜ n.d. ֱ	n.d.
	SD			20	0		W Y	1		
Sum of Unid./Diff.	Mean	n.d.	n.d.	ow.d.	n.d.	n.d.	n.đ.	nca.	2.5	4.3
Residues ^A	SD		4				8	"O"	± 0.9	$\Rightarrow \pm 0$
CaCl ₂ solution	Mean	39.7	35,7	33.2	32.4	30.0	♣ ,29.3 ੴ	26.6	31.	26.4
CaC12 Solution	SD	0.4	Ø ,2	~ % 0.6 ∫	0.8	0.10	0.3	9 Q*	29 .5	0.7
Ambient Extract	Mean	54.2	∂ \$6.6 &	752, 1Ç	5 <i>5</i> ,\$	5208	\$ 4.6	3 0.9	46.1	46.4
Ambient Extract	SD	0.4	0.3	0.2	0.0	1 .4	0.5 Č	0.5	0.2	0.2
Microwave	Mean	269	£2,5	% 4.3	© 3.1 @	4.7%	4%	,OŽ	₍₂₎ 6.6	6.9
Extract	SD	Ø.1	°70.1	0.1	0.0	00	Ø9.0	0.4	O 4	0.1
Total Extractable	Mean	96.4	94.	896	90 7.1	88.4	\$88.6°	83.60	84.0	79.6
Residues	SĎ≫	±.0.7	±0.0	2 0.6	\$± 0.7€	*± 1.5	± Q.8	±0 .0	± 0.4	± 0.9
Carbon Dioxide	Mean	Ar.a.	2 1.0	1.70	172	24	£2.8	×2.0	4.0	5.3
	SD .		±0\$	±.01	±50.0	± 0.0	$\mathbb{O}_{\pm}^{\pm}0.0$ (± 1.3	± 0.0	± 0.1
Volatile Organic	Mean	n.a.	₹0.1	≫ 0.1 %	Q 0.1.	< 0.1	< QY	< 0.1	< 0.1	< 0.1
Compounds	(Sa)	~	\$± 0.0 €	± 0.0	±.0.0	±0.0	≨ 0.0	± 0.0	± 0.0	± 0.0
	Mean≼	3.6	4.7	~5.9	₽ \$7.5	©7.4	₾ 8.7	10.2	11.2	13.4
Residues	S ₁ D ₂	±×0,0	50 .1	2 0.0	± 0.00	± Q.40	± 0.2	± 0.0	± 0.1	± 0.1
Total Recovery	Mean	3 00.0	100.4	97.6	984	§9 <u>®</u> .2	100.1	95.8	99.1	98.3
~ Y ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	SD	± 0.2	± 00	±0.75	% ,0.7	∆±1.1	± 0.6	± 1.3	± 0.3	± 0.9
n.d.: not detected, n.a.h	ot analys	ed, DWT:	days after	treatment,	SD: staring	ard deviati	ion	I		I.
All values expressed as I	percentag	e of total a	portied rac	liolabel 🗬	, Ş					
Sum of minor wordenti	tied comp	ponents an	a diffuse	esidues.	*					
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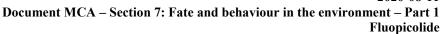




Table 7.1.2.1.1-42: Degradation of [phenyl-U-14C]-fluopicolide in Münster soil under aerobic conditions at 20 °C [% AR]

Compound	Mean				Incuba	tion time	(DAT)			
- P 0 00000	SD	0	2	8	13	30	44	56	90	1 9
Fluopicolide	Mean	90.9	91.4	83.3	80.3	74.1	69.5	6 6.6	59.2 @	50.4
	SD	± 0.2	± 0.3	± 1.4	± 1.3	± 0.3	± 0.6	± 0.5	± 0.6	±03
M-01 (AE C653711)	Mean	< LOD	3.3	6.7	12.1	16.4	20,0	22.7	28 .9	3 1.7
,	SD		± 0.4	± 0.2	± 0(24)	± 0.2	±0.3	± 0.6	Ž 0.5	± 0.20
M-03 (AE 0608000)	Mean	n.d.	n.d.	n.d.	n.d.	n.d.	Qn.d.	< LOD	< L(\$)	< KOD
	SD					C) _A		Q	
ROI 2	Mean	2.9	< LOD	< LOD	n.d.	n.d.	Øŋď.	M.d.	∜ n.d.	n.d.
	SD	± 0.1		2 0	0			* 10		
Sum of Unid./Diff.	Mean	n.d.	< LOD	₩.d.	n.d.	n.d.	n.đ.	no.	n.d.	4.4
Residues A	SD		.4				80			$\Rightarrow 0$
CaCl ₂ solution	Mean	34.6	31,2	28.6	28.9	30.7	3 0.9 €	31.1	31.\$	36.0
CaC12 Solution	SD	± 0.3	± % .7	&°\$√0.4 ∫	@± 0.5	± 0.40	± Q.3	±20.3	2 0.4	0.6
Ambient Extract	Mean	59.4	€2.5 ½	760,2Ç	61.4	560	\$ \$.3	\$ 5.3 _k	© 53.8	46.4
Ambient Extract	SD	± 0.50	± 0.1	± 0.9	± 1.4	0.1	©± 0.1 €	=0.3	±.0.€	± 0.7
Microwave	Mean]\$5 *	2,0	% 1.8	\$\frac{2.2}{\infty}	P) 3.0%	3	± 0.0	& 4.0	4.4
Extract	SD	√ \$0.1	°¥ 0.1√	$\neq 0.2^{\circ}$	± 0.2	± Ø Ø	₽ 0.2	±0.0 €	$\bigcirc^{\text{y}} \pm 0.1$	± 0.1
Total Extractable	Mean	93.8	95,5	9000	92.4	90.5	89.4	89.2	88.1	86.4
Residues	SĎ≫	±.0.3	± 9 .1	1.2	\$\pmu 1.7\$	± 0.4	± Q.3	≠0 .1	± 0.2	± 0.1
Carbon Dioxide	Mean	Fr.a.	\$ 0.7 °	1.30	17	23	& 2.5	×2.5	3.2	3.8
	VSD .		±,0,6	±.03	\$0.1	$\mathbb{Z}^{\pm 0.0}$	O± 0.0 Å	$\ell \pm 0.0$	± 0.0	± 0.0
Volatile Organic	Mem	n.a.	*0 .1	≫ 0.1 %	0.1	< 0	<04	< 0.1	< 0.1	< 0.1
Compounds	(Sa)		\$± 0.0€	ψ ± 0.0	±0.0	±0.0	¥ 0.0	± 0.0	± 0.0	± 0.0
Non-Extractable	Mean≼) 0.8 ()	2.0	,3 <u>0</u>	S v. 1	O3.6	2 4.3	4.6	5.4	6.5
Residues	SD	± 0 0	50 .1	€0.2	± 0.1@	± 0.00	± 0.1	± 0.0	± 0.2	± 0.2
Total Recovery	Mean	3 4.6	\$ 98.1	94.5	97/2	<u>\$</u> 96.4	96.3	96.3	97.6	96.7
2	SD (#± 0.3	± 00	±1,3	4 ,1.7	△ ± 0.4	± 0.3	± 0.1	± 0.4	± 0.1
n.d.: not detected, n.a h All values expressed as p	ot analys	ed, DWT:	days after	treatment,	~	ard deviati	ion			
All values expressed as p A Sum of minor widenti	fied com	onents an	d diffus@	residue.	Ö					
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Document MCA - Section 7: Fate and behaviour in the environment - Part 1 Fluopicolide

		itions at		/						
Compound	Mean				Incuba	tion time	(DAT)			
	SD	0	2	8	10	28	45	59	85	¥20
Fluopicolide	Mean	93.3	93.4	80.0	79.6	72.7	68.1	© 1.1	56.4	47.85
	SD	± 0.2	± 0.4	± 0.7	± 0.6	± 0.6	± 1.3 ⁴	± 0.1	± 0.1	±,1,4
M-01 (AE C653711)	Mean	< LOD	< LOD	4.1	6.6	11.1	14.0	19.8	20 .5	\$22.8 ₄
	SD			± 0.3	± 100	± 0.1	±0.5	± 0.9	€¥ 0.5	$y \pm 0.5$
M-03 (AE 0608000)	Mean	< LOD	2.1	5.1	4.4	5.5	Q 6.3	3.6	620	\$2
	SD		± 0.2	± 0.1	€£ 0.8	± 0.20	± 0.5	±5.0	±Q).6	\$ 0.3 €
ROI 2	Mean	1.0	< LOD	n.d.	n.d.	n.đ.	₫ŋď.	M.d.	∜ n.d. ֱ	n.d.
	SD	± 0.0		Q ~	0				y II.d.	
Sum of Unid./Diff.	Mean	n.d.	n.d.	w.d.	n.d.	n.d.	n.đ.	12Cdr.	'n.d.	4.6
Residues ^A	SD		4				8	"O" ($\Rightarrow \pm 0$,8,°
CaCl ₂ solution	Mean	23.3	213	19.3	19.0	18.0	17.4 €	16.7	20.2	17.3
CaC ₁₂ solution	SD	± 0.1	± % .1	&°\$√0.6 ∫	<u>@</u> ± 0.5	± 0, 10	± Q.0	±0.5	2 0.4	0.7
Ambient Extract	Mean	70.3	6 ₹2.1 ¼	764 ₅ 2©	66.4	6456	4 7.4	3 6.9	© 51.6	49.7
Amolent Extract	SD	± 0.70	± 0.1	± 0.6	± 0.4	$\sqrt[3]{0.4}$	©± 1.2€	± 0.2	±.0.4	± 0.4
Microwave	Mean	266	23,47	8 5.9	\$ 5.3 @	P) 9.8%	98	1 0 9 ± 0.7	11.8	13.6
Extract	SD	2 €0.1	°¥ 0.0€	± 0.1	± 0.0	± Ø. ľ	₽ 0.2	€0.7	0.4	± 0.0
Total Extractable	Mean	95.1	96.6	8952	90 °.7	89.3	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	84.50	83.6	80.6
Residues	SĎ≫	±0.5	±@.2	1.1	\$± 0.8€	-	± 1.3	≠0.0	± 0.1	± 0.3
Carbon Dioxide	Mean	Ar.a.	\$0.4 €	P 1.70	1%	23	&2.6	2.8	3.2	3.7
	DSD_	TO S	± 0.6	±01	₹0.0	$\mathcal{Q}_{l}^{\pm}0.0$	$O_{\pm 0.1}$ $^{\circ}$	$\neq 0.0$	± 0.0	± 0.0
Volatile Organic	Men	n'a	≪ 0 .1	≫ 0.1 %	0.1	< 0	<0,4	0.1	< 0.1	< 0.1
Compounds	\$\dag{\partial}{p}		\$± 0.0€	± 0.0	±0.0	±0.0	≨ 0.0	± 0.0	± 0.0	± 0.0
	Mean≼	1.7	3.2	~25.88	6 .0	©6.8 _≼	© 9.3	10.8	11.6	13.4
Residues	S _P D _J	±02	60 .0	2 0.1	± 0.1@	$+ 0.40^{\circ}$	± 0.1	± 0.3	± 0.1	± 0.2
Total Recovery	Mean	6 .8	₹i00.3	96.7	984	. 9 ⊗ .4	100.4	98.1	98.4	97.6
, AC	$\int_{\mathbb{R}} \operatorname{SD} \mathcal{A}$	*± 0.6	± 00	±0.9	€ 0.9	奰0.1	± 1.5	± 0.3	± 0.0	± 0.5
n.d.: not detected, n.a. h	ot analys	ed, DWT:	days after	trestment,	SD: stand	ard deviat	ion			
All values expressed as particular of minor united as particular of Minor united as particular of the second as pa	geræntag fied comi	e ogstotal a ronents an	uppried rac el diffus©i	uolabel C residue	, Š					
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Table 7.1.2.1.1-43: Degradation of [phenyl-U-14C]-fluopicolide in Pikeville soil under aerobic

conditions at 20 °C [% AR]



Table 7.1.2.1.1-44: Degradation of [phenyl-U-14C]-fluopicolide in Abington soil under aerobic conditions at 20 °C [% AR]

Compound	Mean				Incuba	tion time	(DAT)			
1	SD	0	2	8	10	28	45	59	85	2 20
Fluopicolide	Mean	91.9	89.8	80.1	82.0	73.9	68.0	6 4.7	57.9 @	45.95
_	SD	± 0.3	± 0.9	± 0.1	± 0.8	± 1.1	± 0.6	$\hat{\ell} \pm 0.8$	± 0.5	±00
M-01 (AE C653711)	Mean	2.5	5.2	9.5	9.5	14.8	20,4	22.9	2 2.9	\$28.5 J
	SD	± 0.7	± 0.2	± 0.2	± 00%	± 0.3	±0.1	± 0.0 §	Ž¥ 0.&Ž	± 0.4
M-03 (AE 0608000)	Mean	n.d.	n.d.	n.d.	n.d.	n.d.	Qn.d.	n.d	n.aQ"	nKal.
	SD				Z D	4) *) -	Q	
ROI 2	Mean	n.d.	n.d.	n.d.	n.d.	n.a.♥	ø₃å.	QM.d.	∜ n.d.	n.d.
	SD			- Q~	0		W Y			
Sum of Unid./Diff.	Mean	n.d.	n.d.	ow.d.	n.d.	n.d.	n.đ.	ncar.	2.7	3.9
Residues ^A	SD		- 1			Ø'	8		± 0.2	* ± 0,0°
CaCl ₂ solution	Mean	24.7	24 🔊	24.2	24.2	24.9	♣ 26.3 ੴ	26.4	30:6	26.5
CaC12 Solution	SD	± 0.4	±00.1	°¥0.2 √	@± 0.1	$\neq 0.30$	± Q.)	±0.4	£ 0.3	6 20.3
Ambient Extract	Mean	67.6	€ 8.6 &	63,10	64.9	608	\$8 .7	3 7.4	© 49.4	47.6
Ambient Extract	SD	± 0.70	± 1.3°	± 0.1	± 0.1	0.5	©± 0.4 Ĉ	$y \pm 0.30$	±,0,3	± 0.3
Microwave	Mean	201	į.2,0	©2.4	\$ 2.4 _@	3.0	3.3	D	£ 3.5	4.3
Extract	SD	3 0.1	¥ 0.0	> ± 0.1	± 0.1	± Ø Ø	₽ 0.0	±0.2	$\bigcirc^{y} \pm 0.1$	± 0.0
Total Extractable	Mean	94.3	95.4	8976	99.4	88.7	×88.2×	87. ©	83.5	78.3
Residues	SĎ≫	±4.0	±\(\P\).1	0.1	\$± 0.2€	* ± 0.8	± 0.3	±00.7	± 0.5	± 0.6
Carbon Dioxide	Mean	Fr.a.	€0.9 °	1.50	220/	28	£3.6	√4 .2	5.7	8.1
	Z [*] SD	\$	±0	±204	\$0.0	$\mathbb{Z}^{\pm 0.0}$	$O_{\pm 0.1}^{\star}$	$\ell \pm 0.3$	± 0.0	± 0.1
Volatile Organic	Mea	n?av	, ≪0°.1	≫ 0.1 №	× 0.1	< 0		< 0.1	< 0.1	< 0.1
Compounds	(Sp)		± 0.00	$y'' \pm 0$	±0.0	±0.0	№ 0.0	± 0.0	± 0.0	± 0.0
Non-Extractable	Mean≼	2.6	3.5	.4.2	9 .2	O5.2	© 6.2	7.2	8.4	10.2
Residues	SD	±02	50 .0	2 0.0	± 0.00		± 0.1	± 0.2	± 0.0	± 0.0
Total Recovery	Mean	3 6.9	©99.5 □	95.3	976	<u>\$</u> 96.7	98.0	99.0	97.6	96.6
)SD 《	*± 0.9	± 10	±0.3	% 0.2	≇ 0.9	± 0.7	± 0.2	± 0.4	± 0.5
n.d.: not detected, n.a h All values expressed as p	ot analys	ed, DAT: (davs after	treatment,	~	ard deviat	ion			
As Sum of minor widenti	fied com	onents an	d diffus©r	esidue.	T					
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Table 7.1.2.1.1- 45: Degradation of [phenyl-U-14C]-fluopicolide in Lignieres soil under aerobic conditions at 20 °C [% AR]

Compound	Mean				Incuba	tion time	(DAT)			
	SD	0	2	8	10	30	45	59	86	7 20
Fluopicolide	Mean	96.3	92.3	85.0	86.5	76.0	74.4	6 9.2	58.1	50.16
	SD	± 0.5	± 1.9	± 0.4	± 1.0	± 0.9	± 0.5	± 2.1	± 0.7	±0.9
M-01 (AE C653711)	Mean	1.4	3.2	7.9	7.0	12.8	10,4	18.3	E E S .3	34.8
	SD	± 0.4	± 0.9	± 0.4	± 0.5	± 1.0	±0.1	± 3.0 §	Ű¥ 0. L Ű	$y \pm 0.2$
M-03 (AE 0608000)	Mean	n.d.	< LOD	< LOD	n.d.	< LOD 2	Qn.d.	n.d	n.aQ"	nkd.
	SD				Z W	4) *) -	Q,	rkd.
ROI 2	Mean	3.3	2.5	n.d.	n.d.	n.a∕	Øgd.	M.d.	∜ n.d. ֱ	n.d.
	SD	± 0.1	± 0.0	Q	0					
Sum of Unid./Diff.	Mean	n.d.	n.d.	yr.d.	n.d.	n.d.	n.đ.	ncar.	ñ.d.	m.d.
Residues ^A	SD		4				8	<i>©</i> ′	\$ 6	\$ 4°
CaCl ₂ solution	Mean	42.0	39,9	333	33.0	30.4		31.0	27.	35.8
CaC12 Solution	SD	± 0.6	±0)₹5	~°¥√0.7 _√	@# 0.2	$\neq 0.30^{\circ}$	± Q.5	±4.8	2 0.3	0.4
Ambient Extract	Mean	57.0	6 ₹7.4 %	₹55 ₅ 2©	57.5	5 4	3 4.5	\$ 1.4	© 46.3	43.9
Amorem Extract	SD	± 0.40	± 2.1	± 0.8	± 0.7	$\sqrt{0.0}$	©± 0.4 Ĉ	1 ± 0.3	±,0,4	± 0.6
Microwave	Mean	201	2,4	3.0 g	\$3.2 _@	4.1%	5	D	_{&} 7.5	5.3
Extract	SD	3 50.1	*\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	y ± 0.1 °€	± 0.1	± Ø Ø	₽ 0.4	±0.6	$\bigcirc^{\text{y}} \pm 0.2$	± 0.4
Total Extractable	Mean	101.6	99.6	9 2 ,8	99 .5	88.8	85.1	87.50	81.4	84.9
Residues	SĎ≫ຶ	±0.9	±3.6	0.0	\$± 0.4\$	*\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	± Q.7	±0 .9	± 0.6	± 0.7
Carbon Dioxide	Mean	Ta.a.	\$ 0.7 €	1.70	1%	23	& 2.4	≫3.0	3.7	4.5
	Ø SD ॄ	1 2 Y	±0.6	± 0 0	\$ 0.0	$\mathbb{Z}^{\pm 0.0}$	\mathcal{O}_{\pm} 0.0 $^{\circ}$	$/ \pm 0.1$	± 0.1	± 0.1
Volatile Organic	Mean	n.a.	*0 .1	≫ 0.1 %	× 0.1.9	< 0	< QY	< 0.1	< 0.1	< 0.1
Compounds	(Sa)		\$± 0.0@	± 0.0	±0.0	±0.0	≨ 0.0	± 0.0	± 0.0	± 0.0
	Mean∢	I Ca	2.5	.4.9	3 7.1	©7.5 _√	© 8.8	7.6	8.5	8.9
Residues	SD	± 0 0	30 .1	2 0.2	± 0.1@	± 0.40°	± 0.2	± 0.1	± 0.1	± 0.3
Total Recovery	Mean	002.4	102.8	98.6	992	. 9 ⊗ .6	96.3	98.1	93.6	98.3
	$\sum_{i}^{N} SD \mathcal{L}_{i}$	*± 0.9	± 30	±0.2	4 0.3	△ 0.1	± 0.6	± 0.8	± 0.4	± 0.4

n.d.: not detected, n.g. hot analysed, D&T: days after treatment, SD: standard deviation All values expressed as percentage of total arollied radiolabel.

^ Sum of minor widentifical components and diffusoresidue.

B. Material Balance

Meart mass balances were \$3.4% RR for Camberton soil (range from 93.8 to 97.5% AR), 98.6% AR for Sarotti soil (range from 95.8 to 100.4% AR) \$6.9% AR for Münster soil (range from 95.0 to 98.9% AR), 98.5% AP for Pikeville oil (range from 96.7 to 100.7% AR), 97.5% AR for Abington soil (range The results confirm there were no significant losses of radioactivity during sample processing.



C. Extractable and Non-Extractable Residues

Desorbable residues in aqueous 0.01 M CaCl₂ solution decreased from DAT-0 to DAT-119/120 from 39.7 to 26.3% AR in Sarotti soil, from 23.3 to 17.3% AR in Pikeville soil and from 42.0 to 35.7% AR in Lignieres soil. In the other soils, desorbable residues remained almost constant, amounting \$\sigma^15.5_0^6\$ and 16.8% AR (Lamberton soil), 34.6 and 35.9% AR (Münster soil) and 24.7 and 26.5% AR (Minster soil) soil) at DAT-0 and DAT-119/120, respectively.

Total extractable residues (i.e. residues desorbed by aqueous 0.01 M CaCl2 solution and residues in organic soil extracts) decreased from DAT-0 to DAT-119/120 from 90,246 80.2% AR in Lamberton soil, from 96.4 to 79.6% AR in Sarotti soil, from 95.4 to \$6.8% AR in Monster soil, from 96.2 to 80.6% AR in Pikeville soil, from 94.3 to 78.3% AR in Abington soil and from 01.0 to 84,9% AR in Lighteres

Non-extractable residues (NER) increased from PAT-0 to DAT-119/20 from 3.806 13.3% AR in Lamberton soil, from 3.6 to 13.4% AR in Sarotti soil, from 0.800 6.5% AR in Münster soil from 5.7 to 13.4% AR in Pikeville soil, from 2.6 to 10.2% AR in Abington soil and from 1.4 to 8.9% AR in Lignieres soil.

D. Volatile Radioactivity

The maximum amount of carbon dioxide formed was 3.2, 5.3 , 3.8, 3.78.1 and 4.5% AR in Camberton, Sarotti, Münster, Pikeville, Abington and Ligneres sons, respectively by the end of the study (DAT-119/120). Formation of volatile Grganic compounds (VOC) was in Quifficant with values of ≤ 0.1% AR at all timepoints in all soils.

E. Degradation of Parent Compound

The amount of fluor good in the stal soft extracts (i.e. in aqueous desorption solution and organic soil extracts) decreased from §8.0% at DAFO to \$2.2% by the end of the study in Lamberton soil, 93.4 to 54.1% AR in Sarotti spil, from 90.9 to 50.4% AR in Münster soit, from 93.3 to 47.9% AR in Pikeville soil, from 91. To 45. AR AR Abington soil and from 96.3 to 50.1% AR in Lignieres soil.

Degradation of fluopicolide was accompanied by the formation of two degradation products, M-01 (AE C655711) and M-93 (AE 0608069). M-01 was observed in all six soils and detected at a maximum of 34.8% AR in Lighteres soil at DAT-126 M-03 was observed in Pikeville soil only, at a maximum of 6.6% AR at DAT-\$\omega\$, exceeding \$\infty\$ AR at two onsecurive timepoints. M-01 and M-03 were identified by co-chromatography with analytical standards and by LC/MS/MS including accurate mass determination after isolation of the radiopeaks from soil desorption supernatants and extracts. The total Jay soil Comment of the state o unidentified residues amounted to a maximum of 4.6% AR and no single component exceeded 3.3%



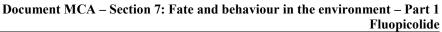
F. Degradation Kinetics

Reported DT₅₀ values of fluopicolide under aerobic conditions were 149, 131, 135, 114, 116 and 117 days in Lamberton, Sarotti, Münster, Pikeville, Abington and Lignieres soils, respectively. The experimental data was best described by a double first order in parallel (DFOP) kinetic model. Details are provided below in Table 7.1.2.1.1-46.

Table 7.1.2.1.1- 46: Reported degradation rate of fluopicolide under aerobic conditions at 20 °C (best-fit DT₅₀ values for trigger endpoints)

Soil	Kinetic model	M ₀	Parameter (k, k1, k2, g, tb, α, β)	X ² , %-error	Prob >t	Lower	Upper CL	DT5	DT&
Lamberton	DFOP	93.88	k1 0.513035 k2 0.003587 g 0.148002	1.6	0.0011 1.55e-11	0.175	% % %913674\	149 (597.©
Sarotti	DFOP	100.0	k1 5.259e-01 k2 4.189e-03 g 1.351e-01		78.00327 5.43412	7- 1:065g ₄ 01		131	515
Münster	DFOP	96.20	k1 2.085 £91 k2 4.13 £-03 g 1.28 £-01		000194 1.59e-1/3	(0) (0) (0) (0) (0)) - <u>(</u>) - (<u>)</u> - (<u>)</u> - (<u>)</u> - (<u>)</u>	435	\$24 0
Pikeville	DFOP	98.61	k1 Q197e-01 k2 4.400e-03 g 1.750e-01	~ ~	\$900323 \$4.69e-\$	1/2/3/5e-01	0.295	raja Sy O	480
Abington	DFOP	97.09	k1 4018e-0 k2 4.803 3 1.282e-01	1.5	0. % 0197 2.44e-13	1 ₆ 037e-01	0.1 5	116	451
Lignieres	DFOP	102.46	k1 5 6 10e-01 k2 787e 63 g 1.242 01	1.50	0.90767 2368e-127 - 9	9.349e-02	© 0.155	117	453

In addition, the experimental data for the degradation of fluopicolide, M-01 and M-03 has been reevaluated according to the FQC US guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUL (Version 2.1). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting DT₅₀ values for trigger endpoints for fluopicolide are summarised below in Table 7.1.2.1.1-47. Best fit kinetics are highlighted in bold. The results are very similar to reported best fit DT₅₀ values.





Re-evaluation of degradation rate of fluopicolide under aerobic Table 7.1.2.1.1- 47: conditions at 20 °C (DT₅₀ values for trigger endpoints)

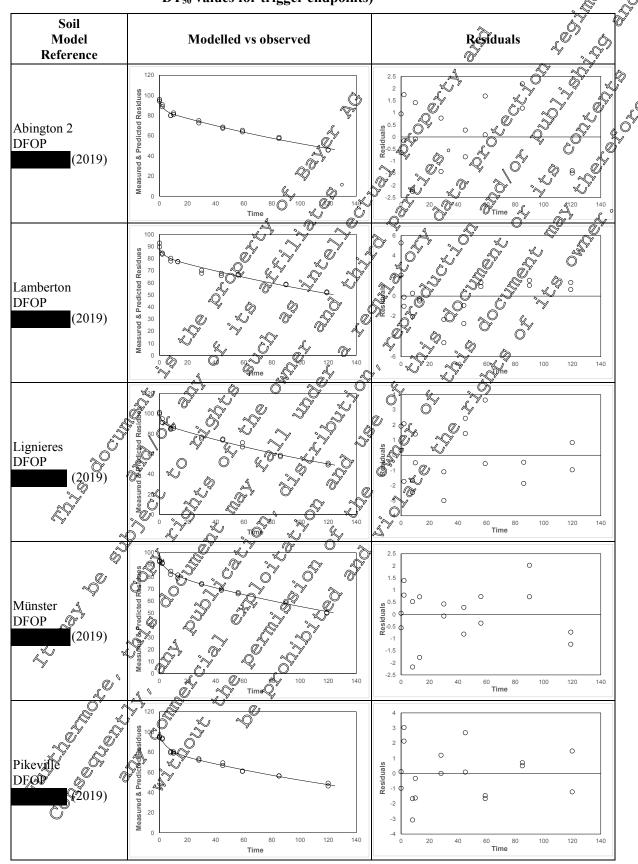
Soil	Kinetic model	M_0	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DF90 Jays]
	SFO	90.9	k 0.006245	3.81	1.46E-15	0.005376	9 .007	111 🖇	368
Abington 2,	FOMC	95.39	α 0.2186 β 9.099	3.94	n.r. n.r.	0.1563 2.889	0.281 15.31	205.6	20000
(2019)	DFOP	95.15	k1 0.3704 k2 0.004877 g 0.1058	1.41	9.000341 <2e-16 n.r.	0.1787 0.004513 0.08236	0.562 0.005 0.129	Q,	449.2
	SFO	84.39	k 0.004403	3-66	1.22E-1%	0.003681	0.905	4 57.4	[©] 522. ₽
Lamberton,	FOMC	86.65	α 0.3865 β 47.11 🐇	2.69	nr.	∙0.¥507 ×0.3272°	0.622\ 93.00	236.4	>19000
(2019)	DFOP	87.63	k1 0.2445 k2 0.003936 g 0.96748 ~		.0.0411∂ 25.19E-¶6 ் ந்கு.	-0.02224 0.00342 0.04309	~~~	0158.3	567,2
	SFO	93.62	k 09054317	3,35	%2/e-16 _√	0.004742	0.006	127.6	424
Lignieres,	FOMC	94.36	Oα 1.654 β 258.7	₹3.31 ×	n.r.O	-2.902 -406.4 (\$311 923.9	134.6	781.9
(2019)	DFOP	99,48	k1 0.4856 k2 0.004903 g 0.09175	1963	Ø21 ✓2e-16 n.r.√	0.03702 0.004464 0206356	0,934 0.005 ©0.12	21.7	450
	SFO 📡	₹90.46 [©]	k 0 00 5501	3.04	<2 e -16	0.00470	0.006	126	418.6
Münster,	FOMC	9\$39	g 0.2806 β 20.36	©18 %	On.r. & 7 n.r.O	0.2075 9.798	05354 30.91	220.3	>10000
(2019)	DFOP	93,27	k1 0 1305 k2 0.004075 %g 0.106	0:925	1.3 5 E-06 2e-16 n.r.	0.08613 0.003707 0.08059	0.175 0.004 0.131	142.6	537.6
	STO .	\$9.87	k 0.006034	\$ 4.41\$	1.026-15	9.00 5016	0.007	114.9	381.6
Pikeville,	FOM	9433	9 2662 3 13.52	2,96 	Øn.r. S n.r.	0.1778 3.257	0.355 23.79	169.2	>10000
(2019)	DFOP A	``\ * 95.5 8 \\	, k1 0 4673 k2 0 004466 g-0.1468	1.78	3.80£-05 <2e-16 n.r.	0.09185 0.003877 0.1097	0.243 0.005 0.184	119.7	480
Q	, SFO	€ 1.3 s₂	Û 0.005094	3.6	2.05E-14	0.004313	0.006	136.1	452
Sarotti 2	FOMC O	95.30	α 052553 <i>Q</i> βπ7.34 <i>Q</i>	2.9	n.r. n.r.	0.1582 3.332	0.352 31.34	244.6	>10000
(2019)	DISOP		k1 0.4303 k2 0.0043013 g Q1066	1.5	0.00375 <2e-16 n.r.	0.1361 0.003886 0.07785	0.724 0.005 0.135	135	509.2

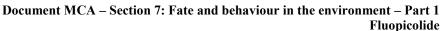
Best fit model highlighted in bold



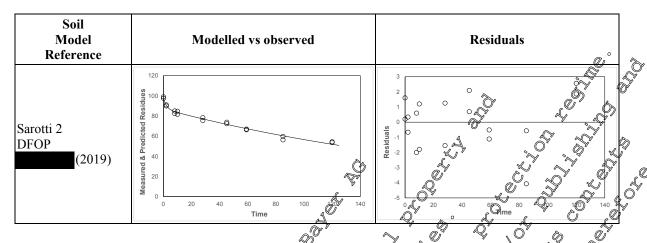
A graphical representation of the final kinetic fit is shown below.

Table 7.1.2.1.1- 48: Degradation of fluopicolide under aerobic conditions at 20 °C (best-fit DT₅₀ values for trigger endpoints)









G: Time-Dependent Sorption

The sorption of fluopicolide in soil increased steadily with time. Apparent increased from DAT-0 to DAT-120 in all six soils. The values are summarised in Table 7.1.2

Table 7.1.2.1.1-49: Apparent sorption coefficients (Kalop) (expressed as male)

		1.1					Ž6
DAT	Mean SD	Lamberton	Sarotti	Münster	Pikevilo	Abington	Lignieres
0	Mean	15.21	°4,05	50A7 L	7 9 25	® 46	4.29
	SD	± 0.01 📞 "	& ± 0.00		4 0.01 √	Ç# 0.01	± 0.00
2	Mean	17.99	O 4.95	\$ 6.A	\ \ 10\ .2 \	9.24	4.7
	SD	± 0.02 €	» ±30.02 €	\$ 9.01 0	¥ 0.02 €	± 0 0.04	± 0.00
8	Mean	\$18.16 ®	5.16 ₀	\$7.35\L	91.91	L) 9.84	5.49
	SD	± 0,00) ± 0,03° ×	± 0.03	± 0.02	$\mathcal{Q} = 0.07$	± 0.05
10/13	MeanĈ	1 1 93	(5.67 🥎	# # \$ \$ \$ \$ \$ \$	" 1 9 .87 "	10.06	5.97
	Si	Ç¥ 0.06♥	Q 0.04	©¥ 0.00℃	0.01	± 0.01	± 0.02
28/30	Mean	24,24	© 7. 03	8.5 3	15,62	11.28	7.43
20/30	Ş [™] SD	±0.01 \\$	≠9.02	±Ø.02	± ₹0.03	± 0.01	± 0.01
44/45	Mean	77.66	7.46°	8.9	₹¥19.27	11.91	6.82
77/73	SD	$\Rightarrow \pm 0.08$	0.00	© ± 0 ⊙ 7 ≥	± 0.01	± 0.02	± 0.03
56/59	Mean	25.85	* §32 ×	\$\frac{10.11}{2} = 0.05	20.2	13.19	8.32
	SE	Q.83 Q	%± 0.01	≥ 0.05 °	± 0.03	± 0.07	± 0.03
85/90	Mean	39.	9 448 (1204	24.52	12.36	12.2
	Ø [®] SD	<u></u> ±Ø.07 ⊘	±Ø.01	≠ 0.04	± 0.02	± 0.01	± 0.02
119/1/20	Mean	38.54	8.72	12.57	21.94	13.7	10.05
	SD	± 0,05	± 0:04	± 0.01	± 0.02	± 0.02	± 0.03
Facto		2.53	2 .15	2.30	2.37	1.62	2.34
Mean Factor 2.22							

Apparent Sorption Coefficients Kd, appl are called Time-Dependent Sorption Ratios (R_{TDS}) in the report. A Calculated as Kd, DAT-Q9/120 divided by Kd, app DAT-0

gare more fulls discussed under Section 7.1.3.2 (see KCA 7.1.3.2/05).



III. Conclusion

Fluopicolide was moderately degraded and mineralized in six tested soils; Lamberton, Sarotti, Münster, Pikeville, Abington and Lignieres, under aerobic conditions at 20°C in the dark. Reported best fit \$\infty\$T_{50}\$ values ranged from 114 to 149 days in the tested soils. Re-evaluated best fit DT50 values were very similar, ranging from 119.2 to 158.3 days.

The primary objective of the study was to investigate the sorption of fluopicolide, determined under equilibrium conditions, following its aging in soil under aerobic conditions in the dark under laboratory conditions. The time-dependent sorption ratio increased throughout the incubation period \$19/120 days) by a factor of 1.62 to 2.53 in the six soils tested.

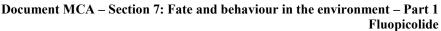
Formation of carbon dioxide was significant (up to \$41% AR) by the end of the study indicating the potential for complete mineralization of fluopicatide and its degradation products. One major degradation product, M-01 (AE C653711) was identified at a maximum of 34.8% OR. In addition a second degradation product M-03 (AE 0608000) was identified at a maximum of 65% AR, exceeding 5% AR at two consecutive timepoints.

Formation of non-extractable residues (NER) for biotic degradation of fluopicolide.

Assessment and conclusion by appricant:

The study was conducted in accordance with OECD 307 (2002), USEPA 835.4100 / 835.4200 (2008) and in parts, where relevant to OECD 106 (2000). The study is considered valid to assess the aerobic degradation of [phenyl-U-14C]-fluopicolide in soil.

as the change od and Environn assessment of the t. The study has been designed so that it is valid to assess the changes in sorption of fluopicolide with time in accordance with guidance provided by Food and Environment Research Agency (2019) on conducting aged sorption studies. A konetic assessment of the time dependent sorption (TDS)





Data Daint	V.C.A. 7.1.2.1.1/10
Data Point:	KCA 7.1.2.1.1/10
Report Author:	
Report Year:	2020
Report Title:	Fluopicolide (FLC) and metabolites - Kinetic evaluation of degradation behaviour
	in soil under aerobic laboratory conditions
Report No:	VC/19/041E
Document No:	<u>M-685680-01-1</u>
Guideline(s) followed in	not applicable
study:	
Deviations from current	None & & &
test guideline:	
Previous evaluation:	No, not previously submitted &
GLP/Officially	No, not conducted under GP/Officially recognised testing facilities
recognised testing	No, not conducted under GCP/Officially recognised testing facilities
facilities:	
Acceptability/Reliability:	Yes O W W W A A A

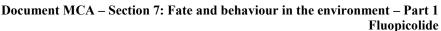
Executive Summary

The route and rate of degradation of Paopic onde and its metabolites under laboratory perobic conditions has been investigated in a total of nineteen studies (KCA 7.D1.1/06 M-24/049-07-1, KCA 7.1.1.1/02, M-201230-02-1, 2003 KCA 21.2.1 001, M-24102-01-0 2003a; 2003c; KCA 2003b; KCA 9.1.2.14/03, 21-241953-01-9 7.1.2.1.1/02, M-241051-01-1 2003d; KCA 7.1.2.1.1/07, <u>M-555570-01-1</u>, 2016, KCA 7.1.2.1.1/08 M-550 87-01-1, 2016; KCA 7.1.2.1.1/09 M-655056-07-1, 2019; KCA 7:102.1.2/04, M-234320-01-1, 2002; KCA 7.1.2.1.2/02, M-241188-91-1, 2003; KCA 75.2.1.2/03, <u>M-219824-</u> 2003; KCA, 7.1.2; 1.2/04, M-241, 4.0-01-2, ² 2003a, KCA 7.1.2.1.2/05, M-01-1,241411-01-2. 2003 KCA 1.2.1.2/06, 20-234449-01-2, , 2003; KCA 7.1.2.1.2/08 M-58 202-0 1 / 1, 2017; KCX 7.1.29.2/09, M-58/364-01-1, 2017; KCA 7.1 2.1.2/10, M-56521 401-1, **2**016a; KCA, 7.1.2.14.2/11, <u>M-565223-01-1</u>, 2016b and KOX 7.1 27.2/12 M-56 224-6 1-1, 2016c).

Kinetic analysis was conducted for these studies to derive parameters suitable for use as trigger endpoints and modelling endpoints. The metabolites included in the analysis were: M-01 (AE C653711, BAM), M-02 (AE C657188) PCA), M-03 (AE 0608000), M-03 (AE 1344122), M-10 (AE 1344123), M-11/12, M-13, M-14 (AE 1388273), M-15 (AE 1412003), and M-20 (BCS-BX16566).

The model fits and statistical evaluation of the results were carried out with the KinGUI software tool, 2.1. The selection of the most appropriate kinetic model was based on a detailed analysis including visual assessment, χ^2 error statistics, randomness of residuals, and t-test significance, following current FOCUS gridance (2006, 2014a).

The mean DegT₅₀ values (20 °C and pF2) and molar fractions selected for use as modelling endpoints are summarised below.





Compound	Number of datasets ^A	Number of soils ^B	Geometric Mean DegT50 normalised to 20°C and pF2 (d)	Arithmetic Mean ffm
Fluopicolide	22 ^C	16	181.6 ^D	- 8
M-01	26 ^C	18	569.5 ^D	9.850 (from M-93) 90.757 E (from parent)
M-02	7	7	1.6	Not apploable &
M-03	9	7	17.9 F 0.19 H	0.53 ^I / - (from parent)
M-05	13	7	25.2	0.153 (from 19-02)
M-10	13	7	35.4	0 29 (from M-02)
M-11/M-12	2	2	87.6	° 5.044 (from M-02)
M-13	3	3	20.7	0.04% (from M-02)
M-14	5	3	\$ 945 X	(from M-20)
M-15	4	4 4	14.8 0	Not applicable & c
M-20	6	6	76.1 A	0.021 (from M-02) 0.559 (from M-05)

A Where appropriate results from different radio abels in the same soils treated as replicates for kinetic fits

Metabolite M-00 can be formed either directly from fluoricolide for from metabolite M-03, which itself is formed from fluoricolide However, formation via Mo3 was only observed in a few soils. The overall molar fraction of fluopicolide that degrades to M-01, either directly or via M-03 has been calculated for each soil $(ffm_{FLC \to M-01} \oplus [ffm_{CC \to M}), ffm_{M-03 \to M})$, to simplify modelling of M-01 formation if required. The arithmetic mean overall formation fraction of M_01 from fluopicolide is 0.80.

I. MATERIALS AND METHODS

The objective of this study was a kinetic evaluation of the degradation behaviour of fluopicolide and eleven of its metabolites (M-015M-02, M-03, M-05, M-10, M-11/12, M-13, M-14, M-15 and M-20) in soils under laboratory conditions in the dark This valuation was performed to derive kinetic parameters suitable for use as trigger endpoints and modelling endpoints.

The modelling analysis was based on residue Pata from nineteen studies covering a range of soil types. The kinetic parameters that provided the most appropriate fit to the measured data were identified, based on a mathematical optimisation algorithm and a visual/statistical assessment. The model fit and statistical evaluation of the results were carried out with the KinGUI software tool (version 2.1). TO THE TE

^B Some soils were used more than once

Some soils were used more than once Study performed at 10°C not included in modelling endpoint.

D Geometric mean calculated of DegT50 values from Lamberton soft prior to Calculation of overall geometric mean.

E Arithmetic mean calculated of formation fractions from Lamberton soft prior to Calculation of overall arithmetic mean.

F Geometric mean calculated for Manster soils prior @calculation of overall yallee

^G Geometric mean soils with pH < 6

H Geometric mean soils with pH 6

I Arithmetic mean soils with pH < 6

J Arithmetic mean soils with PH > 6

K Degradation rates for M 22 and M 15 were

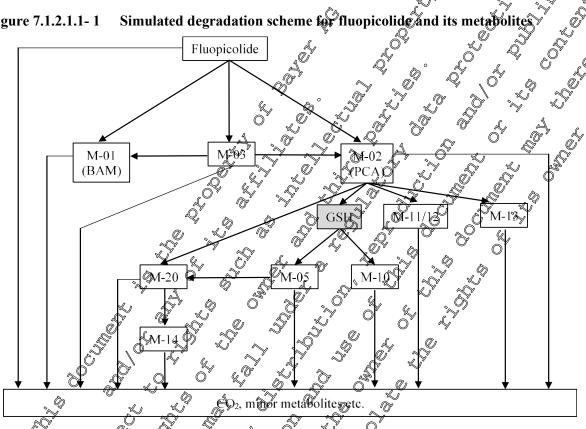


A. Degradation scheme

The degradation scheme for fluopicolide and its metabolites modelled in the kinetic evaluation is given in Figure 7.1.2.1.1- 1 (for metabolite M-15, the only data available were from an M-15-applied stody, therefore this metabolite is not included in the scheme).

The compartment "GSH" denotes a ghost compartment, representing a glutathicke conjugate. This were conducted without this compartment, and it was subsequently added only where its inclusion improved the final fits.

Figure 7.1.2.1.1- 1



B. Experimental data

1. Fluopicolide data

The aerobic degradation of fluopicolide has been measured in eight reports (KCA 7.1.1.1/01, M-241049-2003a; KCA 7.1.13702, 1201238-02-4 2003; KCA 7.1.2.1.1/01, M-241052-01-1, **20**03c; KCA **%** 2.1.1%2, <u>M-2410</u> **3-01-1** 2003b; KCA 7.1.2.1.1/03, M-241053-01-1, 2003d; KCA 7.1.2.1.4./07, M-555500-01-1. 2016; KCA 7.1.2.1.1/08, M-550687-20 5 and KCA 7.2.2.1 09, M-655056-01-1, 2019) in a total of 23 datasets in 16 different soils & datasets at 20°C and 1 dataset at 10 °C). Table 7.1.2.1.1- 50 symmatises the physico-chemical properties of the test soils used.



Table 7.1.2.1.1- 50: Test soils used for fluopicolide

#	Report	Soil	Source	Texture (USDA)	Temp (°C)	pН	OC [%]
1	KCA 7.1.1.1/02	Munster	Germany	Loamy sand	20	4.9	79 .7
2	M-201230-02-1 2003	Sarrotti	Germany	Silty clay loam		7.4	0.9 A
3	KCA 7.1.1.1/01 M-241049-01-1, 2003a	Abington (non-sterile)	UK Ö	Sandy loam	20	7. 6	
4	KCA 7.1.2.1.1/02 M-241051-01-1 2003b	Lamberton	USA	Loan Q	20 %	5.69 Q	
5	KCA 7.1.2.1.1/01	Lamberton	ÜSA	Sandy clawloam	[∞] 25 √	D 5.9 🕸	3 D
6	M-241052-01-1 2003c	Pikeville &	USA V	Loamy sand	250	5.7	*U.6 4
7	KCA 7.1.2.1.1/03 M-241053-01-1 2003d	Abington A	UK O	Sandy loam	10	5 ⁴ 7.2	2.74
8		Albaro/Marcomcini	Haly ~	Silty clas	2 6	6 7.2	2.1
9	KCA 7.1.2.1.1/08	Great (Inishill O	V _K V	Clar	$\sum_{i=1}^{n} 20 \int_{0}^{\infty}$	7.3U	2.1
10	M-550687-01-1	H	Germany (Silt Joam	20 ^C	6.1	0.7
11	2016	Mas du Goq	France 🗸	Cary loam	2 0	7 .6	0.9
12	2016a	Parcey Meslay O	Franco	Loann	20 ₀₀	6.7	1.3
13		Vilobi d'Òngar	Spain	, Sandy loam ⊊) 2007	6.3	0.8
14	KCA 7.1.2.1.1/07	Dollendoof II	Germany	Sandy loam	, Þ	6.5	1.5
15	M-555570-01-1	H	Germany	Clay Oam	20	7.3	4.8
16	2016		Germany &	Loam 🕖	20	5.0	1.8
17	2016b)I	Germany	Salt loado	20	6.1	1.9
18	F F	Abington 2 🗸	& UK	Sandydoam	20	7.3	2.6
19		Lamberton (y u s a	Loam	20	5.6	2.6
20	KCA 7.1.2.1.1/09	D Eignieres	France	Sandy loam	20	5.7	0.8
21	2019	Münster 🖇	Germany	X Loamy sand	20	5.6	1.2
22		Pokeville 7	y USA 🦠	Loamy sand	20	4.5	1.8
23	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	Sarotti 🗸 🤝	Germany	Silty clay loam	20	6.9	1.4

A Study performed at 10°C. Data used for the gger endpoint only. Not used for modelling endpoint.

2. M-01 data

The aerobic degradation of M-01 has been evaluated in all studies in which fluopicolide was applied (2 datasets at 25 °C 20 datasets at 20°C and 1 dataset at 10 °C). In addition, the aerobic degradation of the metabolite has been studied to two soils in which M-01 was applied (KCA 7.1.2.1.2/01, M-234320-01-1, M-234320-01-1), M-234320-01-1, M-234320-



Table 7.1.2.1.1-51: Test soils used for M-01

#	Applied compound	Report	Soil	Source	Texture (USDA)	Temp (°C)	pН	OC.
1	Fluopicolide	KCA 7.1.1.1/02	Munster	Germany	Loamy sand	20	4.9	0.7
2		M-201230-02-1 2003	Sarrotti	Germany	Silty clay of loam	20	7.4@	0.95
3		KCA 7.1.1.1/01 <u>M-241049-01-1</u> , 2003a	Abington (non-sterile)	UK Ö	Sandy 10am	20	9.5 7.5	
4		KCA 7.1.2.1.1/02 <u>M-241051-01-1</u> 2003b	Lamberton	USA	Loam	© 0	5 76	
5		KCA 7.1.2.1.1/01 M-241052-01-1	Lambert Op	USA	Sandy clay	\$ 2	5.9 ~	
6		2003c	Pikeville J	OUSA O	Loany sand		5.74	1.6 .
7		M-241053-01-1 2003d	Aboungton O	UK*	Sandy loan	169 S	7. 8 Y	
8			Albaro Marcomeini	SItaly	Silty clay	200	7. 2	2.1
9		Q	Great Chishill	US	Clay	£ 20 0	~ 2.3	2.1
10		KCA 7.1.2.1.1/08 M-550687-Q	H	Gornany	Silt@am	20 &	6.1	0.7
11		2016		France	Clay loam	/23 0	7.6	0.9
12			Parcey Peslay	France	Loam ~	2 0	6.7	1.3
13			Vilob d'Òny 🕷	Spain	Sandy loam	20	6.3	0.8
14			Dellendor	Germany	Sandy loam	20	6.5	1.5
15		© A 7. O2.1.1/07 M-5% 570-01-1		Genany	√ Clay¶oam	20	7.3	4.8
16	Ď	"O" 2016"		Germany		20	5.0	1.8
17		20166		Germany	Silt loam	20	6.1	1.9
18			A brington	UK	Sandy loam	20	7.3	2.6
19		2 A 7 A 2 1 1 D	Lamberton	USA	Loam	20	5.6	2.6
20		M-63056-02-1	Lighteres	France	Sandy loam	20	5.7	0.8
21		2019	Münster	Germany	Loamy sand	20	5.6	1.2
22	4		Pikeysile	USA	Loamy sand	20	4.5	1.8
23	Ø'		© Satotti 2	Germany	Silty clay loam		6.9	1.4
24	M-01	KCA 7.1.241.2/01	Sethany i	USA	Sandy loam	25	4.8	1.6 B
25	4	2002	Porth Pakota	USA	Sandy loam	25	7.7	9.6 ^B
26	M-03	KCA 7.1.2.10 02 \$	(V) Munster	Germany	Loamy sand	20	4.9	1.8
27		<u>M-74118501-1</u> 2003	©Pikeville	USA	Sandy loam	20	5.4	1.1
A Str B Or	udy performed ganic matter	@10°C Data used for to	rigger endpoint only. Not	used for mode	l Elling endpoint.	1		



3. M-02 data

The aerobic degradation of M-02 has been evaluated in two studies in which the metabolite was applied (7 soils at 20°C). Table 7.1.2.1.1- 52 summarises the physico-chemical properties of the test soils used.

Table 7.1.2.1.1- 52: Test soils used for M-02

					A 39			
#	Applied	Report	Soil	Source	Texture	Temp	рĤ	QE'
	compound				(USDA)	(°C)		%]
1	M-02	KCA 7.1.2.1.2/03	Abington	UK	Sandy loam	20,	₹ 7.2°×	2.6
2		M-219824-01-1,	Münster 💎	Germany	Leamy sand	20	50	1.P
3		2003	Sarotti 🗳	Germany	Silt loam	Z 20	7 .5	€ 97.3 ¢
4		KCA 7.1.2.1.2/09,	Dollendor	Germany	Loam 🗸	ື 20 <u>√</u>	6.9	5.6°
5		M-581364-01-1,	H	Germany		. LO	5®	_1,8%
6		2017	L	Cormany	Loanysand	<i>y</i>	\$ 5.2	₹ .8
7		2017		Germany	Sandy loamo	" 20 <u>%</u>	4.9	2.1.

4. M-03 data

The aerobic degradation of M-03 has been evaluated in three acidic soils (KCA 7.1.151/02, M-201230-02-1, 2003; KCA 7.1.2.1.1/01, M-241052,01-1, 2003c, and KCA 7.1.2.1.1/09, M-655056-01-1, 2019) in which fluoricolide was applied (I dataset at 29 °C, Edatasets at 20 °C). In addition, the aerobic degradation of the metabolite has been studied in a two reports in which M-03 was applied (KCA 7.1.2.1.2/02, M-241) 88-01-1, 2003 and KCA 7.1.2.2.2/10, M-565219-01-1, 2016a). A total of nine datasets of seven different soils (1 dataset at 25 °C, 8 datasets at 20 °C) were evaluated. Table 71.2.1.1.5 53 summarises the physico-chemical properties of the test soils used.

Table 7.1.2.1.1-53: Test soils used for M-03

			X N					
#	Applied &	Report	Soil	Source	@,Texture	Temp	pН	\mathbf{OC}
	compound				(USDA)	(°C)		[%]
1	Fluopicolide	KCA 1.1.1.02	Munster	Cormany (Loamy sand	20	4.9	0.7
		M ₅ 20/1230-00-1 20/03						
2		KCA 7.4.2.1.1/00	Lamberton	 ⊌SA	Sandy clay	25	5.9	3.5
	Q Q	$\frac{M-240052-051}{2003c}$		JSA	loam			
3		KCA 7.1@1.1/109/		USA	Loamy sand	20	4.5	1.8
		M-655056-013 2019	Pikeyffle					
4	∠M-03	KCA 7.1 2. 2.2/020	Abington .	UK	Sandy loam	20	7.2	3.2
5		M-241	Münster	Germany	Loamy sand	20	4.9	1.8
6	L	2003	PReville	USA	Sandy loam	20	5.4	1.1
7			© Sarotti	Germany	Silt loam	20	7.1	2.0
8	a y	ÆCA 7∂, 2.1.250	Brierlow	UK	Silt loam	20	5.3	4.5
9		M-565219-Q-1 2076a	Н	Germany	Silt loam	20	6.0	2.0



5. M-05 data

The aerobic degradation of M-05 has been evaluated in both studies in which M-02 was applied (7 soils metabolite was applied (6 soils at 20°C). A total of 13 datasets in seven different soils (all at 20°C) were evaluated. Table 7.1.2.1.1-54 summarises the physico-chemical properties of the test soils. at 20°C). In addition, the aerobic degradation of M-05 has been evaluated in two studies in whick the

Table 7.1.2.1.1- 54: Test soils used for M-05

#	Applied	Report	Soil	Source	Texture	Temp	Oʻ ∕ pH‰	OC
	compound			,	ØUSDA)	(°E)		
1	M-02	KCA 7.1.2.1.2/03	Abington	UK (Sandy loam	Z 20	D .2	2.6
2		M-219824-01-1, 2003	Münster 🛒 🥒 🕆	Germany	Loamy sand		[©] 5.4 €	\mathcal{I} 1.1 \mathbb{Z}
3		2003	Sarotti	Germany	Silt loam?	20	75	13
4		KCA 7.1.2.1.2/09,	Dollendorf	Germany	Loganon	2 20	\$.9	£.6
5		<u>M-581364-01-1</u> ,	Н	Germany	Silloloam 🖔	ž 20 🛴	5.9	1.8
6		2017	L	Germany	Loamy sand	2®"	5,20	18
7				Gemany	Sandy Pam	\sim	4.9	2 .1
8	M-05	KCA 7.1.2.1.2/04	Abungton	y UK	Sandy loan@		7.2	ື 2.6
9		M-241410-01-2 2003a	Minstex √ ≪ i	Germany	Loamy sand	20	5,40	1.1
10		2003a	🗣 💪 Sarozzi	Germany	Silt loam	2 0	* ₹.5	1.3
11		KCA 7.1.2.1.2/1	H	Germany	Silt loam	♠ '	5.8	1.9
12		M-565223-04-1	<u>L</u>	Gerahany	Loamy sand		5.3	1.5
13		2016b		Germany	Sandy Joam	Z20	5.1	1.9

6. M-10 data

6. M-10 data

The aerobic degradation of M-10 has been exaluated in both studies in which M-02 was applied (7 soils at 20°C). In addition, the aerobic degradation of M-10 has been evaluated in two studies in which the metabolite was applied (6 soils at 20°C). A total of 13 dayasets a sever different soils (all at 20°C) were evaluated. Table 7.1.2.1.1. 55 summarises the physico chemical properties of the test soils used.

Cest sons used for MI-10

#	Applied compound	Report	San O	Source	Texture (USDA)	Temp (°C)	pН	OC [%]
1	M-02	KC&7.1.2.192/03	Aroington	UK	Sandy loam	20	7.2	2.6
2	-	M-21982 01-1	Mü ns ter @	Germany	Loamy sand	20	5.4	1.1
3		2003	O' Sarotti	Germany	Silt loam	20	7.5	1.3
4	% n	11.2.12/07,	Pollendorf	Germany	Loam	20	6.9	5.6
5		M-98136401-1,	H	Germany	Silt loam	20	5.9	1.8
6	e	2017		Germany	Loamy sand	20	5.2	1.8
7			W W	Germany	Sandy loam	20	4.9	2.1
8	M-10	K&A 7.1 2.1.2/05	Abington	UK	Sandy loam	20	7.2	2.6
9		M-241 4 1-01 2	Münster	Germany	Loamy sand	20	5.4	1.1
10		20 03b	Sarotti	Germany	Silt loam	20	7.5	1.3
11	M-10,	KCA 7.1.2.1.2/12	Н	Germany	Silt loam	20	5.8	1.9
12		M-565224-01-1	L	Germany	Loamy sand	20	5.3	1.5
13	9	2016c	L	Germany	Sandy loam	20	5.1	1.9



7. M-11/M-12 data

The aerobic degradation of M-11/M-12 has been evaluated in two soils in one of the studies in which M-02 was applied. Table 7.1.2.1.1-56 summarises the physico-chemical properties of the test soils used.

Table 7.1.2.1.1-56: Test soils used for M-11/M-12

#	Applied compound	Report	Soil	Source	Textu@ (USDA)	Temp (°C)	(())	Q [
1	M-02	KCA 7.1.2.1.2/03	Abington	UK	Sandy loam	20,	₹ 7.2%	2.6
2		M-219824-01-1, 2003	Münster	Germany	Leamy sand	20°	50 2	

8. M-13 data

The aerobic degradation of M-13 has been evaluated in three soils in one of the studies in which M-02 was applied. Table 7.1.2.1.1-57 summarises the physico-chemical properties of the test soils used.

Table 7.1.2.1.1- 57: Test soils used for M-13.

#	Applied compound	Report	Soil Source Texture Temp pH OUSDAY (%)	OC [%]
1	M-02	KCA 7.1.2.1.2/03	Abington & Sandy oam 20 7.2	2.6
2		M-219824-01-1@	Munster Germany Loamy sand 20 4 5.4	1.1
3		2003	Sarottic Germany Silt loam 20 7.5	1.3

9. M-14 data

The aerobic degradation of M-14 has been evaluated in two soils form one of the studies in which M-05 was applied. In addition, the aerobic degradation of M-14 has been evaluated in a study in which the metabolite was applied (3 soils at 20°C). A total of five datasets in three different soils (all at 20°C) were evaluated. Table 7.1.2 P.1-58 summarises the physico-chonical properties of the test soils used.

Table 7.12.1.1-58: Test soits used for M-14

#	Applied compound	Report	Abington Sarotti	Source	Texture (USDA)	Temp (°C)	pН	OC [%]
1	M-05	KCA 75.2.1.244 M-20410-6-2	Abington	V UK	Sandy loam	20	7.2	2.6
2		<u>M-2Q410-6-2</u> 2003a	Darous S	Germany	Silt loam	20	7.5	1.3
3	M-1-4	KCA 7.1.2.1.2/06/ M-234/149-01/Q	Abington &	UK	Sandy loam	20	7.2	2.6
4		M-234,149-01	1 2 2	Germany	Loamy sand	20	5.4	1.1
5	4	72003	O Sarotti	Germany	Silt loam	20	7.5	1.3
<u>L</u>		72003 72003 72003	Sarotii					



10. M-15 data

The aerobic degradation of M-15 has been evaluated in a study in which the metabolite was applied (four soils at 20°C). Table 7.1.2.1.1- 59 summarises the physico-chemical properties of the test wils used.

Table 7.1.2.1.1-59: Test soils used for M-15

#	Applied compound	Report	Soil	Source	Texture (ESDA)	Temp (°C)%	фН 👏	
	compound			- CA	N ′	· /		0
1	M-15	KCA 7.1.2.1.2/08,	Dollendorf	Germany	Ø řay loam	20		Ø
2		<u>M-585202-01-1</u> ,	H	Germany	Silt loam	Z 0	6.0 3 .0	.8
3		2017	L	Germany	Sandy loan	20		.5 _. @
4				Germany	Somdy loann	20	500 10	9

11. M-20 data

The aerobic degradation of M-20 has been evaluated in one study in which M-02 was applied and one in which M-05 was applied. A total of 6 soils (all at 20°C) were evaluated. Table 7.1.20.1- 60 summarises the physico-chemical properties of the test soils used.

Table 7.1.2.1.1- 60: Test soils used for M-20°C.

					ž <u>r</u>			· 📉	,	
#	Applied	Report	Q.	Soil	, 3	Source	Dexture	Temp	pН	OC
	compound	Ĉ	ó ,	<u>~</u>	0	. «	(USDA)	(C)C)		[%]
1	M-02	KCA 7.1.2 1.2/09, M-5813,64-01	K O H			Germany	Silt Joan	[™] 20	5.9	1.8
2		M-5813,64-01	4 P	W		Germany	Icoamy sand	20	5.2	1.8
3		2017		Abington Sarotti		Germany	Sandy loam	20	4.9	2.1
4	M-05	KEA 7.1.2.1.2/04		Abington &		S UK	Sandy loam	20	7.2	2.6
5		M-240410-01-2	O ^N	& Mainstex	ð	Germany	Loamy sand	20	5.4	1.1
6		<i>Z</i> 003a	b .1	Sarotti		Germany	Silt loam	20	7.5	1.3
L		KCA 7.1.2.1.2/09, M-581364-01.2. 2017 WEA 7.1.2.1.2/04 M-240-110-01-2. 2003a								

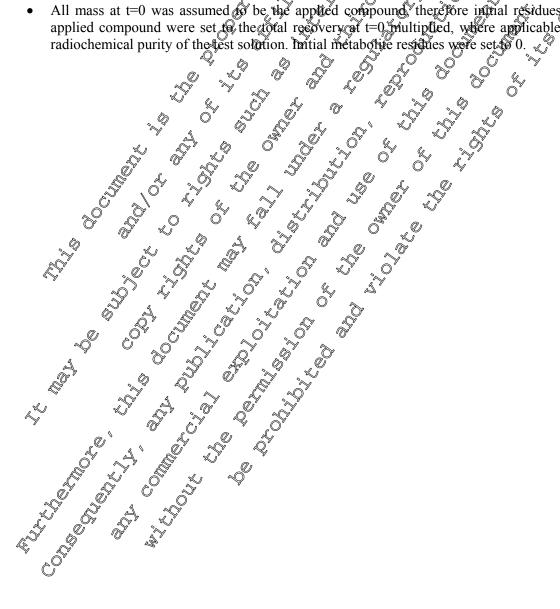


C. Data pre-processing

Residue data were checked for consistency and obvious outliers, and where outliers were removed this has been indicated clearly in this report. Experimental data sets and data points were weighted equally in the kinetic analysis. True replicates were used individually in the optimisations, while analytical replicates were averaged prior to curve fitting. For studies where degradation was investigated using multiple radiolabel positions, and similar behaviour was observed for each, these radiolabels have been considered as true replicates, and included together in a single optimisation,

Following the FOCUS Kinetics guidance (FOCUS 2006, 2014a), reported residues below the Quantification (LOQ) or Limit of Detection (LOD) were djusted as follows:

- Residues between LOD and LOQ were set to the measured values, if given in thostudy repor or 0.5 (LOQ + LOD) otherwise.
- Samples <LOD just after a detectable amount were set to ½ LOD, with all subsequent samples <LOD omitted unless later samples >LOQ were reported.
- For metabolites, samples <LOD before the formation phase were also activated. The last point before the first detectable amount of metabolite was set to 1/2 LOD, with or non-detects
- All mass at t=0 was assumed by the applied compound therefore initial residues for the applied compound were set to the total recovery at t=0 multiplied, where applicable, by the





II. RESULTS AND DISCUSSION

A. Modelling endpoints

Table 7.1.2.1.1- 61: Summary of modelling endpoints derived for flugpicolide

Coble 7.1.2.1	enupoints	r modelling endpoints an	ainta daviva	d for floorisalida	
able 7.1.2.1.	1-61: Sumi	nary of modelling endp	oints derive		, " "> .0
Applied compound	Study	Soil	Model selected	DV50 un- cormalised (d)	OT 50 normalised
	2003	Münster	SFO	Q" @12.0	\$ 212.0 J
		Sarotti	SFO SFO	191.2	191.2
	2003a	Abington (non-sterile)	SEO	348.0	340.2
	2003b	Lamberton	SFO (© 090.0 ° 0	10379
	2003c	Lamberton	SFO SFO	358.6	395.8
		Pilæville 😽 Albaro Marckpicinį 😞	,©″DEO₽ DPOP	612.92 730.1 b 7	6 6 0a / 36 3b
		Great Chishill	DFOP	9 146 2 1 2 2 3 3 4 4 2 1.7 b 2 3 4 4 7 5 7 b	9 ¹ 46.2 ^a /2.8 ^b 312.4 ^a /2.7 ^b
		H Great Chishin	DFO	\$155.5\$\frac{7.2^b}{7.2^b}\frac{0.7}{0.7}	155.5a / 7.2b
	2016a	Mas du Coq	DFOP (2167 ^a / 10.5	0193.7ª / 9.4b
'		Parcey Meslay	ØFOP *	232.5° %.1°	202.5 ^a / 8.1 ^b
Fluopicolide		Vilobi d'Òny	∜ DF@₽°	93.52 77.8b	93.5ª / 7.8 ^b
	Ø.	Doffendorf 1	DEOP	1 1 4 1 4 a / 0 2 6 7 7	111.4 ^a / 0.6 ^b
	e	H	DFOP,	197.7ª / 4.2b	137.7ª / 4.2 ^b
	~20166°	, the second second	DFQ	141,3 6.3b	141.3ª / 6.3b
		L		133.5ª / 9.4b	133.5ª / 9.4 ^b
)		Abington 2	ØFOPO	4 2.1 ^a / 1.9 ^b	142.1 ^a / 1.9 ^b
		Lamberton O	DF@P	© 176.1 ^a / 2.8 ^b	145.1 ^a / 2.3 ^b
		Signieres O	BUFOP C	141.4 ^a / 1.4 ^b	141.4 ^a / 1.4 ^b
	2019	Mün©er V	& DFOR DFOR	170.1 ^a / 5.3 ^b	124.5 ^a / 3.9 ^b
		Pikeville "	[♥] DF@P	155.2ª / 4.1 ^b	129.4ª / 3.5b
	<u> </u>			161.2 ^a / 1.6 ^b	143.6 ^a / 1.4 ^b
		Cometric me ow phase of devine (coculate	ean (SFO and	DFOP slow phase)	181.6°
- Pseudo-SEO v	value based on sl value basedon fa	ow phase of decline (calculated st phase of decline calculated	$Mas \ln(2)/k_2$ and $\ln(2)/k_1$ and $\ln(2)/k_1$	normalised if application application in the control of the contro	ole)
– Geometric me	ean calculated of	DT% values from Camberton's	soils prior to cal	culation of overall geor	metric mean.
4					
<u>,</u> C					
		&)F			
		S S			
		Geometric me ow pisse of decline (coculate stephase of decline Calculated DT30 values from Camberton's			



Table 7.1.2.1.1- 62: Summary of modelling endpoints derived for M-01 (AE C653711)

Model selected normalised (d) from FLC (direct) 1-03	Soil	Study	Applied compound
SFO 1000 ^a 0000 ^a 0.3014 03892	Münster	2003	
SFO 1000° 1000° 20798 0 -	Sarotti	2003	
) STO 1000° 1000° 0.8400 -	Abington (non-sterile)	2003a	
SFO 1000 1000 0.756	Lamberton	2003b	
ℤ SFO 1000ª 1000 0.4067 □ 1	Lamberton	2003c	
SFO 173.1 124.0 1 1	Pikeville	20036	-
SFO 0 417.3 0417.3 0.8262 5	Albaro/Marcomcini		
SFQ 1000° 1000° 0.6013 -	Great Chishid		
Spo 2571.7 571.7 00.8950 -	H		
SFO 4727 0422.2 0.8075	Mas da Coq	2016a	
SFO 998.4 908 1 08286 0 -	Parce Mestay		luopicolide
	Vilobi d'Ònyar		-
SFO 1590 (159.75) 0:819 -	Pollendorf II		
SFO 869.3 869.3 0.8773 -	H	20171	
SFÖ 556.2 556.2 0.8156 -	√ L	2016b	
SFO 1000 1000 0.8022 -			-
SFO 175.6 1756 0.7879 -	Abington 2	\ \L_1	
\$\ \text{sro} \ \tilde{0}1000\ \text{root} \	Lamberton	Ş	
SFQ 1000 ^a 1000 ^a 0.6264 - 215.6 0.9101 -	Lignores	2010.0	
	Münster * Pikeville *	2017	
\$\forall \text{35.9} \text{113.3} \text{0.39} \text{1} \\ \text{SFO} \text{2601} \text{237.9} \text{0.6227} \text{-}	Sarotti 2	2019	
SFQ 2858.0 2077.6			
SFO 1858.0 2077.6	Rethany S	2002	M-04
√ _© SFO √ √ 568.8 913.6 - -			* %
			M-03
	S Pakeville S	2003	
			*
		0,	4
SFO 568.8 913.6 - SFO 1000a 1000a - 0. SFO 1000a 569.5d -	North Dakota Winster Wikeville	ve default value	M-03 M-03 — Conservative



Table 7.1.2.1.1- 63: Summary of modelling endpoints derived for M-02 (AE C657188)

Applied compound	Study	Soil	Model selected	DT ₅₀ un- normalised (d)	DT ₅₀ normalised
		Abington	SFO	4.4	AA 6
	2003	Münster	SFO	3 [©] 5	3.5
	2003	Sarotti	SFO	A.4	, O 4.B
M-02		Dollendorf	Ö SFO	1.1	
		H	SFO	Q 1.1 @	\$\int_0.9 \times
	017	L	J SFO	0.7	Q 0,70°
			sfo 💝	© 0.Z	9 0.7
		#\$\frac{1}{4}		Geometric mean	1.6

		mary of modelling					
Table 7.1.2.1.	.1- 64: Sumi	mary of modelling	endpoint	deriyed	for M-030	AE 0608000	
Applied compound	Study	Soil of	Spil pH	Modely selected	DT Tun- normalised (d)	DT To Do	offm from
	2003	Münster O	45	SFO (62.6	° 62.6 €√	0.6086
Fluopicolide _	2003c	Lamberton V	£ 5.9	SFQ	*49.3 Q	54.5	0.5933
Pruopiconae —	2019	Pikevite S	4. 5 ,	SPO (Z 29.35	24.4	0.4009
	((//))	A'bington	\$ 9.2 £	SFOO S	% 9.1 %	0.1	-
	2003	Münster	4.90	DFOP	(1000)	1000a	-
14.02	2003	Y Pikeville	,6,4	PFOP	27	2.2 ^b	-
M-03	de de	O Sarotti 🗸	7.1 C	SFO	©0.1	0.08	-
. 0	0	Beerlow (BL)	5.30°	ŞFO	2.5	2.5	-
	20 1	ÇH.	6 .0 ₹	SFOO	0.9	0.9	-
	3'.4		, Ke	ometric m	ean (pH <6)	17.9°	1
			Ari	~	ean (pH <6)	-	0.53
~			· // /		(soil pH ≥6)	0.19	-
				thmetic m	ean (pH ≥6)	-	-
a – DFOP k para b – Pseudo SFO	ameter fixed to co DT50 value derivo	onsecontive default value ed as DT90/3.32 (and nor	matised if a	pplicable)			
c – Geometric me	ean cale Dated for	Münster Soils prior to co	alculation of	f overall val	ue		
/			, v				
		ed as DT%/3.32 (and nor Münster soils provided to co					



Summary of modelling endpoints derived for M-05 (AE 1344122) **Table 7.1.2.1.1- 65:**

Applied compound	Study	Soil	Model selected	DT ₅₀ un- normalised (d)	DT ₅₀ normalised (d)	ffm from M-02 PCA
		Abington	SFO	29.4	2 9.4	©0.25803
	2003	Münster	SFO	172.1	ී 172.1	0.1537a
	2003	Sarotti	SFO	45.5	42.3	6 1811 ² 9
M-02		Dollendorf	SFØ	9.3	9.3	0.15%
		Н	SFO	110	9 3	0.6859
	2017	L	ŠFO	\$5.6		0 .1438
			⇒ SFO	8.1 0	8.1	0.094\$
		Abington	SFO &			
	2003a	Münster \mathbb{O}^{r}	© SFQ∵	3 36.1	₹36.1 <u>८</u>	4
M-05		Sarotti A	SFØ ,	34,9	© 32.9° (
		Н	JFO () 2\$1.5 m) 2 2.5 ₄	\$\frac{1}{2}\frac{1}{2}
	2016b		SFQ*	\$16.8	© 16.8	_
	20100		[™] SF®	1980	22.5 216.8 3 19.0	S -
			S S	cometric mean	25.2 →	
			W A	rithmetic mean	8 - 8	0.153

a – Factored formation fraction: ff M202-ghost × ff gbost-M202

Table 7.1.2.1.1- 66: Summary of modelling entroints derived for M-10 (AE 1344123)

	a s		•	0 '	**	
Applied compound	Study	Soil	Models selected	(d),	DT ₅₀ normalised (d)	ffm from M-02 (PCA)
. 4		2 110 mg 011 (C)	ØFO 🚜	3 .4	5.4	0.1436a
	2003	Manster	SFO SFO	₹1000b	1000 ^b	0.0335
	_))	Sarotty	SFO	14.6	13.6	0.0796a
M-02		Dollendorf	OSFO,	3.5	3.5	0.1997
		H	SFO SFO	20.2	16.8	0.1265
	291 ⁷		SFO	88.2	88.2	0.1502
کے	* - (€SFO	5.8	5.8	0.1686
W.	, Ø	Abington	ÿ SFO	31.6	31.6	-
4	20 ©3 6	Münster" X	SFO	241.9	241.9	-
M-10	0	Sarotti O	SFO	21.3	19.8	-
	\$\ \a\\\	, N 14	SFO	21.6	21.6	-
	\$016c ₄	Sarotti O	SFO	83.9	83.9	-
		L	HS	228.8 °	228.8°	-
	2 2		G	eometric mean	35.4	-
	2016c	₩ ′	Aı	rithmetic mean	-	0.129

a — Factored formation fractions ff M-02-ghost × ff ghost-M-05 b — Conservative default value

c - Conservative modelling endpoint DT50 value derived from the HS rate constant for the slow phase of degradation



Table 7.1.2.1.1- 67: Summary of modelling endpoints derived for M-11/12

Applied compound	Study	Soil	Model selected	DT ₅₀ un- normalised (d)	DT ₅₀ normalised (d)	ffm from M-02 PCA
M-02		Abington	SFO	31.7	31.7	© 0.01 7
IVI-U2	2003	Münster	SFO	242.5	© 242.5	0.9711
			G	eometric meán	87.6 🔊	\$ - 4 P
			Ů Aı	rithmetic mean		~~~ 0.044°

		Arithmetic mean 50.044	Ø).
	4 60 6		Z
Table 7.1.2.1	.1- 68: Sun	mary of modelling engionits derived for M-13 &	
Applied compound	Study	Soil Drso un- normalised normalised (d) (d) (d) (FCA)	
M-02	2003	Abington SFO 15.3 \$3.3 \$0.0667 Minister SFO 48.4 \$2.3 \$0.0286 Sarotti SFO 14.8 \$13.8 \$0.0507	
		Seometric mean 20.7 -	
		Arithmetic mean	

Table 7.1.2.1.1- 69: Summary of modelling endpoints derived for M-14 (A) 1388273)

Applied compound	Stody Stoll DT 50 un-normalised (d)	DT ₅₀ normalised (d)	ffm from M-20
M-05	Abington Q SEO 1604	16.4	1
WI-03	2003a Saretti SFO SFO ST.7	20.1	1
	2003a Saretti SFO 1.7 Abington SEO 4.9	4.9	-
M-14	Münster SFO 8.2	8.2	-
	Saroth (SLS) SFQ 5.8	5.4	-
	Geometric mea	n 9.4	-
4	Arithmetic mea	n -	1

Table 7.1.2.1.1- 70 Summary of modelling endpoints derived for M-15 (AE 1413903)

Applied compound Study Soil S	Model selected	DT ₅₀ un-normalised (d)	DT ₅₀ normalised (d)
I Sollensfort II	DFOP	172.5 ^a	172.5a
	DFOP	137.9ª	137.9 ^a
M-15, 2016d	DFOP	139.6ª	139.6ª
	DFOP	132.4 ^a	132.4ª
, O		Geometric mean	144.8

a – Pseudo-SFO value based on slow phase of decline (calculated as ln(2)/k2)



Table 7.1.2.1.1-71: Summary of modelling endpoints derived for M-20 (BCS-BX16566)

Applied compound	Study	Soil	Model selected	DT50 un- normalised (d)	DT ₅₀ normalised (d)	ffm from M-02 (PCA)	
M 02		H	SFO	4.0	3.3	0.0638	
M-02	2017	L	SFO	6.9	6.9	0	20 6664 🖏
			SFO	2.	2.75	0,	7 10
		Abington	SFO	3.A	2 ,4		0.5445
M-05	2003a	Münster	SFO	4 44.7	P44.7	~ ~	€.7786%,
	20034	Sarotti	SFO	2.0	Q° 1.9⊘°	F - F	0.364
			G G	ometric mean	y .64	~ \ <u></u> ~ \	
			¼ Ar	ithmetic mean	Ž- Ž	Ø.021 ×	6.559

B. Trigger endpoints

Table 7.1.2.1.1-72: Summary of trigger endpoints derived for fluopic fide

		<u> </u>			
Applied compound	Study	Soil &	Moger selected	un-normalis@	DT ₉₀ un-normalised (d)
	2003	Mügster Sarotti	SFO S	2120 ×	704.1 635.0
	20 03a	Abington (non-sterile)	,§¥fo ○	348.0	1156.0
	2003b	Lamborton	SFQ [©]	1299,0	4285.0
	200	Lamberton,	y Sroo	©" 358 .0	1189.4
	2003c	O Pikeville	D FOP DFOP	424.9	1847.5
Ô	2003d ×	💪 Abington ^a	DFOP	∜ 671.6	2393.0
	20034	Albaro Marcomcini S	DECP /	131.6	471.0
		Great Chtshill	DFOP DFOP	250.7	975.9
	. "	Н	© DFQP ☐	100.6	461.6
	201	May du Cog	DFOP	185.5	688.6
Fluopicolide	2016	Parcey Meslay	DFOP	166.1	636.4
.1		Vilobi QÖnya	DFOP	54.9	271.4
	. Q	Dollendor M.	DFOP	99.5	358.1
	A	H	DFOP	99.5	419.3
4	2016b	* **	DFOP	110.2	438.4
		<u> La</u>	DFOP	47.7	353.2
		Abington 2	DFOP	119.2	449.2
	, S	Lamberton	DFOP	158.3	567.2
		Lignieres	DFOP	121.7	450.0
		Münster	DFOP	142.6	537.6
	V T	Pikeville	DFOP	119.7	480.0
		Sarotti 2	DFOP	135.0	509.2
C 1// C	rmed at 10°C				

a – Stud performed at 10°C



Table 7.1.2.1.1- 73: Summary of trigger endpoints derived for M-01 (BAM)

Applied compound	Study	Soil	Model selected	DT ₅₀ un-normalised (d)	DT ₉₀ un-normalised (d)
	2002	Münster	SFO	1000ª	3322
	2003	Sarotti	SFO	1000ª	3322a
	2003a	Abington (non-sterile)	SFO	1000	\$322° \$\tilde{\tiiilie{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tiii}}}}}}}}}}}}}}}}
	2003b	Lamberton	SEO	1 6 90°a	3322 ^a
	, 2003c	Lamberton	ŠFO	Q000a	. Ø 3392a ∠
	, 20030	Pikeville	Ĉ SFO	√ 173.1 Ö	\$74.9°
	2003d	Abington ^b	SFO	1 00 0°a 2	3322ª
		Albaro/Marcomcini	SFO ®	* ************************************	1386.0
		Great Chishil	SFQ SFQ	3 1000 S	3322ª
		Н	SFØ	Q 5¶.7	o [™] 189 9 o [™]
	2016a	Mas du Coq	SFO S	72.2 0 €	15 8 8.7
Fluopicolide		Parce@Meslayv 2	© SFQ	0 90 & 4 5	3 017.6
		Vilobř d'Ònyar 🗢 🤝	\$1\$0	© 323.9 S	10761
		Dollendorf II	SFO	7 959.7 °C	\$3 0 .6
		H	SFO		2887.7
	2016b	T	SFO	© 5556.2	©″1847.6
	Ö	L	S FO	~~1000*~~~~	Ø 3322 ^a
	**************************************	Abington 2	> SFQQ	1786	583.5
	Ž	Lamberton Q	SE,O	\$\text{\$\psi_000^a \times_0^2}\$	3322ª
	- X	Lignieres	SFO	9000°	3322ª
	2019 O'	Münster >	SFQ	294	979.1
	2019	Pikevillo V	SFÖ 2	135.9	451.6
	"O" ~	Sarotti 2	SFO O	<u>2</u> 67.1	887.3
M Ok	2002	Bahany	DEO	3461.0	>10000
M-015	\$\frac{1}{2}	North Dakota	"ŠFO 🌣	568.8	1889.0
14.02		Mûnster 🧳	SFQ	1000a	3322ª
M-03	2 003€	Pikeville C	SFO	1000a	3322ª
Study perfó	integrative destatit v	North Dakota Mûnster Pijkeville Aue			



Table 7.1.2.1.1- 74: Summary of trigger endpoints derived for M-02 (PCA)

Applied compound	Study	Soil	Model selected	DT ₅₀ un-normalised (d)	DT ₉₀ oun-normalised (d)
		Abington	SFO	4.4	14.5
	2003	Münster	SFO	395	11.6
24.02	2003	Sarotti	SFO	4.4	14 6
M-02 (PCA)		Dollendorf	Ø FOP	1.0	
(I CA)		H	SFO	Q, 1.1 , @	\$\frac{3.6}{2}
	2017	L	J SFO	0.7	2,20
			y SFO	\$\display 0.7\display	2.4

Table 7.1.2.1.1-75: Summary of trigger endpoints derived for M-03

				- V	4 4	
Applied compound	Study	Soil Viunster	Soil pH	Model C relected	10 T 50 un normalised (d) 62.6 49.3	DT 100 (100 (100 (100 (100 (100 (100 (100
	2003	Münster (an +1.7()⊮		<u> </u>	°≈√208.0
Fluopicolide	2003c	Lamperton	<i>2</i> 689	SFO SFO	49.3	% 163.7
	2019		£ 4.5	SFQ	(2)) 202	~ ~ .
		(A hington)	(<i>V</i> 72	l SEO I		0.3
	. 4	Münster Nünster	409	DFOR	4.4	1225.0
	2003	Pikeville	\$5.4 £	[≯] DF ®	2,17	9.1
M-03		Sarott	7,6	S FO	<i></i> 0.1	0.3
	2003	&Brierlow (BL)	<i>5</i> .8	SFO @	0.1 2.5	8.4
	2916a) H	6.0	SES S	0.9	2.9
		Münster Pskeville Sarotiv Brierlow (BIA)				



Table 7.1.2.1.1- 76: Summary of trigger endpoints derived for M-05

Applied compound	Study	Soil	Model selected	DT ₅₀ un-normalised (d)	DT% un-normalised (d)
		Abington	SFO	29.4	97. V 🖒
	2003	Münster	SFO	172.10	571.6
3.5.00	2003	Sarotti	SFO	45,	\$ O151.16
M-02 (PCA)		Dollendorf	SEO	9.3	31.07
(I CA)		H	SFO	Q 11.2	2 3 9 .1 2
	2017	L	SFO	5.6	Q18.5,0
			SFO	8 .1 2	26.9
		Abington	SFO	62.2	206.5
	2003a	Münster	SFQ SFQ	1361	452.2
M 05	2003a	Sarotti	SPØ Q	94.9	O 1167 4°
M-05		H	SFO %	22.50	74.6
	2016b	L	SFQ SFQ	0 168 5	55.8
			\$150 Q	9.0	6363

Summary of trigger endpoints derived for M-10 Table 7.1.2.1.1- 77:

			<u>/ </u>		Ĉa
Applied compound	Study	Soil Shinash	Model selected SFO	DTG un-normalised	DT ₉₀ un-normalised (d)
		Abington S	SFO @	5.4	18.1
	Ø/003 ♠	Münster Nünster	SFO SFO	© 1990a	3322a
	2003	O Sarottic	FO D	14.6	48.4
M-02	n O	***Dollendorf	₩SFO	1 🐃 36	11.9
(PCA)	2,007	H	SFO 2	20.2	67.2
	2047		SFO SFO	88.2	293.0
	\$°.	Abjugton	SFQ	5.8	19.2
		Abjugton Strinster Sarotti	SFO	31.6	104.9
	~© 2003 b		SFO.	241.9	803.6
M-10 🚄	2003	Saroti S	SFO	21.3	70.9
M-10	, (A)	H S	SFO	21.6	71.6
	7 2€¥6c		DFOP	77.3	>10000
		A. T.	DFOP	20.2	>10000
a – Fixed to co	nservative defaul	t value			



Table 7.1.2.1.1-78: Summary of trigger endpoints derived for M-11/12

Applied compound	Study	Soil	Model selected	DT ₅₀ un-normalised (d)	DT ₉₀ un-normalised (d)
M-02		Abington	SFO	31.7	10 5 .V Ô
(PCA)	2003	Münster	SFO	242.5°	805.5

Table 7.1.2.1.1-79: Summary of trigger endpoints derived for Mol3

Applied compound	Study	Soil			DT ₀ C
34.02		Abington 💍	Ø SFØ	Ly 1203 25	44.3
M-02 (PCA)	2003	Münste <u>r</u> "	SEO 4	48.4	0 16006
(1 0/1)	2003	Saron	SFO O	14.80	49.2

Table 7.1.2.1.1-80: Summary of trigger endpoints derived for M-14

Applied compound	Study Soil Model sefected unevormatised (d) About 16.4	Un-normalised (d)
M-05		54.4
	Abing on SFQ 40	72.0 16.4
M-14	Münster SPO 2.2	27.3
	SaPotti (SLS) SFO 5.8	19.3

Table 7.1.2.1.1-81: Simmary of trigger endpoints derived for M-15

Applied compound	Study	Soil Soil Sollerstorf II Sollerstorf	Medel selected	DT ₅₀ un-normalised (d)	DT ₉₀ un-normalised (d)
	Y	Doller forf II	© DFOP	105.7	506.1
M-15	20) 6d		DFOP	113.2	433.3
WI-13		₹ , []	DFOP	103.2	427.4
			DFOP	102.7	410.0



Table 7.1.2.1.1- 82: Summary of trigger endpoints derived for M-20

Applied compound	Study	Soil	Model selected	DT ₅₀ un-normalised (d)	DT ₉₀ un-normalised (d)
14.02		Н	SFO	4.0	139 0
M-02 (PCA)	2017	L	SFO	6.9 0	22.9
(1 011)	2017		SFO	2:-7	, O 8.9 V
		Abington	SE®	3.1	W 103 S
M-05	2003a	Münster	ŠFO	Q 144.7	Z 380.8 Z
	20034	Sarotti	© SFO	2.0	Q 6.70°

C. Overall formation fraction of M-01 from fluopicolide &

Metabolite M-01 can be formed either directly from Muopi collide of from metabolite M-03, which itself is formed from fluopicolide. However, formation and Man was only observed in a few soils. The oxerall soil in Table 7.1.2.1.1- 83, calculated as firming many f molar fraction of fluopicolide that degrades to M201, either directly of via M203, is summarised for each soil in Table 7.1.2.1.1- 83, calculated as ffm_F \downarrow_{M-01} ffm_F \downarrow_{M-02} ffm_F \downarrow_{M-04} ffm_F , to ffm_F \downarrow_{M-04} ffm_F \downarrow_{M-



Table 7.1.2.1.1-83: Overall formation fraction of M-01 from fluopicolide

Applied compound	Study	Soil	ffm FLC→M-01	ffm FLC→M-03	ffm M-03→M-01	Overall ffm from EC
	2003	Münster	0.3914	0.6086	2,3892	6 283
	2003	Sarotti	0.798	-		√0.798Ç
	2003a	Abington (non- sterile)	0.8406	- 4	» - , Ö	0.8406
	2003b	Lamberton	0.7156	- 0	- 8	20 .715 €
Ī,	2002	Lamberton	0.4067	0.5633		
	2003c	Pikeville	ą¶"	<u> </u>	<u> </u>	
		Albaro/Marcomcini	Ø.8262	~ - 0°	Q -, O	© 0.826€
		Great Chishill	0.6013	10° x 1		0.6073
	2016a	H	8 8953 D	\$ - \$ \$ \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	G - 4	8953
•		Mas du Coq	0.8075			0.8675
Fluopicolide		Parcey Meslay &	0.8286		<u> </u>	03286
		Vilobi Conyar	× 9776	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	, Š - Š	<i>©</i> 0.9776
		Dol@ndorf II	© 0.8 %			0.819
			08773 4		~ ~ ~	0.8773
	016b		© 0.815 ©			0.8156
			0.8022			0.8022
	-W	Alvington 20	\$0.78 7 \$	- 0"	√ ″ -	0.7879
	. Š	Lamberton A	, 0,7 <u>9</u> 52 @		<i>7</i> –	0.7252
		Lighteres	£6264 €	Q - V	-	0.6264
	© 201 9	Münster W	© 0.910 P	- Q	-	0.9101
, Ø	*U	Rikeville (0.39 0	1 2	1	0.7909
		Sarotti 2	676227	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	_	0.6227
				a **	rithmetic mean	0.80a
– Arithmetic n	nean carculated	of overall formation fra	<u>≪u`</u> 20mions fro©n Lamab	erton soil prior to		
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- Arithmetic nnean.		of overall formation fra				



D. EFSA template and graphical representations for kinetic fittings

The results of each kinetic evaluations are provided in the standard EFSA template for fluopicolide and its metabolites in Table 7.1.2.1.1- 84 to Table 7.1.2.1.1- 94. Graphical representations are provided in Table 7.1.2.1.1- 95 to Table 7.1.2.1.1- 105 for the best fit modelling endpoints. Similar graphical representations for the best fit trigger endpoints are provided in the summaries of the aerobic soil degradation studies.

Table 7.1.2.1.1- 84: Standard EFSA template for kinetic fitting for fluopicolide

Soil	Kinetic model	\mathbf{M}_0	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower ©1	Upper ([days]	DTM [days]
	SFO	97.68	k 0.00327	473	7.63E-11	0.002 <i>5</i> 95	0,604	√ 212 ♠	704.1
Münster,	FOMC	96.95	α 0.455 β 100.7 📞	3.56	n.r.	0.1406 34064 «	0.769 204,4	361,3	>10000
(2003)	DFOP	96.59	k1 0.255 k2 0.00 2 841 g 0.01594	9.74 /	0@082 197E-11 n.r.	0.002321 0.003067 _s	0.861 0.003 0.029	238.3	8040
Sarotti,	SFO	88.25	k.6.003626	5.65	3.04E-05	0,002281/	0.00	1 9 7.2	©635
(2003)	FOMC	89.46	$\alpha 0.5823$ $\beta 115.4$	*\$.9	n.r.	-1.4 88 -4 4 0.8	2\$52 \$71.5	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	5901
Abington	SFO	96. D A	k Ø Ø0199 2 5	2.89	4.5465-07	£001422	0.000	3 48	1156
(non-sterile), (2003a)	FOMC	\$9.34 ¢	α 0.1 403 γ β 25 08	Q.17	n.r. On.r.	U0.024 3 99 -17,32	0.256 67.48 <i>(</i>	3482.7	>10000
Lamberton,	SFO	91.25	k 0.00053	3.65	0.077	-0.900173, 4	0.00	1290	4285
(2003b)	FØMC (98.46	α 0.0 04 93 β 1,03E-09	\$2.36 £	v″n.r. n.r.v	0.0 @ 93 9,89E-10 ₀	√0,005 , 0	>10000	>10000
Lambartan	SEO	88\$71	k 0.001936	4,23	<20-16	Ø.001752°	0.002	358	1189.4
Lamberton (2003)	F Ø MC ≰	S8.19	Ο [™] α 1. 9.53 β.835.6 ς ⊱	2 27 A	n.r.	* -4,007 -2357	7.513 4028	405.2	2271.9
	SFQ	91.14	k@:001673	5,64	6,524-09	0.00129	0.002	414.4	1376.5
Pikeville,	FOMC	,~96.82√ √	α 0.2417 β 4©.71 «	\$.16 _{\(\lambda\)}	n.r. n.r.	0.08526 -21.14	0.398 108.6	725.8	>10000
(2003c)	DFOP	96.55 D	k*6.02302 \$20.00 \ 31 g 0.1914	1 ⁹ 77	0.00565	0.006936 0.0007505 0.11	0.039 0.002 0.273	424.9	1847.5
3	SFO O	96.46	k 00001359	1.79	1.52E-05	0.0008619	0.002	510	1694
Abjugton,	FOMC	98,93	Ø0.06124 γβ9.429	A 3	n.r. n.r.	0.03328 -1.463	0.089 19.72	>10000	>10000
(2003d)		9 9 ,35	k10.104 k2 0.0009647 g 0.96329	1.51	0.000806 9.46E-07 n.r.	0.04852 0.0006634 0.04512	0.159 0.001 0.081	671.6	2393
	SFO	94.24	k 🕅 💯 05383	2.18	<2e-16	0.004892	0.006	128.8	427.8
Albaro/ © Marcomcinio	FOMC	9 5.86	α 0.5563 β 65.09	1.55	n.r. n.r.	0.3198 23.61	0.793 106.6	161.2	4019
(2016)	DFOP	97.2	k1 0.2499 k2 0.004742 g 0.06658	0.913	0.00172 <2e-16 n.r.	0.09565 0.004432 0.04564	0.404 0.005 0.088	131.6	471



Soil	Kinetic model	M_0	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT ₉₀ [days]
	SFO	92.7	k 0.003447	3.66	1.50E-11	0.002764	0.004	201.1	, 6 6 8
Great Chishill,	FOMC	96.37	α 0.1233 β 7.602	1.9	n.r. n.r.	0.08991 1.826	0.157 12.38	2096	\$1000g
(2016a)	DFOP	98.54	k1 0.2582 k2 0.002219 g 0.1279	0.658	2.83E-08 <2e-16 n.r.	0.1869 0.002038 0.115	©.33 0.002 0.141	2507	3 75.9
	SFO	99.34	k 0.01003	8.61	% 05E-10	0.007872	0.012	©69.1 × ©	22 9 ,8°
Н	FOMC	98.98	α 0.3038 β 12.15	1.60	n.r.	0.2679 08.935 °	0.34 15,86	1068	247,0 00000
(2016a)	DFOP	98.67	k1 0.09601 k2 0.004458 g 0.2171	1.19	7.06E-14 • <2e-16	0.08¢16 0.00399 0.1882	0.%11 0.005 0.246	100.5	46V.6
	SFO	94.56	k 0.004277	184		0.003862	0.005	3 62.1 <i>a</i>	538.4°
Mas du Coq,	FOMC	96.3	α 0.3824 β 50.86 »	0.666	n.r.»	0 .2 9 31.11	Ø.475∡ ₹70.6 2 \$	260.7	>10000
(2016a)	DFOP	Q	\$\text{\$\int_0.06\circ{602}}\$ \$\text{\$\frac{1}{2}\$ 0.00\text{\$\text{\$\circ}\$}\frac{1}{99}\$ \$\text{\$\text{\$\circ}\$} 0.099496 &	0.495	6:42E-06 2e-16 n.r.	0.04119 0.003847 0.00684	0.001 0.004 0.123	\$185.5\\\	688.6
	SFO	95 \$ 7	k 0.004859	2.6	<22/16	Ø004258 ^D	0.005	142 .7	473.9
Parcey Meslay,	FOMC	97.68	α 0.3 191 β 29 :62	Ø:981	n.r. 🎸	0.2456 1824	Ø ₃ 375 ¥1.01	247.3	>10000
(2016a)	DF Q P	9 \$.02	k1 0.0855 1220.003422 g 0.1072	0002	4.500-08 Ze-16 n.r.	0.06156 0.003065 0.00078	0.159 0.004 0.144	166.1	636.4
	\$SFO	94.23	k Ø Ø 1261	6.J3Q	4.99 F 15	QQ1078@	0.014	55	182.5
Vilobi d'Ònyar©	FOOC	97.02	& α 0.597) Ο β 2 3 €07	1561	n.r. On.r.	0.5140 17,12	0.681 29.03	50.5	1065
(2016a)	DFO	9775	k1 0.08873 k200.007416 g 0.2516	0.76 . Ö	4.20E-14 <2-16 %n.r.	0.2231	0.102 0.008 0.28	54.9	271.4
	SFO A	90.88		يًّ4.95 ﴿	⁄1.94E 4 3́	0.006143	0.009	94	312.2
Dollendorf,	FOM	9 5 501	ø. 3622) β 19 y	1,95	no. n.r.	0.2842 10.62	0.44 27.38	109.8	>10000
(2016b)	DFOP®	94:06	k1 1 997 k2 \$ 906225 \$ 07139	4.12	0.00456 <2e-16 n.r.	0.3256 0.005461 0.05601	1.868 0.007 0.087	99.5	358.1
	, SiFO	« 94.64 ×	yk 0.0 40 08 ₃	\$.95	5.96E-09	0.007478	0.013	68.8	228.4
H	FOM	95 38	α \$\infty 2929 \\ \beta \text{11.39}	1.97	n.r. n.r.	0.2494 7.52	0.336 15.26	110	>10000
(2016b) O	PFOP (\$95.88	\$\frac{\k}{\k}1 \ 0.16\$\frac{\k}{\k}2 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	0.906	2.17E-10 <2e-16 n.r.	0.1295 0.004696 0.1545	0.201 0.005 0.196	99.5	419.3
	SFO	99 .88	k 0.00787	5.27	5.15E-13	0.006506	0.009	88.1	292.6
	FOMC.	96.43	α 0.3706 β 22.33	1.54	n.r. n.r.	0.3039 14.43	0.437 30.24	122.6	>10000
(20) 6b)	DFOP	96.57	k1 0.1103 k2 0.004904 g 0.1415	1.32	3.59E-06 <2e-16 n.r.	0.0704 0.004362 0.1041	0.15 0.005 0.179	110.2	438.4



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Soil	Kinetic model	\mathbf{M}_0	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT90 [days]
	SFO	89.2	k 0.01235	8.69	1.76E-09	0.009337	0.015	56.1	186 .5
L	FOMC	95.96	α 0.4526 β 12.5	1.49	n.r. n.r.	0.4098 10.02	0.495 14.97	45.3	2013 2013
(2016b)	DFOP	95.32	k1 0.07342 k2 0.005194 g 0.374	1.74	9.14E-13 7.08E-13 n.r.	0.06062 0.004297 0.3268	0.086 0.006 0.421	476	\$3.2 \$3.2
	SFO	90.9	k 0.006245	3.81	1 ₹46E-15	0.005876	0.007	Ž111	368°F
Abington 2,	FOMC	95.39	α 0.2186 β 9.099	3.9	n.r. n.r.	0.9563 02.889 .	0.28 × 15,8	207%	\$0000°
(2019)	DFOP	95.15	k1 0.3704 k2 0.004877 g 0.1058	1.41	0.000341 • <2e-16	0.1787 0.00#513 0.08236	0.862 0.005 0.129	119.2	4 49 .2
	SFO	84.39	k 0.004403	3.66	122E-13	Ø.0036 ® 1	0.005	87.4 g	522 % °
Lamberton,	FOMC	86.65	α 0,3865 β47.11,%	2.69	n.r n.r	0.1 3 07 63272	Ø.622√ ₹ 93.9√	236.1	>100000
(2019)	DFOP	87.63	\$\int 0.2443 \text{\text{Q}} 2 0.000936 g 0\text{\text{Q}}6748 \text{\text{\text{Q}}}	72.45 (*2).45	909411 5.19E-16 n.r		0.51 0.004 0.092	\$158.3\\	567.2
	SFO	93 62	k 0.005431	3.25	<2@16	0004742 [©]	0.006	1 27.6	424
Lignieres,	FOMC	94.36	α 1.654 β 25 8.7	3 .31	n.r. 🎺	-2.002 -406.4	\$311 \$23.9	134.6	781.9
(2019)	DF Q P	90.48	k1 0.4856 120.004903 g 0.02175	1083 5	🎾 n.r. 🥈	, 0.0370 ½ 0.004464 0.0 © 56	0.934 0.005 9.12	121.7	450
	SFO	90.46	k 0005501	3.040	<26 6	000479@	0.006	126	418.6
Münster,	FOOC	3.39	& α 0.2806/ ○ β 2 6 €36	278	n.r. O n.r.	9.798	0.354 30.91	220.3	>10000
(2019)	DFOF	93 75	k1.0.1305 k20.004075 g 0.106	0.925 0.925	1.35E-06 <2\$-16 \$\int_n.r. \text{\$\int_n.r.}\$	0.08059	0.175 0.004 0.131	142.6	537.6
	SPO A	89.87	^J k 0,0 0 6034≼	يًّ4.41 ﴿	∕1.02E4€5	0.005016	0.007	114.9	381.6
Pikeville,	FOM	94583	Ø.2662 β 13.32	2,96	nor. Sn.r.	0.1778 3.257	0.355 23.79	169.2	>10000
(2019)	DFOP®	95:50	k1 6.1673 k2 6.904466 60.1468	- X //	3.80E-05 <2e-16 n.r.	0.09185 0.003877 0.1097	0.243 0.005 0.184	119.7	480
	, SEO	_∢ 91.3 ^	k 0.00 5 094 .	3 .6	2.05E-14	0.004313	0.006	136.1	452
Sarotti 2,	FOM	95 32	α.Φ2553 β 17.34	2.91	n.r. n.r.	0.1582 3.332	0.352 31.34	244.6	>10000
Šarotti 2,	ASFOP (\$97.39	%1 0.4%03 k2 0.004301 g 0.1066	1.5	0.00375 <2e-16 n.r.	0.1361 0.003886 0.07785	0.724 0.005 0.135	135	509.2



Table 7.1.2.1.1- 85: Standard EFSA template for kinetic fitting for M-01

Soil	Kinetic model	M ₀	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT%
Münster, (2003) P _{SFO} -M2 _{SFO} + M1 _{SFO} -M2 _{SFO} ; DT ₅₀ fixed to 1000 d	SFO	-	k 0.0006931 ff 0.3914 (FLC) ff 0.3892 (M03)	11.1	n.r. n.r. n.r.	n.r. 0.0863 -0.0593	n.r. 0.7666 0.8317	1900	3322 24 27
Sarotti, (2003) P _{SFO} -M _{SFO} ; DT ₅₀ fixed to 1000 d	SFO	-	k 0.0006931 ff 0.798 (FLC)	Ø3.8	n.r. n.r.	n.r. 0.4868	(C)	Q 000	\$322 \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Abington (non-sterile), (2003a) P _{SFO} -M _{SFO} ; DT ₅₀ fixed to 1000 d	SFO	-	k 0.0006931 ff 0.3406 (FLC)	©23.3 ©23.3	n.r.	n*5 05376	фт. Ф.141,	1000	3322
Lamberton, (2003b) P _{SFO} -M _{SFO} ; DT ₅₀ fixed to 1000 d	SFO	\$\f\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1 0.0006931 ff 6 7 156 7 FLC)	28.4°	n.r., o	15 J. - \$2543 \$	Fi.r. ₹1.705	\$\frac{1}{2}\text{000}	3322
Lamberton, (2003c) P _{SFO} -M2 _{SFO} + M1 _{SFO} -M2 _{SFO} ; DT ₅₀ fixed to 1000 d	SFO		k 0.0006931 ff 0.4067 C(FLC) ff 1 (Mf3)	14.9 14.9	n.r.	n.r.	On.r. 0.7076	1000	3322
Pikeville, (2003c) PDFOP-MSFO	SFO &)	k 0.00400 Fr 1 (FEC)	9501	1.95©-07 n.r.	0.90296 800 1	0.005	173.1	574.9
Abington (2003d) P _{DFOP} -M _{SFO} ; DT ₅₀ fixed to 1000 d	ŞFO ŞFO	0_	k 000006931 ff 1 (FLE)	2.48	nst nst Ov.r.	n.r. © 0.743	n.r. 1.254	1000	3322
Albaso Marcomcini (2016) PDFOP-MSFO) -	k 0.001665 F0.8262 (FLC)	3.88	0.04912 20.r.	-0.0001371 0.7273	0.003 0.925	417.3	1386
Great Chiskol, (2016a) PDFOP SISFO; DT 50 fixed to 1000 d	SFO S		k 0.0006930 P0.6019 (FLQ)	12.9	n.r. n.r.	n.r. 0.5468	n.r. 0.6554	1000	3322
H (2016a)	SFO	\(\sigma\)' \(\sigma\)'	k 0 901212 \$ 0.8959 (FLE)	2.34	0.0127 n.r.	0.000202 0.8278	0.002 0.9625	571.7	1899.2
Mas du Coq, (2016a), P _{DFOP} M _{SFO}		Ž	k 0.001468 £00.8075 ⊘, (FLC)	3.33	0.0404 n.r.	-0.0001241 0.7254	0.003 0.8917	472.2	1568.7
Parcay Meslay, Q2016a)	SEO	-	k 0.000763 ff 0.8286 (FLC)	2.32	0.156 n.r.	-0.0006904 0.7446	0.002 0.9126	908.4	3017.6
Vilobi@Onya (2016a)	SFO	-	k 0.00214 ff 0.9776 (FLC)	2.09	5.59E-06 n.r.	0.001342 0.9256	0.003 1.03	323.9	1076.1
Dollendorf, (2016b) P _{DFOP} -M _{SFO}	SFO	-	k 0.004339 ff 0.819 (FLC)	1.88	6.67E-07 n.r.	0.002926 0.6823	0.006 0.9507	159.7	530.6



Soil	Kinetic model	Mo	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT90 [days]
H (2016b) P _{DFOP} -M _{SFO}	SFO	-	k 0.0007974 ff 0.8773 (FLC)	3.47	0.0672 n.r.	-0.0002184 0.8091	0.002 9.9456	869.3	\$887.7 C
L (2016b) P _{DFOP} -M _{SFO}	SFO	-	k 0.001246 ff 0.8156 (FLC)	4.23	0.0682 n.r.	-0.0003499 0.7176	0.003 0.9132	556.2	19 47.6
L (2016b) P_{DFOP} - M_{SFO} ; DT_{50} fixed to 1000 d	SFO	-	k 0.0006931 ff 0.8022 (FLC)	\$.22	n.r. n.r.	0.7699	n.Q. 0.3344 \$	1900 1900	\$322 ¢
Abington 2, (2019) P _{DFOP} -M _{SFO}	SFO	-	k 0.003906 ff 0.7879 (FDC)	5 .47	0.001314 n.r.	0.6683	0:906 0:9065	¥\$5.6 L ≜	\$3.5
Lamberton, (2019) P _{DFOP} -M _{SFO} ; DT ₅₀ fixed to 1000 d	SFO	- R	k 0.0006931 ff 0.7282 (FLC)	\$\\ \frac{1}{2}\\ \frac{1}{2}\	Q, Jan.r. Jan.r.	n.r. 0 0.6431	0\$042	1900 F	\$322 \$322
Lignieres, (2019) P _{DFOP} -M _{SFO} ; DT ₅₀ fixed to 1000 d	SFQ		k 0.0006931 ff 0.5264 (FLC)	715 745	n.r.	n.tO 0.5909	164. 197014	1000	3322
Münster, (2019) * P _{DFOP} -M _{SFO}	SFQ		15-0.002352 ff 0.81501 (BLC)	\$3.31 \$\int_{\inttileftinteta\int_{\inttileftinteta\int_{\inttileftint{\inttileftinteta\int_{\inttileftint{\inttileftinteta\intitileftinteta\inttileftinteta\inttileftint\inttileftinteta\intin\inttileftinteta\inttileftinteta\intitileftinteta\intitileftinteta\intitileftinteta\intitileftinteta\intitileftinteta\intitileftin\intitileftinteta\inttileftinteta\initileftinteta\intitileftinteta\intitileftinteta\initileftinteta\initileftinteta\initileftinteta\initileftinteta\initileftinteta\initileftinteta\initileftinteta\initileftinteta\initileftinteta\initileftileftileftileftileftileftileftile	0.00555 n.r.	0.0006487 0.8083	04004 \$.013	294.7	979.1
Pikeville, (2019) PDFOP-M2SFO M1SFO-M2SFO	SFO		1,0.005099 ff 0.39 (FDC) ff (M03)	9.52	0,00104 0,0104 0, n.r.	9.002038 0.2701	0.008 0.5121 1	135.9	451.6
Sarotti 2, (2019) Poyop-Msfo	SFQ		k 0.002595 ff 0.6227 (FLC)	9.87	0.07672× Ø n.r.	©.0008778 0.4856	0.006 0.7612	267.1	887.3
Münster, (2003) PDFOP-MSIO	SFQ		6.0006931 ff 0.9628		n.r. n.r.	n.r. 0.7517	n.r. 1.116	1000	3322
Münster, (2003) (2003) Proop-MsFo; DT 50 Fixed to 1000 d. k2 for M-03 fixed to 1000d.	SPO		\$ 0.0006931 ff 0.9302 M03	11	n.r. n.r.	n.r. 0.7544	n.r. 1.104	1000	3322
Pikeville, (2003) PDFOP VSFO; DT 50 fixed to 1000 d			k 0.4006931 fQ0.9302 Ø (M03)	5.81	n.r. n.r.	n.r. 0.8475	n.r. 1.016	1000	3322
D150 HXCAP TO 1009 d	SEÔ	1.136	V	1.66	1.42E-08	0.0002874	0	1858	6173
	ÆÖMC	1.164	p 9./31	0.684	n.r. n.r.	0.02637 0.1196	0.047 19.34	>10000	>10000
(2002)	DFOP	1.164	k1 0.03968 k2 0.0001796 g 0.06902	0.636	0.00481 0.000215 n.r.	0.01266 9.68E-05 0.05032	0.067 0 0.088	3461	>10000



Soil	Kinetic model	M_0	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT90 [days]
	SFO	1.189	k 0.001219	1.97	4.09E-07	0.0009774	0.001	568.8	. 188 9
North Dakota,	FOMC	1.22	α 0.1042 β 23.91	0.818	n.r. n.r.		0.142 44.41	>1000@	210000
(2002)	DFOP	1.219	k1 0.01957 k2 0.0001919 g 0.1711	0.768		-0.002188 -0.0009037 -0.000904748			\$1000@

Table 7.1.2.1.1- 86: Standard EFSA template for kinetic fitting for M 22

						7 %		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	~~
Soil	Kinetic model	\mathbf{M}_{0}	Parametek (k, k1, kΩ g, tb, ຝ β)	χ², 🍪 ersør	Prob>t	Kower &	Upper	DT50	DT ₉₀
	SFO	103.2	k 0c. 1591 ≈	~8.51 [^]	3.07E-109	0,129	9 .189&	4.4	1 4.5
Abington, (2003)	FOMC	102.4	α 3.07E+07 Φ Y.35E 408	9,46	ñxy sv.r.	2.97E+07 7.35E+08		4 .5	15.1
Münster,	SFO	104.20			9.69E -08	0.1462	0 .251	3.5	11.6
(2003)	FOMC	104.7	\$ 907.5	18%	næ,	20550 (3.03E+05	1.05E¥05	.5 ©	11.5
Sarotti,	SFO	103.3	⁄ k 0.Д39	9.83	2 674E-08	0.1239	%0.194 _@	4.4	14.5
(2003)	FOMC	10.2.2	α 1.03E+05 6.87E+05	112	n r	1.0°\$/E+05° %_87E+05	//	4.6	15.3
	\$10	P03.7	[₩] k 0.6056	\$3.1	‰2e-16 [©]	0.5658	Q 645	1.1	3.8
Dollendorf II,	FOMO	103.8	ο 2.494 β 2.678	0.736	n.r. Dr.	2,21 2.223,\$	② 2.778 3.134	0.9	4.1
(2017)	D FOP *	0 103.8	0k1 0& 933 k2 0.1837 % g086480	0.639	©2e-16& 2.32E-08 n@	0.7319 0.1351 0.8056	0.895 0.232 0.924	1	4
H	SF	F 94.1	ॐ k 0.63₹	679	€2e-16	○0.6172	0.657	1.1	3.6
(2017)	FOMC	1045	α 19.85 × β.15.51	1.710	v n.r.	-2.618 -5.618	24.31 36.63	1	3.7
L	* SOLO	Ĵ03.1 _%	© k 1.0051	© 719	©e-16	0.9643	1.138	0.7	2.2
(2007)	FOMC	1039	9 2.504	*\times	n.r. n.r.	-4.513 -5.239	12.52 10.25	0.5	1.9
T	SFO ,	104.2	У k 0 .95 09 №	0.578	<2e-16	0.9026	0.999	0.7	2.4
(2017)	FOME	104.2	α 3.2020 Β 4.165	NaN	n.r. n.r.	-2.89 -4.23	13.29 12.44	0.6	2.3

NaN – Not a number (value not saculated by KingUI)



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Table 7.1.2.1.1- 87: Standard EFSA template for kinetic fitting for M-03

Soil	Kinetic model	M_0	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT ₉
Münster, (2003) P _{SFO} -M _{SFO}	SFO	-	k 0.01107 ff 0.6086 (FLC)	3.89	9.02E-13 n.r.	0.009174 0.4484	©013 ©.7727	62.64	208
Lamberton, (2003c) P _{SFO} -M _{SFO}	SFO	-	k 0.01406 ff 0.5933 (FLC)	21.1	0.002 n.r.	0.00505	0.023 0.8973	49.3	7 163 4
Pikeville, (2019) P _{DFOP} -M _{SFO}	SFO	ı	k 0.02364 ff 0.4009 (FLC)	46.8	6.25E-07 n.r.	0.30921	0. © 2 © 4996	29.3	97.4 97.4
Abington, (2003)	SFO	92.28	k 6.88	**************************************	0011474 00000000000000000000000000000000	6.402	7.576	0.1	0.3
	SFO	105.1	k₃0,7641°>	20.5	2.00E-05	D 1066	90.222	4.2	J\$V
	FOMC	103.4	©ά 1.184, Q, β 5 ₆ 945	218.3	n.r. n.r.	0.09832 -3.203	2.467 19.09	\$4.7 \$\tilde{\psi}\$	35.6
Münster, (2003)	DFOP	103.8	k1 @22007 [™]		7.565-05 9476 n.r.	0.7095	0.279 0.051 0.085	4.4	1225
	DFOP (\$2)	103.9 7	k 6.2027 k2 k2 0.0006931 g 0.8436	£2.2	1.45E-06, On.r. n.r.	0.1461 n.r. 0.7674	0.259 157. 5.92	4.4	644.9
	SFO	100,6	1 0.3262	112	1. 52/ E-10	0.2794	0.373	2.1	7.1
Pikeville,	FOMC	¥00.9%	α 4/361 β ₆ 12:08 ±	\$11.7	Sn.r. O n.r.	-1. 989 -7.579	10.71 31.74	2.1	8.4
(2003)	DFOP	100.9	k1 0.3746 \$2 0.01055 g 0.9232	8.48 \$7	4.982-09	9.3095 0.009459 0.8622	0.44 0.033 0.984	2.1	9.1
Sarotti, (2003)	SFO*	9 3 563	6.90	3.4	0.02458	5.857	7.95	0.1	0.3
rierlow (BD),	ŠFO Š	0.04213	k 002757, (9.46®	6.21E-09	0.2297	0.322	2.5	8.4
(2016a)	FOMO	0.05213	0.42116 β15290	10 .1	n.r. n.r.	4211 15270	4211 15270	2.5	8.4
H	`SFO ^	6 .04089	k 0.5914	≯ 7.98	4.53E-10	0.7003	0.882	0.9	2.9
(2016a) ₀	FOM	0.03/089	ў 9949 ў 125 9 0	8.62	n.r. n.r.	9949 12570	9949 12570	0.9	2.9
(2016a)									



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Table 7.1.2.1.1-88: Standard EFSA template for kinetic fitting for M-05

Soil	Kinetic model	M ₀	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob>t	Lower CI	Upper CI	DT ₅₀ [days]	DT°
Abington, (2003) Psfo-ghost-Msfo	SFO	-	k 0.02361 ff 0.2581 (PCA)	7.09	2.02E-07 n.r.	0.01709 -15530	0 3 15190	29.4	Ø 97.5© 97.5©
Münster, (2003) P _{SFO} -ghost-M _{SFO}	SFO	-	k 0.004028 ff 0.1557 (PCA)	5.95	0.003051 g n.r.	0.001425 0.4477	0.007 0.4895	12.1 ×	\$71.6 \ \$71.6 \ \$7
Sarotti, (2003) P _{SFO} -ghost-M _{SFO}	SFO	-	k 0.01524 ff 0.1811 (PCA)	5.84y	1.64E-06 n.r.	40.4022 D	0.02 0.51	450	\$1.1 ¢
Dollendorf II, (2017) P _{SFO} -M _{SFO}	SFO	-	k 0.07468 ff 0.1528 (PCA)	3.02	<2e-16	0.0 © 05 0.7455	0:08 00.160 00.160	9.3	30'8 \(\int\)
Dollendorf II, (2017) P _{DFOP} -M _{SFO}	SFO	-	k 0.07449 ff 0.4548 (ACA)	© 3.8	2e-16 n.r.	0.06806 0.1481	0.08 ©1616 © 4	© 9.3 ©	315
H 2017)	SFO	- ((% 0.0621 off 0.0859 (PCA)	\$14.5 £	37E-07	0.04207 0.04207 0.0723	0.052 	\$\frac{1}{2} \tag{11.2}	37.1
L (2017) Psfo-Msfo	SFO &	\$ - \$ - \$.	(F) 0.1246 ff 0.1438 (P) A)	\$\tilde{\pi}_{.2}	©) 2e-16 n.r.	0.1097 0.13 2 5	0.739 0.155	©\$.6	18.5
I (2017) Psfo-Msfo	SFO	0' A-	ff 0.0948 (PCA)	V 1	2. 62 E-15 O n.r. &	0.07182 0.0833	0.000 0.0001	8.1	26.9
Abington,	SFO	960\$	k 0.01115	2.30	< 2 @16	0.01041	0.012	62.2	206.5
(2003a)	FOMC	%6.96 ¢	α 91,57 / β 8 λ 94	2 .51	⊅h.r. n.r. &	7, -258₹ 7-2.33É¥05	2770 2.49E+05	62.3	208.6
Ö	SFO	96,83	k 0.005092	2.85	<2006	0,004512	0.006	136.1	452.2
Münsker,	FONC	9 8.69	β 101.2	1.9	Øn.r. Øn.r.	⊘0.2406 ≠ 4.019	1.295 198.5	148.5	1932
(2003a)	DFOP	98.68 Ø	k1 09126 % k2 928E-140 4 8 0.57580	~ ×	0.139/ 0.3 pn.r.	-0.009647 -0.0139 -0.7609	0.035 0.014 1.912	160.9	>10000
Sarotti, _@	SQ O	\$94.42	©k 0.01984	\$ 4.09	\$₹2e-16	0.01984	0.02	34.9	116.1
(2Q03a)	FOMO	94.57	α 1:79E+08 β/Q95E+090	4.3%	n.r. n.r.	1.79E+08 8.95E+09	1.79E+08 8.95E+09	34.6	115
Н	SEO	0.02551	Øk 0.030%6	~ ×3.6	1.21E-11	0.02765	0.034	22.5	74.6
(2016b)	~OFOMC∢	0.0255¥	α 1.00 ±+05 α β 3②8E+06	3.84	n.r. n.r.	1.01E+05 3.28E+06	1.01E+05 3.28E+06	22.5	74.6
	SFO	0.02603	k 0.04123	4.94	7.06E-11	0.03635	0.046	16.8	55.8
(2016b)	#OMC @	0.0265	α 458 β 102.9	4.84	n.r. n.r.	-2.268 -68.98	11.87 274.7	16	63.3
L	SFG	0.02557	0.03642	6.57	1.83E-09	0.03089	0.042	19	63.2
72016b)	FOMC	©.02584	α 4.075 β 97.64	6.6	n.r. n.r.	-2.693 -90	10.84 285.3	18.1	74.2
2016by									



Table 7.1.2.1.1-89: Standard EFSA template for kinetic fitting for M-10

Soil	Kinetic model	M ₀	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT _O °
Abington, (2003) P _{SFO} -ghost-M _{SFO}	SFO	-	k 0.1274 ff 0.1436 (PCA)	20.8	0.006874 n.r.	0.03415 -2.64E+08	0.21 2.60E+08	5.4 🐇	18.4
Münster, (2003) P _{SFO} -M _{SFO} ; DT ₅₀ fixed to 1000 d	SFO	-	k 0.0006931 ff 0.0335 (PCA)	20.5	Er. n.r.	n.r.@ 0.0232	n.r. 0.0417@	0 0 1000 Q	3322
Sarotti, (2003) P _{SFO} -ghost-M _{SFO}	SFO	-	k 0.04754 ff 0.0796 (PCA)	29.4	0.004972 ° n.r.	7 0.01 2 0.1588	0.08 0.248	14.6	48,4
Dollendorf II, (2017) P _{SFO} -M _{SFO}	SFO	1	k 0.1993 ff 0.1997 (P6A)	3:28 , 3:28 ,	Ze-16 7 n.r.	0.1786 0.1825	© ©221 ©.217	3.5	
Dollendorf II, (2017) PDFOP-MSFO	SFO	-	© 0.1930 © ff 0.2902 (PCA)	4.02 G	<2e-16	7 0.1392 0.0842	0.214	3.67	11.9
(2017) P _{SFO} -M _{SFO}	SFO *		©k 0.03 ³ 228 ff 0.1265 \$ \$\PCA\$	4.53	2.10E-15	0: 02 879 %	0.1348	20.2	67.2
(2017) P _{SFO} -M _S	SEO		k 0.007859	MA 14/4	6.54E-06 On.r.	0.0047 \$ 9	0.011 0.165	88.2	293
(2017) P _{SFO} -M _{SFO}	SFO A		k 0.1199 ff 0.4886 (FCA)	15.5	8,94E-08 n.s.	0.08261 0.1345	0.157 0.2027	5.8	19.2
Abington, Q	SPO 2	₫10.9 ѧ	X 0.021∕95	8 .03	6.09E-09	0.01852	0.025	31.6	104.9
(200%)	FOME	110.0	α 149/50 β 4.63E+05	8,5%	n.r. n.r.	8501 4.63E+05	11800 4.63E+05	31.6	104.9
	SEO	100.9	2 0.002 8 65	·2.43	3.68E-05	0.00211	0.004	241.9	803.6
Münster	FOMC	102.	α 0.2448 Ø42.87	2.31	n.r. n.r.	-0.1525 -76.51	0.642 162.3	684.9	>10000
(2003b)	DFOP	\$05.1	k1 1888 k2 0.062565 g 0.061	2.04	NA 0.000233 n.r.	NA	NA 0.003 0.096	245.7	873
Sarotti,	SFO	109.4	k 0.03248	11.2	9.06E-08	0.02576	0.039	21.3	70.9
(2003)	POMC 2	₩ 109.4	α 19160 β 5.90E+05	12	n.r. n.r.	15050 5.90E+05	23270 5.90E+05	21.3	70.9
H	SFO	101.1	k 0.03214	5.34	1.61E-09	0.0273	0.037	21.6	71.6
(2016c)	FOMC	101.1	α 2.33E+05 β 7.26E+06	5.7	n.r. n.r.	2.33E+05 7.26E+06	2.33E+05 7.26E+06	21.6	71.6



Soil	Kinetic model	M_0	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob>t	Lower CI	Upper CI	DT ₅₀ [days]	DT ₉₀ [days]
	SFO	95.96	k 0.008261	4.79	7.25E-09	0.006864	0.01	83.9	278.7
L	FOMC	98.66	α 0.762 β 54.72	3.57	n.r. n.r.	0.2004 -5.75	1.324 1.15.2	81.2	© 1068
(2016c)	DFOP	98.68	k1 0.02068 k2 2.34E-14 g 0.6267	3.47	0.171 0.5	-0.0202 -0.02341 -0.7739	0.062 0.023 2.027	703	\$ 6000 \$ 6000 \$ 6000
	SFO	94.31	k 0.02498	13.3	2.\$7E-06	0.017 2	0.032	پُ 27.8ٍ¢	92.2
	FOMC	99.46	α 0.8631 β 17.73	8.12	n.r. n.r.	0,4364 Q.976, .	1.29 33.48	2198	\$7.7 ¢
(2016c)	DFOP	98.97	k1 0.04804 k2 2.34E-14 g 0.8041	6.14	0.000137 0.5 0 n.g.		0.868 0.008 0.999	20.2	a
	HS	98.33	k1 0.03424 k2 0.003029 tb 3596	5,18 , , ,		0.029 -0.000₹402 25.81	0.039 0.007 48.11	20.2	3691

Table 7.1.2.1.1- 90: Standard EFSA template for kinetic fitting for 01-11/01-12

Soil	Kinetic model		Prob>t Cl	DT 50 Odays]	DT90 [days]
Abington, (2003) P _{SFO} -M _{SFO}	SFO	k 0.0219		31.7	105.1
Münster, (2003) P _{SFO} -Mark	SFA	k 0.002858	0.002091 0.008 0.002091 0.008 0.00488 0.0932	242.5	805.5

Table 7.1.2.1.1- 91. Standard EESA template for kinetic fitting for M-13

			\sim	a CV				
Soil ©	Kinetic Mandel Mandel	Parameter (k, kY, k2, g, μθ, α, β)	² , %- er y	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT90 [days]
Abjuston, (2003)	SFO A -	y ff 0 .0 667	35.9	0.01813 n.r.	0.006296 0.0338	0.098 0.0993	13.3	44.3
Münster, (2003) P _{SFO} -M	SFO -	\$ 0.014\$3 Fff 0.02\$6 (RGA)	32.8	0.04371 n.r.	-0.001371 0.0155	0.03 0.0417	48.4	160.6
Sargen, (2008) Pse-Msro	SFO O-	k 0.04684 ff 0.0507 (PCA)	34.2	0.01462 n.r.	0.008081 0.0269	0.086 0.0746	14.8	49.2



Table 7.1.2.1.1- 92: Standard EFSA template for kinetic fitting for M-14

Soil	Kinetic model	\mathbf{M}_0	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT ₂ 9°
Abington, (2003a) P _{SFO} -M _{SFO}	SFO	-	k 0.04234 ff 1 (M20)	10.5	6.34E-07 n.r.	0.02908	0,056 1	16.4	54.4 54.4 55.4 55.4 55.4 55.4 55.4 55.4
Sarotti, (2003a) P _{SFO} -M _{SFO}	SFO	-	k 0.032 ff 1 (M20)	7.61	© ₹2 e-16 n.r.	0.03		21.39	
Abington,	SFO	11.81	k 0.1404	3.05	<2e-16	0.1345	0:946	6¥4.9 ₺	16 A
(2003)	FOMC	11.88	α 10.59 β 70.34	3.58 © Ø	1180	-0.6072 -0.509	21.78 150.27	4:8/	47.1
Münster,	SFO	11.85	k 0.08429	4,02	3 FE-15	©0.0795	0.089	8.2	27.3°√°
(2003)	FOMC	11.85	α 6 0 6.5 β 3 187 χ	4.29 Å	n.r. n.r.	-55 0 90 -6.64E+05	6.68E+05	8,2	2 7.3
Sarotti (SLS),	SFO	11.89	3 0.1194		1.3 3 E-15	₆ €0.113	0.436	Ø5.8	19.3
(2003)	FOMC	12.03	α 6.376 β 420.38	3.17	n.r.	1.6 S 8.062	86.69 86.69	5.4	20.6

Table 7.1.2.1.1-93: Standard EFSA template for kinetic fitting for M-15

			<u> </u>	<i>a.</i> "		¥ 🔾			
Soil	Kinetic	$\mathcal{E}_{\mathbf{M_0}}$	Parameter (k, Ø, k2, g, Φ, α, β)	error	Prob >t	Lower	Upper CI	DT ₅₀ [days]	DT90 [days]
Š	SFO	76,03	k 0.00625	7.¥6	// (/)	Ø.00443¶	0.008	110.9	368.4
Dollendorf II,	FØMC ⊗	S5.5 (α 0/1942 β 2.727	2.92	n.r.	0.1288 Q4348	0.22 5.018	143.1	>10000
(20 f6d)	DEO P	8 9.12	\$\int \begin{align*} \pi_0.2768 \\ \pi_2 0.004019 \\ \text{g} \pi_2 353 \end{align*}	Ĵ [™] .08	0.000202 2.00E-0& n.r.		0.389 0.005 0.268	105.7	506.1
	SFO₄	83.59	k 0.005490	3.9	6. 5 2E-08	0.00439	0.007	126.1	418.9
H	FONC	3 4.69.	©α 0.8885 βλ (β.4 %)	3.96	n.r.	-0.8053 -176.7	2.582 409.4	137.5	1437
(2016d)	DFQP	9175	Q1 22 Q 0.005928 g 0.1968 ~	**************************************	<2e-16 1.07E-08 n.r.	22 0.004264 0.06913	22 0.006 0.165	113.2	433.3
4	SFO É	³ 89.9 <i>™</i>	k 9.006216	5.6	2.43E-07	0.004821	0.008	111.5	370.5
"W	⋄ FOMC	94.18	α 0.3379 β 1907	5.28	n.r. n.r.	0.08529 -9.301	0.59 48.83	134	>10000
(2016d)	DFOP	99.69	k1@.4867 k2@.004965 g 0.1652	2.94	0.0123 4.13E-08 n.r.	0.1157 0.004114 0.12	0.858 0.006 0.21	103.2	427.4
	STO .	83.81	k 0.005842	5.32	3.38E-07	0.004494	0.007	118.7	394.2
	FOM	85.02	α 0.8946 β 108.5	5.54	n.r. n.r.	-0.9788 -194.8	2.768 411.9	127	1315
(2016d)	DFOP	94.35	k1 22.61 k2 0.005237 g 0.1437	2.95	NA 1.58E-08 n.r.	NA 0.004414 0.09579	NA 0.006 0.192	102.7	410

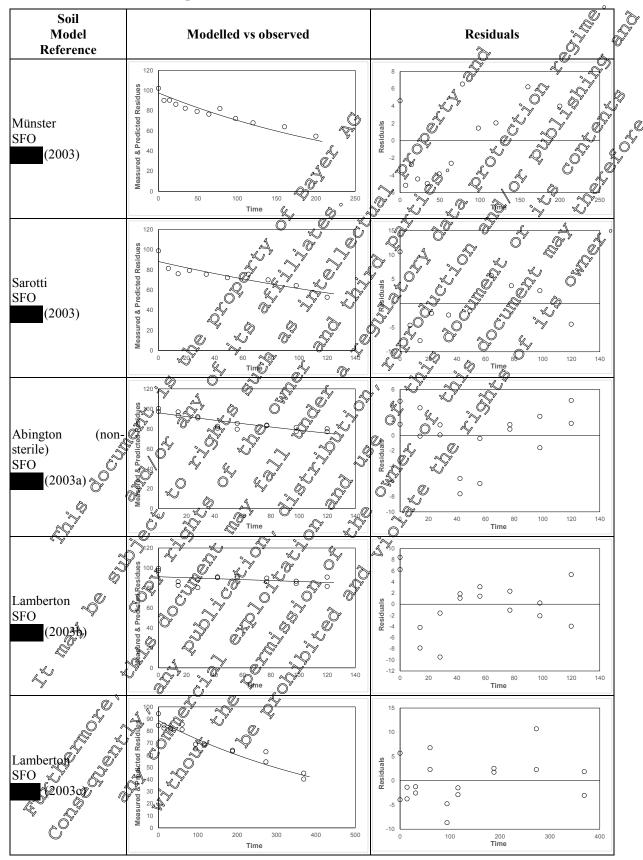


Table 7.1.2.1.1- 94: Standard EFSA template for kinetic fitting for M-20

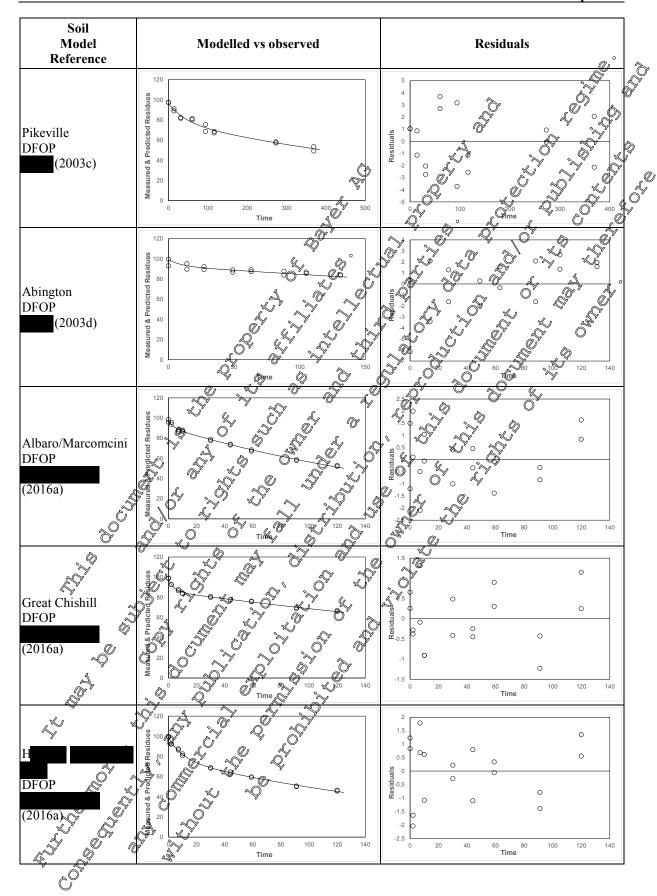
Soil	Kinetic model	Mo	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT%
(2017) P _{SFO} -M _{SFO}	SFO	-	k 0.1725 ff 0.0638 (PCA)	2	<2e-16 n.r.	0.1543 0.0586	0.191 0.069	4 4	133 57
(2017) M1 _{SFO} -M2 _{SFO}	SFO	-	k 0.1004 ff 0.6664 (M05)	2 % 8	0.000121 n.r.	605137 Q0.4458	0.148 0.8964	6.9	22,5
L (2017) M1 _{SFO} -M2 _{SFO}	SFO	-	k 0.2579 of ff 1 (M05)	12.6	0.0234 On.r.	0.1887.	0.504 1.85		
Abington, (2003a) P _{SFO} -M _{SFO} ; sink compartment removed and samples	SFO	-	\$ 0.2238 \$ 0.5445 (M05)	ZNaN A	27E-05 n.r.	0.1379	0 ² / ₂ / ₄ 0 ² / ₅ / ₉ / ₅ 4	\$ \$\frac{1}{\pi}\$	310.3
<lod excluded<="" p=""> Münster, (2003a) P_{SFO}-M_{SFO}</lod>	SFO	\(\frac{\frac}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}}}}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac}}}}}}}}}}{\frac}}}}}}}}}}}{\frac}}}}}}}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac		10.2	0.00252	0.000775 0.6204	9008 0.934	M44.7	480.8
Sarotti, (2003a) P _{SFO} -M _{SFO} ; sink compartment removed and samples	SFO		k 09447 % ff 0.3644 (M95)	Nam Nam O	<2646 n.r.	0.3447 0.3644	0.345 0.3644	2	6.7
Münster, (2003a) PSFO-MSFO Sarotti, (2003a) PSFO-MSFO; sink compartment removed and samples <lod (an="" (value)<="" a="" excluded="" not="" number="" td="" –=""><td>prot calculation of the control of t</td><td>ated by</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></lod>	prot calculation of the control of t	ated by							

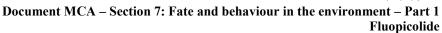


Table 7.1.2.1.1- 95: Graphical representations of best fit models for modelling endpoints for fluopicolide

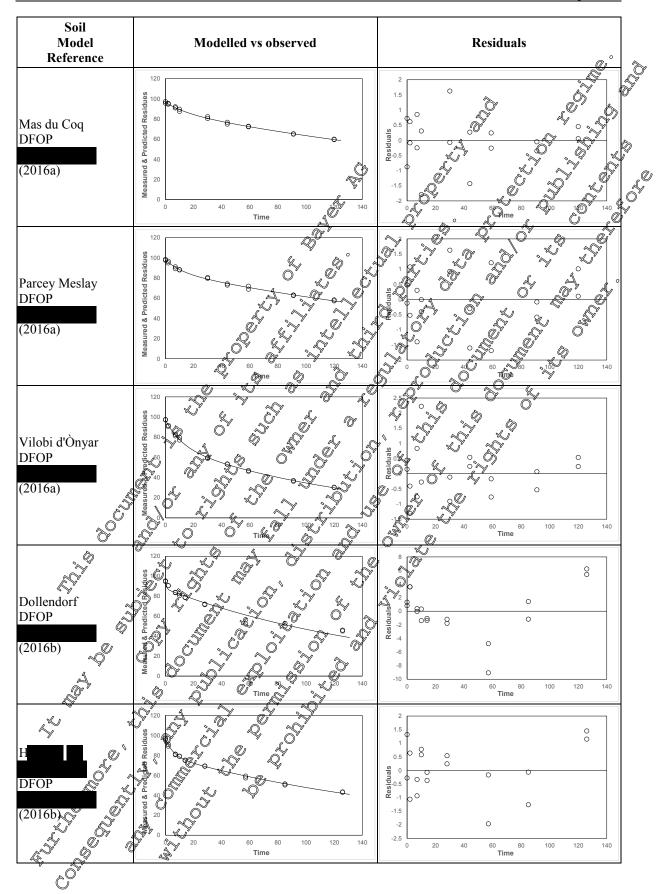




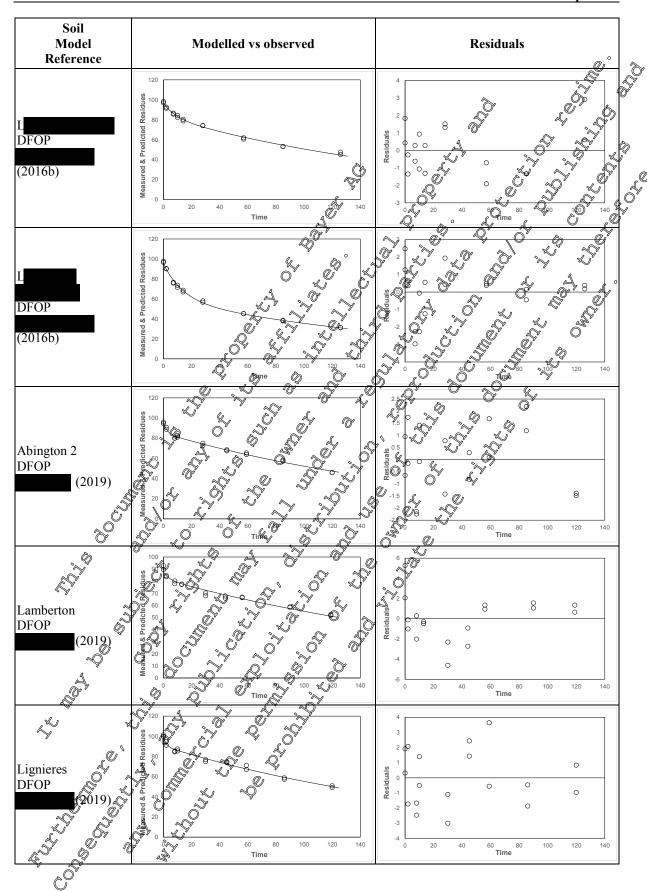


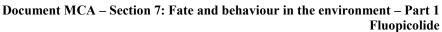




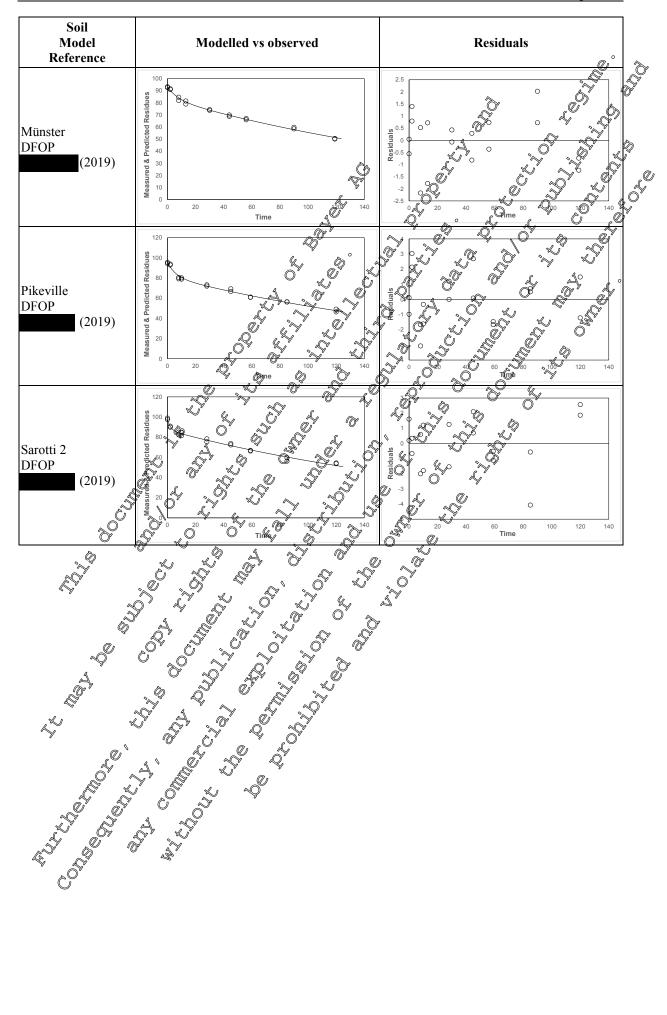












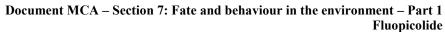
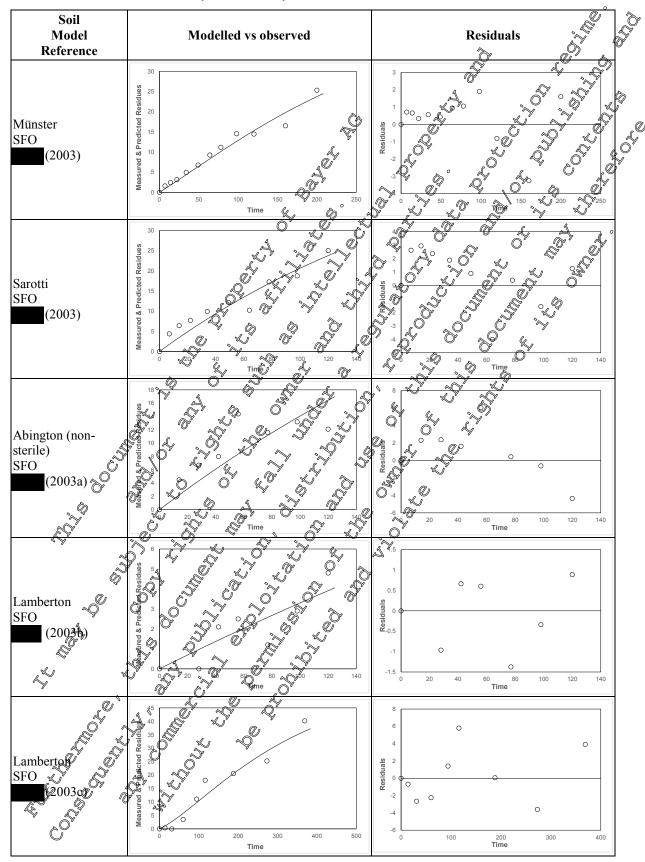
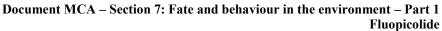


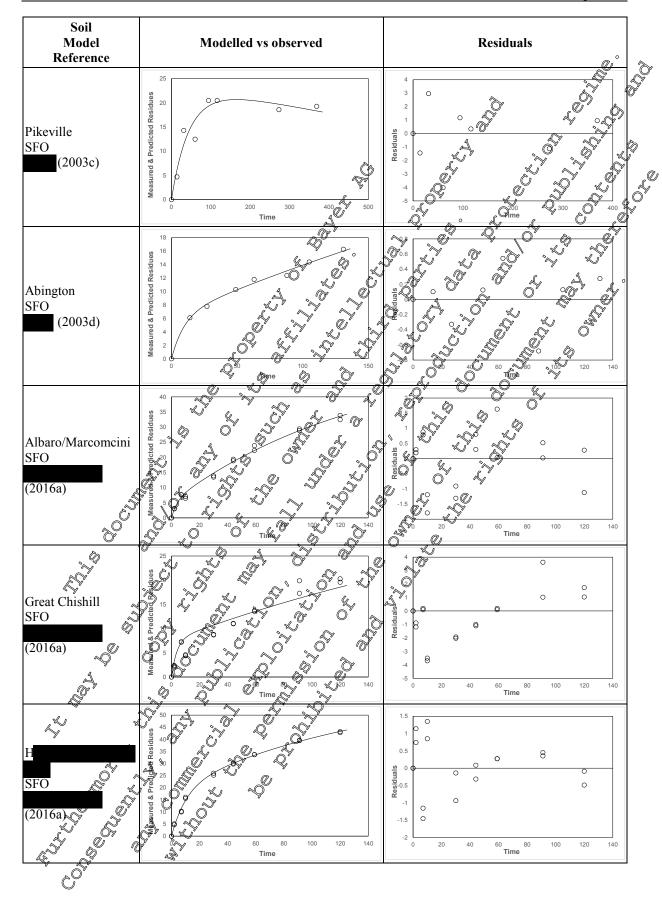


Table 7.1.2.1.1- 96: Graphical representations of best fit models for modelling endpoints for M-01 (AE C653711)

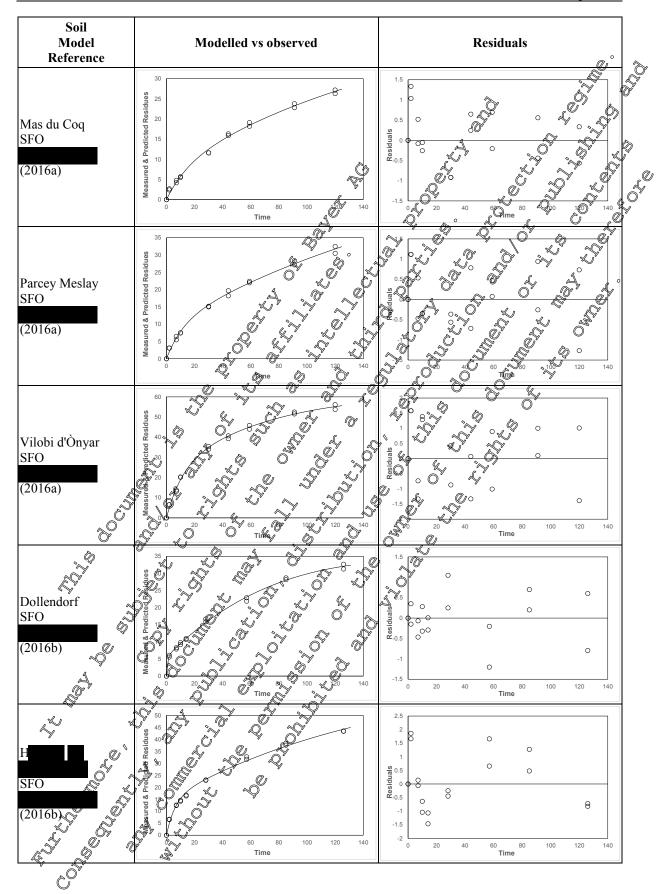




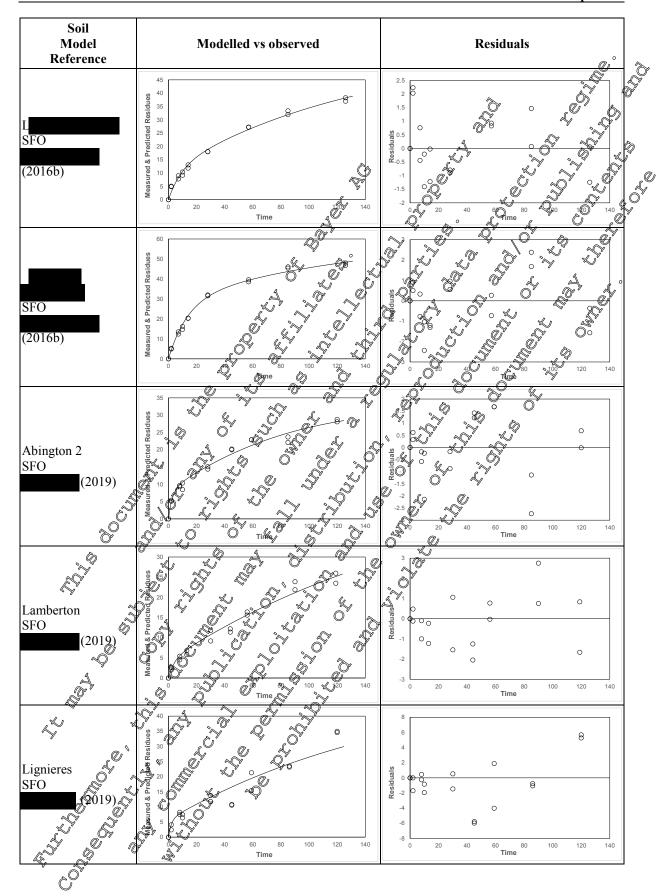


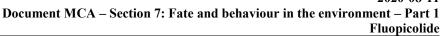




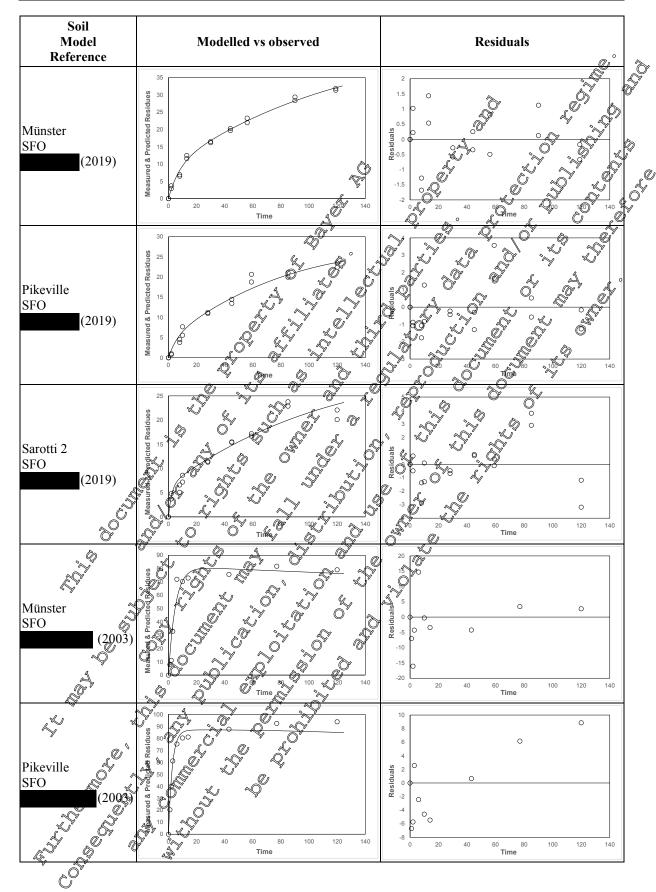














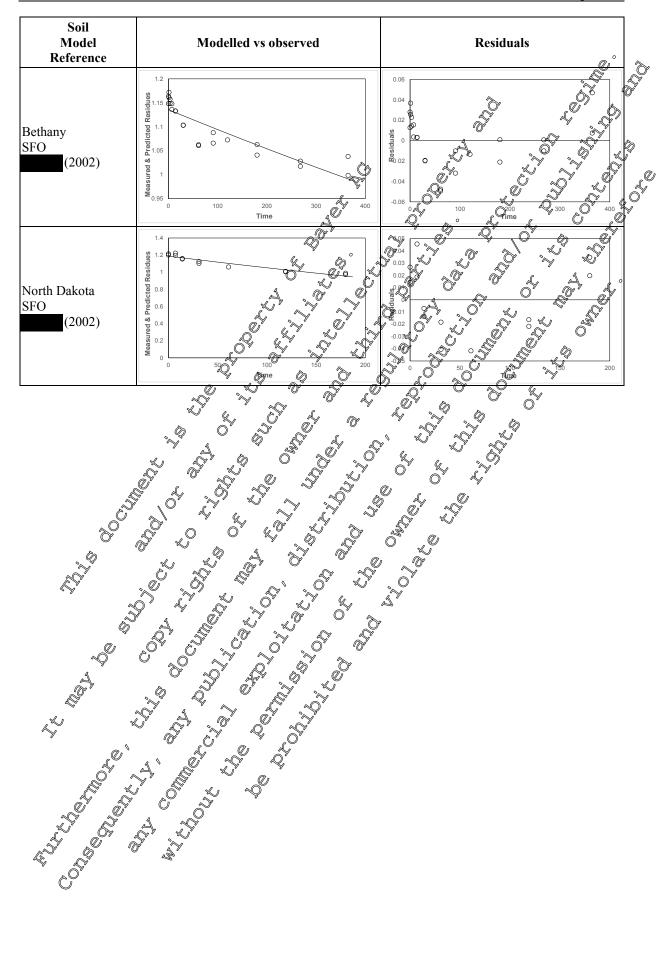
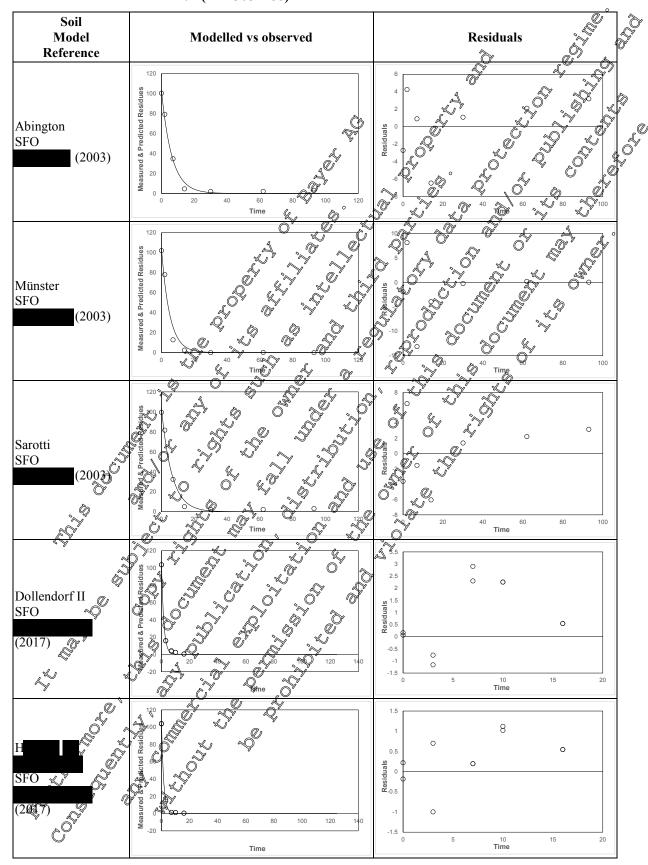
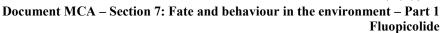




Table 7.1.2.1.1- 97: Graphical representations of best fit models for modelling endpoints for M-02 (AE C657188)







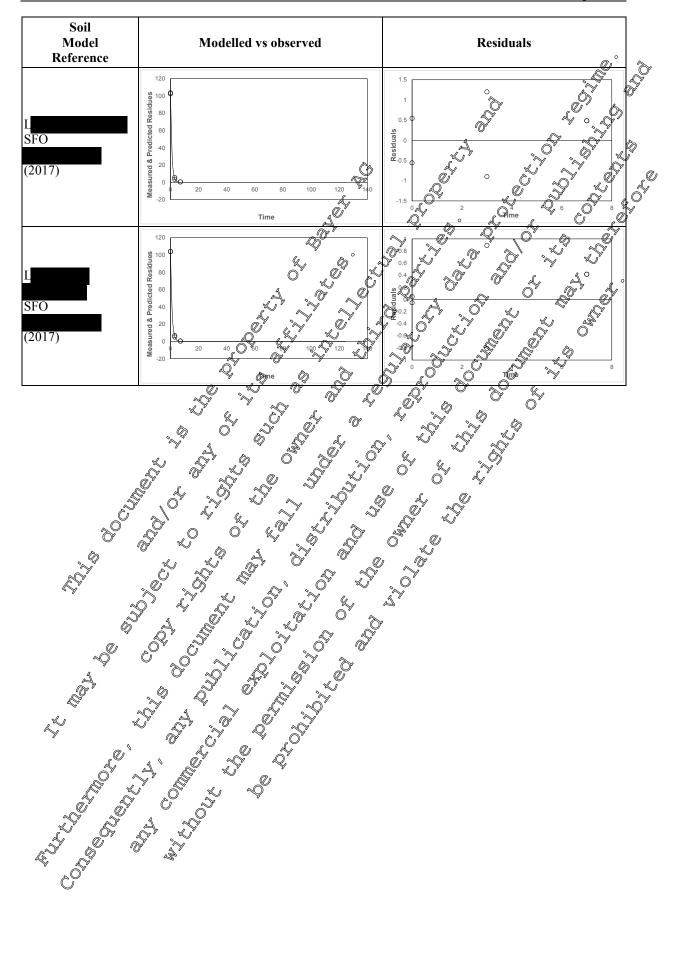
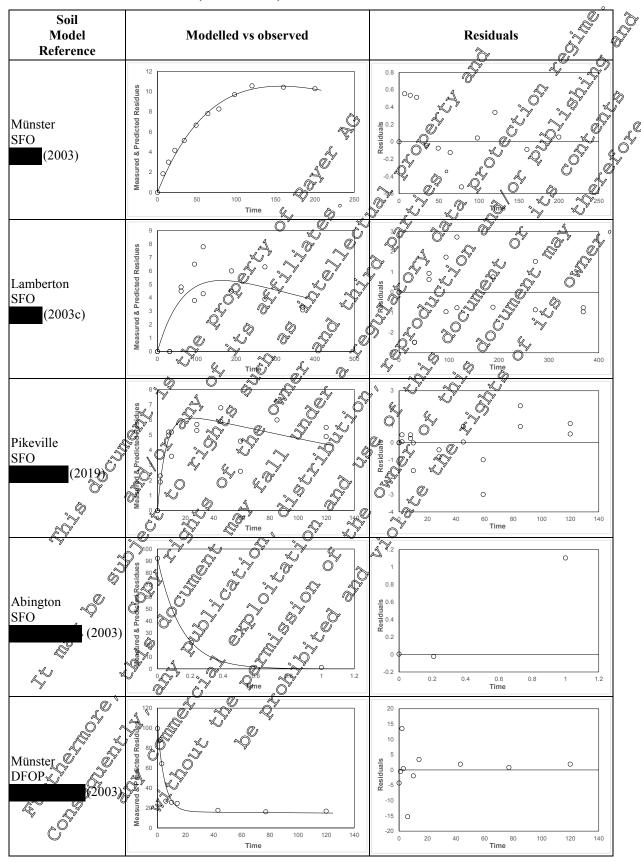
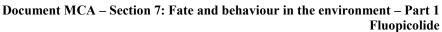




Table 7.1.2.1.1- 98: Graphical representations of best fit models for modelling endpoints for M-03 (AE 0608000)







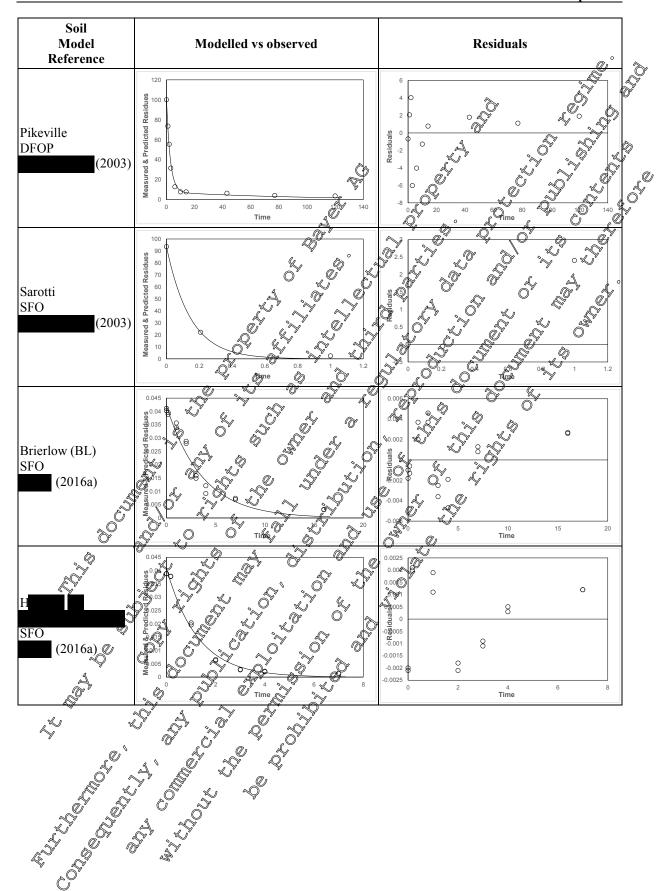
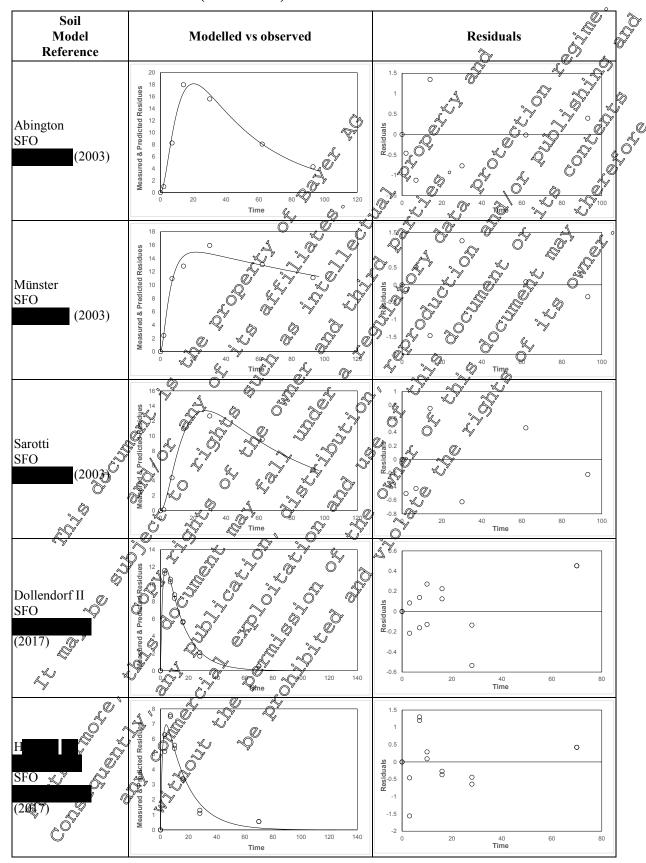
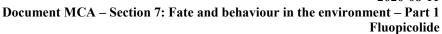


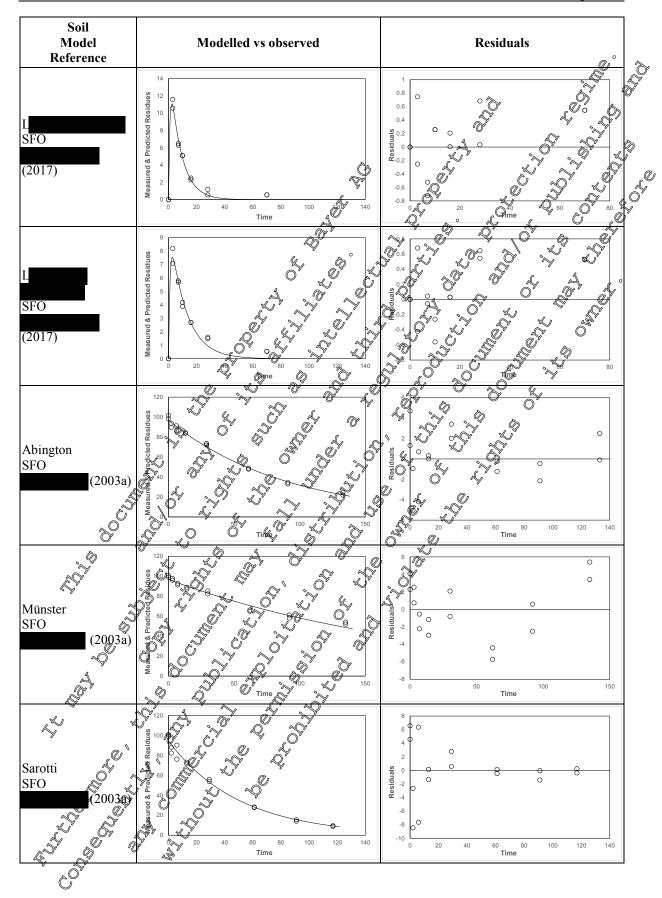


Table 7.1.2.1.1- 99: Graphical representations of best fit models for modelling endpoints for M-05 (AE 1344122)











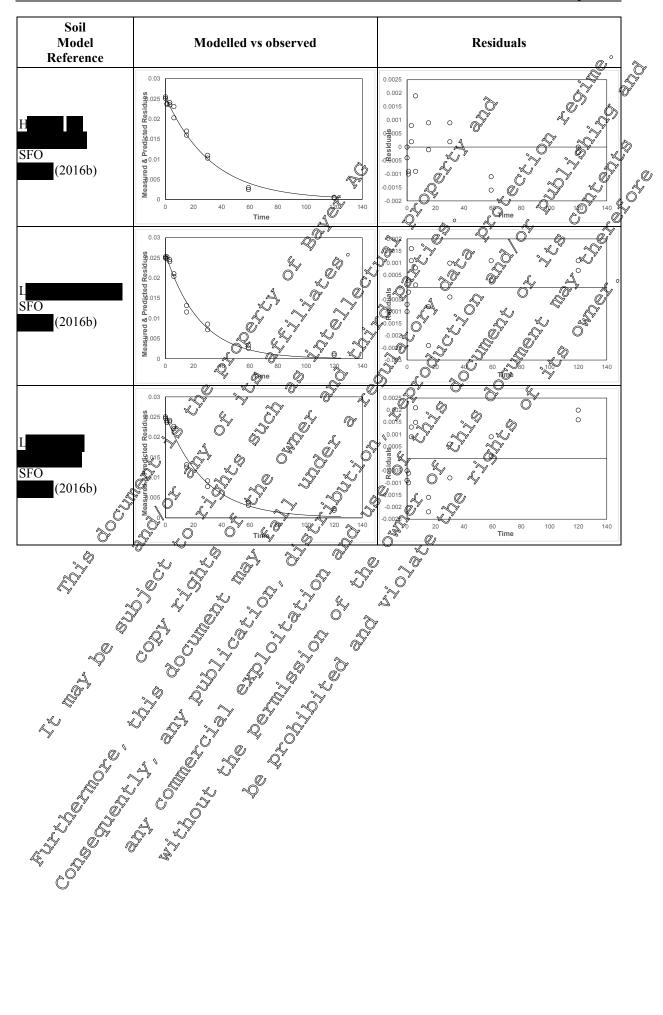
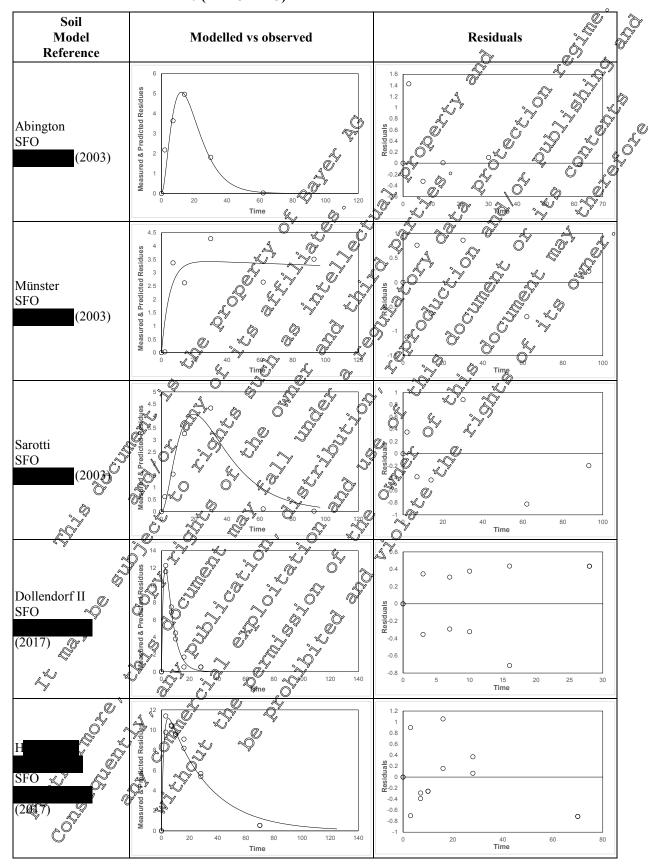
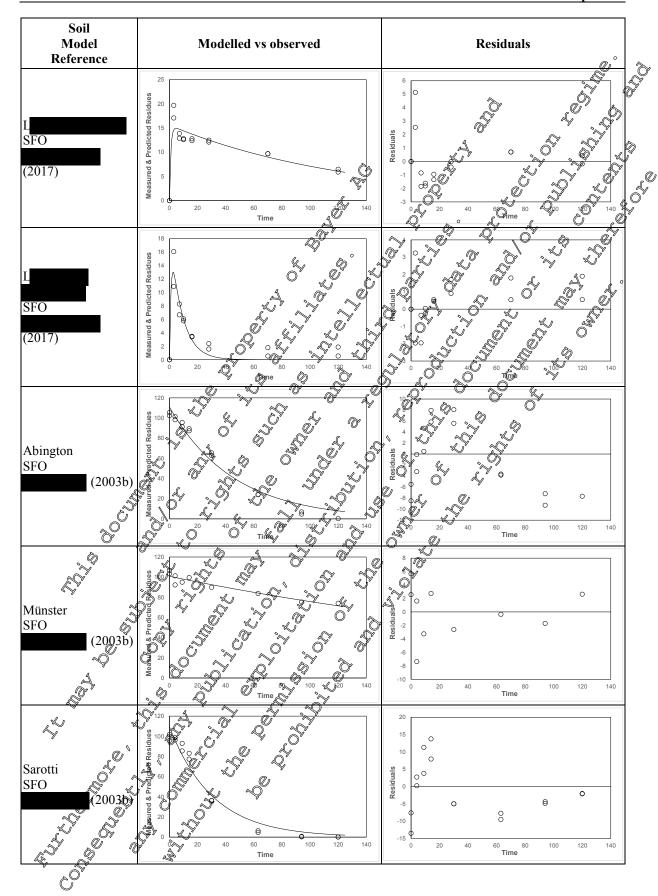


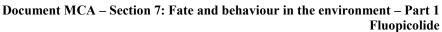


Table 7.1.2.1.1- 100: Graphical representations of best fit models for modelling endpoints for M-10 (AE 1344123)











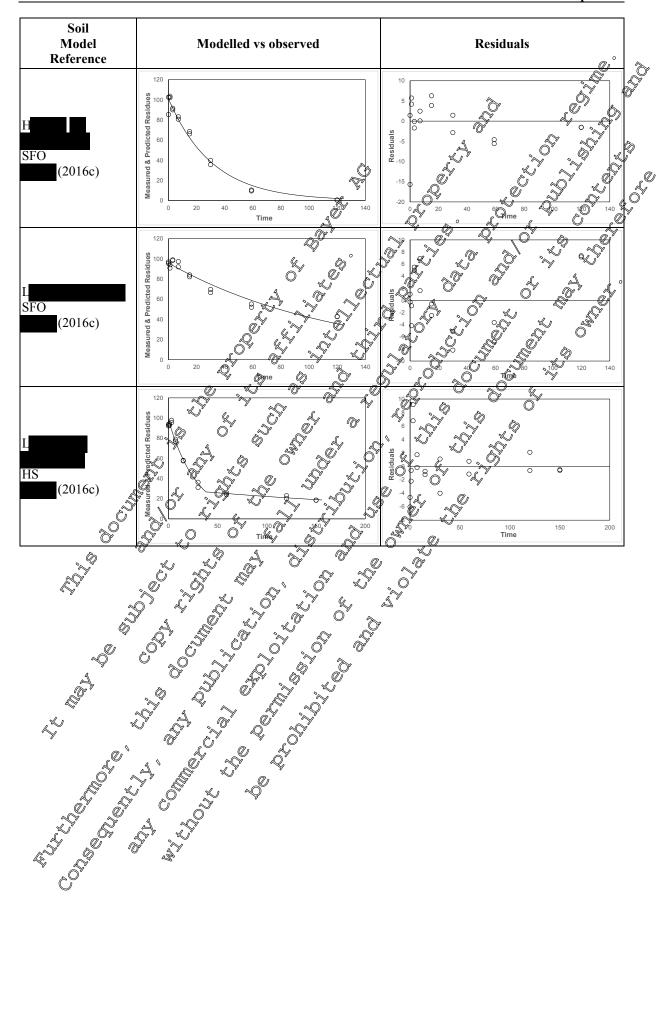




Table 7.1.2.1.1- 101: Graphical representations of best fit models for modelling endpoints for M-11/M-12

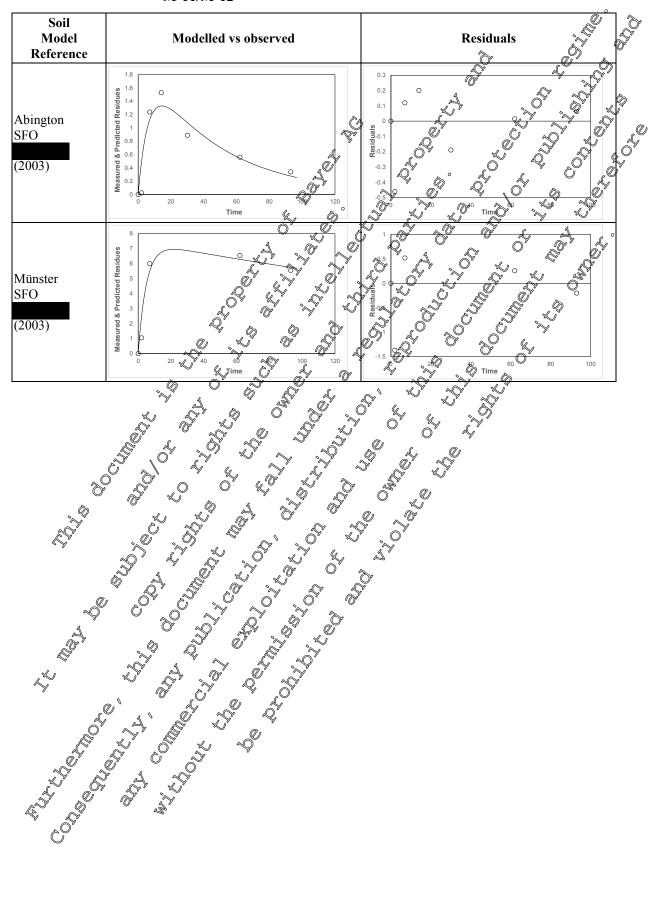




Table 7.1.2.1.1- 102: Graphical representations of best fit models for modelling endpoints for M-13

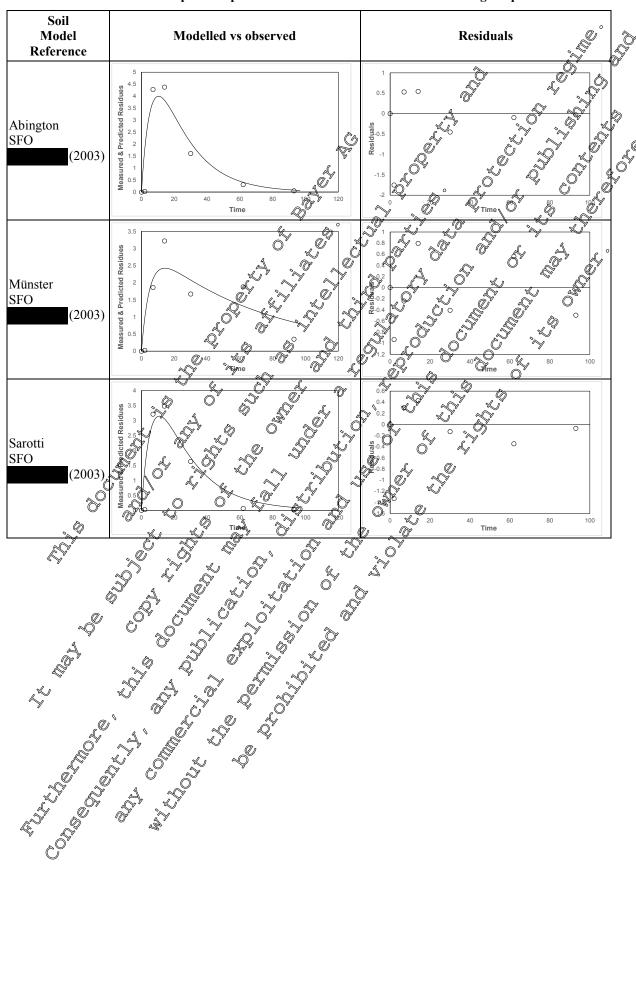




Table 7.1.2.1.1- 103: Graphical representations of best fit models for modelling endpoints for M-14 (AE 1388273)

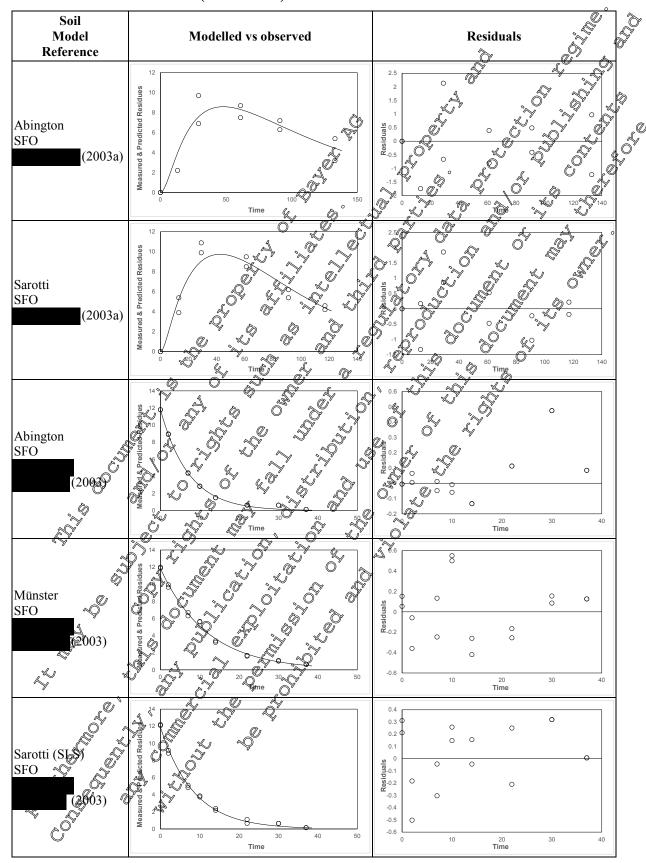




Table 7.1.2.1.1- 104: Graphical representations of best fit models for modelling endpoints for M-15 (AE 1413903)

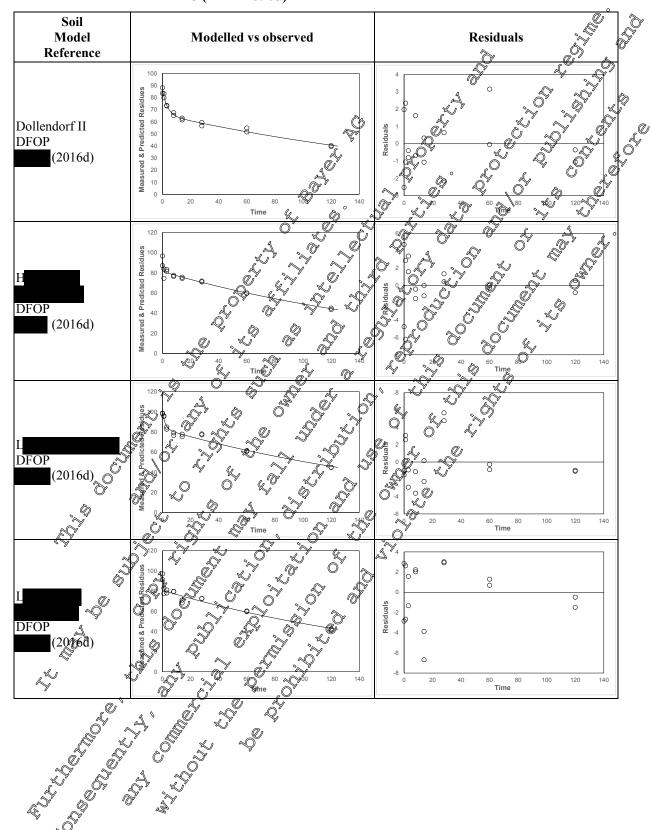
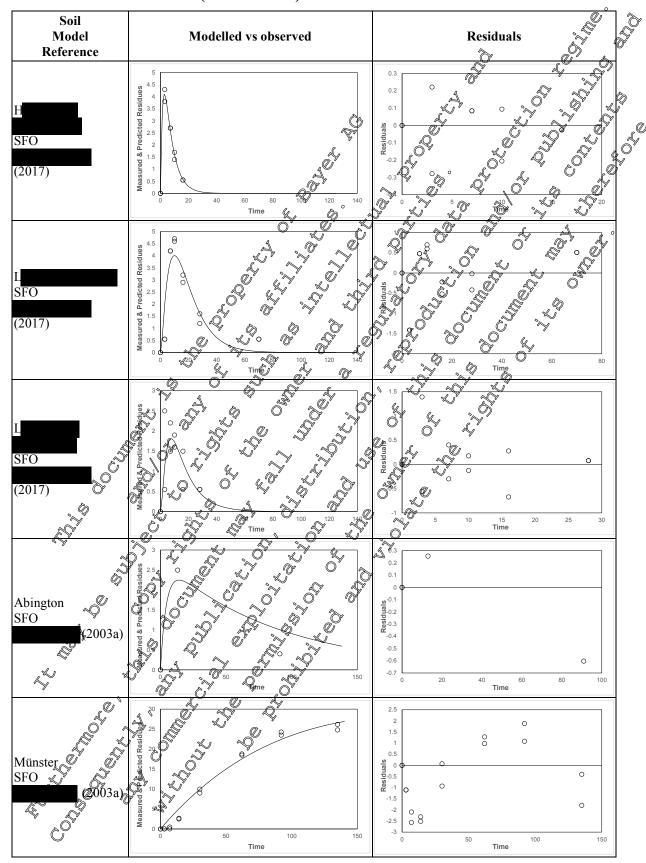
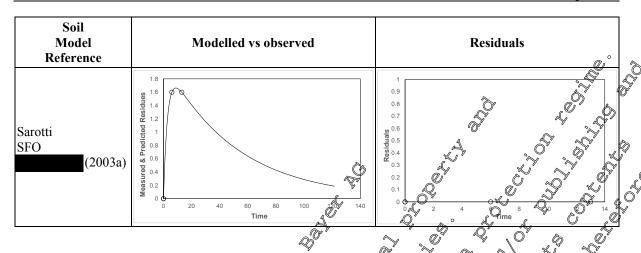




Table 7.1.2.1.1- 105: Graphical representations of best fit models for modelling endpoints for M-20 (BCS-BX16566)







III Conclusion

Data from nineteen aerobic soils studies has been used in a knietic evaluation to Crive Carameters suitable for use as trigger endpoints and modelling endpoints for fluopicolide and kl of its metaborites. ng to FOCUS Degradation elling endpoints for fluorico The metabolites included in the analysis were M-01 (SE C6\$3711 BAM) M-02 AE C6\$7188 PCA), M-03 (AE 0608000), M-05 (AE 1344) 22), M-10 (AE 1340123), M-11/12, M-18, M-10 (AE 1388273),

The modelling report was conducted according to FOCUS Degradation Kinetics (2006, 2014) and is considered valid to assess trigger and modelling endroints for fluoricolide and its metabolites in soil under laboratory conditions.

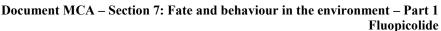


CA 7.1.2.1.2 Aerobic degradation of metabolites, breakdown and reaction products

The aerobic degradation of the metabolites of fluopicolide was evaluated in seven separate laboratory studies during the previous EU review and these studies are still considered as reliable to assess their behaviour in soil (KCA 7.1.2.1.2/01, KCA 7.1.2.1.2/02, KCA 7.1.2.1.2/03, KCA 7.1.2.1.2/04, KCA 7.1.2.1.2/05 and KCA 7.1.2.1.2/06). A study with M-15 was subsequently supported as confirmatory data (KCA 7.1.2.1.2/08). A superseded kinetic evaluation report (KCA 7.1.2.1.2/07) is listed. For procedural reasons, the previously submitted kinetic evaluation report has to be included under Point KCA 7.1.2.1.2/12 in the current dossier but this report is fully superseded by the latest kinetic evaluation report (see KCA 7.1.2.1.1/10, M-685680-01-1). Four additional aerobic soil studies, KCA 7.1.2.1.2/19, KCA7.1.2.1.2/11 and KCA 7.1.2.1.2/12 are provided as new data not yet reviewed.

Studies have been conducted for M-01 (AE C653715), M-02 (AE C657188), M-03 (AE 0608000), M-05 (AE 1344122), M-10 (AE 1344123), M-14 (AE 1388273) and M-15 (AE 1413903).

Metabolite	Report reference	Author, Year	Comment O O O O
M-01	KCA 7.1.2.1.2/01 M-234320-01-1	2002	Sobmitted and revewed for first approval of Auopic of de, 2005. Considered as supporting data
M-03	KCA 7.1.2.1.2/08/ M-241188-01-1	2003 & S	Submitted and reviewed for first approval of the biopicolide, 2005. Considered valid and acceptable.
M-02	KCA 7.1.2.1.2/03 M-219824-01-1	2003	Submitted and reviewed for first approval of fluopicolide, 2005. Considered valid and acceptable.
M-05	K&A 7.1.2\(\sigma^2/04\)\(\sigma^2\)\(\sigma^2/141\)\(\sigma^2\)\(\sigma^2/01-2\)\(\sigma^2/141\)\(\sigma^2/14	2000	Submitted and reviewed for first approval of fluopicolide, 2005 Considered valid and acceptable.
M-10	KCA 7.1.2 4.2/05 MQ41411-01-2	2003	Submuted and reviewed for first approval of fluggreolide, 2005. Considered valid and acceptable
M-14	KCA7.1.2.12/06 M-234149-91-2	2003	Submitted and reviewed for first approval of fluopicolide, 2005. Considered valid and acceptable.
Modelling report	ACA 7.1.2.1 367 M-23743-65-1	2004	Submitted and reviewed for first approval of fluopicolide, 2005. Superseded by KCA 7.1.2.1.1/10 (M-685680-01-1).
M-15	M-585202-0591	2017	Submitted as additional information regarding fluopicolide confirmatory data on metabolite M-15, 2018. Reviewed and accepted by RMS Austria.
M-02	KCA ₹1.2.1.2.09 № M-589364-19-1	2017	New data not yet reviewed.
M-03	KCA 7.1 2.1.2/10 M-565 9-01-1	2016	New data not yet reviewed.
M-05	KCA9.1.2.12/11 <u>M-565223@1-1</u>	2016	New data not yet reviewed.
M-10*	ASCA 7.4.2.1.2/12 OM-56.224-01-1	2016	New data not yet reviewed.





Data Point:	KCA 7.1.2.1.2/01
Report Author:	
Report Year:	2002
Report Title:	Aerobic soil metabolism of 14C-2,6-dichlorobenzamide (BAM)
Report No:	C034067
Document No:	<u>M-234320-01-1</u>
Guideline(s) followed in	USEPA (=EPA): Subdivision N, 161-1
study:	
Deviations from current	Yes. According to OECD 307 soil laboratory studies should not normally exceed
test guideline:	120 days. The soils were incubate under aerobic and itions for 365 and 180 days.
	as required by US EPA guideline at the time the study was considered on all
	biomass samples are low compared to initial newsurements.
Previous evaluation:	yes, evaluated and accepted visual accepted vi
GLP/Officially	Yes, conducted under GDP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes A O Q O Q

Executive Summary

The biotransformation of [14C-1-ploinyl]-M-01 (2,6-dichlorobenzamide, AE (653717) was investigated under aerobic laboratory conditions in the laboratory on two 9S soils Bethany (sandy loam) and North Dakota (sandy loam) following incubation in the dark at 25 °C at a moisture content equivalent to 75% of ½ bar for up to 365 days and 180 days respectively. The nominal text concentration was 1.2 mg test item/kg soil, equivalent to a field application rate of 1.6 kg/ha in Bethany soil and 1 kg/ha in North Dakota soil. The radiochemical purity and specific agrivity, were 96.74% and 6.86 mCi/mmol (equivalent to 1.34 MBd/mg) respectively.

	Soi	Texture (USDA)	pH (water)	% Organic Matter
Bethany	8			1.6
North Dako	***	 Sandy loam	7.7 5	9.6

Samples of Bethan, soil were taken for extraction and analysis immediately after treatment (day 0) and 1, 3, 7, 14, 30, 61, 91, 120, 180, 268 and 365 days of incubation and samples of North Dakota soil after 0, 7, 14, 31, 61, 119 and 180 days of incubation. Soil samples were exhaustively extracted with three successive extractions at ambient temperature with methanol, water (or methanol / water (1:1 v/v) for 0 to 7 DAT samples of Bethany soil) and smally with a conitrile. The soil residue was then extracted by soxhlet extraction with methanol followed by a final soxhlet extraction with water. Pooled ambient soil extracts and Soxhlet extracts were analysed by recorse phase high performance liquid chromatography (HPLC).

Recovery of radioactivity was quantitative throughout the study. Overall mean mass balances were 98.8% AR for Bethapy soil and 98,7% AR for North Dakota soil.

Total extractable radioactivity decreased from 99.6% AR at DAT 0 to 86.4% by DAT 365 in Bethany soil and from 169.6% QR at DAT 0 to 82.2% by DAT 180 in North Dakota soil. The amount of radioactivity extracted by antient extraction declined from ca. 98% AR in both soils at DAT 0 to 69% AR by DAT 365 in Bethany soil and to 62% AR by DAT 180 in North Dakota soil. With time, increasing amounts of adioactivity sould only be extracted by repeated soxhlet extraction in both soils.

In both soils, non-extractable radioactivity increased slowly but remained low, reaching maxima of 5.1% AR in Bethany soil by DAT 180 and thereafter remained at this level until DAT 365, and 4.6% AR in North Dakota soil by DAT 180, the end of the incubation period.



The maximum amount of carbon dioxide formed was 6.1% AR in Bethany soil by the end of the study (DAT 365) and 8.2% AR in North Dakota soil (DAT 180). No significant levels of organic volatiles were observed ($\leq 0.1\%$ AR).

After 365 days incubation at 25 °C in Bethany soil, M-01 degraded to 86% of the applied radioactivity while in North Dakota soil, M-01 declined to 82% AR at termination of the study after 180 days. The levels of M-01 extracted by ambient extraction decreased steadily throughout the study with significant quantities only extractable by soxhlet extraction at longer incubation intervals. M-01 was the principal radiolabelled component detected in soil extracts. In addition, a number of very minor unidentified components (maximum 0.6%) were detected in aqueous soxhlet extracts, one which was tentatively identified 2,6-dichlorobenzoic acid.

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document of degradation kinetics (2014), resulted in a best-fit up normalised DV₅₀ values of \$461 and 568.8 days in Bethany and North Dakota soils, respectively. Corresponding DV₅₀ values were \$10,000 and \$889 days.

Soil (USDA texture)	Best Fit D 50 D 190 Kinetic Model (days) A days)	Chi Error
Bethany (sandy loam)		
North Dakota (sandy loam)	SEO 5688 U 1889 Q	1.97

X Materials and Methods

A. Materials

1. Test Item

[14C-1-Phenyl]-M-01 (referred to as BAM, 2,6-dichlorobenzamode in the report)

* Denotes position of [149]-radiola
Specific Activity

Radiochemical Purity

Sample/Batch ID:

* Denotes position of [149]-radiola

* Denotes position of [149]



2. Test Soils

The study was performed using two US soils collected from the field, sieved to 2 mm and stored under refrigerated aerobic conditions for a total of 47 and 95 days prior to dispersing into incubations tubes. The physico-chemical characteristics are summarized in Table 7.1.2.1.2- 1.

Table 7.1.2.1.2-1: Physico-chemical properties of test soils

Parameter	So So	
Soil Designation	Bethany	North Darkota
Geographic Location		
City	Bethany, Connecticut	Noninwoods (
	Q [*] &° &	Township, Grand @
		Forts County, North
Country Textural Classification (USDA) Sand [50 - 2000 Silt [2 - 50 m] Country Countr	Lisa Sandy load 7	WSA.
Textural Classification (USDA)	Sandy loan	Sandy from 4°
Sand [50 - 2000 μm] (%)	744	
Silt [2 – 50 μm] (2)		\$\times 28
Clay [< 2 μm]	Saifdy loadd 744 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	10
pH O		
in H ₂ O (1:1)	1 2 48 2 .	~ °7.7
Organic Matter (%)		9.6
Cation Exchange Capacity (meq/100%) Calcium (ppm) Magnesium (ppm)		23.1
Calcium (ppm)	490 3	3100
Magnesium (ppm)	60 60	430
Sodium (ppm)	320 %	24
Potassium (ppm)		790
Magnesium (ppm) Sodium (ppm) Potassium (ppm) Hydrogen (ppm) Water Holding Capacity	42 🗸	18
Water Holding Capacity O V V		
Water Holding Capacity at 1/3 bar (g H2O per 100) g DW)	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	45.7
Test moisture (g H ₂ O per 100 DW)	11.3	34.3
Organic Matter (%) Cation Exchange Capacity (meq/100 g) Calcium (ppm) Magnesium (ppm) Sodium (ppm) Potassium (ppm) Hydrogen (ppm) Water Holding Capacity Water Holding Capacity at ½ bar (g H2O per 100 g DW) Test moisture (g H2O per 100 g DW) Moisture Content During Incorpation (%) Soil Microbial Biomass (µg microbial C g soil) Initial (Day 0) Mid (Day 14) Final (Day 365)	₹% of ⅓ Bar	75% of 1/3 Bar
Soil Microbial Biomass (µg microbial C & soil) of Initial (Day 0) Mid (Day 14) Final (Day 365)		
Initial (Day 0)	F 75	1480
Mid (Day 1)	∫ [©] 47	na
Final (Day 365)	46	na

B. Study Design

1. Experimental Conditions

Tests were performed in flow through systems consisting of a Teflon incubation tube containing 10 g soil (dry weight equivalents) and attached in series to four traps. The first trap contained ethylene glycol to collect organic volatiles, the second and third traps contained 1M sodium hydroxide to collect carbon dioxide and the fourth contained 1M sulfuric acid.

The lests were performed at a concentration of 1.2 mg/kg dry weight of soil, equivalent to a field rate of 1.6 and $\frac{1}{2}$ Rg/ha in Bethany and North Dakota soils respectively. The test item [14 C-1-phenyl]-M-01 dissolved in methanol (50 μ L) was applied to the soil surface. Soil samples were adjusted to a moisture content equivalent to 75% of $\frac{1}{3}$ bar and incubated at 25 °C several days prior to application. Treated samples were incubated at 25±1 °C under aerobic conditions in the dark for up to 365 days (Bethany



soil) and 180 days (North Dakota soil).

The incubation temperature of the Bethany soil samples was not maintained at 25 °C for two periods of 16 hours and 55 hours, where the temperature reached a maximum of 29.4 and 33.2 °C respectively

The soil moisture content of the soils was maintained at 11.3% for Bethany soil and 34.3% for North Dakota soils, by the addition of water periodically (ca. every 3 weeks) throughout the course of the study.

2. Sampling

Following incubation, duplicate samples were taken for analysis after 0, 1, 3, 7, 14, 30, 61, 71, 126, 180, 268 and 365 days (Bethany soil) and 0, 7, 14, 31, 61, 119 and 80 days (North Dakota soil). The microbial biomass of both soils was measured at the start of the incubation period and after 111 days and 365 days for the Bethany soil.

3. Analytical procedures

Day 0, 1, 3 and 7 samples of Bethany soil we're extracted at ambient temperature twice with methanol, followed by methanol / water 1:1 and then acetonitrile. The remaining Bethany soil camples and the North Dakota soil samples were extracted at ambient temperature twice with methanol, followed by water and then acetonitrile. The ambient extracts were pooled. The soil residue was then extracted by soxhlet extraction with methan of followed by further soxhlet extraction with water.

Radioactivity extracted from soil and in the volatile traps was quantified by liquid scintillation counting (LSC). Radioactivity remaining unextracted from soil was quantified by combustion and LSC. The radioactivity contained in the sodium hydrocycle traps was confirmed as "CO₂ by precipitation as ¹⁴C barium carbonate."

Quantification of the levels of M-01 and its metabolites in soil extracts was carried out by high performance liquid chromatography (HPLC). Selected samples were analysed by a second HPLC method to confirm the results obtained. Analysis by IC-MS was used to verify the most abundant radiolabelled component as M-01 (called BAM of 2,6 dichlorobenzamide in the report).

4. Determination of degradation kinetics?

The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. DT₅₀ and DT₉₀ values for the degradation of MO1 have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1). Full details are provided in Document KCA 7.12.1.140 (Mass 5686.01-1). A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints for Med (BeM), are initial comparison was performed for each soil between the SFO and FOMC fits. For both soils, the FOMC fit resulted in a lower χ^2 err% value and better visual fit than the SFO model, and the DFOP model was therefore also fitted. For the Bethany soil, the resulting DFOP fit was visually and satisfically acceptable, providing the lowest χ^2 err% value, and was accepted. For the North Dakota soil confidence in the k_2 rate constant for the DFOP model was low (p=0.37), and DFOP was therefore not accepted. The FOMC fit was also not accepted, as extrapolation beyond the experimental period is not recommended for deriving robust DT90 values using this model (EFSA, 2009). The FO model therefore provided the most appropriate description of M-01 degradation in the North Dakota soil. It is noted that the relevant trigger values are exceeded for all of the fits obtained, therefore model selection does not alter the regulatory implications of the endpoints.



II. Results and Discussion

A. Data

The results of aerobic biotransformation of [14C-1-phenyl]-M-01 after incubation in two US soils are summarised in Table 7.1.2.1.2- 2 to Table 7.1.2.1.2- 3.

Degradation of M-01 in Bethany sandy loam under aerobic conditions Table 7.1.2.1.2- 2: AR)

Compound	Mean A					Incu	~ •	time (I)AT)	,			
Compound	SD	0	1	3	7	14	30	61	Q 1	120	280	268	365
M-01	Mean	99.6	98.0	96.9	96.0	95.2°	¥92.7	89.2	90.5	90.1	88.4	\$6.0 @	Ĵ85.6 [©]
IVI-U I	SD	±0.9	±0.7	±0.5	±0.7	±0,0	±0.0	±0.1%	±103°	Q	±1.5/	±0.7	±2.5
Unknown	Mean	nd	nd	nd	0.3	% .2	。0.2	% .4	% 0 .4	$^{0}_{0}$ 0. 6	Q .4	×0.5	~Q:4
RRT 0.2 B	SD	-	-	-	±0.0	∉±0.0		D*±0.0€	±0.0	^J ±0.1∢	±0.0	±0.1	±0.0
Unknown	Mean	nd	nd	nd	nd	0.40/	0.6°	ne	nÔ	nd	ne	nd	nd, °
RRT 0.4	SD	ı	ı	6	, [2]	^≱ 0.1 ,	3 0.0	<u></u> > - "	<u></u>	Ô	ر بر الا	Ž.	
Unknown	Mean	nd	nd	ndŵ	0.1%	0.2,	0.2	0.2	0.2	70.3	0.2	ئے 0.2 🖓	0.3
RRT 0.7	SD	1	1	9	±0,0	±000	±000	±000	±0,9	±0,0	±0.00°	±0,1	±0.0
Unknown	Mean	nd	nd ,	nd	0.0	0.1	0.0	3 0.0	Pid	0.0	0.2	°%.0	0.2
RRT 1.2	SD	1	-0	~ , ' '	±0.0	±0.0¢	±0.0	±0.0	v - Ĉ	*±0.1	±0.0	±0.1	±0.0
Ambient	Mean	97.8	9 3 .5	91.8	80 √1	88.0	83.7	7803	8004	78.8	75©*	75.1	68.8
Extracts	SD	±1.0	±0.4	∑¥0.6 ٍ	¥0.7	2 0.2	₹0.6	±0.5	€ 0.4	≈ 0.9	@ 0.2	±2.1	±4.6
Soxhlet	Mean	1.0	2.9	4.4 [©]	5.4	* 5.9 <i>/</i>	6.7 _C	8.6	[√] 7.3√	9.9	× 6.6	8.1	10.0
Methanol extracts	SD	3 .0	3 .2	40 .1	±0.2	#0.0	±0×5	±0.8	#6/5	\$\frac{1}{2}\tag{9}	±0.9	±1.3	±1.5
Soxhlet	Mean	0.7	0.7	0.8	³ 2.0	1.8~		©2.7 _~		3.0	7.1	3.6	7.7
Water extracts	SP	₽0 .0	±0.1	±0,0 ○	±0,1	±0\0	±0.0		±0.2	±0.1	±0.3	±0.4	±0.8
Total		§9.6 ₹	♥98.0 _©	96.9	96.5%	9 5.7	₽ 3.2	\$9.8 s	9 1.1	90.9	89.2	86.8	86.4
Extracted	SD	±0.9	±0***	±0.5	* ±0.70	±0_1	±0,1©	±0.0°	±1.2	-	±1.3	±0.4	±2.3
Unextracted	Mean	. 1 2 2 3 3 3 3 3 3 3 3 3 3	, ((0)	îÑ	1,6	° O	25.6	~3 [©]	4.3	3.9	5.1	4.7	4.8
soil residue	SD 餐) \$0.0 \$	*/±0.0	»±0.1.	Q±0.0 s	$\cancel{\cancel{\pm}}0.2$	≠ 0.1	2 0.4	±0.2	±0.2	±0.3	±0.0	±0.0
¹⁴ CO ₂	Mean	na	0,6	0.5	1.1	1.8	2.10	3.3	4.2	4.4	5.3	5.9	6.1
CO ₂	⊗ D	, O	0.0	. ±0 .1	₩ 0.3	10 .0	±0.6	±0.2	±0.2	±0.2	±0.3	±0.4	±1.6
Organic 2	Mean	ona 🔊	nd ^	y 0.0 g	0.0	50.0	∂ .0	0.0	0.0	nd	nd	nd	0.1
volatiles	SD	Ē	Ž	±0,0	±0,0	±0.0	±0.0	±0.0	±0.0	-	-	-	±0.0
	Mean	19 0.4	g994.7	99.0	£9 .2	~99 .4	97.9	96.4	99.7	99.5	99.6	97.3	97.4
Total	SD ≪	±0.9	±0.6€	ر0.5	$\mathbb{Z}_{\pm 0.3}$	\$¥0.1	±0.5	±0.6	±1.6	-	±0.8	±0.8	±0.7

Values given as percentages of initially applied radioactivity (AR)

Values given as percentages of initially applied radioactivity (AR)
n.d.: not detected (A.): not analysed (DAT; asys after freatment, SD: standard deviation

A Mean value of (Wo replicates)

B RRT 0.2 was tentatively identified as 2,6-dichler obenzoic acid



Table 7.1.2.1.2-3: Degradation of M-01 in North Dakota sandy loam under aerobic conditions (% AR)

C 1	Mean ^A			Incub	ation time ((DAT)		Q°
Compound	SD	0	7	14	31	61	119	180
M-01	Mean	103.6	100.9	96.5	92.9	88.5	84.1	Ø81.8
WI-U1	SD	±0.7	±1.6	±0.4	±1.3	-67	±0.3	±0.0
Unknown	Mean	nd	0.2	0.2	0.2	<i>y</i> = 0 ,2	0.20	\$ 2.2 ₄
RRT 0.2 ^B	SD	-	±0.0	±0.00	±0.0	±0.0	±0.0 /)±0.0
Unknown	Mean	nd	nd	nd	nd Q	nd	ond \$) med
RRT 0.4	SD	-	-	. D'-	-4) - Q	
Unknown	Mean	nd	0.1	⇒ 0.2	0.4	\$\circ\$0.1_0\circ\$	Ø/A	0.2
RRT 0.7	SD	-	±0.0 🕏	±0.1	~40.0 ×	±0,1	_\±0.0 √	±0.0
Unknown	Mean	nd	0,0	and L	n d	\$9 .0 (nd	nd
RRT 1.2	SD	-	±0.0			©±0.1	ő	\$ - √°
Ambient Extracts	Mean	98.4	\$√89.9°	85.4	79.3 ♣	72	_≪ 67.5 €	62.2
Ambient Extracts	SD	±0.6	* ±1°:0/	№ 0.4 📈	±0.0°	(£)0.3	* ±0.	3 0.1
Soxhlet Methanol	Mean	4.10	\$9.8 °	\$ 8.0°	<i>t</i> ∂ <i>j</i> ·.4	Ç 11.7Ş	18/3	15.1
extracts	SD	± 6 .2	±0.7	±0.4	¥0.7		<u></u> 2€0.2, <	±0.6
Soxhlet Water	Mean	@1.2 ×	1.6	₹3.4 ©	2.5	3 4.3	3,6	4.9
extracts	SD 🦨	\$\pmu \pm 0.2 \tag{\tag{7}}	0.1	±0.3	-00. 1	≥0.3 ±0.3	± 0 .4	±0.1
Total Extracted	Mean	1934.6	₩101.2	9699	93.2	88,7	\$84.4 £	82.2
Total Extracted	SĎ≫ຶ	±0.7	±1.6	\$ 20.5 €	±1.3	- J'- S	≥ ±0.2	±0.9
Unextracted soil	Me an	Ç 0.6 Q	P.9	2.2	2º3 Q	2.9~	3.6	4.6
residue	Ø SD	±0,1	&±0.0	±6,1	æ ±0.1 [©]	±0.2	±0.4	±0.1
14CO ₂	Mean Mean	°≯na ⊀	1.6	2.0	2.8	3 .4	5.7	8.2
202	\$\dot{b}	- 😽	€0.0 ×	≯ ±0,2	3 3.2	∜±0.9	±1.3	±0.7
Organic volgtiles	<i>®</i> Mean∠	na	[™] nd _v	aga .	Ond &	nd	nd	nd
organic volganics	S _P Q _j	Ž'- 5	» <u>-</u> Ö'	- @	, -0°	-	-	-
i vial	Mean	104.2	104.7	5 101 O	98 .3	94.4	93.7	95.0
1 otui	SD L	±9.7 .	0°±1.6√°	\$ 0,4	△±1.4	-	±0.7	±1.5

B. Material balance

Mean mass balances were 98.8% AR for Bettony soil (range from 96.4 to 100.4% AR) and 98.7% AR for North Dakota soil (range from 93% to 164.7 % AR). The results confirm there were no significant losses of radioactivity during sample processing.

Values given as percentages of initiall capplied radioactivity (AR)

n.d.: not detected, n.a.: not marysed DAT: days after treatment SD: standard deviation

A Mean value of two replicates

B RRT 0.2 was initiatively identified as 22 dichlorobenzoic acid



C. Non-extractable and extractable residues

Values of total extractable radioactivity decreased from 103.6% of applied at zero time to 82.2% after 180 days in North Dakota soil and from 99.6% of applied at time zero to 86.4% after 365 days in Bettany soil. The amount of radioactivity extracted by ambient extraction declined from *ca.* 98% in both soils at Day 0 to 62% by DAT 180 in North Dakota soil and 69% by DAT 365 in Bethany soil. With time increasing amounts of radioactivity could only be extracted by repeated soxhles extraction in both soils.

The amounts of non-extractable soil bound radioactivity were low, reaching a maximum of the of applied radioactivity in both soils.

D. Volatile radioactivity

Radiolabelled carbon dioxide evolved accounted for a maximum of 6% of the applied radioactivity in the Bethany soil by the end of the study (DAT 365) and 8% in the North Dakota soil (DAT 380). Formation of other volatile radioactivity was in significant (20.1% AR) at any sampling interval.

E. Transformation of test substance

M-01 was the principal radiolabelled component detected a soil extracts Levels of M-07 accounted for 100% of extracted radioactivity at DAT 0 and declined to 85 and 82% of applied radioactivity at termination of the study in Bethany soil (DAT 365) and North Dakota soil (DAT 180) respectively. The levels of M-01 extracted by ambient extraction decreased steadily throughout the study with significant quantities only extractable by soxhlet extraction at longer incubation intervals.

The microbial activity of the Bethany soil at the start of the study was low with microbial biomass levels of <1% of the organic carbon (calculated from the reported pricrobial biomass and organic carbon levels for this summary). This is below the lower recommended limit of microbial activity for agricultural soils according to OECD 07 guidelines. The microbial biomass of Bethany soil was also determined after 111 and 365 days picubation and had decreased by 37% from study mitiation. The microbial activity of the North Dakota soil was higher with microbial biomass levels of 3% of the organic carbon at the start of the study (calculated from reported data for this summary).

The incubation conditions were not optimal for degradation of M-01 (2,6-dichlorobenzamide). Microbial viability of seil under laboratory conditions is known to decline with long ageing periods. The soil moisture content at which Betham soil was incubated was almost certainly too low to maintain optimal microbial hability for a sandy loam soil. This has been confirmed by microbial biomass measurements throughout the incubation period. North Dakota soil was incubated under wet conditions for a sandy loam soil at consequence of its high organic matter content. It is often not possible to determine realistic degradation rates for substances with a degree of persistence in the laboratory, as the incubation periods required to determine accurate half-lives are too long to maintain microbially viable soil and consequently any half-lives determined are extrapolated well beyond the duration of the incubation period and cannot be regarded as rebable. For this reason incubation periods according to EU recommendations are normally limited to 120 days. In order to measure accurate degradation half-lives for substances which are slowly degraded, it is necessary to determine these under field conditions.

Microbial populations in soil will, slowly degraded 2,6-dichlorobenzamide with the initial step likely to be the formation of 2,6-dichlorobenzoic acid which will the undergo decarboxylation with the evolution of carbon dioxide. A number of very minor unidentified components (maximum 0.6%) were detected in aqueous soxhlet extracts, one of these components co-chromatographed with 2,6-dichlorobenzoic acid, but the due to the very short retention time and poor chromatographic resolution this identification was tentarive. It was unclear whether this compound was a metabolic product or an impurity in the starting material. M-01 is known to be stable in sterile soil [KCA 7.1.1.1/01, 2003, M-241049-01-1] confirming that the degradation of M-01 is microbially mediated. The subsequent degradation of the metabolism products do not accumulate implying that their degradation was significantly more rapid



than that of M-01, even under incubation conditions that were not optimum for microbial activity. The radiolabelled tracer, ¹⁴C, was in carbon 1 of the phenyl ring and the presence of [¹⁴C]-carbon dioxide (at up to 8%) confirmed M-01 was mineralised with complete metabolism of the phenyl ring. However the presence of two chlorine atoms in the phenyl ring will mean that this process would be expected to be relatively slow.

F. Degradation kinetics

The rate of degradation of M-01 determined in the study using first order inetics was reported for each soil (1831 and 557 days for Bethany and North Dakota solls, respectively). It was been concluded in the report that degradation was biphasic and degradation half-lives were also quoted for the first 61 days of the incubation period (431 and 227 for Bethany and North Dakota soils, respectively).

Table 7.1.2.1.2-4: Kinetic fits for aerobic degradation of M-Dr in two US soils from EFSA conclusion

Soil	Soil type	pН	t°ÇÂ, % MXVHÇ^	days	DT ₉ S (days)	DT ₅₀ (days 20° C& pl	$F_{2} \rightarrow (r^{2})$	Wethow of calculation
Bethany	Sandy loam	4.8	75% of % Far	1831	€083 ×	848	1 127	SFO
North Dakota	Sandy loam	7.7		55 7 0	1850	808	0.874	SFO

The experimental data has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS 2014) using the software King II (version 27). Full details of the evaluation are provided in the surphary for KCN 7.1.21.1/10. The resulting best-fit DT $_{50}$ values for trigger endpoints are summarised below in Table 7.1.21.2-5 Best fit kinetics are highlighted in bold.

Table 7.1.2.12.5: Degradation rate of M 01 under aerobic conditions at 25 °C (DT₅₀ values for trigger endpoints)

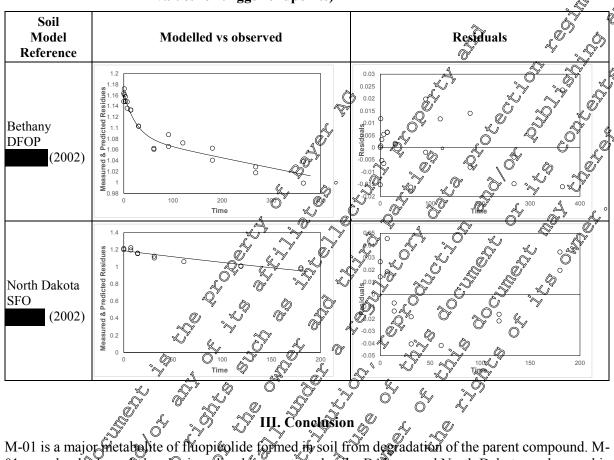
Svil	Kinetic model	M ₀	Parameter (k, k1 (k2, g, tb, a, β) ×	χ‰- error	Prob >t	© Lower CI	Upper CI	DT ₅₀ [days]	DT90 [days]
Č	SFO	1.1%	k %000373	1.66	1.42 © 208	0.0002874	0	1858	6173
Bethany, Q	F6MC	Ĵ.164'	© 0.03657 β 9 731	0.684	∂n.r. n.r.	0.02637 0.1196	0.047 19.34	>10000	>10000
Griffen (2002)	DF Ö P	10,64	k1/0:03968/ k2 0.0001396 yg 0.06902	0.636	0.00481 0.000215 n.r.	0.01266 9.68E-05 0.05032	0.067 0 0.088	3461	>10000
A)	SFO	1.189	k 0.001219\$	1.97	4.09E-07	0.0009774	0.001	568.8	1889
North Dakota	FOMC	£22 ,	© 0.1042 β 23.9	0.818	n.r. n.r.	0.06679 3.417	0.142 44.41	>10000	>10000
Griffen (2002)	DFO	1.259	k1.05/1957 k2 0.0001919 g 0.1711	0.768	0.0559 0.3696 n.r.	-0.002188 -0.0009037 -0.004748	0.041 0.001 0.347	2634	>10000

Best fit model wighlighted in bold



Graphical representations of the final kinetic fits are shown below.

Table 7.1.2.1.1- 106: Degradation of M-01 under aerobic conditions at 25 °C (best-fit DT_{.50} values for trigger endpoints)



M-01 is a major metabolite of fluopicolide formed in soil from degradation of the parent compound. M-01 was slowly degraded and mineralized in two tested soils; Berhany and North Dakota, under aerobic conditions at 25°C in the dark. M-01 became picreasing difficult to extract from soil with time, with significant levels only being extracted under soxhlet conditions by the end of the incubation periods. Only major components (<0.6%) other than M-01 were extracted from soil throughout the study.

Formation of carbon dioxide was significant (ip to \$2% AR) by the end of the study indicating the potential for complete principalization of M-01.

Best fit DT₅₀ salues ranged from 568.8 to 3461 days in the tested soils.

Assessment and conclusion by applicant:

The study was conducted in accordance with OSEPA (= EPA) N, 162-1 (1982) and has been used to provide information on the metabolism of M-01 in soil.



Data Point:	KCA 7.1.2.1.2/02
Report Author:	
Report Year:	2003
Report Title:	The kinetics of degradation of [U-14C-phenol]-AE0608000 in four soils at 20
_	under laboratory aerobic conditions
Report No:	B004233
Document No:	<u>M-241188-01-1</u>
Guideline(s) followed in	EU (=EEC): SEPAC - Europe 1.1; USEPA (=EPA): 1,62-1
study:	
Deviations from current	none & & & & & & & & & & & & & & & & & & &
test guideline:	
Previous evaluation:	yes, evaluated and accepted &
	DAR (2005)
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	Yes, conducted under GLP Officially recognised setting facilities
facilities:	
Acceptability/Reliability:	Yes O W W W A A

Executive Summary

The degradation of M-03 (AE 0608000) was studied in four foils under acrobic conditions in the laboratory in the dark at 20 ± 1 °C and 40% of the maximum water hording capacity for up to 120 days.

	Soil	Texture (FSDA)	pH (CaCl ₂)	🗞 % Organic Carbon
Münster	, Ø	Oloamy sand	4.9	1.8
Pikeville	· 4	sandy loam	5.4	1.1
Abington		sandy loam		3.2
Sarotti		silt	Ø 1.1 s. q	2.0

[Phenyl-U-14C]-Cabelled M-03 was applied to soil samples at an application rate of ca. 0.41 mg/kg dry weight. The radiochemical purity and specific activity were 91 to 94 % and 5.30 MBq/mg, respectively.

Samples of Münster and Pikeville soils were removed for extraction and analysis immediately after treatment day 0) and 12, 3, 6, 10, 14, 43, 77 and 120 day of incubation and samples of Abington and Sarotti soils after 0, 5 and 24 hours of incubation. Soil samples were extracted with acetonitrile/water 4/1 (v/v) at ambient temperature followed by soxhler extraction with acetonitrile at later timepoints in Münster (77 and 120 DAT) and Pikeville soils (43, 77, and 120 DAT). Soil extracts were analysed by reverse phase high performance fiquid stromatography (HPLC) and the results were confirmed by mass spectral analysis.

Recovery of radioactivity was quantitative throughout the study. Overall mean mass balances were 102.0% AR for Münster soil, 101.7% AR for Pikeville soil, 99.0% AR for Abington soil and 101.5% AR for Sarotti soil.

Total extractable residues remained high in all soils, declining slightly in the very acidic soils from 104.0% AR at DAT 0 to 960% AR by DAT 120 in Münster soil and from 104.7 to 97.7% AR in Pikeville soil and ranging from 96.1% to 101.4% AR in Abington soil and from 100.2% to 102.9% AR in Sarotti foil over the Dahour incubation period in neutral soils. Non-extractable residues (NER) ranged from 1.5 to 8.6% AR in Münster soil, from 1.3 to 14.8% AR in Pikeville soil, from 1.5 to 2.9% AR in Abington soil and from 1.6 to 3.5% AR in Sarotti soil. Mineralization to carbon dioxide was a minor pathway, demonstrated by the low amount of radioactivity recovered in the ethanolamine volatile traps for all soils (maximum 0.4% AR). No significant levels of organic volatiles were observed.

The degradation rate of M-03 showed a strong pH dependence with extremely rapid degradation except in soils which were highly acidic. In very acidic soils the degradation of M-03 was bi-phasic with a rapid initial degradation phase followed by a slower degradation phase. For Munster and Pikeville soils, M-



03 decreased from 99.0% and 99.2% AR at DAT 0 to 16.8% and 3.9% AR at DAT 120, respectively. For Abington and Sarotti soils, M-03 decreased from 88.9% and 91.6% AR at 0 hour to 1.2% and 2.5% AR after 24 hours, respectively. Degradation of M-03 was accompanied by the formation of the degradation product M-01 (AE C653711). M-01 levels in the soil extracts increased concurrently with the decrease of M-03. In Munster and Pikeville soils, M-01 increased to 79.2% and 93.9% by DAT 120,000 respectively. For Abington and Sarotti soils, M-01 increased to 95.3% and 923% AR by 24 hours, respectively.

A re-evaluation of the degradation kinetics in accordance with FOCOS guidance Cocument on degradation kinetics (2014), resulted in a best-fit un-normalised DT₅₀ values of 4.4 2.1, 0.1 and 11 days in Münster, Pikeville, Abington and Sarotti soils, respectively. Corresponding T₉₀ Values were 644.9, 9.1, 0.3 and 0.3 days.

Soil (USDA texture)	Best Fit Kinetic Model	DT50 W		Chi ² Error
Münster (loamy sand)	ODFQF		64409	12,2
Pikeville (sandy loam)	DEOD ~	2.71	\$9.1	&8.48 V
Abington (sandy loam)	\$FO	0.1	0.3	∠ 1.4 3
Sarotti (silt loam)	SFOY A			3.11

A. Materials

1. Test Items

* Denotes obsition of [1/9-radiolabel
43.4 ug/mg \$3 MBq/mg
594.49% (HREC) prior to dosing Munster and Pikeville soil
90.97% (HPLC) prior to dosing Abington and Sarotti soils



2. Test Soils

The study was performed using four soils from agricultural areas as characterized in Table 7.1.2.1.2-6. The soils were collected from the same sites as laboratory aerobic soil studies with fluopicolide, from Abington (Cambridge, England), Munster and Sarotti (Germany) and Pikeville (North Carolina, SA)

Table 7.1.2.1.2- 6: Physico-chemical properties of test soils

	- <u>-</u>		·	
Parameter		So	oil 4	
Soil Designation	Münster	Pikeville	Abington	Sarotti 💍
Geographic Location				
City	Münster,	Pikewille, North	Abington, 🗸	Hattersheum,
	Northrine-	Carolina,	Cambridgeshire	Hesse (
	Westfalia			
Country	Germany	USA O	THE S	. Germany
Batch Number	EFS-132	©EFS-1Q5	EES-128	EFS_133
Textural Classification (USDA)	Loamy sand	Sandy Ioam Q	Sandy loam	Sil@oam
Sand [50 - 2000 μm] %	82	70	70° W	22
Silt $[2-50 \mu m]$ %	@4	22,7		626
Clay [$< 2 \mu m$] %	(Ö [*] 4 (S [*])	S S O	_\$ 7 \$	& 36
pН				
in $CaCl_2$ (1:1)		\$ 5.40° &	₹ 7 .2 2	
in $H_2O(1:1)$	5.7	6.2	\$ \$ 7.7 ₂	O 7.5
Organic Matter (%) *	3.4	Ø1.9	5:4	3.4
Organic Carbon (%)	1.8 \$ T.8	1.K	3 .2 3	2.0
Cation Exchange Capacity	6.1 °		% 19.4~	14.5
(meg/100 g)			0' 4	
Water Holding Capacity			¥ ~ &	
Maximum (g HA) ner 100 g	\$\\ 40.6\text{\tint{\text{\tin}\text{\tilit{\text{\tin}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tex{\tex	32.3	65.4	62.4
DW)			. D	
at 1/10 bat (%)	S 18.2 S	©″17.8	23.2	34.0
at 1/3 har (%)	8.8	\$ 120° \$	17.9	20.9
at 15 bar (%)	4.70	3.3	14.3	11.5
Moisture Content During	\$40% M WHC	40% MWHC	40% MWHC	40% MWHC
Incubation (%)				
Bulk Density (disturbed) g/cm	1.340	O ³ 1045	1.20	1.16
Soil Microbial Biomass (µ2)	BHO ^T B	©BIO-	BIO-	BIO-
microbial (yg soil)		, 4 5		
Initial (Day 0)	73.2	100.9	228.0	419.7
Final T	86.5 (DAT 136)	² 59.0 (DAT 129)	-	-

BIO samples were untreated

B. Study Design

1. Experimental Conditions

Tests were performed in flow through systems consisting of an Erlenmeyer flask containing 50 g soil attached to an ethylene glycol trap to collect organic volatiles followed by an ethanolamine trap to collect carbon doxide. Soil moisture was maintained during incubation by the periodic addition of water.

The tests were performed at a concentration of approximately 0.41 mg/kg dry weight of soil (21.58 μ g/flask for Abington and Sarotti soils and 23.60 μ g/flask for Münster and Pikeville soils). The test concentration was based on a field rate of 400 g a.s./ha. The test item [phenyl-U-¹⁴C]-M-03, dissolved



in acetonitrile (280 μ L), were applied drop wise onto the soil surface. Soil samples were adjusted to a moisture content of 40% maximum water holding capacity, at least 2 days prior to application. The samples were incubated at 20 \pm 1 °C under aerobic conditions in the dark.

2. Sampling

Single samples were removed for analysis at 0, 5 and 24 hours after application for the Abington and Sarotti soils. Single samples were removed for analysis after 0, 1, 2, 3, 6, 10, 14, 43, 77 and 120 days for the Pikeville and Münster soils. Microbial soil biomass samples were analysed for all soils at the start of the experiment (Day 0) and for Pikeville and Münster soils after 129 and 136 days of incubation.

3. Analytical Procedures

For each sample analysis, the entire soil sample was extracted wo to four times at ambient temperature with acetonitrile/water (4:1, v/v). After each extraction, the Münster soil at 77 DAT and 120 DAT, and the Pikeville soil at 43, 77, and 120 DAT were subjected to soxhlet extraction with acetonitrile for 4 hours. Radioactivity extracted from soil and in the yeartile traps was quantified by liquid scintillation counting (LSC).

Extracts were analyzed against authentic reference standards by reverse phase high performance liquid chromatography and the results were confirmed by mass spectral analysis.

The extracted soil at each time point was combusted to quantify non-extractable residue (NER).

4. Determination of degradation kinetics

The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. DT₅₀ and DT₉₀ values for the degradation of M-03 and M₀01 have been te-calculated from the reported data following the recommendations of the FOCUS work group using the offware KinGUI (version 2.1). Full details are provided in Document KCA 7.1.221.1/10 (M-65 680-051). A brief summary of the approach for trigger endpoints as provided below.

To derive trigger endpoints for M₂03, an initial comparison was performed for each soil between the SFO and FOMC fits. For the Abirgton and Sarotr soils the SFO model fitted the residues appropriately, and there were insufficient time points available to fit bi-plastic models; the SFO model was therefore accepted for these soils. For the Münster and Pikoville wils, degradation appeared bi-phasic and the DFOP model was therefore also sitted. For the Münster soil, the KinGUI run for the DFOP model did not complete, while for the Pikoville soil the DFOP model provided the best fit for M-03, but there was no confidence in the resulting degradation rate constant for M-01 (BAM). In both cases, therefore, an additional fit was performed using the DFOP model for M-03, with the DT₅₀ value for M-01 fixed to 1000 d. Confidence in k2 was low for both soils however the fits were accepted as suitable and realistic; for the Münster soil, the DT₅₀ will clearly exceed the relevant triggers and statistical confidence is therefore arbitrary, while for the Pikeville soil, both the DT₅₀ and DT₉₀ occur within the study period and the data around these endpoints are well interpolated.

Further metabolity optimisations were performed using the best-fit model for the applied compound and the SFO model for metabolities.



II. Results and Discussion

A. Data

The distribution and characterisation of radioactivity for the test soils incubated at 20 °C following application of [phenyl-U-14C]-M-03 are summarized in Table 7.1.2.1.2-7 to Table 7.1.2.1.2-10

Table 7.1.2.1.2-7: Degradation of [phenyl-U-14C]-M-03 in Münster soil under acrobic conditions at 20 °C [% AR]

				(.*//	~ `	7	.~		@ ¥
Commonad				Invubation time (DAT)				<i>Q</i>)	29"	
Compound	0	1	2	3	6	NO"	14	43	Q77	∂120 \$
M-03 (AE 0608000)	99.0	87.3	88.2	4 64.4	26.9	&ž5.8 _©	°24.7	17.74	16.2€	16.8
M-01 (AE C653711)	5.0	8.0	11.4⊘	32.9	720	70. S	73.0	75.8	81,8	7 9 ,2
Ambient Extracts	104.0	95.3	9 9 A	9 % 3	98:9	96 .1	9 7.6	9 3.3	°≈88.7	48 6.0
Soxhlet Extract	na	na	Ona (🏈 na 🏻	🖔 na 🔏	🔊 na 🍖	y na "	o″ na 🍕	9.3	. 10.0 °
Total Extractable Residues	104.0	95.3	99.4°	97:3	98.9	964	97.6	93.3	9.850	2 & 0
Carbon Dioxide	na	0.4	0.0	9.9	.0 ,0	% 1	20.1	Ø.2	£ 0.2	2 0.4
Volatile Organic Compounds	na	and (nd	and a	nd	∜ nd (nd (nd 🖏		nd
Non-Extractable Residues	1.5	2.8 °C	ž 2.9 🦎	[₹] 5.1 [©]	5.0	5.8	6,00	8.6	2.7	3.7
Total Recovery	105.5	980	102/3	100.4	163.9	109.5	103.8	1002.2	100.4	100.0

n.d.: not detected, n.a.: not analysed AT: days after treatmen@All values expressed as percentage of total applied advolated

Table 7.1.2.1.2-8: Degradation of [phenyl-6-14C]-M-03 in Pikeville soil under aerobic conditions at 20 °C/8 AR

Compound		W.		Inci	ıbation	time (D	(\$\frac{1}{2}\)			
M-03 (AE 0608000) M-01 (AE \$\mathcal{C}\$53711)	0	∜1 _ ℓ	2 2	√ 3 _∞	6) 10 ×	^{)*} 14	43	77	120
M-03 (AE 0608000) 👸 🐇	99.2	73 _. 8	55.9	310	130	7.8	7.9	6.5	4.3	3.9
M-01 (AE C 53711)	~ •	2 0 .4	40 %.1	61.2	@ 5.3 _	% 0.3	81.1	87.7	92.6	93.9
Ambien Extracts		3 4.2	₈ 95.7 €	93.0%	×88.4⊜	88.2	89.0	76.0	73.5	66.1
Soxhlet Extract	/ na≪ 10 æ .7	na	na 🌂	nça,	ná 🗡	na	na	18.2	23.4	31.7
Total Extractable Revidues	104.7	94.2	9 3 0.7	99.0	% 8.4	88.2	89.0	94.2	96.9	97.7
Carbon Dioxide Q		0.0	> 0.0	$\sqrt[8]{0.0}$	9 0.1	0.1	0.1	0.2	0.3	0.4
Volatile Organic Compounds	na 🤊	nd	n₫≫	nd	nd	nd	nd	nd	nd	nd
Non-Extractable Residues	19 ″	55	\$	2 6	10.6	13.2	14.8	2.2	3.9	4.1
Total Recovery	₩06.0	900.8	3 03.6%	102.6	99.1	101.4	103.9	96.6	101.0	102.2

n.d.: not detected, n.a.: not analysed, DAT; days after treatment All values expressed as percentage of total applied radio label



Degradation of [phenyl-U-14C]-M-03 in Abington soil under aerobic Table 7.1.2.1.2- 9: conditions at 20 °C [% AR]

Compound	Incu	ıbation time (H	IAT)	
Compound	0	5	24	
M-03 (AE 0608000)	88.9	22.0	J. P	ڻ آڻي آ
M-01 (AE C653711)	11.1	71.6	© 5.3	
Ambient Extracts	99.9	93.6	A 96.5	
Soxhlet Extract	na 🍖	na 🎤	na 🐇	
Total Extractable Residues	99.9 🕏	93.6	96.5	
Carbon Dioxide	na	0.0	0.0	
Volatile Organic Compounds	na	0:Q"	0.0 0 nd	
Non-Extractable Residues	Q 1.5	2 .6 0	2.9 °C	
Total Recovery	(101.4° °	\$\int\tag{96.1}	\$\tag{99.4}	
n.d.: not detected, n.a.: not analyse All values expressed as percentage 10: Degradation	e of total applied	radiola (Q)		bic condition
at 20 °C [%AR]		bation time (H		
Composind	» "O "		A07) 24 (24) (25) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	5
M-03 (AE 0608000) M-01 (AE 0653711)	3 1.6	22.2		
M-01 (AÈX 653711)	9.8	76.3	943	
Ambient Extracts	0 100:4 %	98:4 (, 96.8	
Son hlet Extract	Sna S	na O	∜na	
Total Extoctable Residues	~ 101°4°	na 98.45	96.8	1
Carbon Dioxide 🖔 🍃	mav .	~ 000 ×	0.0	
Volable Organic Compounds	©na		nd	
Non-Extractable Residues	∂ 1.6 ©	2.80	3.5	
Total Recovered	10%	1047	100.2	1

Table 7.1.2.1.2-10: Degradation of phenylat 20 °C [%AR]

Compound &	7 Incu	ıbation time (H	(AOP)
Composing	> 0	y Ry í	24
M-03 (AE 0608000)	3 1.6	22.2	2.5
M-01 (AÈXČ653711)	9.8	76.3	J 94.35
Ambient Extracts	O 100.4 %) 9 8 :4 (<u>(</u>	36,8
Son hlet Extract	Tha J	na O	∜na
Total Extoctable Residues	~ 101, 3 ♥	Ø 98. 4 √	96.8
Carbon Dioxide 🖔 🧳	light "	200 ×	0.0
Volatile Organic Compounds	, Ona	Ond @	nd
Non-Extractable Residues	1.6	2.80	3.5
Total Recovery	1029	104.2	100.2

n.d.; not detected, n.as not analysed, HAY: Hours after treatment

B. Material Balance

Mean mass balances were 102.0% AR for Münster soil (range from 98.1 to 105.5% AR), 101.7% AR tor Pikeville soil (range from 96.6 to 106.0% AR), 99.0% AR for Abington soil (range from 101.4% AR) and 101.5% AR for Sarotti Soil (range from 100.2 to 102.9% AR).

The results confirm there were no significant losses of radioactivity during sample processing. for Pikeville soil (range from 96.6 to 106.6% AR), 99.0% AR for Abington soil (range from 96.1 to



C. Extractable and Non-Extractable Residues

In the very acidic soils, total extractable residues decreased slightly from 104.0% AR at DAT 0 to 96.0% AR by DAT 120 in Münster soil and from 104.7 to 97.7% AR in Pikeville soil. The amount of radioactivity extracted by ambient extraction declined from ca. 100% in both soils at 0 DAT to 5.0%. in Münster soil and 66.1% Pikeville soil after 120 days.

With time increasing amounts of radioactivity were extracted by soxhlet extraction (up to 10.0% and 31.7% AR by 120 DAT in Münster and Pikeville soils respectively). Analysis of soxhlet extracts showed virtually all of the radioactivity was due to M-01.

For Abington and Sarotti soils, residues were fully extractable by ambient extraction over the 24 hour incubation period ranging from 96.1% to 101.4% AR in Abington so and from 100.2% to 102.9% in Sarotti soil.

Non-extractable residues (NER) ranged from 1.5 8.6% AR in Münster soil, from 1.3 to 148% AR in Pikeville soil, from 1.5 to 2.9% AR in Abington soil and from 1.6 to 3.5% AR in Sprotti soil.

D. Volatile Radioactivity

The presence of CO₂ in the ethanolanme traps reached maxima of 0.4% AR in Münster and Pkeville soils by DAT 120. Trace levels of CO₂ were detected in Abington and Sarotti soils over 24 hours incubation (0.02% AR) Volatilization of M-03 was not considered to be a dissipation pathway under aerobic conditions in soil as indicated by the lask of ratioactivity defected 0.010 AR) in the ethylene glycol traps during the study.

E. Transformation of test substance M-03 was rapidly degraded in soil in very acidic soils the degradation of M-03 was bi-phasic with a rapid initial degradation phase followed by a slower degradation phase. For Munster and Pikeville soils, M-03 decreased from \$9.0% and \$9.2% AR at DAT 056 16.84% and 3.85% AR at DAT 120, respectively. For Abjustion and Saroth soil M-03 decreased from 88.9% and 91.6% AR at 0 hour to 1.2% and 2.5% AR after 24 hours, respectively.

Degradation of M-03 was accompanied by the formation of the degradation product M-01 (AE C63711). M-02 Cevels in the soil extracts in Creased concurrently with the decrease of M-03. For Munster and Pikeville soils M-01 increased from 5.0% and 5.46% AR at DAT 0 to 79.2% and 93.9% at DAT 120, respectively. For Abiogton and Sarotti soils, M-O1 increased from 11.1% and 9.8% AR at 0 hour to 95.3% and 94.2% AR at 24 hours, respecti

F. Degradation Kinetics

The degradation rate of M-03 showed a strong pH dependence with extremely rapid degradation except in soils which were highly acidic Reported STO DT₅₀ values of M-03 under aerobic conditions were 5.04 days, 2.15 days, 2.49 hours and 2.45 hours in Münster, Pikeville, Abington and Sarotti soils, respectively.

The experimental data less been re-evaluated according to the FOCUS guidance document on degradation kinesics (FOCUS 2014) using the software KinGUI (version 2.1). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting best-fit DT₅₀ values for trigget endpoints are summarised below in Table 7.1.2.1.2-11. Best fit kinetics are highlighted in bold.



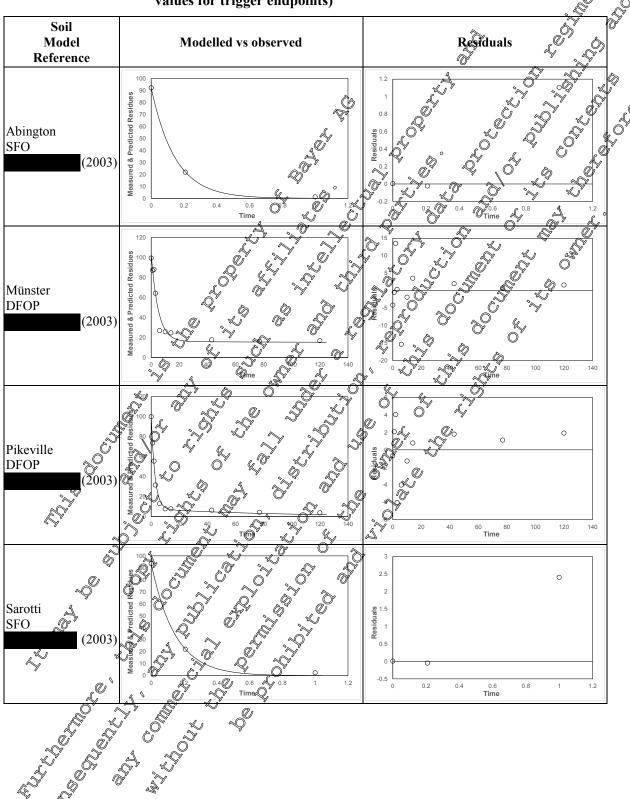
Table 7.1.2.1.2- 11: Degradation rate of M-03 under aerobic conditions at 20 °C (DT₅₀ values for trigger endpoints)

Soil	Kinetic model	M ₀	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT50 [days]	Days]
Abington, (2003)	SFO	92.28	k 6.889	1.47	0.01147	6.402	7.376	0.1	1 1.3
	SFO	105.1	k 0.1641	20.5	2. 00 E-05	0.1066	0.222	\$4.2 A	14,5
	FOMC	103.4	α 1.184 β 5.945	18.3	n.r. n.r.	-0.09 9 32 -2.203	2.467 15.09	9 4.72 F	35 .6
Münster, (2003)	DFOP	103.8	k1 0.2007 k2 0.0003466 g 0.8471	12.2 ~	7.56E-05 0.476	0.1224 -0.01078 0.4095	0.279 0.011 0.985	4.4	13/20
	DFOP (k2 fixed)	103.9	k1 0.2027 k2 0.0006931 g 0.8436	12.2 ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °	1.45E-06 n.r.	Z Ö		4.4	644.9
	SFO	100.6		f4,4	15.52E-1∕0	0.2794	0.373	\$\frac{2}{2}.1 \langle \frac{6}{3}	7.1
Pikeville,	FOMC	100.9	[©] α 4. 3 51 β. 12.08	\$11.7\$	n.r	-1.989 57.579	010.71 31.78	2.1	8.4
(2003)	DFOP	100.9	k1 0.3746 k2 0.01155 g 0.9232	8 .48	4.98E-09 0.149 n.c.	0.309\$\(-0.009459\) 0.8622 \(\)	0.44 0.033 0.984	© 2.1	9.1
Sarotti, (2003)	SEG	93.63	₩ 6.90 3	3 ,371	0.02458 	5.85	1,35	0.1	0.3
Pikeville, (2003) Sarotti, (2003) Best fit model hi									



Graphical representations of the final kinetic fits are shown below.

Table 7.1.2.1.1- 107: Degradation of M-03 under aerobic conditions at 20 °C (best-fit DT_{.50} values for trigger endpoints)





III. Conclusion

M-03 degraded rapidly in the soils under aerobic conditions with best-fit DFOP DT₅₀ values of between 2.1 and 4.4 days for the acidic soils (Pikeville and Munster soils). Corresponding DT₉₀ values were 2.1 days and 644.9 days. M-03 degraded even more rapidly in the more neutral soils with best-fit SFO DT₅₀ values of 0.1 days and DT₉₀ values of 0.3 days for both Abington and Sarotti soils.

[14C]-M-03, radiolabelled in the phenyl ring, degraded to form the cleaved metabolite M-01

Formation of carbon dioxide was not significant ($\leq 0.4\%$ AR) and formation of non-extractable residues (NER) reached a maximum of 14.8% AR. No other degradation products were observed.

Assessment and conclusion by applicant:

The study was conducted in accordance with SETAC 1.1 (1995) and USEPA (* EPA) N, 162 1 (1982). The study is considered valid to assess the aerobic degradation of [phenyl-U-1/2]-M-05 in soil

Data Point:	KCA 7.1.2 2/03 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Report Author:	
Report Year:	
Report Title:	(14C) AE C657188: Rate of Tegradation in Oree soils at 20 degrees C
Report No:	C036059, 25 1
Document No:	M-219884-01-15 0 0 0 0
Guideline(s) followed in \$	
study:	
Deviations from current	Y 69. OECD 307 states mass balance recoveries for radio abelled studies should
test guideline:	range from 90 to 100%. Mass balances were not quantitative from DAT 30 to 93.
	The shortfalls were concluded to be dide to inofficient trapping of CO2.
Previous evaluation:	yes, evaluated and accepted
S S	DQR (2009) 4 2 2 2
OLI / OIIICiana y	Yes, conducted under CLP/Officially recognised testing facilities
recognised testing	
facilities.	
Acceptability/Reliability:	

Executive Summary

The degradation of M-02 (AE 657188) was studied in three soils under aerobic conditions in the laborator on the dark at 20 ± 3 C and 40% or 45% of the maximum water holding capacity for up to 93 days.

Soil, \ Textore (USDA)	pH (CaCl ₂)	% Organic Carbon
Münster Soamy sand	5.4	1.1
Abington & samp loam	7.2	2.6
Sarotti Silt loam	7.5	1.3

[2,6-pyridyl 2]-labelled N4-02 was applied to soil samples at an application rate of 0.013 mg/kg dry weight, equivalent to a field application rate of 10 g/ha resulting from a conservative estimate of the maximum occurrence of this metabolite and an application rate of 400 g active substance/ha. The radiochemical purity and specific activity were > 99 % and 6.27 MBq/mg, respectively.

Samples were removed for extraction and analysis immediately after treatment (day 0) and 2, 7, 14, 30, 62 and 93 days of incubation. Soil samples were extracted at ambient temperature once with acetonitrile



followed by two further extractions with acetonitrile: water (1:1 by volume). Following extraction at ambient temperature, soil residues were extracted with acetonitrile: water (8:2 by volume) under soxhlet conditions for six hours. Soil extracts were analysed by reverse phase high performance liquid chromatography (HPLC) and the results were confirmed by mass spectral analysis.

Recovery of radioactivity was quantitative before 30 days, the period from which all kinetic data were calculated. From DAT 30, a shortfall in mass balance was experienced. Overall mean mass balances were 91.7% AR for Münster soil, 89.0% AR for Abington soil and 90.4% AR for Sarotti soil. The losses were thought to be due to the inefficient trapping of CO_2 .

Total extractable residues decreased from 94.1 to 99.0% at zero time to 30.1% (Münster Wil), 800 (Abington soil) or 11.1% (Sarotti soil) by DAT 93. The levels of nonextractable radioactivity (SER were similar in all the soils, reaching a maximum of 48.1 % by DAT 14 incubation in Munsor soil before declining to 31.8% of applied radioactivity by the end of the study. Mineralization to carbon dioxide was significant with a rapid increase in the carbon dioxide production from DAT 30, reaching a maximum of 17.1, 21.6 and 22.9% AR by DAT 33°. Virtually no volutile organic products were detected throughout the study (maximum 0.5\mathbb{Q} AR).

M-02 was very rapidly metabolised in all soils declining to 5% AR or less by DAT 14. Metabolism of M-02 was accompanied by the formation of numerous metabolites including M-05 M-10 M-11 M-12, M-13 and M-14 previously identified in leachate from a live meter study conducted with [2,6-pyridyl-¹⁴C]-labelled fluopicolide, along with a further eight unidentified metabolites.

Although the radioactive recovery of samples fell below the acceptable range of 90 to 110 % for timepoints after 30 days, only samples with acceptable recovery influenced the T_{50} and DT_{90} values determined for M-02 as it was very rapidly begraded in soil. A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit unnormalised DT₅₀ values of 4.4, 3.5 and 4.4 days in Monster Abington and Saroty Soils, respectively.

(USDA texture) Best Fit ODT50 Kinetic Model (days)	DT90 (days)	Chi ² Error (%)
Münster (loamyoand)	14.5	17.2
Abington (sandy loans) 4 SFO SFO 3.5	11.6	8.51
Sarotti (sitt Joam) SFO Q 4.40	14.5	9.83

Degradation of the metabolite M-02 in aerobic soil was very rapid, with significant formation of carbon dioxide as a result occomplete mineralization of the molecule. Accordingly, M-02 will not persist in the soil environment. soil environment

A. Materials

* Denotes position of [14C]-radiolabel

 $6.27 \, \text{MBq/mg}$

Radiochemical Purity: 99.2% (TLC) 100% (HPLC)

Sample/Batch ID: SEL/1189



2. Test Soils

The study was performed using three different European soils from agricultural areas as characterized in Table 7.1.2.1.2- 12. The soils were collected from the same sites as laboratory aerobic soil studies with fluopicolide, from Abington (Cambridge, England) and Munster and Sarotti (Germany). The same of batches of soils were used in laboratory aerobic soil studies with the other pyridyl ring metabolics M-05, M-10 and M-14. Soils were collected fresh from the field and shipped to the laboratory in Onear, Essex, UK. On arrival the soil was sieved to 2 mm and stored for ca 1 month prior to use.

Physico-chemical properties of test soils Table 7.1.2.1.2- 12:

Parameter	, ,	O * 3011 ×	
Soil Designation	Münster	Abington O	Saroth
Geographic Location			O 0 0
City	Münster, O	Abing@n,	Hattershein,
	Northrine North	Cambridgeshire	Hesse
	Westfakta		Germany W
Country	Germany	UK	Germany
Batch Number Textural Classification (USDA)	y 63/06 V	03/07	© 03/10 ° °
Textural Classification (USDA) Sand [50 - 2000 um]	Loamy sand	Sandy loans	Silt loam
Sand 50 - 2000 µm % 🔊	80.53	70.04	P %.
Silt [2 – 50 μm] %	\$ \ 9 .70 \(\)	15.60	**53.95
Clay [$< 2 \mu m$]	3.77	14.36	22.80
pH			
in Water	(6.6		8.3
in KCl		7.7 , 5	7.7
	\$ 5.40 °C	° 7.2 ♣″	7.5
Organic Carbon (%)	3.1 3.1 1.5	26	1.3
Ca _{exchangeable} (meg/Q00 g) \\	1.5	9 .9	34.3
Caexchangeable (meq/100 g) Mgexchangeable (neq/100 g) Na		1.6	1.6
Naexchangeable (meq/100 g)	4 6 .05	0.1	0.1
Kexchangeabe (meq/100 g)	0.4	1.3	0.9
Mnexchangeable (meq/100/g)	<0.05	< 0.05	< 0.05
CaCO ₃ eq. (g/kg)	6V.05	73.5	13.4
Phosphorus total (Mg/kg)	617.8	1586.3	728.8
Nitrogen total (Mg/kg)	10779	2380.1	1470.2
Water Holding Capacity			
Maximum (g H ₂ O per 100 g DW)	√46.5	57.1	52.1
Moisture Content During Incubation (%) Soil Microbial Biomass (µg pricrobial C/g soil) Initial	, 90% MWHC	40% MWHC	45% MWHC
Soil Microbial Biomass (µg microbial C/g mil)	₿IO ⁺	BIO ⁺	BIO+
Initial Interim	147	712	566
Initial Interim	129	741	455
	110	664	290
BIO+ samples were treated with 140 µL of acetonit	rile/water (9:1 v/v)		ı
BIO+ samples were treated with 140 µL of acetonit			
~			



B. Study Design

1. Experimental Conditions

Tests were performed in static systems consisting of an Erlenmeyer flask containing 100 g soil dry weight equivalents) fitted with a trap attachment (permeable for oxygen) containing soda line for absorption of carbon dioxide and a polyurethane foam plug for adsorption of volatile organic compounds.

The test item [2,6-pyridyl- 14 C]-M-02, dissolved in acetonitrile (140 μ L per bask), was applied dropwise onto the soil surface at an application rate of 0.013 mg/kg. The application rate was equivalent to 0 g/ha, reflecting a fluopicolide field application rate of 400 g/ha and a conservative estimate of the maximum predicted occurrence of the metabolite. The soil moisture content was adjusted to 40% MWHC (Münster and Abington soils) or 45% MWHC (Sarotti soo) by the addition of water, 36 hours prior to application. The samples were incubated at 20 ± 2 °C under peroble conditions in the dark. Untreated soil samples were incubated under the same conditions for determination of soil microbial activity.

2. Sampling

Samples were taken for analysis after 6, 2, 2, 14, 30, 62 and 92 days of focubation. Deplicate samples were taken at Day 0 and Day 93 at other timepoints single samples were analysed. Microbial soil biomass samples were analysed at the start, microbint and end of the experiment.

3. Analytical procedures

Soil samples were extracted at ambient temperature once with acetonitrile followed by two further extractions with acetonitrile water U.1 by volume. Following extraction at ambient temperature, soil residues were extracted with acetonitrile water (\$\frac{1}{2}\$) by volume) under soxhler conditions for six hours.

Extracts were concentrated by rotary evaporation at 35 to 40 °C prior to analysis against authentic reference standards by everse phase high performance round chromatography with fraction collection. In addition, selected extracts were analysed by LC/MS to provide confirmation of structural identity.

The metabolites M-05, M-10 and M-14 (called AE 1344122 AE 1344123 and AE 1388273 in the report respectively) were available as reference standards. The metabolites M-11/M-12 (called P2 in the report) and M-13 (called P3 in the report) were isolated and purified from leachate samples, in which the metabolite P2 was shown to consist of two isolates of M-11 mil P2b (M-11 and M-12) present in a ratio of ca 6:4. Aliquots of the adioactive isolates of M-11 M12 and M-13 were used as reference materials in this study. The fimit of quantitation LOQ for the analytical method was 0.05% AR. The identity of M-02, M-05, M-10, M-11/M-12, M-3 and M-14 was confirmed by comparison of HPLC retention times to reference standards. In addition, MM analysis, confirmed the presence of the metabolites M-02, M-05, M-17/M-12 and M-14 by their chromatographic retention time and mass transition channel in selected extracts

The quantity of radioactive volutiles generated was determined by processing the elements that made up each volatile trap. The volatile organics were extracted from the polyurethane bung using ethyl acetate. The carbon dexide adsorber on the sodatime was released by digesting the soda lime with hydrochloric acid and redrapped into a series of traps containing potassium hydroxide solution. The radioactivity contained in the potassium hydroxide traps was confirmed as ¹⁴CO₂ by precipitation as ¹⁴C barium carbonate.

Radioactivity in soil extracts was determined by LSC. Following homogenisation, non-extractable residues (NER) in extracted soils were determined by combustion.



4. Determination of degradation kinetics

The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. DT₅₀ and DT₉₀ values for the degradation of M-02, M-05, M-10, M-11/M-12 and M-13 have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software kinGUI (version 2.1). Full details are provided in Document KCA 7.1.2.1.1/10 (M-885680-01-1). A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints for M-02 an initial comparison was performed for each soil between the SFO and FOMC fits. For all soils, the SFO model resulted in a comparable visual fit and lower $\chi 2$ each value than the FOMC model, and SFO was accepted as the most appropriate model to describe $\chi 1$ -02 degradation.

Further metabolite optimisations were performed using the best-fit mode for the applied compound and the SFO model for metabolites.

II. Results and Discussion

A. Data

The distribution and characterisation of radioactivity for the test soils incubated at 20 °C following application of [2,6-pyridyl-14C]- MQ02 are summarized in Table 7.1.2 F.2- 13 to Table 7.1.2 F.2- 15.

Table 7.1.2.1.2-13: Degradation of [2,6-pyridyl-1/6]-M-02 in Münster soil under aerobic conditions at 20 % [%AR]

			***	. () .) ⁻	
Compound		- "	y Incuba	ation/time/	(DAT)		
Compound		© 2 \$		14 O	36√	62	93
M-02 (AE C657188)	≈ 94.4 €	78.2	, 92.8 <i>Q</i>	2.5	O nd	0.2	nd
M-05 (AE 1344122)	nď (2 .4	§ 11.0°	10 2.9	16.0	13.1	11.1
M-10 (AE 1340723)	nd	🖔 nd 🧳	3 9	© 2.6 @	4.3	2.7	3.5
M-11/M-12@Fraction 2-4)	(A)	, 13	%.0 _{@/}	3.2	4.0	6.6	5.6
M-13 (Fraction10-12)	and =	nd	\$ 1.9\$	32.2	1.7	1.9	0.4
Fraction 4-6	and .	\$\display 0.1 \text{\$\sqrt{\chi}}	4.4	×2.1	1.5	2.0	nd
Fraction 6-8	and and	n 🎾	Ø.2 _₹	2.0	0.4	1.6	1.9
Fraction 8-10	nd o	20.1	© 2.4©	3.0	0.5	2.2	0.7
Fraction 12-14	ng a	nd 💸	1.3	2.5	3.0	1.5	0.2
Fraction 14-16	nd S	nd	P.6	1.4	2.8	1.0	0.4
Fraction 18 20	nd 💇	1 2 ,	1.2	2.1	6.3	nd	0.8
Ambient Extracts	9 4. √ ^A	\$78.4 \	38.2	31.7	34.6	26.0	24.8 ^A
Sexulet Extract	%n/a ∠	7:90° 85.4	9.6	6.8	6.5	8.7	5.3 A
Total Extractable Residues	^O 94.1	8 5.4	47.8	38.5	41.1	34.7	30.1 ^A
Carbon Dioxide ()	na	% 0.7	4.7	3.4	5.7	18.0	17.1 ^A
Volatile Organic Compounds	a na	0.1	nd	nd	nd	nd	nd
Non-Extractable Residues	♥ 9.6 A	12.2	39.2	48.1	47.8	32.5	31.8 A
Total Recovery	103.7 ^A	98.3	91.7	89.9	94.5	85.1	79.0 ^A

n.d.: not detected, n.a. not analysed, DAT: days after treatment

All values expressed as percentage of total applied radiolabel

A Distribution values at DAT 0 and DAT 93 for mean of duplicate flasks



Table 7.1.2.1.2- 14: Degradation of [2,6-pyridyl-14C]-M-02 in Abington soil under aerobic conditions at 20 °C [% AR]

Compound	Incubation time (DAT)									
	0	2	7	14	30	62	3.2			
M-02 (AE C657188)	93.8	79.3	34.8	4.7	2.0	2.1				
M-05 (AE 1344122)	nd	1.0	8.3	18.0	15%	8.1	4,3			
M-10 (AE 1344123)	nd	2.2	3.6	5.0	<u>4</u> .8	nd	g pdi			
И-14 (AE 1388273)	nd	nd	nd	0.3	1.2	Į, o	% 0.2 <u>(</u>			
M-11/M-12 (Fraction 2-4)	nd	nd	1.37	1.5	0.9	0.6	0.3			
M-13 (Fraction10-12)	nd	nd	\$2.8	3.6 [©]	0.6	(0.1 _Q	and			
Fraction 8-10	nd	nd	4.3	4Q ^y	్ల 1.6 🛴	Q:3	© 0.1 _d			
Fraction 12-14	nd	nd 🔊	1.3	≫ 3.2 ©	3.7	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	0,10			
Fraction 14-16	nd	0.4	ØJ.°5 &	ÿ 2. ¾ √	J ⁰ 7	° 0.1%	∜bď			
Fraction 18-20	nd	na .	رچ 0.6 کی	108	ॐ 2.7 🕏	rd	A nd			
Fraction 40-42	nd	√\$1.4 √	r L	₹.9 🐧	44	9.3	0.30			
Ambient Extracts	94.5 ^A	83	38.3	° 47.9	37.5	\$\tag{13.5}	80 A			
Soxhlet Extract	na Q	(\$ ₁)	\$\J\\ 9.9.\J\	19	5.6 Q	45	Q.4 A			
Total Extractable Residues	94.5	®8.1 %	88.2° 68.2°	5 6.9 %	5.6 ©	\$7.6	7 11.0 A			
Carbon Dioxide	Pra E	0.6%	% .9	0.60	4	Ĉ 18 °>√	21.6 A			
Volatile Organic Compounds	🜷 na 🛴	nd	and L	nQ.	0.1		nd			
Non-Extractable Residues 🔏	7 ₆ 5 _, A	\$10.9 L	25.5 94.7	¥ Q √35.0 √	9 43 <i>5</i>	39.7	40.9 A			
Total Recovery	102.1 A	\$ 99.5¢	و94.7	92.5	\$3 /.1	§ 75.3	73.5 ^A			
					Š					
a.d.: not detected, n.a.: not analyse all values expressed as percentage of Distribution values at DAT 0 and DAT 0 a										



Table 7.1.2.1.2- 15: Degradation of [2,6-pyridyl-14C]-M-02 in Sarotti soil under aerobic conditions at 20 °C [% AR]

C 1			Incub	ation time ((DAT)		<u></u>
Compound	0	2	7	14	30	62	793
M-02 (AE C657188)	95.1	81.7	32.4	5.1	2.3	2.3	© 3.2 A
M-05 (AE 1344122)	nd	0.1	4.4	11.0	120	9.5	5,5
M-10 (AE 1344123)	nd	0.6	1.6	3.3	4 .3	0.1	and
M-14 (AE 1388273)	nd	nd	nd	0.4	Ç 0.2	1,0	nd 💸
M-11/M-12 (Fraction 2-4)	nd	nd	0.4	1.0	0.6	©0.8 ×	0,6
M-13 (Fraction10-12)	nd	nd	3 .2	3.50	1.6	(0.1 _Q	Jud 🤉
Fraction 8-10	nd	0.4	1 0.3	3Q) ["]	్ల 0.4 🎸	Qt.1	Ond C
Fraction 12-14	nd	nd 🔊	2.2	≫ 2.2 ©	3.0	And G	nd©″
Fraction 14-16	nd	no	@1°.0 _&	1.20	43º.2	🔊 nd 🤝	∜bď
Fraction 18-20	nd	nPa°,	ري 3.8 گ	28	₹3.7 ®	nd	🕰 nd 🍦
Fraction 40-42	nd	√\$1.7 °√	3.00	% .1 <u>4</u>	3 A	9.7	0.30
Fraction 42-44	nd A	1,3	3 4.0	O 4.94	×0.6	💝 nd	and a
Ambient Extracts	78.30	J9,6	\$\\ 44.5\\ \	3 Z Z0	ر 27.9 ©	1457	© _{7.8}
Soxhlet Extract	20.	€6.3 °	13%V	\$P0.0 %	6,10	4 .5	② 3.3
Total Extractable Residues	990 A	85.9	3 7.6	47.90	3 4.0	گ 18.6%	11.1 ^A
Carbon Dioxide	🔎 na🞺	0.9	& 0.7 L	2 Q	6.5	154	22.9 ^A
Volatile Organic Compounds 🖔	n a	Snd L	nd	√nd √	0. 5	nd	nd
Non-Extractable Residues	Ø A) 11 <u>.</u> 8	37.4	43.00	47 /1 ,	ي 41.2	41.5 ^A
Total Recovery	△106.0 A *	98 2	@ ³ 95.6	92.1	₹88.1	77.1	75.5 ^A

n.d.: not detected, n.a.: not analysed DAT days and ucum.

All values expressed as percentage of total applied adiolable.

A Distribution values a DAT 0 and DAT 03 formean of duplicate clasks.

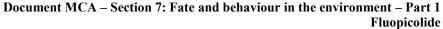
B. Material Balance

Mean mass balances were 91.7% AR for Münster soil (range from 79.0 to 103.7% AR), 89.0% AR for Abington soil (range from 795 to 102.1% AR) and 90.4% AR for Sarotti soil (range from 75.5 to 106.0% AR). All mass balances were quantitative (90 10% of applied radioactivity) before 30 days, the period from which all kinetic data were calculated. From DAT 30, a shortfall in mass balance was experienced. Observed rends indicated that this may be the to the inefficient trapping of CO₂, as the decline was initiated as the formation of CO₂ increased. Experiments were conducted on some of the spare treated flasks to address the low material balances but proved unsuccessful. Other sources of potential loss, such as the possibility of adjoactivity adhering to the sides of the vessels used were ruled out.

C. Extractable and Non-Extractable Residues

Values of expractable radioactivity decreased from 94.1 to 99.0% of applied at zero time to 30.1% (Münster soil), 80% (Alongton soil) or 11.1% (Sarotti soil) by the end of the study

The levels of non-extractable radioactivity (NER) were similar in all the soils, reaching a maximum of 48.1 % by Da I 14 incubation in Munster soil, before declining to 31.8% of applied radioactivity by the end of the study. In Abing on soil NER reached a maximum of 43.5% AR by DAT 30, declining slightly to 40.9% OAR by the end of the study. In Sarotti soil NER reached a maximum of 47.1% AR by DAT 30, declining slightly to 41.5% AR by the end of the study (DAT 93).





D. Volatile Radioactivity

There was a rapid increase in the carbon dioxide production from DAT 30, reaching a maximum of 17.1, 21.6 and 22.9% AR by DAT 93. Virtually no volatile organic products were detected throughout the study (maximum 0.5% AR).

E. Transformation of test substance

M-02 was very rapidly degraded in the soils to a number of metabolities, and despite expansitive extraction of soil samples rapidly formed significant quantities of NER. The levels of M=02 had declined to 5% AR or less in all soils by DAT 14. The metabolites M-05, M-05, M-11/M-12, M-13 and M-14 had been identified in leachate from a lysimeter solidy conducted with [2,6-oyridyl-9C]- labelled fluopicolide [see KCA 7.1.4.2/01, M-218465-01-1]

Soil samples were incubated beyond the time period required to reach 90% degradation of M=02 to follow the formation and decline of its metabolites. Y-02 was metabolised either by hydroxylation of the pyridyl ring to form M-13 or by a postulated reaction with glorathione to form a transient intermediate that can be oxidised to M-10, oxidised and hydroxylated to M-11-M-12, or methylated and oxidised to M-05. M-05 and M-10 may then be hydroxylated to M-14/M-12 or M-14 respectively. M-05 was observed at a maximum of 160%, 180% and 12,7% of applied radioactivity and had declined to 11.1%, 4.3% and 5.5% AR% in Manster, Abington and Sarath soils respectively by the end of the study. M-10 was observed in all oils accounting for 4,3 to 50% of applied radioactivity. M-14 was observed at ca. 1% in Abington and Sarotti soils but not in Munster soil. The metabolites M-11/M-12 and M-13 were also observed M-11/M-12 at a maximum of 6.6% AR in Münster soil and M-13 at a maximum of 3.2 to 3.6% AR in all soils. Hight undentified metabolites were detected at levels ranging from 2.1 to 7.9% of applied radioactivity. All of these unidentified roctabolities appeared to be transient in nature reaching maxima after to 30 days incubation and declining or below the limit of detection by

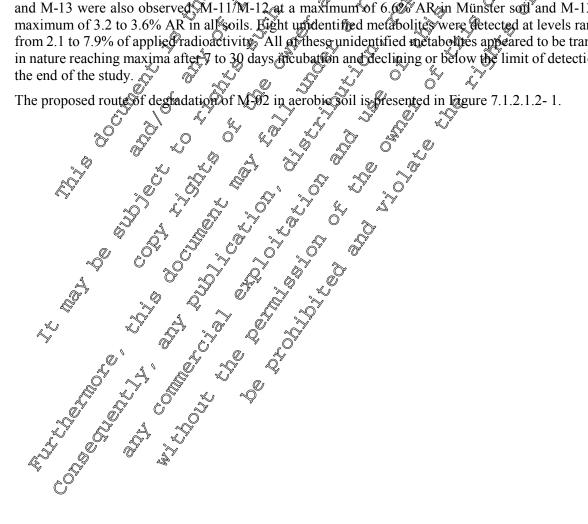
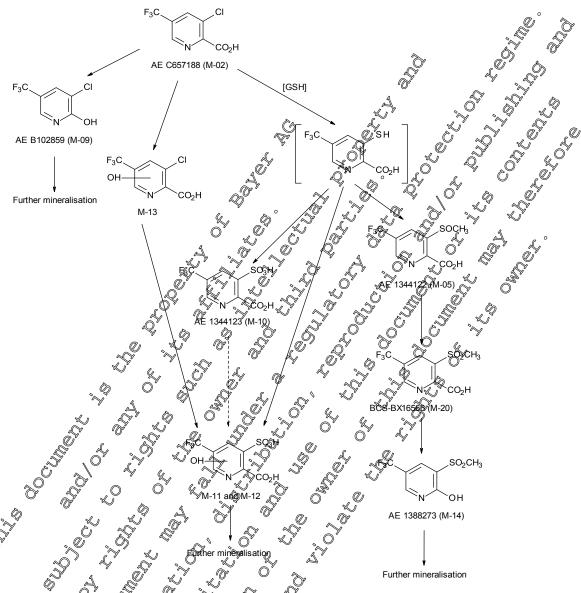




Figure 7.1.2.1.2-1: Proposed metabolic pathway for M-02 in aerobic soil



M-09 and M-20 were identified in Later aerobic soil study (KGX 7.1.2 \(\frac{1}{2} \) 2/09, \(\frac{M-581364-01-1}{2} \) with M-02 (AE C657188).

F. Degradation Kinetics

Although the radioactive recovery of samples will below the acceptable range of 90 to 110 % for time-points after 30 days only samples with acceptable recovery influenced the DT_{50} and DT_{90} values determined for M=02 as it was very rapidly degraded in soil. Reported SFO DT_{50} values of M-02 under aerobic conditions were 4.5 $\frac{3}{2}$.2 and 4.5 days in Münster, Abington and Sarotti soils, respectively.

The experimental data has been revaluated according to the FOCUS guidance document on degradation kindles (FOCUS 2014) using the software KinGUI (version 2.1). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting best-fit DT₅₀ values for trigger endpoints are summarised below in Table 7.1.2.1.2- 16. Best fit kinetics are highlighted in bold.



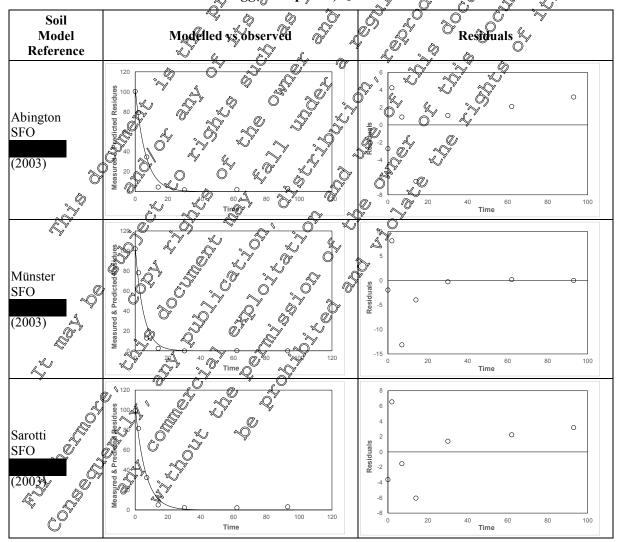
Table 7.1.2.1.2- 16: Degradation rate of M-02 under aerobic conditions at 20 °C (DT₅₀ values for trigger endpoints)

Soil	Kinetic model	Mo	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT50 [days]	DE 50 Edays]
Abington,	SFO	103.2	k 0.1591	8.51	3.07E-10	0.129	0.189	4.4	14.5
(2003)	FOMC	102.4	α 2.07E+07 β 1.35E+08	9.46	n.r. n.r.	2.07E+07 1.35E+08	2.07E+07 2.35E+08	/ / /	3 5.1
Münster,	SFO	104.2	k 0.1986	17.2	9.69£-08	0.1462	0.251	3.5	y"11.60"
(2003)	FOMC	104.7	α 182.2 β 907.5	18.5	n.r. n.r.	-205 % -1.0 3	20910 1.05E+05	3.50	\$\frac{1}{2}\frac{1}{2
Sarotti,	SFO	103.3	k 0.159	9.83	2.74E-08	0.1239	0.19	4 /.4	14.5
(2003)	FOMC	102.2	α 1.03E+05 β 6.87E+05		n.r.	1.03E≯05 6.87E≠05	1.03E+05 6&7E+05		¥ 5 ?3

Best fit model highlighted in bold

Graphical representations of the final kinetic fits are shown below.

(best-At DT50 Degradation of M-02 under aerobic conditions values for frigger endpoints) Table 7.1.2.1.1- 108:





III. Conclusion

M-02 is a minor metabolite of fluopicolide which was observed in laboratory soil metabolism studies conducted with the parent and reached a maximum of 7.3% of applied radioactivity. M-02 was very rapidly degraded in soil to a number of pyridyl ring metabolites, with a significant portion completely mineralized to CO₂ and, thus, it would not be expected to persist in the soil environment. A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit un-normalised DT₅₀ value of between 3.5 and 4.4 days.

Assessment and conclusion by applicant:

The study was conducted in accordance with OECD 307 (2002) and SETAC 10 (1995). The study is considered valid to assess the aerobic degradation of 2.6-14C pyridyl 4°C] M602 in soil.

Data Point:	KCA 7.1.2.1.204
Report Author:	
Report Year:	2003 (CA 7.1.2.1.2) 4 (CA 7.1.2.1.2.2) 4 (CA 7.1.2.1.2) 4
Report Title:	Aerobic Soil kinetics of AE 1344122 [paridine 3.6-144] in Three Soils. M-24410-042
Report No:	M-24-410-01-2
Document No:	M-201410-07-2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Guideline(s) followed in	EU (=EBC): 95/36, 91/414/EEC DECD: 307
study:	none 1
Deviations from current	"none."
test guideline:	
Previous evaluation:	yes, evaluated and accepted
	ADAR (2005)
	Yes Conducted under GLP/Officially recognised testing facilities
recognised testing	
recognised testing facilities:	
Acceptabilit@/Reliability:	Yes S S S

Executive Summars

The degradation of Mo3 (AK 1344) 22) was studied in three soils under aerobic conditions in the laboratory in the dark at 20 £1 °C and 40% or 45% of the maximum water holding capacity for up to 135 days.

	Soil S	Texture (USDA)	pH (CaCl ₂)	% Organic Carbon
Mühster		loanQ sand	5.4	1.1
Abington		sandy loady	7.2	2.6
Sarotti		silt loam	7.5	1.3

[2,6-py/fdyl-¹⁴0]-labelled M was applied to soil samples at an application rate of 0.013 mg/kg dry weight, equivalent to a field application rate of 10 g/ha resulting from a conservative estimate of the maximum occurrence of this metabolite and an application rate of 400 g active substance/ha. The radiochemical purity and specific activity were 100 % and 4.97 MBg/mg, respectively.

Samples were removed for extraction and analysis immediately after treatment (day 0) and 3, 7, 14, 30, 62, 92 and 135 days of incubation (Münster soil), 0, 2, 6, 13, 29, 61, 91 and 133 days (Abington soil) and 0, 2, 6, 13, 29, 61, 91 and 117 days (Sarotti soil). Soil samples were extracted at ambient temperature



twice with a mixture of methanol:buffer (80:20 v/v, pH 12). Starting on DAT 61/62 soil samples were first extracted with acetonitrile:water (4:1 v/v) at ambient temperature followed by methanol:buffer extraction to ensure that any potential degradates formed from M-05 were extracted. Soil extracts were analysed by reverse phase high performance liquid chromatography (HPLC) and the results were confirmed by mass spectral analysis.

Recovery of radioactivity ranged from 95.1 to 103.5% (Münster soil), 90.0 to 103.8% (Abington) and 89.4 to 102.3% (Sarotti). Total extractable residues decreased from 97 to 99% AR at zero time to 80.4% (Münster soil), 28.3% (Abington soil) or 20.7% (Sarotti soil) by the end of the study. In all sous non extractable radioactivity increased steadily and reached a maximum of 99% in Münster soil 37.3% in Abington soil and 39.2% in Sarotti soil. Mineralization to carbon dioxide was significant reaching a maximum of 5.4% in Münster soil by DAT 135, 24.4% in Abington soil by DAT 133 and 29.5% in Sarotti soil by DAT 117. Formation of other organic volatiles was negligible (20.1% AR) throughout the study.

M-05 decreased from 98.4% AR at time zero to 53.1% AR by DAT 135 in Munstersoil, from 98.9% to 23.2% by DAT 133 in Abington soil and from 94.4% to 9.2% by DAT 117 in Sarotti soil. The metabolism of M-05 was more extensive in Abington and Sarotti soils than in Munstersoil. The degradation pathway for M-05 in soil was found to proceed to M-14 (AE 1389273) and carbon discide, via an intermediate metabolite M-20.

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit un-normalised DT3 value of 186.1, 62.2 and 34.9 days in Münster, Abington and Sarottissils, respectively.

Soil O O	Best Fit Kinetic Model	DT ₅₀	DTw/	Chi ² Error
Münster (loamy sand)	O SFO S	136.1 %	452.2	2.85
Abington (sandy loan)	SFO S	@ ₁ 62.2	206.5	2.36
Sarotti (silt loam)	SFO	348	116.1	4.09

Degradation of the metabolite M 05 in perobic soil was extensive, with significant formation of carbon dioxide as a result of complete mineralization of the molecule. Accordingly, M-05 is not expected to persist in the soil environment.

A. Materials and Methods

A. Materials

1. Test Items

[2,6-Pyridyl-14C]-19005 (referred to as All 1344) 22 in the report)

* Denotes position of [14C]-radiolabel

4.97 MBq/mg (298,367 dpm/µg, 34.03 mCi/mmole)

Radiochemical Purity: 100% (HPLC)

Sample/Batch ID: SEL/1192 / C-937



2. Test Soils

The study was performed using three European soils collected fresh from the field with minimal storage time (in total 35 to 41 days) prior to sieving to 2 mm and dispersing into flasks. Once received at the test facility the soil was stored under alfalfa cover in a glasshouse. The soils were collected from the same sites as laboratory aerobic soil studies with fluopicolide, from Abington Cambridge, Figland) and Münster and Sarotti (Germany). The same batches of soils were used in laboratory aerobic soil studies with the other pyridyl ring metabolites M-02, M-10 and M-14. The physico-chemical characteristics are summarized in Table 7.1.2.1.2-17.

Table 7.1.2.1.2- 17: Physico-chemical properties of test soils

Parameter	4 T	Soil O	
Soil Designation	Münster	A Bington .	Sarotti
Geographic Location			N % / ~ ~
City	Munster	Cambridgeshire,	Hattersheim,
21	Northrine-	United Kingdom	Hasse , °
	Westfalia		
Country	Germany	Sandy loans	German
Textural Classification (USDA) Sand [50 - 2000 µm] (%)	Loamy said 80.5	Sandy loans	Silt loam
			\$3.2 \$45.40
Silt [2 – 50 μm] (%)	© ©5.7 5	14.4	₹54.0 €
Clay [< 2 μm]	3.8	14.4 0	22.8
pH	5.4		
in CaCl ₂	5.4		7.5
in H ₂ O in KCl		8.1	8.3
in KCl	557 0	0 7.8 ₄	7.7
Organic Carbon (%)	7 1.5 5 7 1 0 1 1 5 5 7 1 1 5 5 7 1 1 5 5 7 1 1 1 1 1	26	1.3
	1.5	V 3 9.9	34.3
Caexchangeable (med/100 g) Mgexchangeable (med/100 g)		<i>Q</i> ₁ 1.6	1.6
Na _{exchangeable} (meq/100 g)	3 0.05	0.1	0.1
Kexchangealic (meq/100 g)	0.4	1.3	0.9
Mn _{exchangeable} (meq/100g)	0° <0.05° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5° 5	< 0.05	< 0.05
CaCO ₃ equivs (g/kgg)	10% () <u> </u>	73.5	13.4
Phosphorus total (ang/kg)	617.8	1586.3	728.8
Nitrogen total @ng/kg)	, O 107D 9	2380.1	1470.2
Water Holding Capacity	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Maximum (g H ₂ O per 100 g DW)	46.5 46.5	57.1	52.1
Test maisture (a HaOMer 100 a DW)	18.6	22.8	23.5
Moisture Content During Incurbation	₹ 40% MWHC	40% MWHC	45% MWHC
Soil Microbial Biomass (µg microbial C/g soil)	BIO-	BIO-	BIO-
Initial (DATA)	158	848	644
Mid (DAT 2/63)	158	750	536
Mid (DAT 62/63) 7	129	693	470

BIO samples were treated with water



B. Study Design

1. Experimental Conditions

Tests were performed in static systems consisting of an Erlenmeyer flask containing 100 g soil dry weight equivalents) fitted with a trap attachment (permeable for oxygen) containing soda lime for absorption of carbon dioxide and a polyurethane foam plug for adsorption of volatile organic compounds.

[2,6-pyridyl-¹⁴C]-M-05 was applied at an application rate of 0.013 mg/kg, equivalent to ke g/ha reflecting a fluopicolide field application rate of 400 g/ha and a conservative estimate of the maximum predicted occurrence of the metabolite. The test item was dissolved in water with a ctoniffic as a cosolvent (<0.1%) and applied dropwise onto the soil surface.

Soils were collected fresh from European fields and hipped to the laboratory in Stilwell, Kansas, USA. On arrival soil was maintained in a biologically active state under alfalfa cover in a greenhouse (19 to 20 days), then dried slightly and sieved to 2 mm prior of dispersing into flasks (100 g dry weight) on 8 April 2003.

Münster soil was treated with the test substance on 8 April 2003 and Abington and Sarotte soils on 9 April 2003. The soil moisture content was adjusted to 40% WHE Münster and Abington soils) or 45% MWHC (Sarotti soil) by the addition of water All soils were incubated in the dark under aerobic conditions at 20 °C. Soil samples were maintained under static conditions in flasks equipped with a combined solid phase trap for the collection of CO_2 (soda line) and rolatile organic compounds (glass wool saturated with mineral oil). Untreated soil samples were incubated under the same conditions for determination of soil microbia activity.

2. Sampling

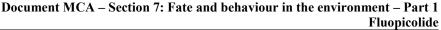
Following incubation duplicate samples were taken for analysis after 0, 3, 4, 14, 30, 62, 92 and 135 days (Münster soil) 0, 2, 6, 13, 29, 61, 91 and 133 days (Abjugton soil) and 0, 2, 6, 13, 29, 61, 91 and 117 days (Sarotte soil). Vicrobial soil biomass samples were analysed at the start, midpoint and end of the experiment Day Day 62/63 and Day 017/118).

3. Analy Gral procedures

The entire soil sample of each test vessel was extracted twice with a mixture of methanol:buffer (80:20 v/v, pH 12) at ambient temperature. Initially, the buffer consisted of a 50:50 mixture of 1.0 M KCl and 1.0 M K₂CO₃ and resuded in quantitative extraction of Mo5 on Day 0. The buffer was changed to a 50:50 mixture of 0.5M KCl and 0.5M K₂CO₃ beginning on Day 7 for Münster soil and Day 6 for Abington and Sarotti soils to axold prespitation of solds in the methanol:buffer mixture. This mixture was also shown to result in quantitative extraction of M-05.

The use of acetonitrite water (4:1 %) or sectonitrile:water (1% acetic acid) (4:1) as solvent mixture at ambient temperature did not result in quantitative extraction of M-05 immediately after treatment to soil. Starting on Day 61 (Abington and Sarotti) and Day 62 (Münster), soil samples were first extracted with acetonitrile:water (4:1 wv) at ambient temperature followed by methanol:buffer extraction to ensure that any potential degradates formed from M@5 were extracted.

Each extraction step was followed by filtration of soil extracts. Following concentration, buffer and acetonity ie: water extracts were analysed separately by reversed phase HPLC and ¹⁴C-flow-through detection techniques. The firmit of quantitation (LOQ) for the analytical method was <0.2% AR. The identity of \$\text{M}\$-05 and \$M\$-\$\text{M}\$ (called AE 1388273 in the report) was confirmed by comparison of HPLC retention times to reference standards. The identity of M-05 in soil extracts was confirmed by mass spectrometry of isolated HPLC peaks. Another degradate M-20 (called Unknown 1 in the report) was also subject to LC-MS/MS investigations and established to have a molecular weight of 269 g/mole.





This metabolite was identified in a later study conducted with [2,6-pyridyl-14C]-M-02 [KCA 7.1.2.1.2/09, M-581364-01-1].

¹⁴C-carbon dioxide adsorbed to soda lime was released by concentrated hydrochloric acid and re-tragged in scintillant solution. For determination of other volatile radioactivity glass wool from the volatile traps was extracted with ethyl acetate. Radioactivity in samples was determined by LSC.

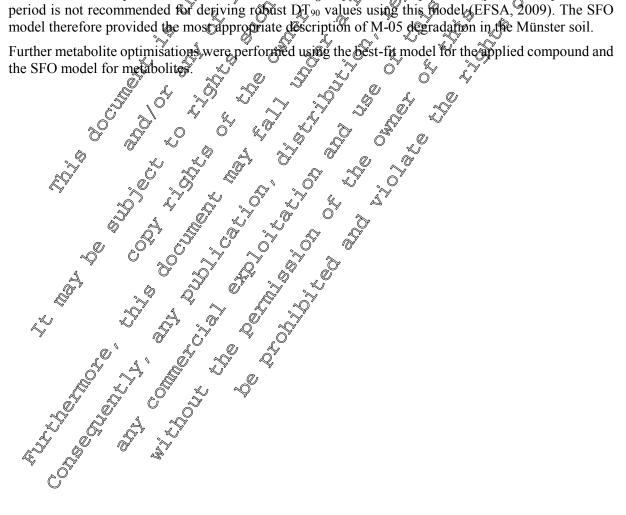
Following homogenisation, non-extractable residues (NER) in extracted soils were determined by combustion.

4. Determination of degradation kinetics:

The degradation kinetics determined in the report were conducted prior to the issuing of the OCUS guidance document on degradation kinetics and a prior longer consider.

guidance document on degradation kinetics and are no longer considered valid DT 50 and DT 90 values for the degradation of M-05, M-14 and M-20 have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGVI (version 2.1). Full details are provided in Document KCA 7.1.2.1.1/10 (M-68680 M-1). The brief summary of the approach for trigger endpoints for M-05 is provided below.

To derive trigger endpoints for M-05, on initial comparison was performed for each soft between the SFO and FOMC fits. For the Abington and Sarotte soils, the SFO model provided a Better fit, with a lower χ^2 err% value. For the Münster soil, the FOMC model provided better visual fit, and the DFOP model was therefore fitted as well. There was no confidence in the resulting DFOP state constant k2, and this fit was not accepted. The FOMC fit was also not accepted, as extrapolation beyond the experimental period is not recommended for deriving robust DT₉₀ values using this model (EFSA, 2009). The SFO model therefore provided the most appropriate description of M-05 degradation in the Münster soil.





II. Results and Discussion

A. Data

The results of aerobic metabolism of [2,6-pyridyl-¹⁴C]-M-05 after incubation in three European soils are summarised in Table 7.1.2.1.2- 18 to Table 7.1.2.1.2- 20.

Table 7.1.2.1.2- 18: Degradation of [2,6-pyridyl-14C]-M-05 in Münster son under aerobic conditions at 20 °C [% AR]

Compound	Mean A		Incubation time (DAT)						
	SD	0	3	7	14	30	62 @	92	135
M 05 (AE 1244122)	Mean	98.4	97.0	92	88.1	€83.7	65.6	5 9 6	3.1
M-05 (AE 1344122)	SD	± 0.5	± 1.3	#1.2	± 1.3	± 2000°	±3.9	≯ 2.2	± 1.45
M-14 (AE 1388273)	Mean	n.d.	n.d.	n.d.	n,d	^an, d.	n.d.	n.d	ACT.
WI-14 (AE 1388273)	SD								<i>x</i>
Unknown 1 / M-20	Mean	n.d.	n.d.	6 0.2	$^{\circ}_{\mathcal{Q}}$ 2.6 $^{\circ}_{\mathcal{Q}}$	9.50	18.6	23.9	25.5°
(BCS-BX16566) ^B	SD			> ± 0,3	±0.2	≠ 40.7	©¥ 0.2 _{€ 1}	± 0.6	±0.0
Unknown 2	Mean	n.d.	n.d.~	n.W	√¶v.d. «	On.d.	n.d\$	p.d.	n.d.
CHRHOWH 2	SD	ő		. Š	S W		Ž	Ç' Ö	
Unidentified	Mean	pod.	n.d.	n.d.	n.d.	Pd.	Ön.d.	n.d.	1.3
Radioactivity ^C	SD	@ <u>`</u>		Ş	(W) * (C	\$\ \frac{1}{2}		Q,	± 0.4
Total extractable	Mean	98.4	97,0	92.3	∜90.7®		84.2	©83.5	80.4
radioactivity	SD	±0%.5	¥1.3 @	± 0.8°	± 1.5"	2.8	≫± 1.1 Ø	± 1.6	± 2.0
Carbon dioxide	Mean	n.a.	0.15	~ 8° 4	Ø.4 (/	0.7	1.0	3.2	5.4
Curoni uromuc	∜SD ∜	A O S	± 6.0	0.0	$y \pm 0.2$	± Q .0	₩ ,0.2	± 0.1	± 0.0
Other volatiles	Mean	na.	€h.d. ×	n.d.	n_d.	P.d.	∜n.d.	n.d.	n.d.
Strict volutiles 5	S						,		
Non-extractable	Mean	1.6	± 0.3	\$5.2 _{\(\)}	6.95 ± 200	9.6	9.0	8.4	9.9
radioactivity 0	SDU	± 0.9	₹0.3	9 ± 0.6			± 0.3	± 1.1	± 0.0
Total radioactivity	Mean	100.0	» 100.99	97.7		©103.5	95.1	95.1	95.7
(%)	© SD Ó	± 1.3	± 1\6	\$ 0.3 ₹) ± 0.40°	± 2.7	± 1.1	± 2.6	± 2.0

n.d.: not detected, n.a. not analysed, DAT days (Ner treatment, SQ: standard deviation All values expressed as percentage of total applied radioabel

All values expressed by percentage of total applied radiofabel

A) Mean values of two replicates;

B) Unknown 1 had a molecular weight of 269 g/mole and was subsequently identified as M-20 (BCS-BX16566) in a later aerobic soil study (KCA) 1.2 12/309, M 38136450-1) dosed with M-02 (AE C657188),

C) No individual peak amount of the more than 13% of Applications of the control of t



Degradation of [2,6-pyridyl-14C]-M-05 in Abington soil under aerobic Table 7.1.2.1.2- 19: conditions [% AR]

Compound	Mean A			In	cubation	time (DA	T)		
	SD	0	2	6	13	29	61	91	Y 33
M-05 (AE 1344122)	Mean	98.9	91.9	88.9	84.0	72.9	48.4	33.9	ت 23.2
MI-03 (AE 1344122)	SD	± 2.4	± 2.9	± 3.5	± 0.2	± 1.0	2 0.7	± 1.2	±18
M-14 (AE 1388273)	Mean	n.d.	n.d.	n.d.	1.1	8.3	8.1	ÍQ.	3 4.3
M-14 (AE 1300273)	SD			(්රු± 1.6	± 2.0	± 0.8	√¥0.7×	7±1.60
Unknown 1 / M-20	Mean	n.d.	n.d.	n.d.	1.2	æd.	n.d.	0.25	n⊀d.
(BCS-BX16566) ^B	SD				± 1.7	Y .	70	±4Q3	
Unknown 2	Mean	n.d.	n.d.	jn∕d.	n.d.	n.do°	6 .4	\$1.3	0.6%
Ulikilowii 2	SD		6	~			± 0.5	± 0.4	±021
Unidentified	Mean	n.d.	n.d.	n 🛱	n.d.	yn.d.	0.2	0.2	0.1
Radioactivity ^C	SD		4	7			± 0.2	€ 0.6	± 0.2, °
Total extractable	Mean	98.9	*9 7.9	× 88,9	86.3	8 1.1	57.0 _{4/1}	42.3	28,3
radioactivity	SD	± 2.4 @) ± 2,9	± 305	<u>,</u> ±3.5	Õ± 3.0€	± 0.40	±%±0	0.1
Carbon dioxide	Mean	000	(K.)	, Ø.3 <i>"</i>	\mathbb{Q}^{\prime} 0.6 \mathbb{Z}	3.00	1 \$.0	Ø7.1	24.4
Carbon dioxide	SD	Ø.	$\mathcal{Q}_{0.0}$	± 0,0	± 0 1	20 .8	\mathcal{U} 0.7	± 0.9	± 0.2
Other volatiles	Mean	©n.d. ≪	n.d	n.Q.	gr.d.	∜n.d. 🏷	n dO	n.d.	n.d.
Other volatiles	SD 🔏)	~Q	, I	V "Ô		O*	O V	
Non-extractable	Mean	J.Y	\$3.6 Q) 10.5 °	10.4	18.8	~25.6 Q	31.7	37.3
radioactivity	`\$¥Ď	± 0.0	0 ± 1 15	± 450	₽ Ô.1	± 1.20	± 93	± 0.5	± 0.6
Total radioactivity	Mean	7 100 P	97.6	9 9.7 %	97.4	102,8	293.7	91.0	90.0
(%)	SD "	±Q.4	J¥1.8 ≈) ± 4.5	±3,7	±2.6	4 0.3	± 1.4	± 1.0

n.d.: not detected, n.a. not analysed, DAT: days after treatment D: standard destration

n.d.: not detected, n.g. not analysed, DAT: days after treatment ND: standard degration All values expressed as peccantage obtotal applied radiolabet.

A) Mean values of two opticates:

B) Unknown I had a more ular weight of 269 g/mole and was subsequently identified as M-20 (BCS-BX16566) in a later aerobic soil sady (KCA 7.1.2.J.2/09, M-581304-01-1) dosed will M-02 (AE C657188).

C) No individual peak amounted to more than 0.2% of AR



Table 7.1.2.1.2- 20: Degradation of [2,6-pyridyl-14C]-M-05 in Sarotti soil under aerobic conditions [% AR]

Compound	Mean A			In	cubation	time (DA	T)		Q .
	SD	0	2	6	13	29	61	91	Ž 17 1
M-05 (AE 1344122)	Mean	97.4	85.2	83.2	72.4	54.8	200	14.8	V 9.25
MI-03 (AE 1344122)	SD	± 3.2	± 4.1	± 9.9	± 1.1	± 1.6	€ 0.5	± 0.9	±,0,5
M-14 (AE 1388273)	Mean	n.d.	n.d.	n.d.	4.6	10.4	9.0	. 508	\$\frac{2}{6}\frac{4}{4}.4
WI-14 (AE 1300273)	SD			(う± 1.0	± 0.0	± 0.1	√¥0.5√) ± 0.2
Unknown 1 / M-20	Mean	n.d.	n.d.	0.8	0.8	0.0	0.0	¥ 0.00	60
(BCS-BX16566) ^B	SD			± 1,7	± 1.1	$\mathcal{C}_{0.0}$	0.6	0 Q)	0.0
Unknown 2	Mean	n.d.	n.d.	₩d.	n.d.	2. ♣ °	3.1	√ 5.1	6.84
CHRHOWH 2	SD		4			\$.0.1	± 0.8	± 0.3	±029
Unidentified	Mean	n.d.	n.d.	n Ø	ŋ.d.	n.d.	n.d	n.ď.	(**V.1
Radioactivity ^C	SD		3			r S	"O"	o ^y ú	*± 0.2, °
Total extractable	Mean	97.4	×83.2	× 84.0	77.8	6 ₹.6	Õ³39.2 _€	25.7	20,6
radioactivity	SD	± 3.2 @	± 4, 1 ×	± 1000	<u>,</u> ±√0.9	Õ± 2.4€	± 1.87	± 9.1	3 0.1
Carbon dioxide	Mean	n.d⊖∜	(X)	Q9.3 £	\$\text{1.2}	6.1 [©]	18 .1	2 6.3	29.5
Carbon dioxide	SD	Q.	±0.0	± 0.0	± 9.2	90.1	©± 0.4, €	± 0.89°	± 0.8
Other volatiles	Mean	n.d. «	n.d	n.đ.	ૂ _ં તુવે.	∜n.d. 🏷	n do	«n.ď.	n.d.
Officer volutiles	SD 🖔	7	~	- O	~ ()	, Ö		O _x	
Non-extractable	Mean	26	J4.0	₹18.0°		23.3 °	~~37.2 ¢	39.7	39.2
radioactivity	`\$PD	± 1.8	± 1	± 1 0	₽ 0.6	± 2.80	± 00	± 1.1	± 1.2
Total radioactivity	Mean	7 100.6	99.4	002.3	95.3	98.9	°24.4	91.7	89.4
(%)	SD	±97.4	J¥2.7 ≈	± 12 🗗	±1.8	±0.3	⁴ 2.1	± 0.5	± 0.2

n.d.: not detected, n.a. not analysed, DAT: day after treatment. D: standard deviation

B. Material balance

Mean mass balances were 982% AR for Minster Soil (range from 95.1 to 103.5% AR), 96.7% AR for Abington soil (range from 0.0 40 103 % AR) and 26.4% AR for Sarotti soil (range from 89.4 to 102.3% AR).

The results confirm there were no significant losses of radioactivity during sample processing. The material balance for Sarotti-soil was slightly below 90% at the last sampling interval. While there were no signs of losses during work-up and processing, this was, possibly due to loss of CO₂.

C. Non-extractable and extractable residues

Values of extractable radioactivity decreased from 97 to 99% of applied at zero time to 80.4% (Münster soil), 28.3% (Abington soil) or 20.7% (Sarotti soil) by the end of the study. In all soils the amounts of non-extractable radioactivity increased steadily and reached a maximum of 39.2% in Sarotti soil, 37.3% in Abington soil and 9.9% in Münster soil by final timepoint.

All values expressed as percentage of total applied radiolabel.

A) Mean values of two replicates;

B) Unknown 1 had a more cular weight of 269 g/mole and was subsequently dentified as M-20 (BCS-BX16566) in a later aerobic soil sady (KCA 7.1.2.1.2/09, 1.2/19 deserobic soil sady (KCA 7.1.2.1.2/19 d



D. Volatile radioactivity

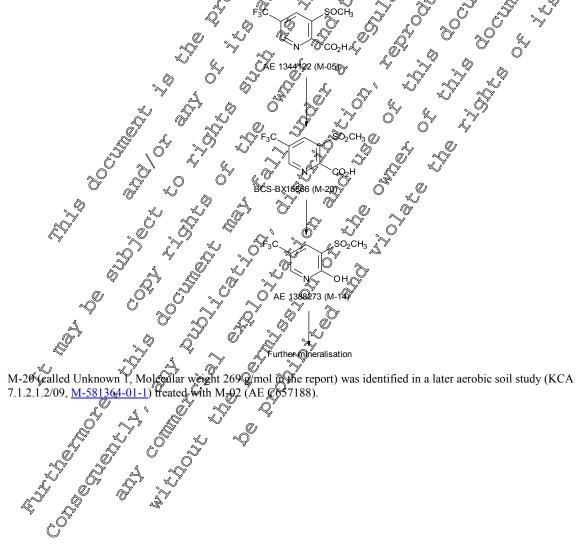
Mineralisation of [2,6-pyridyl-14C]-M-05 to 14C-carbon dioxide was significant, reaching a maximum of 29.5% in Sarotti soil, 24.4% in Abington soil and 5.4% in Münster soil by the final timepoint Latter 117 to 135 days of incubation). Formation of other volatile radioactivity was insignificant ($\leq 0.1\%$ AR). at any sampling interval.

E. Transformation of test substance

Metabolite M-05 was degraded relatively rapidly in Alargton and Sagotti soils, accompanied by the formation of M-14 at a maximum of 8.3% AR (Day 29, Abington) and 10.4% (Day 29, Sapotti) during the study (Table 7.1.2.1.2- 14 to Table 7.1.2.1.2- 15) Degradation was slower in Münster soil with a metabolite M-20 observed at a maximum of 25.5% (Day 135). This was a transient molecule in the other two soils formed at a maximum of 1% of applied radioactivity. All other components were \le 1.3% in any soil through the course of the experiment, except for Unknown 2 which was observed at a maximum of 6.8% in Sarotti soil.

The proposed route of degradation of M-05 in aerobic soft is presented in Figure 7

Figure 7.1.2.1.2- 2: Proposed metabolic pathway for





F. Degradation kinetics

Reported SFO DT₅₀ values of M-05 under aerobic conditions were 130.4, 60.4 and 33.5 days in Münster, Abington and Sarotti soils, respectively. DT₉₀ values ranged from 111 to 433 days.

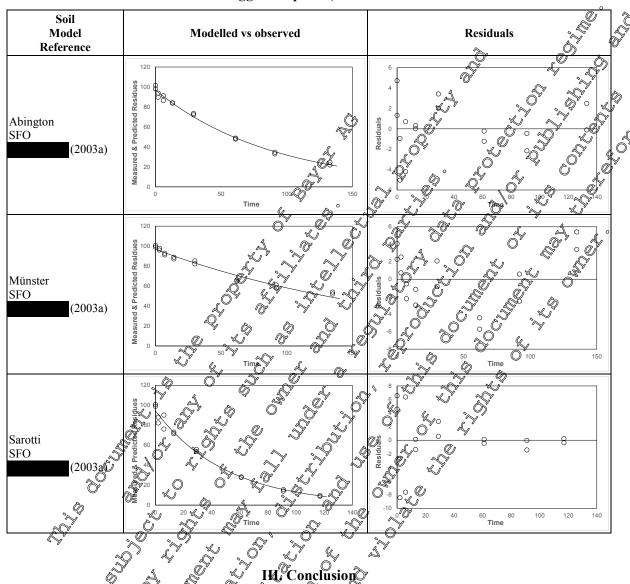
The experimental data has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 29). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting best-fit DT50 values for trigger endpoints are summarised below in Table 7.1.2.1.2-21. Best fit kingtics are highlighted in Sold &

Table 7.1.2.1.2-21: Degradation rate of M-05 under robic conditions at 20 °C DT so values do trigger endpoints) L,

	* 88				1		*		
Soil	Kinetic model	M_0	Parameter (k, k1, k2, g, tb, α, β)	χ², οζο ecoor	Prob		Upper Ci	DF 50 days], Q	DT _W
Abington,	SFO	96.98	k 0.01115	2.36 _©	<2e-16	0.01041	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	וי א (C) או	₄ 206.5
(2003a)	FOMC	96.96	α 91.57 β 8194	2.801	n.r.	2587 -2.33E±05	2770 2.49 +05	62.2 62.2 92.3	2086 °
	SFO	96.83	k 0.005092	× × 0-	<2e-16	0.004512	.`∂∕006 .€	ĭ 136∜⊮	A \$2.2
Münster,	FOMC	98.69	α\$₹676€ \$\$ 101.20		nG. H.r.	0.2406 4.019	198.5	#8.5	•
(2003a)	Ĉ	98\$68	k1 0,0026 2.28E-12 g 0.5758	1.91	0.139 0.5 0.5 on.r.	************************************	1.992	160.9	>10000
Sarotti,	SFO 🌂	94.42	k 0.01984	\$\frac{4.09}{2}	<2e-106		20.02	34.9	116.1
			α 199E+08 68.95E-009			1 9E+08 8.95E+ 0 9	1.79E≠08 8.95€+09	34.6	115
(2003a) Best fit model highl Graphical repres	entations of	the fi	nat kinetio	fits are sh	own be				



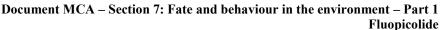
Table 7.1.2.1.1- 109: Degradation of M-05 under aerobic conditions at 20 °C (best-fit DT₅₀ values for trigger endpoints)



M-05 is a minor metabolite of fluoricolide which would be predicted to form in the soil environment at very low levels. It was not observed in soil laboratory metabolism studies conducted with fluoricolide. M-05 was degraded in soil, with a significant portion completely mineralized to CO_2 and, thus, it would not be expected to persist in the soil environment. A re-evaluation of the degradation kinetics in accordance with FQCUS guidance document on degradation kinetics (2014), resulted in a best-fit unnormalised DT_{50} value of between 34.9 and 136.1 days.

Assessment and conclusion by applicant.

The study was conducted in accordance with OECD 307 (2002). The study is considered valid to assess the aerobic degradation of [2,6-pyridyl-14C]-M-05 (AE 1344122) in soil.





Data Point:	KCA 7.1.2.1.2/05
Report Author:	
Report Year:	2003
Report Title:	Aerobic Soil Kinetics of AE 1344123 [pyridine-2,6-14C] in Three Soils
Report No:	<u>M-241411-01-2</u>
Document No:	<u>M-241411-01-2</u>
Guideline(s) followed in	EU (=EEC): 95/36; 91/414/EEC; OECD: 307
study:	
Deviations from current	none V V V
test guideline:	
Previous evaluation:	yes, evaluated and accepted
	DAR (2005)
GLP/Officially	Yes, conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes & & & & & & & & & & & & & & & & & & &

Executive Summary

The degradation of M-10 (AE 1344123) was studied in three soils under aerobic conditions in the laboratory in the dark at 20 ± 1 °C and 40% or 45% of the maximum water holding supacity for up to 120 days.

	Soil	Texture (LSDA) pH (CaCl ₂) % Organic C	Carbon
Münster		Oloang Sand 5.4 5.4 5 1.1	
Abington	y .	sandy loans 2.6	
Sarotti		Silt loam S S 79 9 1.3	

[2,6-pyridyl-¹⁴C]-labelled M-10 was applied to soil samples at an application rate of 0.013 mg/kg dry weight, equivalent to a field application rate of 10 g/ha resulting from a conservative estimate of the maximum occurrence of the metabolite and an application rate of 400 g active substance/ha. The radiochemical purity and specific activity were 95.7 % and 3.97 MB t/mg, respectively.

Samples were removed for extraction and analysis in mediately after treatment (day 0) and 4, 9, 14, 30, 63, 94 and 120 days. Soil samples were extracted with methanol: water (50: 50 by volume) for 10 minutes using an accelerated solvent extractor (ASE). Beginning with DAT 14 samples a second extraction with a static extraction time of 20 minutes was added. Soil extracts were analysed by reverse phase high performance liquid chromatography (HPLC).

Recovery of radioactivity ranged from \$3.9 to \$07.2% (Münster soil), 88.3 to 105.0% (Abington) and 89.3 to 103.8% (Sarotti). Total extractable residues decreased from 97.9 to 104.4% AR at zero time to 89.0% (Nunster soil), 2.6% (Abington soil) or 7.2% (Sarotti soil) by the end of the study. Non-extractable radioactivity reached (maximum of 10.2% in Münster soil, 32.6% in Abington soil and 41.4% in Sarotti soil before Seclining to 67, 30.2 and 31.0% AR by DAT 120, respectively. Mineralization to carbon dioxide was significant reaching a maximum of 3.6% in Münster soil, 55.4% in Abington soil and \$6.1% in Sarotti soil by DAT 120. Virtually no organic volatiles were detected throughout the study \$\leq 0.1% AR).

M-10 decreased from 104.4% AR at time zero to 74.2% AR in Münster soil, from 102.5% to 0.3% in Abington soil and from 97.9% to 0.1% in Sarotti soil by DAT 120. The metabolism of M-10 was more extensive in abington and Sarotti soils than in Münster soil.

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit un-normalised DT_{50} values of 241.9, 31.6 and 21.3 days in Münster, Abington and Sarotti soils, respectively.



Soil (USDA texture)	Best Fit Kinetic Model	DT ₅₀ (days)	DT ₉₀ (days)	Chi ² Error (%)
Münster (loamy sand)	SFO	241.9	803.6	2.43 © °
Abington (sandy loam)	SFO	31.6	104.9	8.03
Sarotti (silt loam)	SFO	21.3	70.9	1/2

Degradation of the metabolite in aerobic soil was relatively slow, however Molo is a minor metabolite Degradation of the metabolite in aerobic soil was relatively slow, however Molo is a minor metabolite of fluopicolide formed in the soil environment at very low levels. Should Molo form in soil it would be steadily degraded and would not be expected to accumulate.

I. Materials and Methods

A. Materials

1. Test Items

[2,6-Pyridyl-14C]-M-10 (referred to as AE 1344123 in the report)

Page 13.40 mCi/mmole)

Specific Activity:

3.97 MBq/mg (238,487 4pm/µg 31.49 mCi/mmole) Jethods

A172 in the report

South

Demois program of PCL Midolabel

3.9 MBq(mg (238, 487 apm/ng 31.49 mCi/mmole)

987% pt Pt Cl

SEL Pt 91 / 20 941.



2. Test Soils

The study was performed using three European soils collected fresh from the field with storage times of 52 to 58 days, prior to sieving to 2 mm and dispersing into flasks. Once received at the test facility the soil was stored under alfalfa cover in a glasshouse. The soils were collected from the same such as laboratory aerobic soil studies with fluopicolide, from Abington (Cambridge, England) and Mustler and Sarotti (Germany). The same batches of soils were used in laboratory aerobic soil studies with the other pyridyl ring metabolites M-05, M-10 and M-14. The physico-chemical characteristics are summarized in Table 7.1.2.1.2-22.

Table 7.1.2.1.2- 22: Physico-chemical properties of test soils

Parameter	a C	Soil O	Q O
Soil Designation	Münster	Dington	Sarotti 🖟
Geographic Location			Hattersheim,
City	Munster	Cambridgeshire,	Hattersheim,
	Morthrine-	Unit Kingdom	Hasse , °
Country	Westfalia Germany		German
Textural Classification (USDA)	Loamy sand	Sandy loan	Silt loam
Sand [50 - 2000 µm] (%)	80.53	270.04	3.24
Silt [2 – 50 μm] (%)	80.55 y	1560	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Clay [< 2 μm]	\$ 3.77e 0	1/36	22.80
pH &		14.30	©* 22.80
in CaCl ₂	1 @ 3 "O" ·		7.5
in H ₂ O	5.4		8.3
in KCl	5,5	\$ 7.7 P	7.7
Organic Carbon (%		26	1.3
Caexchangeable (med) 00 g)	715	V 509	34.3
Mgexchangeable (aseq/100 g)		1.6	1.6
Mgexchangeable (meq/100 g) Naexchangeable (meq/100 g)	\$ 60.05	0.1	0.1
Kexchangeable (meq/100 g)	0.4	1.3	0.9
Mnexchangeable (meq/100 G)	<0.05	< 0.05	< 0.05
Kexchangeable (meq/100 g) Mnexchangeable (meq/100 g) CaCO ₃ equivs (g/kg)	\$ \$0.05 A	73.5	13.4
Phosphorus total (2ng/kg)	617.80	1586.3	728.8
Nitrogen total (mg/kg)	, O 107@9	2380.1	1470.2
Water Holding Capacity	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Maximum (g H ₂ O per 100 g DW)	° √ 46.5	57.1	52.1
Moisture Content During Incubation	҈ Ø MWHC	40% MWHC	45% MWHC
Soil Microbial Bioimass (μερπίστου Al C/gooil)	BIO-	BIO-	BIO-
Initial (DAT 0)	147	748	454
Mid (DAT 65) A Q S Q	135	356	716
Final (DATE 23)	92	525	369

BIO samples were peated with water



B. Study Design

1. Experimental Conditions

Tests were performed in static systems consisting of an Erlenmeyer flask containing 100 g soil dry weight equivalents) fitted with a trap attachment (permeable for oxygen) containing soda lime for absorption of carbon dioxide and a polyurethane foam plug for adsorption of volatile organic compounds.

[2,6-Pyridyl-¹⁴C]-M-10 was applied at an application rate of 0.013 mg/kg, equivalent to kg/g/ha/reflecting a fluopicolide field application rate of 400 g/ha/and a conservative estimate of the maximum predicted occurrence of the metabolite. The test item was dissolved in vater and applied dropwise onto the soil surface

Soils were collected fresh from European fields and hipped to the laboratory in Stilwell, Kansas, USA. On arrival soil was maintained in a biologically active state under alfalfa cover in a greenhouse (19 to 20 days), then dried slightly and sieved to 2 mm prior to dispersing into flasks (100 g dry weight) on 25 April 2003.

Soil samples were treated with the test substance on 28 April 2003. The soil moisture content was adjusted to 40% MWHC (Münster and Abington soils) or 45% MWHC (Sarotti soil) by the addition of water. All soils were incubated in the dark under aerobic conditions at 20 °C. Soil samples were maintained under 'static' conditions in flasks equipped with a combined solid phase trap for the collection of CO₂ (soda lime) and colatile organic compounds glass wool saturated with inineral oil). Untreated soil samples were incubated under the same conditions for determination of soil microbial activity.

2. Sampling

Following incubation duplicate samples were taken for analysis after 0, 4, 2, 14, 30, 63, 94 and 120 days. Due to poor extractability of the radioactive residues at zero time, the Day 0 interval was repeated in all soils. Microbial soil biomass samples were analysed at the start, midpoint and end of the experiment (Day 0, Day 65 and Day 123).

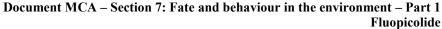
3. Analy Gcal procedures

The soil samples were extracted with methanols water (50:56 by volume) at 80 °C and 1500 psi for a static time of 10 minutes using a faccelerated solvent extractor (ASE). Beginning with DAT 14 samples a second extraction with a static extraction time of 20 minutes was added, in addition to the first extraction and the extracts were combined.

Following concentration, extracts were analysed by reversed phase HPLC and 14 C-flow-through detection (echniques. The limit of quantitation (LOQ) for the analytical method was <2% AR. The identity of M-10 was confirmed by comparison of HPLC retention times in two different HPLC systems to a reference standard.

¹⁴C-carbon dioxide adsorbed to soda line was released by concentrated hydrochloric acid and re-trapped in scintillant solution. For determination of other volatile radioactivity glass wool from the volatile traps was extracted with othyl actate. Radioactivity in samples was determined by LSC.

Following homogenisation, non-extractable residues (NER) in extracted soils were determined by

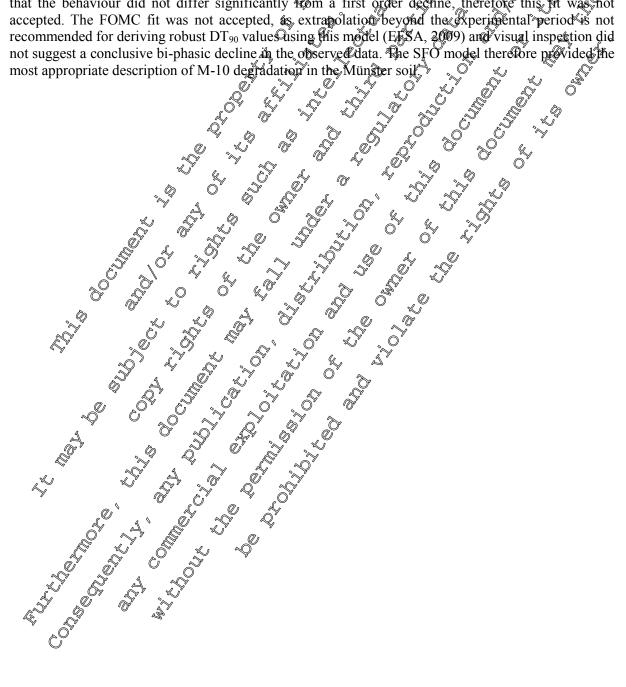




4. Determination of degradation kinetics:

The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. DT₅₀ and DT₉₀ values for the degradation of M-10 have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1). Full degrals are provided in Document KCA 7.1.2.1.1/10 (M-685680-01-1). A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints for M-10, an initial comparison was performed for each soil between the SFO and FOMC fits. For the Abington and Sarotti soils, the SFO model provided a better fit, with a lower χ^2 err% value. For the Münster soil, the FOMC model provided a slightly lower χ^2 err% value, and the DFOP model was therefore fitted as well. The resulting DFOP fit was similar visually to the SFO fit, and the degree of confidence in the DFOP rate constant k_1 could not be calculated, suggesting that the behaviour did not differ significantly from a first order decline, therefore this fit was not accepted. The FOMC fit was not accepted, as extrapolation beyond the experimental period is not recommended for deriving robust DT₉₀ values using this model (EFSA, 2009) and visual inspection did not suggest a conclusive bi-phasic decline in the observe data. The SFO model therefore provided the most appropriate description of M-10 degradation in the Münster soil.





II. Results and Discussion

		II	. Results	and Dis	cussion				
A. Data									@.°
The results of aerobic nummarised in Table	metaboli	sm of [2,	6-pyridyl	- ¹⁴ C]-M-	10 after i	ncubatior	n in three	Europear	n soits are
summarised in Table	7.1.2.1.2-	· 23 to Ta	ible 7.1.2	2.1.2- 25.			~		
Гable 7.1.2.1.2- 23:	Degrada	ation of	2,6-pyri	dyl- ¹⁴ C]-	M-10 in	Münster	soil und	ler aerob	ic . S
			°C [% A			<u>_</u>	<u>.</u>	Ő	ic S
Compound	Mean A			In	C abation	time (DA	.T)		
•	SD	0	4	9 B	14 B	300 B	63 B	94.	120 ^B
M-05 (AE 1344122)	Mean	104.4	96.9	95	99.7	Ç 90	83.8	75Q4	3 4.2
MI-03 (AE 1344122)	SD	± 2.4	± 6.4		- ~	4 -&°	2	& -	- 4
Unknown 1	Mean	nd	nd '	1.3	0.5	~0,.7	, nd	nd	
Chritown 1	SD	± 0.0	± 0.0			Ç - Ş	Ĭ -Ş	- '- "	-
Unknown 2	Mean	nd	nd	and a	\mathbb{C} nd \mathbb{Q}	nd	nd	nd (ndÇ
	SD	-		Y - X		A	0° - ~	- 💝	
Unknown 3	Mean	nd @	nd 😽	n	~~md	0'4.3	8.6	12.6	3.4
	SD	± 0.6	±\$ Q ,0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	y - 0		Ş.	% - &	-
Unknown 5	Mean	O O	nd ? - %	nd	nd	and a	Ond S	nd	nd
	SD Maan	nd **	, - @	nd	Ø 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	~ - O	nd	© nd	nd
Unknown 6	Mean SD	y nu v	and a	ilu S	nd 🕅	n d		U IIU	IIG
Total extractable	Mean	« 104.4	96.9	964	£90.2	95.0	924	88.0	89.0
radioactivity	≪SD ≪	± 2.4	± 6.4		0 % S	93.00 G		-	-
	Mean	2Nd	©0.4 ×	0.6	0,8	Ψ <u>.</u> 6	×2.1	2.6	3.6
Carbon dioxide	, sõ	° 0.0 €	± 0.1	, Q	Q- (\$ - Q	-	-	-
0.1 1.11 0	Mean_	nd	, nod	and a	nd S	nd	nd	nd	nd
Other volatiles	SP		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\) - S	nd 🖓	~ <u>@_</u>	_	-	-
Non-extractable	Mean	₹ 0.7 6	1.50	10.2	Ø.2 ~	© 9.2	3.5	3.3	6.7
radioactivity	©SD S	± 0.3 (1.5%)	±0.0	Q - *) - O	-	-	-	-
Total radioactivity	Mean	10 ^{3.0} °	[₩ 0.1 ×		1032	105.8	98.1	93.9	99.3
(%)	SD	ر 2.1 <	± 64		ॐ -	-	-	-	-
n.d.: not detected DAT:	days after û	eatment, S	D: standaro	d deviation	7				
All values expressed as a All Mean values of two re	plicates; B (one replication	Conly for	DAT 9 1	20				
	. B	Į į		, L					
			Q \$	7					
@ \	, ,								
	,	J'	~ y						
			P						
		Ĭ							
n.d.: not detected, DAT: All values expressed as CA Mean values of two re									



Degradation of [2,6-pyridyl-14C]-M-10 in Abington soil under aerobic Table 7.1.2.1.2- 24: conditions [% AR]

Mean A			In	cubation	time (DA	T)		
	0	4			`		94	120 B
						A.		v 0.3
						~~~	± 15	
					Δ		m	and a
	-		- (	^ _A -	-2	<i>-</i>	4 7 - ×	7 - Z
	nd		nd 🔊	nd	<u>س</u> ر ۲	0.5 @	Û 3.50°	(K.5)
	-	-	4	-	$\bigcirc_{\mathbb{A}}$	. @	±40.7	
	nd	nd	a Thd	nd	77	- P	√2.4	<del>0</del> 1.942
	-	_ 4	Ø -		, Ø	<u> </u>	0 ± 3.4	1.94
	nd	nd 🦃	ndo	dd	e nd «	nd\(\sigma\)	03	nd
	-	,- 0,					¥0.1 å	°
	nd	√ and °	nd \	nd nd	⊿and	\$nd .	nd®	nd
	- 0			, & Q	~ · · ·			<u> </u>
	1025	160,6	Ø3.6 *	©88.5 ®	65.8	24°.5	© 2.1 s	2.6
	±2/5	- 7/	W. 1	± 13/	±01.5	©± 0.8.≈	± 0.6	_
	and 4	A A	200	<b>2</b> 29	√ 14 %	35.4	43.5	55.4
SD 🎺	= 0.0	1	$\pm 0.4$	\$\psi 0 00)	± 0×1	± 47	±15	_
<i>₩</i>		~~	0	nd	A 87	0.1		0.1
	$\odot$		ř		4 0 0 S	$\pm \Omega \hat{\mathbf{Q}}$		-
Ļ	2	<i>~</i>	<b>8</b> .1 %			-398		30.2
N M	£074		$S_{\pm 0}$	± 4 2	~ Y	£ 0.4		-
A 7	×03.9 ×	N Y	10295	. 907.0				88.3
SD (	± 2.%	±24	2.7°		. ~ 11			_
percentage of plicates; B (	of the all applications of the replications of	and radio and red only for l	bel Ø DAT 120					
֡	Mean SD Mean S	SD         0           Mean         102.5           SD         ± 2.5           Mean         nd           SD         -           Mean         nd           SD         -           Mean         nd           SD         -           Mean         nd           SD         -           Mean         nd           SD         ± 0.0           Mean         nd           SD         ± 0.0           Mean         1,0           Mean         2,4           Moan         1,0           SD         ± 2,4           Moan         1,0           Mean         1,0           SD         ± 2,4           Moan         1,0           SD         ± 2,4           Mean         1,0           Mean         1,0	SD         0         4           Mean         102.5         99.9           SD         ± 2.5         ± 2.2           Mean         nd         0.7           SD         -         ± 1.0           Mean         nd         nd           SD         -         -           Mean         nd         nd           SD         -         -           Mean         nd         nd           SD         ± 3.2           Mean         nd         1.4           SD         ± 0.0         ± 0.5           Mean         nd         1.4           SD         ± 0.0         ± 0.5           Mean         nd         2.9           SD         ± 0.0         ± 0.0           Mean         1.0         2.9           SD         ± 2.4         ± 0.2           Mean         1.0         2.9           SD         ± 2.4         ± 0.2           Mean         1.0         2.9           SD         ± 2.4         ± 0.0           SD         ± 2.4         ± 2.4           Alays after treatment, SD: standard electronic only for the co	SD         0         4         9           Mean         102.5         99.9         93.6           SD         ± 2.5         ± 2.2         ± 3.0           Mean         nd         0.7         nd           SD         -         ± 1.0         -           Mean         nd         nd         nd           SD         -         -         -           Mean         nd         nd         nd           SD         -         -         -           Mean         nd         nd         nd         nd           SD         ± 0.0         ± 0.5         ± 0.4           Mean         nd         nd         nd         nd           Mean         nd         nd         nd         nd           SD         ± 0.0         ± 0.0         ± 0.0         ± 0.0           Mean         nd         nd         nd         nd           Mean         nd         nd         nd         nd           SD         ± 0.0         ± 0.0         ± 0.0         ± 0.0           Mean         nd         nd         nd         nd           SD <td< td=""><td>SD         0         4         9         14           Mean         102.5         99.9         93.6         88.5           SD         ± 2.5         ± 2.2         ± 3.0         ± 1.5           Mean         nd         0.7         nd         nd           SD         -         -         -         -           Mean         nd         nd         nd         nd           SD         -         -         -         -           Mean         nd         nd         nd         nd           SD         -         -         -         -           Mean         nd         nd         nd         nd           Mean         nd         1.00         2.3         6         88.5           SD         ± 3.2         ± 3.0         ± 1.5           Mean         nd         1.40         2.8         88.5           SD         ± 3.2         ± 3.0         ± 1.5           Mean         nd         1.40         2.8         2.8           Mean         nd         1.40         2.8         2.40           Mean         1.00         ± 0.0         ± 0.0</td><td>  SD</td><td>  SD</td><td>  SD</td></td<>	SD         0         4         9         14           Mean         102.5         99.9         93.6         88.5           SD         ± 2.5         ± 2.2         ± 3.0         ± 1.5           Mean         nd         0.7         nd         nd           SD         -         -         -         -           Mean         nd         nd         nd         nd           SD         -         -         -         -           Mean         nd         nd         nd         nd           SD         -         -         -         -           Mean         nd         nd         nd         nd           Mean         nd         1.00         2.3         6         88.5           SD         ± 3.2         ± 3.0         ± 1.5           Mean         nd         1.40         2.8         88.5           SD         ± 3.2         ± 3.0         ± 1.5           Mean         nd         1.40         2.8         2.8           Mean         nd         1.40         2.8         2.40           Mean         1.00         ± 0.0         ± 0.0	SD	SD	SD



Table 7.1.2.1.2- 25: Degradation of [2,6-pyridyl-¹⁴C]-M-10 in Sarotti soil under aerobic conditions [% AR]

Compound	Mean A			In	cubation	time (DA	T)		, W
	SD	0	4	9	14	30	63	94	¥20 a
M 05 (AE 1244122)	Mean	97.9	97.5	89.3	80.3	36.3	<b>\$</b>	0.6	0.16
M-05 (AE 1344122)	SD	± 4.2	± 1.8	$\pm 5.3$	± 4.1	$\pm 0.0$	<b>≇</b> 1.3	± 0.3	±0,2
Unknown 1	Mean	nd	nd	nd	nd	nd 🔏	<b>,</b> nd	a si	and g
Unknown 1	SD	-	-	- (	<b>3</b> -	-\$	-	%- ~	7 - G
Limber of the Control	Mean	nd	nd	nd	nd	.0.2	0.6	1.359	rid N
Unknown 2	SD	-	-		-	€ 0.3	± 0.	±40,5	
Unknown 3	Mean	nd	nd	<b>and</b>	0.7	nd °	He	<b>4.6</b>	2.14
Ulikilowii 3	SD	-	- "	<b>V</b> -	± 100		~ <del>-</del> ~	± 0.2	±021
Unknown 5	Mean	nd	nd	nd	Jid .	Çnd 🍣	nd	0.3	nd
Unknown 5	SD	-	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<b>%</b>		ond in	<u></u> ©"	<b>¥</b> 0.1 €	♪ - < °
Unknown 6	Mean	nd	wind ~	y nd y	nd	And	o nd	0.2	p\$
Clikilowii o	SD	- @	~ ~		, Y	o~ ~	/ -\$	±%2.2	
Total extractable	Mean	97.8	97,3	<b>\$9.3</b>	\$81.00	36.5	<b>S</b>	Ø7.1	2.2
radioactivity	SD	± <b>3</b> :2	₽1.8	± 5,3	± 3 1	<b>20</b> .3	رِيُّــــــــــــــــــــــــــــــــــــ	± 0.0	± 0.2
Carbon dioxide	Mean	ond X	9 1.0 ₀	30	<i>\$</i> 20	\$√16.0°S	43.0	£53.1	56.1
Carbon dioxide	SD 🔏	ÿ - 'Y	±0,0	±0.1	∜± 0.0©	± [6]	± 0.2	<b>€</b> 0.5	± 0.3
Other volatiles	Mean	nd	\$6.3 _@	🖔 0.3 🕏	0.3	prd '	<b>0.1</b>	0.1	nd
Other volatiles	`\$¥Ď	<u> </u>	$Q \pm 0$	$\pm 60$	$\bigcirc 0.0$	V - J	± 000	$\pm 0.0$	-
Non-extractable	«Mean «	§ 0.9 §	4.9	<b>5</b> .3	13.4	38.3	·49.4	36.2	31.0
radioactivity	SD	±0.0	<b>₩</b> 0.1 &	$\pm 6.3$	$\pm 1.9$	₽.6	<b>⁴</b> 4.1	± 0.7	± 1.4
Total radioactivity	Mean	<b>`</b> >>98.8 ≪	J 103:8 ₇	98,9	<b>9</b> 99.7	%90.2€	90.7	96.4	89.3
(%)	SD (	* ± 4 <b>%</b>	±2.0	±√1.5,	± 1.10	± 0′.9	± 1.9	± 0.2	± 1.5

n.d.: not detected, DAT days after treatment, SD: standar Queviation

### B. Material balance

Mean mass balances were 101.4% AR for Munster Soil (range from 93.9 to 107.2% AR), 96.6% AR for Abington soil (range from 88.3 to 105.0% AR) and 96.0% AR for Sarotti soil (range from 89.3 to 103.8% AR).

The results confirm there were no significant losses of radioactivity during sample processing. The material balance at the last two intervals for Abington soil (DAT 94 and 120) and the final interval in Sarotti soil (DAT 120) were slightly below 90%. While there were no signs of losses during work-up and processing this was, possibly due to loss of CO₂.

# C. Non-extractable and extractable residues

Values of extractable adioactivity decreased from 97.9 to 104.4% AR at zero time to 89.0% (Münster soil) 2.6% (Abington soil) or 2.2% (Sarotti soil) by the end of the study (DAT 120). Amounts of non-extractable adioactivity increased to a maximum of 10.2% in Münster soil by DAT 30 before declining slightly 6.7% AR by DAT 120. In Abington soil NER increased to a maximum of 32.6% AR by DAT 94 declining to 30.2% by DAT 120 and to 41.4% AR in Sarotti soil by DAT 64 declining to 31.0% AR by DAT 120.

All values expressed as percentage of the all applied radio label

A) Mean values of two replicates



# D. Volatile radioactivity

Mineralisation of [2,6-pyridyl-¹⁴C]-M-10 to ¹⁴C-carbon dioxide was significant, reaching a maximum of 56.1% AR in Sarotti soil, 55.4 % in Abington soil and 3.6 % in Munster soil by the end of the study (DAT 120). Virtually no organic volatiles were detected throughout the study in any soil.

### E. Transformation of test substance

The slowest rate of degradation of pyridyl ring metabolites was observed in Münster soil. In Apington and Sarotti soils, degradation of M-10 led to the formation of four transient unidentified metabolites in the Munster soil the extent of degradation of M-10 was less with 74% of the test item remaining at the end of the incubation period compared with <1% in the other soils. Two metabolites of M-10 were observed in Münster soil. The largest region detected was a polar degradate (or nixture of degradates) which reached a maximum of 13% AR in Münster soil by the end of the study (DAT 120). This region was also detected as a transient degradate in the other two soils at a maximum of 4.8% AR.

# F. Degradation kinetics

Reported SFO DT₅₀ values of M-10 under aerobic conditions were 252.5, 35.8 and 24.1 days in Münster Abington and Sarotti soils, respectively. DT values ranged from 80.2 to 839 days.

The experimental data has been re-explusive according to the POCLS guidance document on degradation kinetics (FOCUS 2014) using the software KinGLO (version 25). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10, the resulting best-fit DT₅₀ values for trigger endpoints are summarised below in Table 7.1.2.1.2-26. Best to kinetics are lighlighted in bold.

Table 7.1.2.1.2- 26: Degradation rate of M-10 (order aerobic conditions at 20 °C (DT₅₀ values for Arigger endpoints)

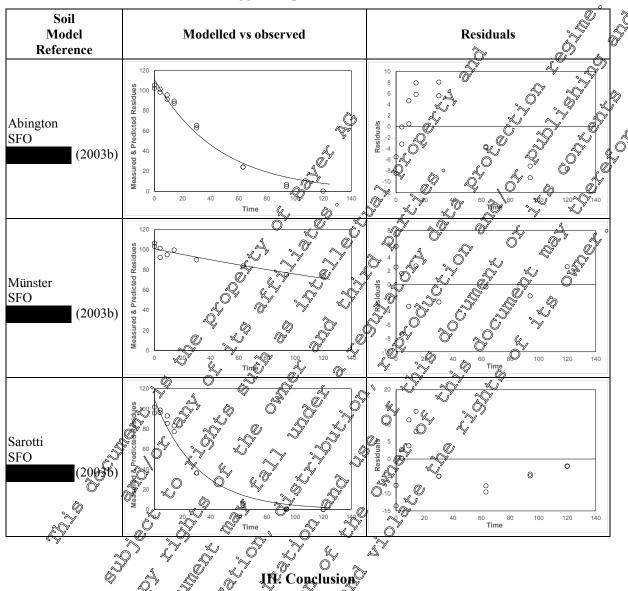
Soil	Kinetic mode D	Mo	Parameter (k, k1, k2, g, tb, d, b)	χ², ος ecror	Prob >t	Wower CI	♥ V Upper CI	DT ₅₀ [days]	DT90 [days]
Abington	SFO	110.9	k 0.02195 %	<b>38.03</b> ®	6.09E-09	0,01852	0.025	31.6	104.9
(20036)	FOM	1105	φ0150 β 4.63E±95	. 85H	n.r.	%501 4.63E+05	11800 4.63E+05	31.6	104.9
	SEO	100.9	k 0.002865	<b>2.43</b>	3.68E-05	0.00211	0.004	241.9	803.6
Münster,	FOMC			2. <b>©</b>	on.r.	-0.1525 -76.51	0.642 162.3	684.9	>10000
(2003b)	DFOP	905.15	k1 1888 k2 0 002565 g0.061		NA 0.000233 n.r.	NA 0.001834 0.02595	NA 0.003 0.096	245.7	873
Şarotti,	SFQ	109.4	€ 0.03248	×11.2	9.06E-08	0.02576	0.039	21.3	70.9
(2003b)	_	\$109.4°	α 19,60 β 50,90E+0\$,	12	n.r. n.r.	15050 5.90E+05	23270 5.90E+05	21.3	70.9

Best fit model highlighted in bold

Graphical representations of the final kneetic fits are shown below.



Table 7.1.2.1.1-110: Degradation of M-10 under aerobic conditions at 20 °C (best-fit DT₅₀ values for trigger endpoints)



M-10 is a minor metabolite of fluoricolide, which would be predicted to form in the soil environment at very low levels. It was not observed in soil laboratory metabolism studies conducted with fluoricolide. M-10 was degraded in soil, with a significant portron completely mineralized to CO₂ andit would be expected to steadily decline in the soil environment. A re-evaluation of the degradation kinetics in accordance with FQCUS guidance document on degradation kinetics (2014), resulted in a best-fit unnormalised DT₅₀ value of between 21.3 and 240.9 days.

# Assessment and conclusion by applicant:

The study was conducted in accordance with OECD 307 (2002). The study is considered valid to assess the accordance with OECD 307 (2002). The study is considered valid to assess the accordance with OECD 307 (2002). The study is considered valid to assess the accordance with OECD 307 (2002). The study is considered valid to assess the accordance with OECD 307 (2002).



Data Point:	KCA 7.1.2.1.2/06
Report Author:	
Report Year:	2003
Report Title:	AE 1388273 - Rate of degradation in soil under aerobic conditions
Report No:	<u>M-234149-01-2</u>
Document No:	<u>M-234149-01-2</u>
Guideline(s) followed in	OECD 307; SETAC-Europe, March 1995; EU 95/36/EC mending 91/4 4/EEC
study:	
Deviations from current	none S S S S S S S S S S S S S S S S S S S
test guideline:	
Previous evaluation:	yes, evaluated and accepted DAR (2005)
GLP/Officially	Yes, conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes & & & & & & & & & & & & & & & & & & &

### **Executive Summary**

The degradation of M-14 (AE 1388273) was studied in three soils under aerobic conditions in the laboratory in the dark at  $20 \pm 2$  °C and 55% of the maximum water holding capacity for up to 37 days.

	Soil	Γexture (USDA)	Q 1	pH (Cach)	<del>S</del>	Ö% Org	anic Carbon
Münster		Gloamy and	~	5 ⁵ .4	× ,	Ď,	1.1
Abington		sand Toam	L	~7.2 °C'	\$		2.6
Sarotti	*	silt loam	Ø'	o 7. <b>\$</b> √			1.3

M-14 was applied to soil samples at an application rate of 0.013 mg/kg droweight, equivalent to a field application rate of 10 g ha resulting from a conservative estimate of the maximum occurrence of this metabolite and an application rate of 400 g active substance/ha The chemical purity of M-14was 99.9% which was considered in determining the application rate.

Samples were removed for expraction and analysis immediately after treatment (day 0) and 2, 7, 10, 14, 22, 30 and 37 days of incubation. Soft samples were extracted by microwave extraction with acetonitrile/water (4/1, v/v). Soil extracts were analysed by HPLC-MS/MS to quantify the amount M-14 remaining.

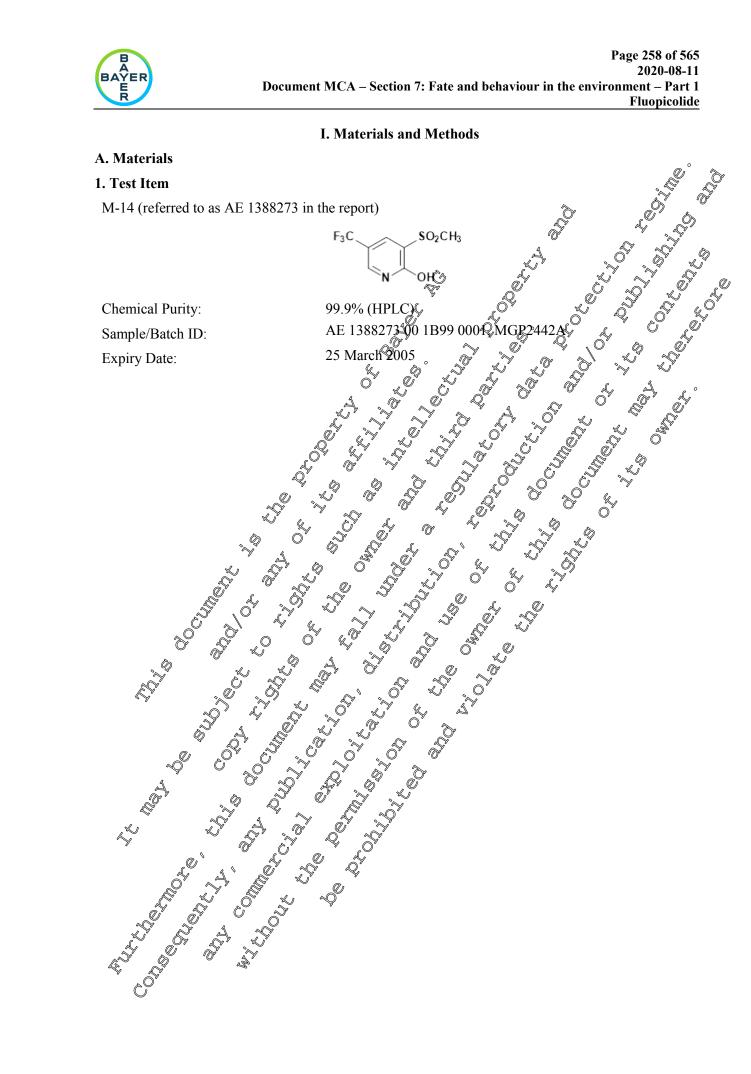
M-14 was rapidly degraded in all three soils. The amount in soil extracts declined from between 11.80 to 12.15 μg/kg at time zero to LOG requiralent, to < 7.7% of applied) by DAT 37, 22 and 30 in Münster Abington and Sarott soils, respectively.

A reversal valuation of the degradation killetics in accordance with FOCUS guidance document on degradation kinetics (20 %), resolved in a best of un-normalised DT₅₀ values of 8.2, 4.9 and 5.8 days in Münster, Abing on and Sarott, soils despectively.

Soil Soil Soil Soil Soil Soil Soil Soil	Best Fit Kinetic Model	DT ₅₀ (days)	DT ₉₀ (days)	Chi ² Error (%)
Münster (loapev sando	SFO	8.2	27.3	4.02
Abington (Sandy loam)	SFO	4.9	16.4	3.75
Sarotti (Ott loam)	SFO	5.8	19.3	4

Degradation of the metabolite M-14 in aerobic soil was very rapid and it is not expected to persist in the soil environment.







### 2. Test Soils

The study was performed using three European soils collected fresh from the field with storage times of 42 to 48 days, prior to sieving to 2 mm and dispersing into flasks. Once received at the test facility the soil was stored at 4°C. The soils were collected from the same sites as laboratory aerobic soil studies. with fluopicolide, from Abington (Cambridge, England) and Munster and Sarotti (Germany). The same batches of soils were used in laboratory aerobic soil studies with the other pyradyl ring metabolites. M-02, M-05 and M-10. The physico-chemical characteristics are summarized in Table 7.1.2.12-27

Table 7.1.2.1.2-27: Physico-chemical properties of test soils

Parameter		Soil S	
Soil Designation	Wünster	Abington	Saroth
Geographic Location			O' & O'
City	Münster,	Cambrid@shire	Hattersheim,
	Northrine-	United Kingdom	Hesse
	Westfalia Q		Gomany W
Country	Germany		Germany
Textural Classification (USDA)	Logginy sand	Sandŷ Joam 5	Silt loans 23.24
Sand [50 - 2000 μm] (%) Silt [2 – 50 μm] (%)	80.50	00.04	23.24
Sit [2 50 μm] (70)	7 15.70 Y	15.66	\$ \$5.95
Clay [< 2 μm] (%)*			22.80
pH · C Cl	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		0,
in CaCl ₂	@.V =1()r		7.5
in H ₂ O	6.6		8.3
in KCl Organic Carbon (%) Ca _{exchangeable} (meq/100 g)	2 KI, 0	7.1,00	7.7
Organic Carbon (%) Caexchangeable (meq/100 g)	3 5 W	2.6¢	
	0.2	1 <b>2</b> ,9 7.6	34.3 1.6
Mgexchangeable (med/100 g)  Naexchangeable (med/100 g)  Naexchangeable (med/100 g)	0.2	$\sqrt[n]{0.1}$	0.1
		1.3	0.9
Mn _{exchangeable} (meq/100 g)	*	<0.05	<0.05
CaCOs equivs (g/kg)		73.5	13.4
Kexchangeable (meq/100 g)  Mnexchangeable (meq/100 g)  CaCO ₃ equivs (g/kg)  Phosphorus total (mg/kg)	9.4 <0.05 <0.05 \$\int \text{27.8}	1586.3	728.8
Nitrogen total (mg/kg)	1077	2380.1	1470.2
Nitrogen total (mg/kg)  Water Holding Capacia		2300.1	14/0.2
Mariana (FILO and 10%) DW	\$\tag{\text{\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\tex{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\}\$}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	57.1	52.1
Moisture Content During Incubation	46% MWHC	40% MWHC	45% MWHC
	S BIO⁻	BIO-	BIO-
Soil Microbial Biomass (µg microbial C/g soll) Initial (DAT 0)	158	796	217
Mid (DAT 30)	136	851	306
Final (DATA)	151	880	319
BIO sample were treated with water	101	000	31)
J R A F			
Soil Microbial Biomass (µg microbial C /g soil) Initial (DAT 0) Mid (DAT 30) Final (DAT 47) BIO sample were treated with water			
A G			



### **B. Study Design**

### 1. Experimental Conditions

Tests were performed in static systems consisting of an Erlenmeyer flask containing 25 g soil dry weight equivalents) fitted with a polyurethane foam plug to maintain aerobic conditions and to maintain water loss.

M-14 was applied at an application rate of 0.013 mg/kg, equivalent to 10 g/ha, reflecting a fluopic field application rate of 400 g/ha and a conservative estimate of the maximum predicted occurrence of the metabolite. The test item was dissolved in water and applied dropwise onto the soil surface. Soil samples were adjusted to a moisture content equivalent to 40% MWHC (Münster and Abjugton soils) or 45% MWHC (Sarotti soil) 40, one day prior to application. The samples were incubated at 20 1 °C under aerobic conditions in the dark for 37 days. Soil moisture was maintained during incubation by the weekly addition of water to the samples. Untreated soil samples were incubated under the same conditions for determination of soil microbial activity.

# 2. Sampling

Following incubation, duplicate samples were taken for analysis after 0, 2 1, 10, 14, 22, 20 and 3 days. Microbial soil biomass samples were analysed at the start indepoint and end of the experiment (Day 0, Day 30 and Day 41).

### 3. Analytical procedures

The entire soil sample of each test vessel was extracted by microwave extraction with acetonitrile/water (1/4, v/v), the soil extracts centrifuged and the amount of AE 1388273 in the extracts determined by LC-MS/MS. Concurrent recoveries to demonstrate the extraction efficiency and verify the analytical method from all three soils were measured fourined in control samples fortified at 0.01 mg/kg and mean values of 105%, 101% and 99% were obtained for Abington. Saroth and Münster, respectively. The limit of detection in soil matrix was determined as 0.3  $\mu$ g/kg (2.3% of applied test substance) and the limit of quantification was determined as 1  $\mu$ g/kg (7.7% of applied test substance). The analytical method was validated IN two soils prior to starting the test

Samples were usually malysed directly without storage. It storage was required, samples were stored frozen for a maximum of 10 days in a freezer. Storage stability tests established stability at <-18°C for a minimum of 13 days

# 4. Determination of degradation kinetics:

The degradation kinetics determined on the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. DT₅₀ and DT₉₀ values for the degradation of 14 have been recalculated from the reported data following the recommendations of the OCUS work group using the software KinGUI (version 2.1). Full details are provided in Document KCA 74.2.1 1410 (MS85680-01-1). A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints for M-14, an initial comparison was performed for each soil between the SFO and COMC its. FOMC for did not provide any visually discernible improvement over SFO kinetics for any soil. The SFQ tits were therefore accepted for all soils.



### II. Results and Discussion

### A. Analytical Methodology:

A full summary of the analytical method, which is validated in a separate report (M-234149-01 provided in Document MCA 4, Section 4.1.2. The method complies with all criteria according to SANCO/3029/99 rev. 4 and is suitable for the determination of M-14 in soil samples by HPLC/MS/MS

### B. Data:

M-14 was rapidly degraded in all three soils. The amount in soil extracts declined from 110 time zero to < LOQ (equivalent to < 7.7% of applied by DAT 37 Münster soil from 11.80 time zero to < LOQ by DAT 22 in Abington soil and from 12.15 µg/kg at time zero to < LOQ by D 30 in Sarotti soil.

The results for each soil are summarized in Table 7, 2.1.2, 28 to Table 7.2.1

Table 7.1.2.1.2-28: Degradation of M. 14 in Munster soil under gerobic conditions at 20

			ماه	. 💜	*	Ala *		<b>♥</b> ,	4 V
Danamatan	I I <b>n :</b> 4 a			K Y I	neubation t	ime@DAT			
Parameter	Units	0	/ حس	& 7 . S		©14 S		<b>3</b> 0 g	37
Mean	μg/kg	11.95	£9.80	6,51	≥5.63 ≥		4903	<b>%</b> 1.07	<loq< td=""></loq<>
SD	μg/kg	0.05 @	0,15	<b>1</b> 9	© 0.03©	86.0	00.04	0,04	•

DAT: days after treatment

 $LOQ = 1 \mu g/kg$ ;  $LOD = 0.3 \mu g/kg$ 

Table 7.1.2.1.2- 29: Degradation of M-14 in Abington soil under gerobic conditions at 20 °C

Danamatan	Units	, of %			nÇubatigy	time (DAT	`)@		
Parameter		) 0 ×	(C) /.	≫′7 ,√y	10	√14 ×	<b>)</b> 22	30	37
Mean	Oµg/kg/S	11.90	®.95 &	4.40	<b>2</b> 87 (	1.52	<loq< td=""><td><loq< td=""><td><lod< td=""></lod<></td></loq<></td></loq<>	<loq< td=""><td><lod< td=""></lod<></td></loq<>	<lod< td=""></lod<>
SD 🖁 🖏			0.034	<b>19,0</b> 3	©0.03 ₀	0,00	-	-	-

DAT: days after treatment C

Table 7.1.2.1.2-30: Degracation of M-12 in Sapotti soft under aerobic conditions at 20 °C

Parameter         Units         Incubation time (DAT)           Mean         μg/kg         12,15         9.02         4.98         3.81         2.29         0.81           Mean         μg/kg         5.05         0.16         0.33         0.05         0.10         0.31           DAT: days after treatment LOQ = 1 μg/kg;         0.0 = 0.3 μg/kg         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00 <th>30 <loq< th=""><th>37 <lod -</lod </th></loq<></th>	30 <loq< th=""><th>37 <lod -</lod </th></loq<>	37 <lod -</lod 						
Mean $\mu g/kg$ 12,15 9.02 4.98 3.81 2.29 0.81 $\mu g/kg$ 0.05 0.16 0.3 0.05 0.10 0.31 DAT: days after treatment LOQ = 1 $\mu g/kg$ ; DD = 0.3 $\mu g/kg$	<loq -</loq 	- CLOD						
DAT: days after treatment LOQ = 1 $\mu$ g/kg; DD = 0.3 $\mu$ g/kg.	-	-						
DAT: days after treatment  LOQ = 1 \mug/kg; \mathred{D}D = 0.3 \mug/kg; \								
Parameter   Units   0   10   10   14   22   10   30   37   10   14   12   10   14   12   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   14   10   10								



### F. Degradation Kinetics

Reported SFO DT₅₀ values of M-14 under aerobic conditions were 8.9, 4.9 and 5.8 days in Münster, Abington and Sarotti soils, respectively. DT₉₀ values ranged from 16.2 to 27.2 days.

The experimental data has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 29). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting best-fit DT₅₀ values for trigger endpoints are summarised below in Table 7.1.2.1.2-31. Best fit kingtics are highlighted in bold.

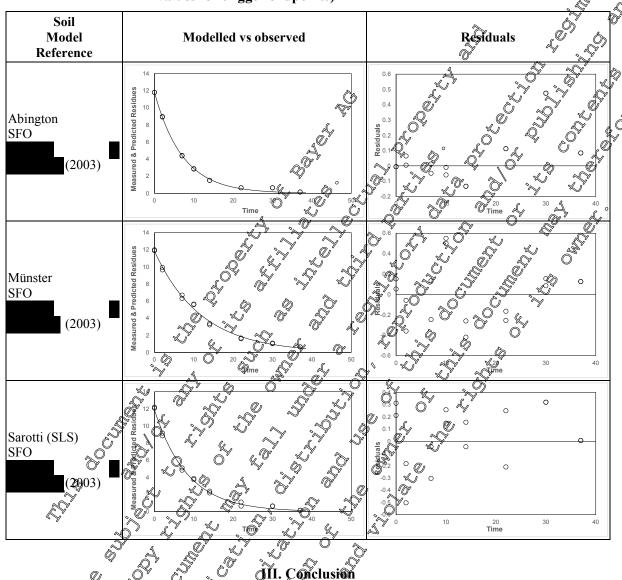
Table 7.1.2.1.2-31: Degradation rate of M-14 under corobic conditions at 20 °C (DT 50 values for trigger endpoints)

			··· • · · · · · · · · · · · · · · · · ·	.0		~~~	20		
Soil	Kinetic model	$\mathbf{M}_0$	Parameter (k, k1, k2, g, tb, α, β)	χ², Vo-	Prob >t	Lower- C 20/1345		DT50 (	DT992 [dayy]
Abington,	SFO	11.81	k 0.1404 🖔	3.75%	<2e316	<b>.%</b> 1345≼	0.146	° <b>4</b> .9	<b>₹</b> 16.4
(2003)	FOMC	11.88	α 10.59 β 70.34	3.75%	<b>2.16</b>	-0.60©2 -9509	21.78 5 \$150.2 0.689	4.80	
Münster,	SFO	11.85	k 0208429°	4.02	3.012-15	L 👀.0795 🔏 🧨	0,089	<b>8.2</b>	<b>27.3</b>
(2003)	FOMC	11.85	α 606 5 ° β 7187	<b>4</b> .29	7 n.r. n.r. 1.33 E-15	-55090 -6.5#É+05	\$6310 6.68E	82 82	27.3
Sarotti (SLS),	SFO	11.89	₺ 0.1194 [©]	45	1.33E-15	0.113	0,26	<b>∜</b> 5.8	19.3
(2003)	FOMC %	12.03	4 0.1194 0 4 38	3.17	n.r. In.r.	1.655	© 11.1 7 86.69	5.4	20.6
Best fit model hig	ghlighted in bo	old 🐬				, (			
		. "O" L. (		F Z	L' F	0"	\$		
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Graphical representations of the final kinetic fits are shown below.

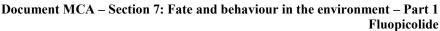
Table 7.1.2.1.1-111: Degradation of M-14 under aerobic conditions at 20 °C (best-fit DT_{.50} values for trigger endpoints)



M-14 is a minor metabolite of fluopicodde, which would be predicted to form in the soil environment at very low levels. It was not observed on soil laboratory metabolism studies conducted with fluopicolide. M-14 was rapidly degraded in soil and thus, it would not be expected to persist in the soil environment. A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2012), resulted in a best of un-normalised DT₅₀ value of between 4.9 and 8.2 days.

# Assessment and conclusion by applicant:

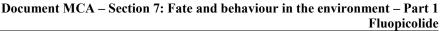
The study was conducted in accordance with OECD 307 (2002). The study is considered valid to assess the accordance with oECD 307 (2002). The study is considered valid to





Data Point:	KCA 7.1.2.1.2/07
Report Author:	
Report Year:	2004
Report Title:	Kinetic evaluation of data from a PCA (AE C657188) rate of degradation study in
	three soils
Report No:	C037887
Document No:	<u>M-223743-01-1</u>
Guideline(s) followed in	EU (=EEC): 95/36/EC, Ann.II, sect 7,7.1.1
study:	
Deviations from current	Yes. The requirements of kinetic valuations according to FOCUS kinetics have
test guideline:	changed.
Previous evaluation:	yes, evaluated and accepted 4
	DAR (2005)
GLP/Officially	No, not conducted under GDP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Supportive only O V V V V V V V V V V V V V V V V V V

In the previous submission (DAR, 200%, this modelling report was evaluated and accepted as valid for risk assessment purposes. However additional studies have been conducted and the requirements of kinetic evaluations according to FOCUS kinetics have changed have been conducted and the requirements of kinetic evaluations according to FOCUS kinetics have changed have been conducted and the requirements of kinetic evaluations according to FOCUS kinetics have changed have been conducted and the requirements of kinetic evaluations according to FOCUS kinetics have changed have been conducted and the requirements of kinetic evaluations according to FOCUS kinetics have changed have been conducted and the requirements of kinetic evaluations according to FOCUS kinetics have been conducted and the requirements of kinetic evaluations according to FOCUS kinetics have changed have been conducted and the requirements of kinetic evaluations according to FOCUS kinetics have changed have been conducted and the requirements of kinetics have changed have been conducted and the requirements of kinetics have changed have been conducted and the requirements of kinetics have changed have been conducted and the requirements of kinetics have changed have been conducted and the requirements of kinetics have changed have been conducted and the requirement of the requ risk assessment purposes. However additional studies have been condicted and the grequirements of kinetic evaluations according to FQEUS kinetics have changed, thus the report is no longer considered as valid. It has been superseded by KCAS1.2 (2)/10 and hence a summary is not presented in this dossier. kinetic evaluations according to FQCUS kanetics have changed thus the report is no longer considered





Data Point:	KCA 7.1.2.1.2/08
Report Author:	
Report Year:	2017
Report Title:	AE1413903: Aerobic degradation in four soils
Report No:	S16-01252
Document No:	<u>M-585202-01-1</u>
Guideline(s) followed in	OECD Test Guideline No. 307, 2002
study:	SANCO/3029/99 rev.4
Deviations from current	none vi
test guideline:	
Previous evaluation:	yes, evaluated and accepted
	in the Confirmatory Data (2017).
GLP/Officially	Yes, conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes & & & & & & & & & & & & & & & & & & &

### **Executive Summary**

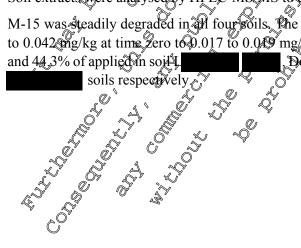
The degradation of M-15 (AE 1413903) was studied in four soils under aerobic conditions in the laboratory in the dark at  $20 \pm 2$  °C and 55% of the maximum water holding capacity for up to 20 days.

Soil	.4	Texture (USDA)	TH (Cac	0% Organic	Carbon
L		Lloamy and	6.90	ڳ <u>ا</u> 1.8	
Dollendorf II		læm "	₹ ₹7.3	5.6	
L			© 5. <b>3</b>	2.1	
Н		silt loom	3 , y (a)	<b>(</b> ) 1.8	

M-15 was applied to soil samples at an application rate of 0.043 tog/kg dry weight, equivalent to a field application rate of 0.33 g/ha of fluopicolide and a lightly conservative estimate of the maximum occurrence of this metabolite. The chemical purity of M-15 was 93.4% which was considered in determining the application rate.

Samples were removed for extraction and analysis immediately after treatment (day 0) and 1, 3, 8, 14, 28, 60 and 120 days of incubation. Soil samples were extracted at ambient temperature three times with acetonitrile/water (4/1, v/v) and then by microwave extraction with acetonitrile/water (4/1, v/v) at 60 °C. Soil extracts were analysed by HPLC-MS/MS to quantify the amount M-15 remaining.

M-15 was steadily degraded in all four foils. The amount in soil extracts declined from between 0.037 to 0.042 mg/kg at time zero to 0.017 to 0.049 mg/kg by DAT 120, equivalent to 44.9%, 40.0%, 42.1% and 44.3% of application soil. Dollendorf II, L. and H.





The following DT₅₀ and DT₉₀ values were calculated for M-15 in the four soils.

Soil (USDA texture)	Best Fit Kinetic Model	DT ₅₀ (days)	DT ₉₀ (days)	Chi ² Error	Visual Assessment
L (sandy loam)	SFO	112	371	<b>\$</b> 5.6	M@derate
Dollendorf II (clay loam)	DFOP	151	n.d.	<b>3</b> 4.8	Good
L (sandy loam)	SFO	119	394	5.3	Moderate _
H (silt loam)	SFO	126	419	3.9	Good S

A re-evaluation of the degradation kinetics resulted in similar best of DFOP un-normalised DTG of 102.7 to 113.2 days and DT₉₀ values of 410 to 506.1 days.

Degradation of the metabolite in aerobic soil was relatively stow, however M-15 is a minor metabolite

# Degradation of the metabolite in aerobic soil was relatively slow, however M-15 is a minor metabolite of fluopicolide formed in the soil environment at very low levels. Should M-15 form in soil it would be steadily degraded and would not be expected to accumulate. A. Materials 1. Test Item M-15 (referred to as AE 1413903 in the report)



### 2. Test Soils

The study was performed using four German soils as characterized in Table 7.1.2.1.2- 32. The same soils were also used in laboratory aerobic soil studies with fluopicolide. Soils were collected fresh from the field and used with minimal storage time prior to sieving to 2 mm and dispersing into flasks

Physico-chemical properties of test soils Table 7.1.2.1.2- 32:

Parameter		S	oil 🔬	\$ \$\$
Soil Designation	L	Dollendorf II		THE STATE OF THE S
Soil ID		S. DD		
Geographic Location	Manhain	Q Distribution	Monheyn, V	D D D
City	Monheim,	Blankenheim,	o. •	Buyscheid V
Country	Germany	Germany	Geforany D	Germany
GPS coordinates				
Batch Number	20160405	~2016040 <del>1</del>	20100401	20160400
Textural Classification (USDA)	Sandy loan	Clay Joan (	Sandy loaga	Silt lom
Sand [50 - 2000 μm] (%)	74	9 234 0°	54\$	<b>\$</b>
Silt $[2 - 50 \mu m]$ (%)		38,3		58
Clay [ $< 2 \mu m$ ] (%)			7 7 14 P	<u>k</u> , 16
рН			~ Q ~	O'
in CaCl ₂ (1:2)		© 7.3	7 33 Q	6.0
in $H_2O(1:1)$	^Q 6.2	7.0	5.6	6.2
Saturated paste	6.1 [©]	7.4	\$ 5.5 \( \sqrt{5} \)	6.2
in KCl (1:1)	Ş LA Î	\$\frac{1}{2}7.0_{\textit{0}}	© 5.0°	5.7
Organic Matter (%)*	2.6	8.40	3.3	3.1
Organic Carbon %)	1.50	4.9	<b>∜</b> 1.9	1.8
Cation Exchange Capacity	8.1	\$\frac{18.70}{}	9.3	10.7
(meq/100,g)			)* 	
Water Holding Capacity			50.0	52.0
Maximum (g H ₂ O per 100 g DW)	\$ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	79.3	59.0	53.8
at 1/3 bar (%)	70.0	0 316	16.1	18.7
Moisture Content During Incubation (%)	50% MWHC	\$ 55% MWHC	55% MWHC	55% MWHC
Bulk Density (disturbed, glom ³ )	Q.25 Q	0.98	1.13	1.11
Soil Microbial Biomass ang	BOO- BIO+	BIO- BIO+	BIO- BIO+	BIO- BIO+
microbial C/100 g soil	Y \$ .5	<i>y</i>		
Agrii√al 🍪 🏂 🐒	233.2	449.8	267.4	228.0
Initial (DAT 0)	212.2	458.8	222.2	227.2
Mid (DAT 58)	\$8.1 \Q\'84.8	400.5 390.6	198.5 195.5	218.5 228.1
Final (DAT 120)	154.70 163.1	334.5 369.2	163.5 157.5	177.0 179.3

^{*} Calculated by multiplying organic carbon content by 1.724

MWHC Maximum Water Holding Capacity BIO camples were universed. BIO samples were dreated with 400  $\mu L$  of methanol:water (1:1, v/v)



### **B. Study Design**

### 1. Experimental Conditions

Samples of 100 g dry weight of soil each were filled into glass incubation flasks and pre-equilibrated prior to treatment at approximate study conditions (darkness,  $20 \pm 2$  °C, soil moisture content equivalent to  $55 \pm 5\%$  of maximum water holding capacity (MWHC)).

At the start of the test, each sample received 0.043 mg test substance/kg soil reflecting the maximum single field application rate of 133 g/ha of fluopicolide and a highly conservative formation level for the metabolite.

Samples were incubated and maintained at  $20 \pm 2$  °C and  $55 \pm 5\%$  of MWHC in the dark for a maximum of 120 days. Soil samples were maintained under stand conditions. All the flasks were stoppered with cotton wool. Untreated soil samples were incubated under the same conditions for determination of soil microbial activity. Additional untreated flasks containing 100g (arry weight) equivalent soil to were used to provide fortification samples to confirm the analytical method efficiency. At each sampling interval two flasks were fortified at the LOQ level (0.002 mg/kg), 5% of the application rate, and two flasks at 22 times the LOQ (0.0472 mg/kg) 110% of the application rate).

### 2. Sampling

Duplicate samples were taken for analysis after 1, 3, 8, 14, 28, 60 and 130 days of incubation. Microbial soil biomass samples were analysed on arrival and at the start, phidpoint and end of the experiment (DAT 0, 58 and 120).

# 3. Analytical procedures

The entire soil sample of each test vessel was extracted three times with a mixture of acetonitrile:water (4:1, v/v) at ambient temperature. Ambient extraction was followed by an additional microwave extraction with acetonitrile:water (4:1, v/v) at 60°C. All extracts were combined, and an aliquot centrifuged and dibited with acetonitrile/water (1/1 v/v). Identification of 1/1-15 in soil extracts was by HPLC-MS/MS. The MS analysis was performed with ESI (Electrospray Ionisation) in negative ion SRM mode (Selected reaction monitoring). For each analytical run, an 8 point calibration curve using standards of 0.010 ng/mL to 10 ng/mL was constructed to allow mantification of the extracts. The analytical method was varidated with of four soils prior to starting the test.

### 4. Determination of degradation kinetics

The degradation kinetics determined in the report were evaluated according to the FOCUS guidance document of degradation of M-15 followed single first order (SFO) kinetics in Language (SFO) kinetics in Language (DFOP) kinetics in Dollendorf soil based on lowest chi² error values and visual assessments of fits.

Additionally, modelling indpoints for the degradation of M-15 have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1) along with all other acrobic soil data relied on. Full details are provided in Document KCA 7.1.2.1.1/10 M-6 5080-0 1. A prief sommary of the approach for trigger endpoints is provided below.

To derive trigger endpoints for M-15, an initial comparison was performed for each soil between the SFO and FOMC fitts which suggested that decline was slightly bi-phasic. The DFOP model was therefore also fitted and was accepted for all soils. For the L soil, the t-test did not complete successfully for the DFOP rate constant  $k_1$ , however the fit was accepted as the DT₅₀ and DT₉₀ values derived were identical to those obtained from an additional fit of the HS model with statistically significant parameter estimates, which is provided as supporting information (note - the HS model is not recommended by FOCUS to derive trigger endpoints).



### **II. Results and Discussion**

### A. Analytical Methodology:

A full summary of the analytical method is provided in Document MCA 4, Section 4.1.2. The method complies with all criteria according to SANCO/3029/99 rev. 4 and is suitable for the determination of M-15 in soil samples by HPLC-MS/MS.

### B. Data:

M-15 was steadily degraded in all four soils. The amount on soil extracts declined from between to 0.042 mg/kg at time zero to 0.017 to 0.019 mg/kg by DAT 120, equivalent to 442%, and 44.3% of applied in L , Dollendorf II, soils, respectively.

The results for each soil are summarized in Table

**Table 7.1.2.1.2-33: Degradation of M-15** (n) I 20 °C

Danamatan	Units		, and the second	I	ncubation	time DAT			
Parameter	Units	0	<b>1</b> Q	<b>6</b>	<b>Q</b>	<b>414</b>	<b>28</b>	_ <b>69</b>	120
Mean	mg/kg	0.04234	0.04118	00.036 <b>07</b>	0.03352	9.0329	0.0334	02631	0.0193
SD	mg/kg	0.00016	0.00013	0.0006	<b>@</b> .0007 <b>&amp;</b> )		AQQ0028	1 ^	0.00003
Mean	%	98.5	95,8	83.9	78.0	<b>F6</b> .6	77.70	61×2	44.9
RSD	%	0.4	&0.4 (	1.75	<i>2</i> .3	\$\frac{2.2}{2}	. 0∕38	0.7	0.2

DAT: days after treatment

SD Standard deviation, RSD Relative standard deviation

Degradation of M-15 in Dollendorf & soil ander Lerobic conditions at 20 °C

Danamatan	Units		0 4	o' <u>"</u>	ncubation	ținie (DAT	3		
Parameter	Ounts	×6/		<b>23</b> /	8	14	28	60	120
Mean 🤝	mg/kg	<b>\$</b> .03691\$	0.03598	0.03153	0.028\$	0.02678	0.02498	0.02291	0.01719
SD	mg/kg_@	0.00199	0.00103	0.000 13°	0.00068	<b>9</b> .00044	0.00087	0.00096	0.00023
Mean	%© ⁾	OC- 6	81.6°		66.4	62.3	58.1	53.3	40.0
RSD	~ ************************************	<b>♣</b> 3.7 <b>♣</b>	2.5	<u></u> ≪0.4	2.40	1.6	3.4	4.2	1.2

DAT: days after reatment

SD Standard deviation, &SD Repative

soil under aerobic

Danamatan	Donomotor Coita		Incubation time (DAT)								
Parameter	Conits 4		<b>√</b> 1 1	3	8	14	28	60	120		
Mean	mg/k/g	0 <del>.0</del> 4057 <u>«</u>	J0.034\$7	0.03424	0.03422	0.03001	0.03129	0.0258	0.01809		
$SD_{\mathcal{O}}^{\mathcal{O}}$	næ/kg	G.00173	0.00161	0.00089	0.00005	0.00086	0.00003	0.00019	0.0003		
Mean	\$ % \$\frac{1}{6}	9,4,3	80.4	79.6	79.6	69.8	72.8	60.0	42.1		
RSD O	% % T	<b>3</b> 4.3	4.7	2.6	0.2	2.8	0.1	0.7	1.7		

DAT: days after treatment SD Standard deviation, RSD Relative standard deviation



Table 7.1.2.1.2- 36: Degradation of M-15 in H conditions at 20 °C

soil under aerobic

Danamatan	IIn:ta		Incubation time (DAT)							
Parameter	Units	0	1	3	8	14	28	60	<b>1</b> 20	
Mean	mg/kg	0.03955	0.03405	0.03548	0.03315	0.0323	0.030	0.02579	<b>20</b> .0190 <b>5</b>	
SD	mg/kg	0.0029	0.00276	0.00054	0.00033	0.00035	0.00003	0.00011	0.00045	
Mean	%	92.0	79.2	82.5	77.1	75.1	<i>–</i> 71.4	600	<b>24.3</b>	
RSD	%	7.3	8.1	1.5	10	1.1	0.9	×0.4 ×	2.2	

DAT: days after treatment

SD Standard deviation, RSD Relative standard deviation

### F. Degradation Kinetics

Table 7.1.2.1.2-37: Reported degradation rate of M-D5 under aerobic conditions at 20 °C (best-fit DTso values for tragger endpoints)

			~ ~ ~ ~ · · · · · · · · · · · · · · · ·	40%	al ,			- W	
Soil	Kinetic model	Mag	Parameter (dk, k1, k2, g, tb, k2, β)	\$2, Gerror	ØProb ′ >t ✓	Lower CI		DT ₅₀ (days)	DT ₉₀ (days)
L	SFO	40.03869 F		5.6	2	0.008	0. <b>000</b> 7368	112	371
Dollendorf II	DFO		\$\frac{1}{2}0.0\$\frac{7}{2}716 \$\frac{7}{2}\$20.0013922 \$\frac{7}{2}\$28\$\frac{7}{2}\$6	4.8		0.0898683@ 0@001038 9.3357395	0.003 0.430	151	NC
L	SFO ®	0.03604		Ů		0.0044218	0.007	119	394
Н	SFO	Ø.0359 <b>5</b>	k 0.6054999		1. <b>13</b> e-07	<b>©</b> .0043000	0.007	126	419

NC.: Not calculated by KingUII

In addition, the experimental data for the degradation of M-15 been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 2.1). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting DT₅₀ values for trigger endpoints for M-15 are summarised below in Table 7.1.2.1.2- 38. Best fit kinetics are highlighted in Fold.



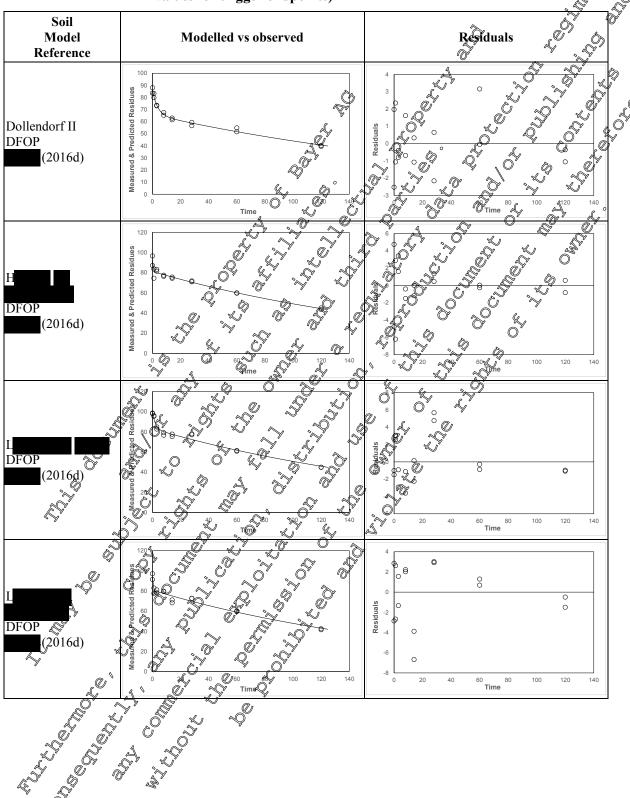
Table 7.1.2.1.2-38: Re-evaluation of degradation rate of M-15 under aerobic conditions at 20 °C (DT₅₀ values for trigger endpoints)

Soil	Kinetic model	M ₀	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT50 [days]	DE 30
	SFO	76.03	k 0.00625	7.16	4.77E-06	0.004431	0.008	110.9	6. 37
Dollendorf II,	FOMC	85.5	α 0.1742 β 2.727	2.92	n.r. n.r.	0.1288 0.4348	0.22 5.018	1435	<b>2000</b>
(2016d)	DFOP	86.12	k1 0.2768 k2 0.004019 g 0.2353	1.08		0.1648 0.003352 0.2027	0.389 0.005 0.268	Z 105.7	506A
	SFO	83.59	k 0.005497	3:3	6.52E-08	₽.004 <b>3</b> 9°	0.067	126.1	<b>4</b> 18.9
Н	FOMC	84.69	α 0.8885 β 116.4 🐇	3.96	n.r.	-0:8053 -476.7 _*	2.582 409.4©	137.5	124377
2016d)	DFOP	91.95	k1 22 C k2 0.005628 g 0.1168	1049 N	<b>2</b> e-16	22 0.004264 0.06913	220 0.006 0.165 4	<b>13.2</b>	433
	SFO	89.97	k 0 66216	5.6°	~//	0,904824		110.5	<b>3</b> 70.:
L	FOMC	94.18	©0.3379/ β 19.79	I 4(3)	n.r. n.r.	70.085 <b>39</b> -9 <b>.9</b> 01	0\$9 48.83	\$134	>1000
016d)	DFOP	99 <b>(</b> 59	k1.0,4867	2.94	0.0123 443E-08 n.r. &	<b>∮</b> ⁄1157°∂ <b>∮</b> ⁄004114 0:4 <b>2</b>	0.8580 0.096 0.21	H)3.2	427.
	SFO 🍣	83.81	Ok 0.005842	5.32	3.38E _₹ 07	0.004494	0.007	118.7	394.
L	FOMC	85002	050.8946 √\$ 108.5	554 5	On.r. ⟨	-0.9788 -1948	2.7 <b>6%</b> 41¥.9	127	1315
(2016d)	FOR	94.35	k1 20,61 k2 0.005237 &0.1437	2.95	N& 1.58£-08 n.r.	NA 9,004414 0.09549	NA 0.006 0.192	102.7	410
			φ0.33/9 k1.0.4867 k2.0.004965 g 0.1652 k 0.005842 φ0.8946 k1 22.61 k2 0.005237 g 0.1437						



Graphical representations of the final kinetic fits are shown below.

Table 7.1.2.1.2-39: Degradation of M-15 under aerobic conditions at 20 °C (best-fit DT_{.50} values for trigger endpoints)





### **III. Conclusion**

M-15 is a minor metabolite of fluopicolide, which would be predicted to form in the soil environment at very low levels. It was not observed in soil laboratory metabolism studies conducted with fluopicolide. Should M-15 form in soil it would be steadily degraded with reported half-lives of between 112 and 151 days. Re-evaluated best fit DT₅₀ values were similar ranging from 102.7 to 113.2 days.

# Assessment and conclusion by applicant:

The study was conducted in accordance with OECD 307 (2002). The study is considered valid assess the aerobic degradation of M-15 in soil.

Data Point:	KCA 7.1.2.1.2/09 &
Report Author:	
Report Year:	2017
Report Title:	[pyridyl-2,6-14c] AE C637188: Aerobit soil metabolisti in four European sous
Report No:	EnSa-16-05740
Document No:	11VI-3613047818/1 %
Guideline(s) followed in	OECD Test Guid@ine No.7307
study:	Commission Regulation (EU) (So 283/2013 / JURAFIC ANCW //
	11807/2010/Fev 7 in accordance with Regulation (EC) No \$107/2009
	US PA OCSPP Test Guideline No. 835 4000 / 835.4200
Deviations from current	none of the first
test guideline:	
Previous evaluation:	No, net previously stemitted
GLP/Officially	Yes, conducted under GDP/Officially recognised testing facilities
recognised testing	
GLP/Officially recognised testing facilities:	Yes O' 40 20 30 30 30 30 30 30 30 30 30 30 30 30 30
Acceptability/Reliability.	Yes O & D D

### **Executive Summary**

The degradation of M-02 (AB C65-188) was stuffed in four soils under aerobic conditions in the laboratory in the dark at 20 = 2 °C and 55% of the maximum water holding capacity for up to 120 days.

Soil	Texture (USDA)	pH (CaCl ₂ )	% Organic Carbon
L	O Joany sand	5.2	1.8
Dollendorf	S Wam S	6.9	5.6
L	sandy loan	4.9	2.1
Н	silt l@am	5.9	1.8

[2,6-pyridyl-14C]-labelled M-02 was applied to soil samples at an application rate of 0.013 mg/kg dry weight, equivalent to a field application rate of 10 g/ha resulting from a conservative estimate of the maximum of urrefree of this metabolity and an application rate of 400 g active substance/ha. The radiochemical purity and specific activity were > 98 % and 4.33 MBq/mg, respectively.

Samples were removed for extraction and analysis immediately after treatment (day 0) and 3, 7, 10, 16, 28, 70 and 120 days of incubation. Soil samples were extracted at ambient temperature three times with accomitrile water ( $\frac{4}{1}$ ,  $\frac{1}{1}$ ) and then by two microwave extraction, first with acetonitrile/water ( $\frac{4}{1}$ ,  $\frac{1}{1}$ ) at 70 °C and then with acetone at 50 °C. Concentrated soil extracts were analysed by reverse phase high performance liquid chromatography (HPLC). Selected extracts were analysed by normal phase thin layer chromatography (TLC) to confirm the results obtained by HPLC. LC/MS/MS including accurate mass determination was used to identify metabolites isolated from selected soil extracts.



Recovery of radioactivity was quantitative throughout the study. Overall mean mass balances were soil, 96.3% AR for Dollendorf II soil, 95.7% AR for L 97.3% AR for L soil and 96.5% AR for H Total extractable residues decreased from 91.5 to 98.1% of applied at zero time to 7.4% (L soil), 3.6% (Dollendorf II soil), 2.4% (L soil) (31.8% (H soil) by DAT 120. Levels of non-extractable radioactivity (NER) increased rapidly in all soils peaking at DAT 3 or DAT 7 and then declining gradually by DAT 120. Overall the maximum soil at DAT 3, which decomed to? amount of NER observed was 42.7% AR in L 23.5% AR by DAT 120. Mineralization to carbon dioxide was significant with a rapid increase in the carbon dioxide production, reaching a maximum of \$6.1, 64.0, 657 and 65.9% by \$4.7-120 in , Dollendorf II, L and H Virtually no volatile organic products were detected throughout the study (maximum 1,8% AR) M-02 was very rapidly metabolised in all soils declining to be low the GOD (< 1.1% AR) by DAT soils, and by DAT 1, sin Dollendor Pi and W and L soils. Metabolism of M-02 was accompanied by the formation of numerous metabolites including M-05, M-09, M-10 and M-20 (Called A)E 1344123, AE B102859 and BCS-BX16566 in the report), along with a further three unidentified metabolites. Degradation kinetics for M-02 provided in the report were conducted in accordance with POCUS guidance document on degradation kinetics (2014). The best-fit PT₅₀ values were 0.67, 0.85, 0.73 and 1.01 days in L , Dollendorf II, L soils, respectively.

Soil Q O	Best Fit	DT50	<b>p</b> \$50	Chi ² Error	Visual
(USDA texture)	Kinetic Model	(days) (	(days) 🎺	<b>(%</b> )	Assessment
L (loamy sand)	SFO S	0.67	2.2	ي م	Good
Dollendorf II (loam)	₩ SMC	<b>D</b> :85	4.06	<b>≫</b> 0.7	Good
L (sandy loan)	SFO	0.73	<b>2</b> .43	0.6	Good
H (silt loam)		101	3.66	1.7	Good

A re-evaluation of the degradation kinetics residied in similar best-fit un-normalised ranging from 0.7 to 1.1 days and DT90 values of 22 to 400 days.

Degradation of the metabolite M-02 in aerobic soil was very rapid, with significant formation of carbon dioxide as a result of complete mineralization of the molecule. Accordingly, M-02 will not persist in the soil environment

### A. Materials

### 1. Test Item

* Denotes position of [14C]-radiolabel

[2,6-Pyridyl-14C]-M-02 (ceremed to as SE C657)

* Denotes:

Specific Activity:

4.33 MBa/ 4.33 MBq/mg Radio Perical Purity: >98% (HPLC) Chemical Purity: >99% (HPLC) Sample/Batch ID: KML 9974



### 2. Test Soils

The study was performed using four German soils as characterized in Table 7.1.2.1.2- 40. The same soils were also used in laboratory aerobic soil studies with fluopicolide. Soils were collected fresh from the field and used with minimal storage time prior to sieving to 2 mm and dispersing into flasks

Physico-chemical properties of test soils Table 7.1.2.1.2- 40:

Parameter		So	oil 🔏	
Soil Designation	L	Dollendorf II		THE THE
		₹ T		
Soil ID		J DD		
Geographic Location				
City	Monheim,	Blankenheim,	Monhern, (	Burscheid 🗸
Country	Germany	Germany	Genonany 🔊	Termany
Batch Number	201508®	20159803	<b>20</b> 15080	20150803
Soil Taxonomic Classification	Sandy, mixed, @	Fin loamy,	No information (	No intermation
(USDA)	mesic Typic	mixed, active,		4, 29
	Combudoth	Grigid Typic C  Entradept		
Textural Classification (USDA)	Loam Sand	Yoam	Sandra Doam	Sült loam
Sand [50 - 2000 µm] (%)	\$ \&\ \&\ \&\ \&\ \&\ \&\ \&\ \&\ \&\ \&	340		28
Silt [2 – 50 μm] (%)	16		32	60
Clay [ $< 2 \mu m$ ] (%)		26	32 - 100 A	12
pH (70)		~ 26 °∀ 		12
in CaCl ₂ (1:2)	5.20		<b>1</b>	5.9
in $H_2O(1:1)$	5.20		54	6.1
Saturated paste		7.00	@ <b>5</b> .1	6.1
in KCl (1:1)	5.0		4.6	5.6
Organic Matter (%) *		9.7	3.6	3.1
Organic Cachon (%)	11.8	5.6	2.1	1.8
Cation Exchange Capacity	8.2	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	9.7	10.5
(meq/ <b>F00</b> g)			21,	
Water Holding Capacity				
Maximum (g HØ per 100 g DW)	52.4	\$ <b>\$</b> .6	59.3	54.9
at 1/10 bar (%)	1309 , C	<b>©</b> 45.7	28.2	38.6
Moisture Content During	54.0% MWJ 60	506% MWHC	54.1% MWHC	54.0% MWHC
Incubation (%)		<b>J</b>		
Bulk Dessity (disturbed, g/cm ³ )	1.2	× 0.96	1.14	1.11
Soil Wicrobial Biomass (μg	BIO-© BIÒ	BIO- BIO+	BIO- BIO+	BIO- BIO+
microbial C/g soil)				
microbial C /g soil) Initial (DAT 40) Mid (DAT 80)	Sept Q	2715	979	831
		2235 2167	643 628	573 575
Final (DAT 126)	365 355	1939 1880	424 413	477 472

^{*} Calculated by multiplying organic carbon content by 1.724
MWHQ Maximum Water Holding Capacity
BIO samples were untreated
BIO samples were treated with 400 µL of water



### **B. Study Design**

### 1. Experimental Conditions

Tests were performed in static systems consisting of an Erlenmeyer flask containing 100 g soil dry weight equivalents) fitted with a trap attachment (permeable for oxygen) containing soda lime for absorption of carbon dioxide and a polyurethane foam plug for adsorption of volatile organic compounds.

The test item [2,6-pyridyl- 14 C]-M-02 was dissolved in water with methanof as a co-solvent (0.2%) and applied dropwise onto the soil surface (400  $\mu$ L per flash) at an application rate of 0.013 mg/kg. The application rate was equivalent to 10 g/ha, reflecting a fluoricolide field application rate of 400 g/ha and a conservative estimate of the maximum predicted occurrence of the metabolite. The soil moisture content was adjusted to 54.2% MWHC 3 days prior to application. The samples were incubated at  $20 \pm 2$  °C under aerobic conditions in the dark. Universated soil samples were incubated under the same conditions for determination of soil microbial activity.

# 2. Sampling

Duplicate samples were taken for analysis after 0, \$7, 10, 16, 28, 70 and 120 days of incobation. Microbial soil biomass samples were malysed at the start ondpoint and ord of the experiment (DAT 4, 80 and 126).

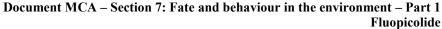
# 3. Analytical procedures

Soil samples were first extracted three times with acetonitrile/water (4/1, 0/v) at ambient temperature followed by two microwave extractions, first with acetonitrile/water (4/1, v/v) at 70 °C and then with acetone at 50 °C. After each extraction step, extract and soil were separated by centrifugation.

Radioactivity in stracts was determined by liquid scinfillation counting (LSC). Ambient and microwave soil stracts were pooled and concentrated prior to analysis by HPLC. The HPLC LOD and LOQ were determined in 1.1% and 3.3% A.C. The mean recovery of the concentration procedure for the combined soil extracts was between 88.9 and 96.5% for all soils. The mean HPLC column recovery was 110%. The primary chromatographic method for analysis of soil extracts was a reverse phase C18 HPLC method. Selected extracts were analysed by a second confirmatory normal phase TLC method. Four degradation products (M-0.5) M-0.9, M-1.0 and M-2.0, called AD 1344122, AE 1344123, AE B102859 and BCS-BX16566 in the report were identified by L6/MS/MS including accurate mass determination after isolation of the radiopeak from selected soil extracts.

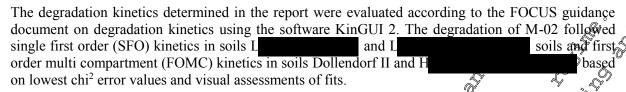
With the exception of the time zero samples, trap attachments were removed for analysis at each sampling time. The quantity of radioactive polatile generated was determined by processing the elements that made up each volatile trap. The volatile organics were extracted from the polyurethane bung using ethyl acetate. The carbon dioxide adsorbed on the soda lime was released by digesting the soda time with hydrochloric acid and re-trapped into a series of traps containing scintillation cocktail. The radioactivity contained in the 120 DAT traps was trapped in aqueous potassium hydroxide and confirmed as ¹⁴CO₂ by precipitation 14 Confirmed as 14 CO₂ by precipitation 14 Confirmed as 14 CO₂ by precipitation 15 Confirmed as 14 CO₂ by precipitation 16 Confirmed as 16 CO₂ by precipitation 16 Confirmed 17 CO₂ by precipitation 16 Confirmed 17 CO₂ by precipitation 16 Confirmed 17 CO₂ by precipitation 17 Confirmed 18 CO₂ by precipitation 17 Confirmed 18 CO₂ by precipitation 18 CO₂ by precipitat

Following homogenisations non-extractable residues (NER) in extracted soils were determined by combustion. NER were further characterized by organic matter fractionation into humic acids, fulvic acids and humin fractions extracted soil samples from DAT-120.





### 4. Determination of degradation kinetics



Additionally, modelling endpoints for the degradation of M-02, M-05, M-10 and M-20 have been recalculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1) along with all other aerobic soil data relied on. Full details are provided in Document KCA 7.1.2.1.1/10 (M-685680-01-1). A brief summary of the approach for tagger endpoints is provided below.

To derive trigger endpoints for M-02 (PCA), an initial comparison was performed for each soil between d. Distance appropria, vere performed usi the SFO and FOMC fits. For the Dollendorf II soil, the FOMConode resulted in a better visual fit and the DFOP model was therefore also fitted. DFOP provided the best fit to the data, with the lowest  $\chi^2$ err% value, and was accepted as the most appropriate model to describe M-02 degradation. For the remaining soils, SFO resulted in a more appropriate fit than FOMC for M-02 degradation. Further metabolite optimisations were torrormed using the best-fit model for the applied compound and the SFO model for metabolites. err% value, and was accepted as the most appropriate model to describe M-02 degradation. For the remaining soils, SFO resulted in a more appropriate fit than FOMC for M-02 degradation.



### **II. Results and Discussion**

### A. Data

The distribution and characterisation of radioactivity for the test soils incubated at 20 °C following application of [2,6-pyridyl-14C]- M-02 are summarized in Table 7.1.2.1.2- 41 to Table 7.1.2.1.2- 44.

Table 7.1.2.1.2- 41: Degradation of [2,6-pyridyl-14C]-M-02 in L soil under aerobic conditions at 20 °C [% AR]

Compound	Mean								
	SD	0	3	7	10	<b>26</b>	28	70,	120
M-02 (AE C657188)	Mean	97.3	4.6	< LQD	n.d.	Öñ.d.	n.d🎺	n d	<b>%</b> .d. (
	SD	±0.3	±1.0	4	Q		4	L	Ö _(@
M-05 (AE 1344122)	Mean	n.d.	11.1 🗸	6.4	5.1	<b>2</b> 4	& OD	O″n.d.&	n Ø
	SD		±0.6	±@1°	<b>3</b> 0.0	×¥0.1√		**	
M-09 (AE B102859)	Mean	n.d.	< L@D	& LOD (	LOD	n.d.	n@r.	gn.d.	n.d.
	SD		<i>~</i>			ک	Ş		
M-10 (AE 1344123)	Mean	n.d.	18.4	13,4	<b>19</b> .7	\$\12.6 \h	12,3	9.7	<b>36</b> .2
	SD	Ž,	#1/3	<b>2</b> €0.5 √	\$\disp\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\dot{\psi}\psi	±02	± <b>0</b> .2	<b>∂</b> •0.0	$\odot_{\pm 0.3}$
M-20 (BCS-BX16566)	Mean	ri,a.	⊘n.d. ³	y 4.2 ×	4.7/		گِيُّ 4. چُ اُ	n.d.	< LOD
	SD			±000	<b>9</b> .0	O±0.1	) ±0,2		
u4	Mean	n.đ.	n.d.	Ø OD 2	Ç 2.2 S	2,4	< 100D	on.d.	< LOD
	SĎ			, 1	£0.5	<b>≥</b> Ø.1 .	Ö Ö		
u6	Mean	n.d. 🗳	1.90	< TOD	n∿d.	n.d.	n.d.	n.d.	n.d.
*	SD		±6.0			W.	. 8		
u7	Mean	n.d.	سn.d. چُ	n.d.	n.d.	₫.	√n.d.	n.d.	n.d.
	SD 3		<b>Y</b>	. \$		Ç Q			
Sum of Unid./Diff	Mean	næl.		LJ.5	♥ 2.2 €	2.4	< LOD	n.d.	< LOD
Residues A	ŞØ	O T	%±0.0 ∂	±0.00	±0;3	<b>#</b> 0.1			
Ambient Extract	Mean	<b>\$</b> 91.2 🕰	31	2309	21.5	<b>%</b> 17.9	13.4	8.4	6.5
Amoreing	J SD	±0,2	±0.1	<b>\$</b> 2.2 €	$\Rightarrow \pm 0.2$	±0.0	±0.2	±0.0	±0.2
Microwave Extractl	Mean	<b>46</b> .0	\$5.2 \hat{}	3.8	3.3	2.5	2.0	1.1	0.8
WHOTOWAVE EXHAUT	[®] SD	20.0 ±0.0	±0.45°	±0)Ĭ	±0.1	±0.1	±0.1	±0.0	±0.0
Microwave Extract 2	Mean	0,20	20,2	©0.3 Å	0.2	0.1	0.2	0.1	0.2
viiciowave zymaci z	ŞÊ	<b>`±</b> 90.1 4	€0.0 %	$\pm 0.1$	±0.1	±0.0	±0.0	±0.1	±0.0
Total Extractable	Mean &	97.3 <i>£</i>	36 <i>8</i>	28,0	25.0	20.5	15.7	9.7	7.4
Residues	D SD	±0.	±0%1	°¥0.3	±0.1	±0.0	±0.2	±0.0	±0.2
Carbon Dioxide	M <u>e</u> an	n⁄a.	24.3	32.8	35.7	41	45.4	52.1	56.1
	SĎ į		±02	±0.4	±0.4	±0.1	±1.0	±1.1	±0.0
Volatile Organi	Mean	n a	\$3	0.1	0.1	0.1	0.4	0.1	0.1
Compounds	SD	Ž	±0.3	±0.1	±0.0	±0.0	±0.4	±0.0	±0.0
Non-Extractable	Mean	( 1 5 7 ≈Ô	37.9	35.7	36.4	36.1	35.0	31.1	31.0
Residues	SDO	±0.3	±0.3	±0.8	±0.3	±0.1	±0.4	±0.1	±0.4
Total Recovery	Mean	103.1	99.3	96.7	97.2	97.7	96.5	93.0	94.6
	ŠD	±0.5	±0.4	±1.1	±0.1	±0.1	±1.2	±1.1	±0.2

n.d.: not defected, n.a.: not analysed, DAT: days after treatment, SD: standard deviation

All values expressed as percentage of total applied radiolabel

A Sum of minor unidentified components and diffuse residues.

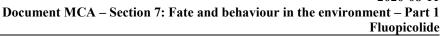




Table 7.1.2.1.2- 42: Degradation of [2,6-pyridyl-  $^{14}C$  ]-M-02 in Dollendorf II soil under aerobic conditions at 20  $^{\circ}C$  [% AR]

Compound	Mean			In	cubation	time (DA	T)		, W	1
_	SD	0	3	7	10	16	28	70	¥20	4
M-02 (AE C657188)	Mean	98.1	15.9	4.1	2.5	< LOD	< OD	< LOD	n.d.	,]
	SD	±0.3	±0.2	±0.3	±0.0		Ö	~		
M-05 (AE 1344122)	Mean	n.d.	11.5	10.4	8.6	5.7	, 1.9	ıOÎ.	M.d.	,
	SD		±0.1	±0.2 (	∌ ±0.2	±0.0	±0.2		y Ĝ	,
M-09 (AE B102859)	Mean	n.d.	8.6	9.4	9.5	<b>20</b> 0.5	8.3	5.49	34.6	Ī
	SD		±0.8	±01	±0.3	( ±1.3	±0.5	±Q1	<b>0.0</b> €0.0	8
M-10 (AE 1344123)	Mean	n.d.	11.9	<del>≈</del> 7.2	4.1	′ < LØĎ	<	∜n.d.	n.d.	7
	SD		±0.3	€0.3	±0.3		~ ~ ~ \			
M-20 (BCS-BX16566)	Mean	n.d.	n.ď.√	n a.	A.d. A	n.d.	n.d	n.đ.	n.d.	
	SD		4			n.d.	<i>'0'</i>			0
u4	Mean	n.d.	√n.d, °	3,4	3.7	<b>4</b> .1	3.2 ₄	n.d.®	n.d.	
	SD	W.		± <b>Ø</b> /2	°√20.2 €	$\int_{0.0}^{\infty} \pm 0.0$	±0.4			
u6	Mean	n.d	sa,d. ,	Çn.d.	n.d	n.C	ond.	Øn.d.	n.d.	
	SD	Q.		y ~						
u7	Mean	n.d.	2.4	nÇa.	P.d.	√ n.d.∂	n O	n.d.	n.d.	
	SD		<b>№</b> 9.3	"O" ,	Y , W	, Ö	Ů	Ö		
Sum of Unid./Diff.	Mean	or.d.	$\sqrt[6]{2.1}$	₹ 3.4°°	3.7	<b>A</b> .1 2	3.2 Ø	n.d.	n.d.	
Residues ^A	ŠD 4	) O	±0.5	±Ø:2	©±0.2	$U_{\pm 0.0}$	±001			
Ambient Extract	Mean	93.2	49.4	31.2	25.6	102,6	×12.3	4.7	3.0	1
Ambient Extract	SD	<b>\$</b> 0.6 √	©±0.2 🛇	±0,4	±0.2	$\mathfrak{Q}_{0.3}$	±0.1	±0.1	±0.0	
Microwave Extract 1	Mean	√4.6 [©]	4.3	-298	\$2.4 <i>(</i>	9 1.8°	1.4	0.7	0.4	
	SD	±0.3	<b>2</b> 0.3 €	\$±0.1 _{\$}	±0.10	±0.0°	±0.0	±0.0	±0.1	
Microwaye Extract 2	Mean	0.3	0.4	0.4	Ø,	<b>©</b> 0.4	0.4	0.3	0.2	
WHEIOWAY Extract 2	ζ∫SD ≰	) ±0.0	±0.0°	±0.0	@±0.1_	ℱ±0.0	±0.0	±0.0	±0.0	
Total Extractable	Mean	98.2	50.1	Õ³4.4 ⋞	28.40	21.8	14.1	5.6	3.7	
Residues	\$B	€0.4	() ±0.2	±0%4,	<b>≠0</b> .2	±0.3	±0.1	±0.1	±0.1	
Carbon Dioxide	Mean	Ų" n.a.√	8.60°	24.1	<b>2</b> 8.8	38.3	45.8	58.0	64.0	
	SD		<b>3</b> 0.1	5°±0.4 €	±0.7	±0.8	±0.2	±0.3	±0.7	
Volatile Organic C	Moan	n.a.	9 0.1 6	′ < <b>6</b> 1,	1.8	0.3	< 0.1	0.1	0.4	
Compounds	SD		±0.0	<b>4</b> 0.0	±0.9	±0.3	±0.0	±0.0	±0.3	
Non-Extractable	Mean	5.8	<b>38</b> .5 ~	<b>3</b> 9.5 €	38.9	36.8	33.4	27.9	26.5	
Residues	S)	<b>@</b> 20.4 <i>≥</i>	#±0.0	±0.5	±0.0	±0.6	±0.3	±0.1	±0.1	
Total Recovery	OMean C	103.9	97Q*	95.1	97.8	97.2	93.3	91.6	94.5	
	SD	±0,1	<b>4</b> 0.1	±0.5	±1.5	±1.5	±0.3	±0.4	±1.1	
n.d.: not detected, n.a.: not an	nalvsæd, D endage of t	Stal apphe	d radiolabe	1	andard dev	iation				_
A Sum of nonor unifortified	componer	its and diff	use residue	S.						
All values expressed as perce										
	T,									

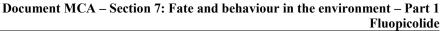




Table 7.1.2.1.2- 43: Degradation of [2,6-pyridyl-¹⁴C]-M-02 in L aerobic conditions at 20 °C [% AR] soil under

M-02 (AE C657188)	SD	0				ı -			
M-02 (AE C657188)	+	U	3	7	10	16	28	70	720
	Mean	91.5	6.0	< LOD	< LOD	n.d.	pol.	n.d.	LOB
	SD	±0.8	±0.8				Ĩ.	~	
M-05 (AE 1344122)	Mean	n.d.	7.6	5.7	4.0	2.7	, 1.6	ıOÎ.	Sn.d.
	SD		±0.6	±0.1 (	∌ ±0.1	±0:0	±0.0		, Š
M-09 (AE B102859)	Mean	n.d.	1.9	2.1	1.6	≤Q,OD	< LOD	< LQQ	< KOD
	SD		±0.0	±0.6	±0.1	Ç"	.0	Q,	
M-10 (AE 1344123)	Mean	n.d.	13.5	<b>7</b> .5	6.0	'3 <b>⊘</b>	<b>2</b> ×0	<b>∳</b> LOD	< LOD
	SD		±2.6	) ±0.8	±0.7	×0.0	±0.4		
M-20 (BCS-BX16566)	Mean	n.d.	< LOD	1 [©] 9	√7.7 J	LOD	< LQD	n.đ.	n.d.
	SD		4	<b>₹</b> 0.4	©±0.20		<i>©</i> '		
u4	Mean	n.d.	₡n.d, `^	2,2	25	<u>4</u> .8	5 1.5 J	n.d.®	n.d.
	SD	W W		# <b>Ø</b> /1	<b>\$</b> 40.3 €	D ±0.1	±0.4		
u6	Mean	n.d	%n,d. ,	چn.d. چ	n.d	n.C	₫.d.	Øn.d.	n.d.
	SD			y ~					
u7	Mean @	n.d.	n.d	iCal.	Or.d.	√ n.d.∂	n O	n.d.	n.d.
	SD				Ý "Ö	, Q	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	O	
Sum of Unid./Diff.	Mean	Jv.d.	n.d.	7 2.2°°	2.5	√1.8 °2	§ 1.5 Ø	1.6	n.d.
Residues A	ŠD 3			<b>±</b> Ø∕:1	€±0.3	#0.10°	±001	±0.0	
Ambient Extract	Mean	83.9	28.0	<b>©</b> 17.2 %	13.6	<b>9</b> .9	°>5.2	2.5	1.9
Ambient Extract	SD	<b>\$</b> 0.6 _~	\$±0.4 औ	±0.	±0.0	©0.2	±0.0	±0.1	±0.2
Microwave Extract 1	Mean	y 8.1 ∜	4:0/	·296	\$2.2 <i>6</i>	\$ 1. <b>6</b>	0.9	0.5	0.3
Wilciowave Extract I	SD	±05.3	<b>2</b> 0.2 €	±0.0	±0.20	±05.4°	±0.0	±0.0	±0.0
Microwaye Extract 2	Mean	0.4	0.3	0.2	OS	<b>20</b> .1	0.3	0.2	0.1
Wilciowaye Extract 2	<b>⊗</b> SD ≉	±0.0	±0.0°	±0.0	@±0.1_	±0.0	±0.1	±0.1	±0.0
Total Extractable	Mean	91.5	30.3	$0^{2}0.1$	16.00	10.7	6.3	3.1	2.4
Residues	\$B	<b>2</b> €0.9 €	Õ±0.3€	±0%0,	<b>≠0</b> .2	±0.1	±0.1	±0.0	±0.2
Carbon Dioxide	Mean	V n.a.	23.8	36.1	<b>42.9</b>	50.1	57.7	63.3	67.7
	SD		Ø.6	5°±0.4 €	±0.0	±1.4	±0.4	±0.6	±1.0
Volatile Organic 🔘	Mean SD &	n.a.	y 0.1	02	0.1	0.6	0.1	0.5	< 0.1
Compounds			±0.0	<b>4</b> .1	±0.0	±0.4	±0.0	±0.4	±0.0
Non-Expactable Residues	Mean	12.6	<b>√2</b> .7 √	39.1	36.5	32.8	30	25.1	23.5
Residues	s s	<b>@</b> ±0.8 <i>_</i>	ܱ0.1	±1.3	±0.1	±0.1	±1.3	±0.3	±0.8
Total Recovery	ØMean @	104.1	960	95.5	95.5	94.2	94.2	92.0	93.6
& ` .1	SD	±0,1	<b>20.8</b>	±0.8	±0.3	±1.8	±1.8	±1.3	±0.0
.d.: not detected, n.a.: not a	analysed, D	AŤ: days a Mal apphe	d radiolabe	1	andard dev	iation			
Sum of nonor unidentified	dCompone	its and diff	use residue	s.					
All values expressed as pero Sum of nonor unidentified									
	~								
Õ									



Table 7.1.2.1.2- 44: Degradation of [2,6-pyridyl-¹⁴C]-M-02 in H under aerobic conditions at 20 °C [% AR]

soil

Compound	Mean			In	cubation	time (DA	T)		
•	SD	0	3	7	10	16	28	70	720
M-02 (AE C657188)	Mean	97.5	15.3	1.4	1.2	n.d.	jûd.	n.d.	n.d.
	SD	±0.4	±0.8	±0.0	±0.0		T.	~	
M-05 (AE 1344122)	Mean	n.d.	5.8	7.6	5.5	3.3	, 1.2	101.	Sn.d.
	SD		±0.6	±0.0_	∌ ±0.1	±0:0	±0.1		y Ş
M-09 (AE B102859)	Mean	n.d.	5.1	4.6	3.4	2.6	1.9	1.359	nKd.
	SD		±0.6	±0,1	±0.1	€±0.1	±03	±Q0	
M-10 (AE 1344123)	Mean	n.d.	10.6	<b>₹</b> 0.4	9.6	8.65°	<i>5</i> %6	∜n.d.	n.d.
	SD		±0.8	) ±0.1	±0,0	°≠0.5	±0.1		
M-20 (BCS-BX16566)	Mean	n.d.	4.		7.6	LOD	n.d	n.d.	m.d.
	SD		±0.2	<b>₹</b> 0.0	Ç ±0. <b>}</b> ©	8		ố á	\$ 4
u4	Mean	n.d.	√n.d.	2,2	3J *	<b>3</b> .1	2.3 ₄	n.d.	n.d.
	SD	Ŵ		± <b>Ø</b> /.1	<b>√</b> ¥0.0 (	D ±0.3	±0.00	<i>*</i>	
u6	Mean	n.d	nd.	Çn.d.	n.d	næ	ond.	Øn.d.	n.d.
	SD		10	, ,					
u7	Mean	n.d.	n.d	rÇa.	₽?.d.	√n.d.∂	n O	n.d.	n.d.
	SD	. ">	~Q	O' ,	y jo	Ď	₩.	O	
Sum of Unid./Diff.	Mean	or.d.	n.d.	₹ 2.2°°	3.1	3.1	³ 2.3 ©	1.3	1.8
Residues ^A	ŠD 3	O Q		± <b>9</b> ⁄.1	<b>\$</b> ±0.0	±0.3	±001	±0.0	±0.2
Ambient Extract	Mean	" 90. <b>9</b>	3 ⁹ .9	©24.4°	21.4	166,2	~9.4	2.0	1.3
Ambient Extract	SD	<b>\$</b> 0.4 _≈	©±0.1 🖏	±0.3	±0.2	$\mathbb{Q}_{0.0}$	₹±0.1	±0.1	±0.1
Microwave Extract 1	Mean	√6.4 ×	4.6	·395	\$2.7 <i>(</i>	§ 2.2	1.4	0.5	0.4
Wherewave Exhact I	SD	±0.0	<i>_</i> <b>2 3</b> .1	£0.2	±0.00	±0.0°	±0.0	±0.0	±0.1
Microwaye Extract 2	Mean	0.2	0.4	1.00	003	<b>©</b> 0.2	0.3	0.2	0.2
Whereway Extract 2	ζ∫SD ≰	J±0.1	±0.0°	±0.4	@±0.0_	℃±0.0	±0.1	±0.0	±0.1
Total Extractable	Mean	97.8	40.8	$\bigcirc$ 28.9 $\stackrel{\frown}{\swarrow}$	24.40	18.6	11.0	2.6	1.8
Residues	\$P	<b>2</b> €0.4 ,	() ±0.3()	±0%4,	<b>≠0</b> .2	±0.1	±0.1	±0.1	±0.3
Carbon Dioxide	Mean	Ų n.a.√	14.9	26.5	<b>2</b> 9.4	37.0	46.6	59.4	65.9
Volatile Organic	SD		<b>3</b> 0.1	5°±0.3 €	±0.3	±0.2	±1.1	±0.7	±0.2
<u> </u>	Mean SD	n.a.	0.1	0	< 0.1	0.1	0.5	0.5	0.4
Compounds	SD	Y af	±0.0	<b>9</b> 0.0	±0.0	±0.0	±0.4	±0.3	±0.3
Non-Extractable	Mean	6.6	<b>2</b> .3	³ √41.5	41.3	38.5	36.5	30.3	28.3
Residues	S	<b>%</b> 0.2	©″±0.3°%	* ±0.4	±0.6	±0.2	±0.9	±0.9	±0.8
Total Recovery	"ØMean (	104.1	9703	97.0	95.2	94.1	94.6	92.8	96.4
	SD	±0,2	<b>₽</b> 0.4	±1.2	±0.4	±0.4	±2.3	±1.9	±0.1
n.d.: not detected, n.a.: not a All values expressed as perce	nalysed, D entage of t	&tal annNe	radiolahe	1	andard dev	iation			
A Sum of nonor unifontified	Componer	its and diff	use residue	es.					
All values expressed as perce A Sum of nonor unidentified									
. A CA	~								
G									



### **B.** Material Balance

Mean mass balances were 97.3% AR for L soil (range from 93.0 to 103.0% AR), 96.3% AR for Dollendorf II soil (range from 91.6 to 103.9% AR), 95.7% AR for L soil (range from 92.0 to 104.1% AR) and 96.5% AR for H soil (range from 92.8 to 104.1% AR).

### C. Extractable and Non-Extractable Residues

Values of extractable radioactivity decreased from 91 to 98.1% of applied at zero time to 74% (Legislater Soil), 3.6% (Dollendorf II soil), 2.4% (Legislater Soil) or 7.8% (Here) soil) by the end of the strong (DAT 120).

In all of the soils non-extractable residues (NER) increased rapidly peaking at DAT3 (or DAT 7 in Dollendorf II soil) and then declining gradually by DAT. 120. NER increased in Land 120. In Dollendorf II soil, NER increased from DAT 0 to DAT 7 from 5 to 30. AR and then decreased to 26.5% AR by DAT 120. NER increased in Land 120. NER increased

The distribution of the NER in different humic substance fractions at DAD 120 is shown in the table below.

Table 7.1.2.1.2-45: Humic substance fraction at the applied radioactivity

	,~		, »	/ ,*
Soil F	Human fraction &	Humic acid fraction 4% AR	Fulvio acid ( fraction ) (% AR)	Total [% AR]
L L	2 9.0 ·	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	( 1 <i>5@</i> )	31.8
Dollendarf II	<b>15</b> .1	* 59	Ž.1	26.0
L	\$\sqrt{9.2}	6.4	@ 7.9	23.5
H	A 11207		10.5	27.2

### D. Volatile Radioactivity

There was a rapid increase in the carbon dioxide production from the start of the study, reaching a maximum of 56.1, 64.67.7 and 65.9% by DAT  $\searrow 20$  in  $\searrow 20$ , Dollendorf II, soils Formation of volatile organic compounds (VOC) was not significant at  $\le 1.8\%$  QR at  $\searrow 20$  sampling intervals for all soils.

# E. Transformation of test substance

M-02 was very rapidly degraded in the solls to a number of metabolites, and despite exhaustive extraction of soil samples rapidly formed significant quantities of NER. The levels of M-02 declined from 97.3 and 91.5% AR at DAT 0 to below the LOD (< 1.1% AR) by DAT 7 in L and L and Soils, and from 98.1 and 97.5% AR at DAT 0 to below the LOD by DAT 16 in Dollendorf II and H

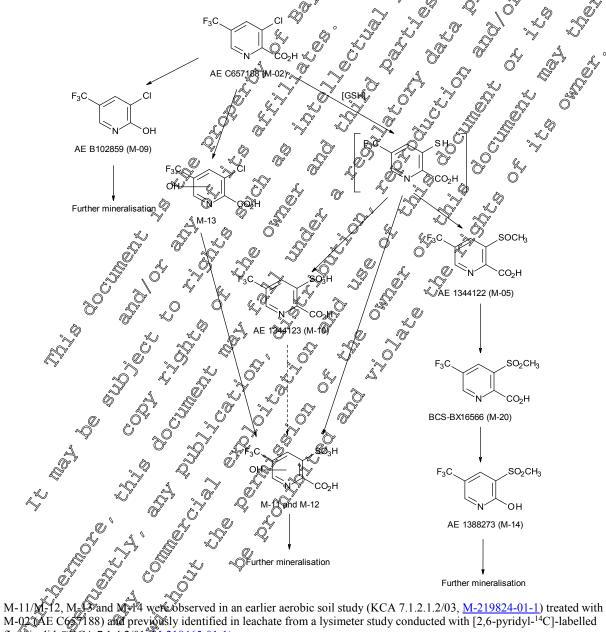
Degratation of M-02 was accompanied by the formation of four metabolites M-05, M-09, M-10 and M-20 along with a further three unidentified degradation products. M-05 was detected in all 4 soils and found at a maximum of 11.5% AR at DAT 3 in Dollendorf II soil. M-09 was also detected in all 4 soils and formed at a maximum of 10.5% AR at DAT 16 in Dollendorf II soil. M-10 was identified in all 4 soils at a maximum of 18.4% AR at DAT 3 in L soil. M-20 was identified in 3 soils at a maximum of 4.7% AR at DAT 10 in L soil. The metabolites M-05 and M-10 had



previously been identified in leachate from a lysimeter study conducted with [2,6-pyridyl-¹⁴C]- labelled fluopicolide [see KCA7.1.4.2/01, M-218465-01-1]. The metabolite M-20 has a molecular weight of 269 g/mole and was previously observed in an aerobic soil study conducted with [2,6-pyridyl-14C]- labelled M-05 [see KCA 7.1.2.1.2/04, M-241410-01-2], where it was not fully identified but its molecular, weight was established as 269 g/mole. The metabolite M-09 had not been observed in soil or leachate before but was identified in crops from a confined crop rotation study following soil application with [265pyridyl-14C]- labelled fluopicolide [see KCA 6.6.1/01, M-240707-03-1] as wore M-02 and M-05. The unidentified degradation products u4, u6 and u7 were observed at maxima of 4.1, 1.9 and 2.1% respectively.

The proposed route of degradation of M-02 in aerobic soll is presented in Figure 7.1.

Figure 7.1.2.1.2- 3: Proposed metabolic pathway for M-02 in erobic soil



fluoricolide (KCA 7.1.4.2/01, M-218465-01-1)



### F. Degradation Kinetics

Reported DT₅₀ values of M-02 under aerobic conditions were 0.67, 0.85, 0.73 and 1.01 days in Lagrangian and Harmonic and

Table 7.1.2.1.2- 46: Reported degradation rate of M-02 under aerobic conditions at 20 °C (bestfit DT₅₀ values for trigger endpoints)

Soil	Kinetic model	$M_0$	Parameter (k, k1, k2, g, tb, α, β)	X ² , %-error	Prob >t	Lower	Upper CL	DT50	DT&
	SFO	103.0	k 1.03861	0.7	1.28e-05	Q <del>-</del>		0.67 ( O &	) 2.22 
Dollendorf II	FOMC	103.9	α 2.4525 β 2.6091	0.7	0° - 5 V	2.17]2 2.4587	2.734 3.060	0,83	<u>A</u> :06
	SFO	104.1	k 0.9473	0.6	1.866-06			Õ [¥] 0.73 <i>®</i>	2.45
H	FOMC	104.1	α 9.708 β β 13.6868		0' - , 4	-2 \$\infty 93 \\ \( \frac{4}{2} \) 9493 \( \cdot \)	21.62 32.52	<b>1</b> 01	3.66

In addition, the experimental data for the degradation of M-02 and its further metabolites has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 2.1). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting DT% values for togger endpoints for M-02 are summarised below in Table 7.1.2.1.2-47. Best fit kinetics are inchlighted in hold.

Table 7.1.2.1.2-37: Re-evaluation of degradation rate of M-02 under aerobic conditions at 20 °C (DT) values for trigger endpoints)

Soil	Kinetic model	Me	Parameter (0k, k1, k2, g, tb, φ, β)	χ², %- error/	NA OD SE	Lower CI	Upper CI	DT ₅₀ [days]	DT90 [days]
	SO C	4103.7°	k 0.6056	5 4	<2 <del>e</del> 16	0.5658	0.645	1.1	3.8
Dollendorf II,	FOMO	103\$8	β 2.494	©.736 2	On.r. n.r.	2.21 2.223	2.778 3.134	0.9	4.1
(2017)	DI OI	103:80	/ k1 0/8133 / k2 0.1837 / Cg 0.8648 /	039	<2e-16 2.32E-08 n.r.	0.7319 0.1351 0.8056	0.895 0.232 0.924	1	4
Н	SFO	404.1 ^	y k@.637 🍣	1.79	<2e-16	0.6172	0.657	1.1	3.6
(2017)	FOMC	(///) 1	©10.85° С в 1554	1.71	n.r. n.r.	-2.618 -5.618	24.31 36.63	1	3.7
T Š	SEO	<b>303.1</b>	√ k <b>J</b> .051	0.719	<2e-16	0.9643	1.138	0.7	2.2
(20)7)	ZFOMC ^O		α 4.003 β 2.504	NaN	n.r. n.r.	-4.513 -5.239	12.52 10.25	0.5	1.9
	SFO 2	<b>104.2</b>	k 0.9509	0.578	<2e-16	0.9026	0.999	0.7	2.4
(2917)	FOMC	104.2	α 5.202 β 4.103	NaN	n.r. n.r.	-2.89 -4.23	13.29 12.44	0.6	2.3

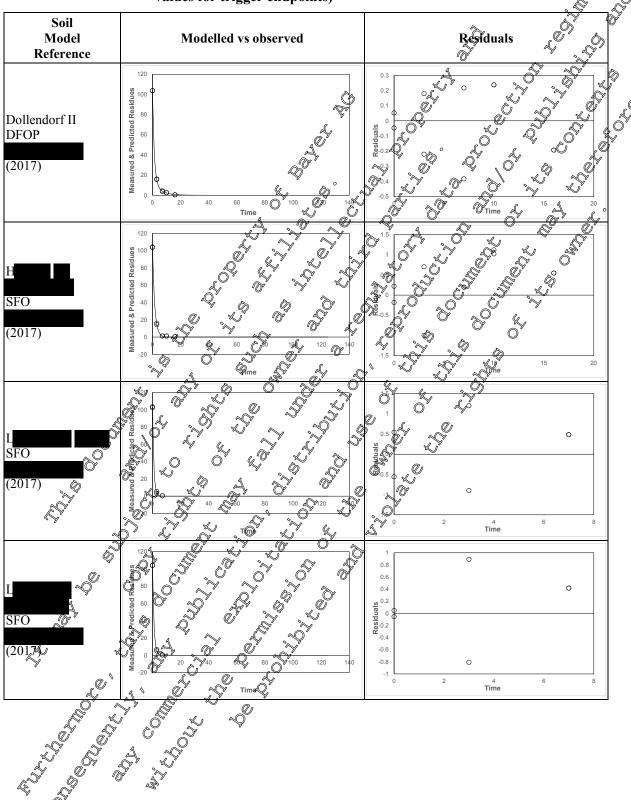
Best fit kinetics are highlighted in bold

NaN – Not a number (value not calculated by KinGUI)



Graphical representations of the final kinetic fits are shown below.

Table 7.1.2.1.2- 48: Degradation of M-02 under aerobic conditions at 20 °C (best-fit DT_{.50} values for trigger endpoints)





### **III. Conclusion**

M-02 is a minor metabolite of fluopicolide which was observed in laboratory soil metabolism studies conducted with the parent and reached a maximum of 7.3% of applied radioactivity. M-02 was very rapidly degraded in soil to a number of pyridyl ring metabolites, with a significant portion completely mineralized to CO₂ and, thus, it would not be expected to persist in the soil environment. Best of DT₅₀ values ranged from 0.67 to 1.01 days in the tested soils. Re-evaluated best fit DT₅₀ values were similar ranging from 0.7 to 1.1 days.

### Assessment and conclusion by applicant:

The study was conducted in accordance with OECO 307 (2002). The study is considered wand to assess the aerobic degradation of [2,6-14C pyridy]. M-02 in soil.

Data Point:	KCA 7.1.2.1.200
Report Author:	
Report Year:	2016
Report Title:	AE0608000: Aerobic degradation in two soils
Report No:	S15-04,154 2
Document No:	M-565219-0¥-1
Guideline(s) followed in	OECD Test Guideline Nov 307, 2002; SANCO/3029/99 Cev.4
study:	
Deviations from current	none S Of S O
test guideline:	
Previous evaluation:	No, not previous & submitted
GLP/Officially	Yes Conducted under GLP/Officially recognised testing facilities
recognised testing facilities:	
facilities:	
Acceptability/Reliability:	Yes X

### **Executive Summars**

The degradation of M-65 (AE 608000) was studied in two acidic soils under aerobic conditions in the laboratory in the dark at 20 ±2 °C and 55% of the maximum water holding capacity for up to 16 days.

₽ So	il 🦃 🔏	Texture (USDA)	pH (CaCl ₂ )	% Organic Carbon
Brierlow		silt loom	5.3	4.5
Н	The state of the s	silt Poam	6.0	1.8

M-03 was applied to soil samples at an application rate of 0.040 mg/kg dry weight, reflecting the maximum single field application rate of 33 g/ha for parent fluopicolide and the maximum occurrence of this metabolite. The chemical purity of M-03 was 96.9% which was considered in determining the application rate.

Samples were removed for extraction and analysis immediately after treatment (day 0) and 0.17, 1, 2, 3, 4, and 6 days (Brieflow only) of incubation. Soil samples were extracted at ambient temperature three times with acetonitrile:water (4:1, v/v) with 1% formic acid and then by microwave extraction with acetonitrile:water (4:1, v/v) with 1% formic acid at 60 °C. Soil extracts were analysed by HPLC-MS/MS to quantify the amount M-03 remaining.



M-03 was rapidly degraded in both acidic soils. The amount of the metabolite in soil extracts declined from 0.04073 mg/kg at time zero to 0.00318 mg/kg by DAT 16, equivalent to 8% of applied, in Brierlow soil, and from 0.03887 mg/kg at time zero to 0.0014 by DAT 7, equivalent to 3.5% of applied in H soil.

Soil (USDA texture)	Best Fit Kinetic Model	DT ₅₀	DT%	Chi ² Error	Visual Assessment
Driorlaw (gilt laam)	CEO	(days)	0 10	0.5 &	Noderate
H (silt loam)	SFO	<b>\$</b> 0.9	. D	<b>8</b> \$	Good
Degradation of the metabolite M-03 in the soil environment.  A. Materials  1. Test Item  M-03 (referred to as AE 0608000 in Company of the metabolite M-03 in the soil environment.	in aerobic acidic	Soils was v	erý rapidand	it is not expe	cted to persu
A. Materials	1. May rais				A 4
1. Test Item					
M-03 (referred to as AE 0608000 in	parae resport)				
	F ₁ C	″ ∜./ ∧ %CI CAÔ			
		K HO		\$ \tag{\psi}	/
J' 4	, S				
		OH Q			
Chemical Purity:	96.9% \$\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\fra				
Sample/Batch ID:	′ MOY4622N		. O.	*	
Expiry Date:	06 May 201				
Expiry Date:					
			<b>O</b> '		
			•		
	,				
Chemical Purity: Sample/Batch ID: Expiry Date:					



### 2. Test Soils

The study was performed using two acidic soils as characterized in Table 7.1.2.1.2- 49. Soils were collected fresh from the field and used with minimal storage time (27 to 70 days) prior to sieving © 2 mm and dispersing into flasks.

Physico-chemical properties of test soils Table 7.1.2.1.2-49:

Parameter		oil	
Soil Designation	Brierlow	H	
Soil ID	BL O	\Z	
Geographic Location		Q Bu	
City	Brierlow, Derbyslore		rsch <b>e</b> jd,
Country	. United Kingdom	∯ ∂`G	ermany 🎜
GPS coordinates			
Batch Number	20051201	<b>♀</b>	160113
Textural Classification (USDA)	Silt loans &	Si	tt Ioam 🔘
Sand [50 - 2000 μm]	\$ 30° 5°		¹ 22 👰
Silt [2 – 50 μm]			64,
Sand [50 - 2000 μm] Silt [2 – 50 μm] Clay [< 2 μm]	\$ \$\int_{11}^{8}\$ \$		14
pH in CaCl ₂ (1:2) in H ₂ O (1:1)	5.3		
pH in CaCl ₂ (1:2) in H ₂ O (1:1) Saturated paste	5.3		6.0
in $H_2O(1:1)$	\$\tag{\circ}\$ \tag{\circ}\$ \tag{\circ}\$ \tag{\circ}\$		6.3
	5.0		6.3
in KCI (I:I)		*	5.8
Organic Matter (%)* O Y Y Y	7.8	3.4	
Organic Carbon %)	1 45 V	2.0	
Cation Exchange Capacity (racq/100 g)  Water Holding Capacity	Q.4 Q	11.5	
Water Holding Capacity & & &	7 750		
Maximum (g H ₂ O per 100 g DW)	750	62.2	
at 1/3 bar (%)	29.5	22.0	
Moisture Content Suring Incubation (%)	55% MWHC 55% MWHC		
Maximum (g H ₂ O per 100 g bw) at 1/3 bar (%)  Moisture Content During Incubation (%)  Bulk Density (disturbed 2/cm ³ )  Soil Microbio Biomes (magnicrobial C /100 g soil)	0.96	1.03	
Soil Microbia Biomass (mg microbia C /100 g soil)	BIO BIO BIO 251	BIO-	$\mathrm{BIO}^{\scriptscriptstyle +}$
	Ø 251	261.6	
Arrival@ Q Q Q Q	251	261.6	
Arrival (DAT 0)  Final (DAT 21)	173.5	262.6	245.5
Final (DAT 21)	163.8 162.3	231.9	245.5

^{*} Calculated by multiplying organic carbon coment by 1.724

MWHC = Maximum Water Holding Capacity

BIO samples were intreated by BIO samples were treated with 200 µL of acetonitrile:water (4:1, v/v) containing 0.5% formic acid



### **B. Study Design**

### 1. Experimental Conditions

Tests were performed in static systems consisting of a glass incubation flask containing 100 g soil dry weight equivalents) stoppered with cotton wool to maintain aerobic conditions and to minimise water loss.

M-03 was applied at an application rate of 0.040 mg/kg, reflecting the maximum single field application rate of 133 g/ha for parent fluopicolide and the maximum occurrence of this metabolite. The text item was dissolved in acetonitrile:water (4:1, v/v) containing 0.5% formic acid and applied dropwise onto the soil surface. Soil samples were adjusted to a moisture content equivalent to 55% 5% coMWHC 3 days prior to application. The samples were incubated at 20 ± 2 °C under aerobic conditions in the dark for up to 16 days after application. Soil moisture was maintained during incubation by addition of water to the samples. Untreated soil samples were incubated under the same conditions for determination of soil microbial activity. Additional untreated flasks containing 100g (dry weight) equivalent of each soil were used to provide fortification samples to confirm the analytical method efficiency. At each sampling interval a flask of each soil was fortified at the LOO level 10.00040 mg/kg, 10% of the application rate) and at 110 times the LOQ (0.044 mg/kg, 100% of the application rate).

### 2. Sampling

Duplicate samples were taken for analysis after © 0.17 ©, 2, 3 ©, 7 and 16 days of incubation in Brierlow soil and 0, 0.17, 1, 2, 3, 4 and 9 days of incubation in Hamman soil. Microbial soil biomass samples were analysed on arrival and at the start and end of the experiment (DAT 0 and 21).

### 3. Analytical proceduces

The entire soil sample of each test vessel was extracted three times with a mixture of acetonitrile:water (4:1, v/v) with 1% formed acid at ambient temperature. Ambient extraction was followed by an additional microwave extraction with acetonitrile water (4:1, v/v) with 1% formic acid at 60°C. All extracts were combined and an alleged entrifuged prior to analysis, Identification of M-03 in soil extracts was by HPLC-MS/MS. M-03 was quantified using the transition of m/z 399.0 to m/z 173.0 and in addition by the transition m/z 399.0 to m/z 109.1. Matrix matched calibration curves were used for the quantification of M-03. The analytical method was validated with both soils prior to starting the test.

# 4. Determination of degradation kinetics

The degradation kinetics determined in the report were evaluated according to the FOCUS guidance document on degradation kinetics using the software KinGUI 2. The degradation of M-03 followed single first order (SFO) kinetics in Brierlox and Market Services and visual assessments of fits

Additionally, modelling indpoints for the degradation of M-03 have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1) along with all other acrobic soil data relied on. Full details are provided in Document KCA 7.1.2.1.1/10 M-6 5080-0 1). A prief sommary of the approach for trigger endpoints is provided below.

To derive trigger endpoints for M-03, an initial comparison was performed for each soil between the SFO and FOME fits, the SFO model provided a better fit for both soils, with a lower  $\chi^2$  err% value, and was therefore accepted.



### II. Results and Discussion

### A. Analytical Methodology:

A full summary of the analytical method is provided in Document MCA 4, Section 4.1.2. The method complies with all criteria according to *SANCO/3029/99 rev. 4* and is suitable for the determination of M-03 in soil samples by HPLC-MS/MS.

### B. Data:

M-03 was rapidly degraded in both soils. The amount of the metabolite in soil extracts declined from 0.04073 mg/kg at time zero to 0.00318 mg/kg by DAT 16 equivalent to 3% of applied in Brierlow will, and from 0.03887 mg/kg at time zero to 0.0014 by DAT 7, equivalent to 3.5% of applied in Hamiltonian acid

The results for each soil are summarized in Table 70.2.1.2-50 to Table 7.1.2.102-51

Table 7.1.2.1.2-50: Degradation of M-03 in Brierlow soil under aerobic conditions at 20 %

				<b>~</b> "	7 i 🖔 1	~		•	4
Danamatan	IIm:4a		Vinculation time (DAD)						
Parameter	Units	0	0.17 🔏		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			( ) 7 · ©	J. C.
Mean	mg/kg	0.04073	0.03922	0.03485	<b>20</b> .02842	0.06338	.0.01067S	0.00₹¥6	030318
SD	mg/kg	0.00061	0.06051	\$0.0011 <b>8</b> \$	0.00037	00074		0,000041	0.00005
Mean	%	101.8	Ø8.1 ["]	87.1	71.1		26.7	\$\int 17.9\$\times	8.0
RSD	%	1.5	1.3	<b>%</b> .4	© 2.1 0	4.8	\$19.1 ₀	<b>5</b> .5	0.9

DAT: days after treatment

SD Standard deviation, RSD Relative standard deviation

Davamatan	Linits 7	Incubation time (DAT)							
Parameter		0	<b>©</b> .17 &		Ž.	3	4	7	
Mean 💍	mg/kg	0.03887	©0.037 <u>8</u> 3	0,02003	00643	0.00282	0.00211	0.0014	
SD	mg/kg	Ø:0000A	0.00006	0.00055	0.00023	0.00016	0.0001	0.00001	
Mean	% %	97.20	94.6	» 50;1 [©]	16.1	<b>√</b> 7.1	5.3	3.5	
RSD	%\$\text{'}	<b>0</b> /.1	\$ 0.1°	2,8	O 3.5	5.0	5.3	0.0	

DAT: days after treament

SD Standard deviation, Relative standard deviation

### F. Degravation Kinetics

Best fit reported DT values of M 03 under aerobic conditions were 2.5 and 0.9 days in Brierlow and H soils respectively. The experimental data were best described by a simple first order (SFO) kinetic model in both soils Details are provided below in Table 7.1.2.1.2-52.

Table 7.1.2.12-52 Reported degradation rate of M-03 under aerobic conditions at 20 °C (bestfit O T₅₀ values for trigger endpoints)

	Minetic model		Parameter (k, k1, k2, g, tb, α, β)	X ² , %-error	Prob >t	Lower CI	Upper CI	DT ₅₀ (days)	DT ₉₀ (days)
Brierlow	SFO	0.04213	k 0.27557	9.5	1.14-09	0.23522	0.316	2.5	8.4
Н	SFO	0.0409238	k 0.7929048	8.0	3.39e-11	0.7198577	0.866	0.9	8.0



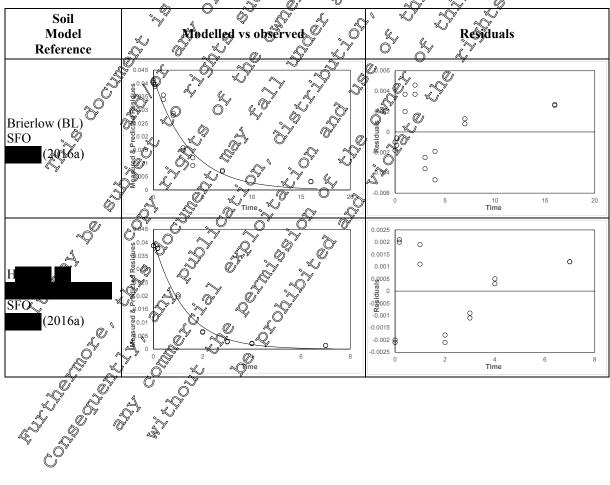
In addition, the experimental data for the degradation of M-03 been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 2.1). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.2/10. The resulting DT₅₀ values for trigger endpoints for M-03 are summarised below in Table 7.1.2.1.2- 53 Best fit kinetics are highlighted in **bold** (and are the same as the reported values).

Re-evaluation of degradation rate of M-03 under aerobic conditions at Table 7.1.2.1.2- 53: 20 °C (DT₅₀ values for trigger endpoints)

Soil	Kinetic model	$\mathbf{M}_0$		error	Prob >	Lower CI	Upper Ci	DEs	DT&
Drianlaw (DI )	SFO	0.04213	k 0.2757	9.46	6.21 <b>E</b> -09	0.2297	0.322	2.5 C	₹ <b>8.4</b> ,©
Brierlow (BL), (2016a)	FOMC	0.04213	α 421Φ β 15270		n.r.	7 421 f √ 15 <b>27</b> 0	42 Q 5270	, 2 S	\$4 \(\int_{\int_{i}}^{\infty}\)
Н	SFO	0.04089	k 007914 _ 0°	7.98	4.5 <b>31</b> ×10	<b>7</b> 007003	0.882	0.9	2.9
(2016a)	FOMC	0.04089	β 12570	8.62 g	Pr.r.	9940	9949 ⁷ 12570		

Graphical representations of the final kinetic fits are shown below

Degradation of M-03 under aexobic conditions at 20 values for trigger enduoints) Table 7.1.2.1.2- 54:





### **III. Conclusion**

M-03 is a major metabolite of fluopicolide formed in soil from degradation of the parent compound. M-03 degraded rapidly in acidic soils under aerobic conditions with best-fit DT₅₀ SFO values of between 2.5 and 0.9 days for Brierlow and H soils.

### Assessment and conclusion by applicant:

The study was conducted in accordance with OECD 307 (2002). The study is considered will to assess the aerobic degradation of M-03 in acidic soils.

Data Point:	KCA 7.1.2.1.2/11
Report Author:	
Report Year:	2016
Report Title:	AE1344122: Aerobic degradation in three soils
Report No:	S15-04140 0
Document No:	S15-04140  M-565223-01-1  OECD Test Guideline No. 307, 2002; SANCO 8029/90 rev.4
Guideline(s) followed in	OECD Tost Guideline No. 307, 2002; SANCO \$029/90 rev.4
study:	
	none of the second of the seco
test guideline:	
Previous evaluation:	No, not previously subparted
· ·	
GLP/Officially recognised testing facilities:	Yes Conducted under GLP officially recognised testing facilities
recognised testing	
Acceptability/Reliability.	Yes XY X X X X X X X X X X X X X X X X X X

### Executive Sammary

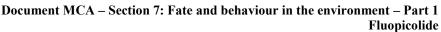
The degradation of Mo05 (AN 1344) 22) was studied in three Coils under aerobic conditions in the laboratory in the dark at 20 ±2 °C and 55% of the maximum water holding capacity for up to 120 days.

Seil	Texture (UDDA) PH (CaCl ₂ )	% Organic Carbon
L	Toamy and 5 5.3	1.5
L	saraty loam 5.1	1.9
H	silt loan 5.8	1.9

M-05 was applied to soil samples at an application rate of 0.026 mg/kg dry weight, equivalent to a field application rate of 133 g/ha of fluopicolide and a highly conservative estimate of the maximum occurrence of this metabolic. The chemical purity of M-05 was 98.8% which was considered in determining the application ate.

Samples were reproved for extraction and analysis immediately after treatment (day 0) and 1, 3, 6, 15, 30, 59 and 120 days of incubation. Soil samples were extracted at ambient temperature three times with acetotitrile 0.05 M ammonium carbonate (80:20, v/v) and then by microwave extraction with acconitrile 0.05 M ammonium carbonate (80:20, v/v) at 60 °C. Soil extracts were analysed by HPLC-MS/MS of quantify the amount M-05 remaining.

M-05 was readily degraded i	all three soils. The amount i	n soil extracts declined	from between 0.0249
to 0.0253 mg/kg at time zero	to 0.0005 to 0.0021 mg/kg	by DAT 120, equivale	nt to 4.2%, 8.1% and
1.8% of applied in L	, Wurmwiese and H		soils, respectively.





The following DT₅₀ and DT₉₀ values were calculated for M-05 in the three soils.

	Soil (USDA texture)	Best Fit Kinetic Model	DT ₅₀ (days)	DT ₉₀ (days)	Chi ² Error (%)	Visual Assessment
L	(loamy sand)	SFO	16.8	55.9	<b>3</b> 4.8	Moderate
L	(sandy loam)	SFO	19.0	63.2	6.6	Moderate
Н	(silt loam)	SFO	22.5	74.6	3.6	\$ Good

# at Percur Visu, Assessin, Q48 Moderate Q48 M



### 2. Test Soils

The study was performed using three German soils as characterized in Table 7.1.2.1.2-55. The same soils were also used in laboratory aerobic soil studies with fluopicolide. Soils were collected fresh from the field and used with minimal storage time (49 days) prior to sieving to 2 mm and dispersing into flasks.

Physico-chemical properties of test soils Table 7.1.2.1.2- 55:

Parameter		Ĉ _A		Soil	- S	~ ·	
Soil Designation	L	A.	L			<i>J</i>	
Soil ID		v'	Q	<b>*</b>		, ~	
Geographic Location		Ø, »			Q" (ó	Y Ö	) _W
City	Mon	heim, •	Ç N	Jonheim,		Burscl	heid, 🦫
Country	Ger	ma@v K		dermany	\$ .	Germ	nany
GPS coordinates			3			¥	
Batch Number	\$\text{20x50}	081 PÅ 🦼	¥ 29	D508MJA	Ô.	<b>201/</b> 508	81 <b>5</b> Å
Textural Classification (USDA)	Loam	y Sand S	_\@Si	ındx bam "		Silt &	
Sand [50 - 2000 μm] (%)		78 🚕		_98 _C		~\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	5
Silt $[2-50  \mu m]$	. Te//	16 S		30 °		ر [*] 60	)
Clay [< 2 μm]		6 4		' l <b>2</b> 5		) 14	1
pH in CaCl ₂ (1:2)		*	*	S _{5.1} , S		5.8	8
in H ₂ O (1:1)			<b>\$</b>	543	<u></u>	5.9	
Saturated paste	0 \$	7.5 L	0	©.3 4	, ,	5.9	
in KCl (1:1)	$\sqrt[3]{}$ $\sqrt[3]{}$ 5	5.0.0		√ 4.8 <b>©</b>		5.3	
Organic Matter (%) * %	2	76/ ×		3.3		3.3	3
Organic Carbon (%)	<b>V</b> , 9	2.5	O	<b>Ø</b> .9		1.9	9
Cation Exchange Capacity (meq/100 g)	\$\ \^\ \^\ 8	3.2 °		7 10.6		12.	.2
Water Mording Capacity	,	- 6 J	, O				
Maximum (g H ₂ O per 100 g DW) 🐸		1.8 ¢,	2	55.5		58.	.3
at 1/3 bar (%)		0.8 0′	P	15.8		20.	.7
Moisture Content During Incubation (%)	* \$5% N	<b>y</b> WHC Sັ	55	% MWHC		55% M	WHC
Bulk Density disturbed, g/cm		.22 _~		1.13		1.0	8
Soil Microbial Biomass (mg microbial C.	∯ B <b>I®</b>	<b>B</b> IO ⁺	BIC	BIO	+ Bl	Ю-	$\mathrm{BIO}^{\scriptscriptstyle +}$
/100 g som		**************************************		_			
Initial (DAT 1)	Ø250.1%	<b>,</b>	244.			9.7	
Mig (DAT 29)	R 1895	158.5	215.			3.6	302.3
Final (DAT 122)\	148.7	113.6	190.	7 181.	2   19	1.0	256.8

^{*} Calculated by multiplying organic carbon content by 1.724

MWHC = Maximum Water fiolding Capacity
BIO samples were untreated
BIO samples were treated with 400 μL of methanol:water (1:1, v/v)



### **B. Study Design**

### 1. Experimental Conditions

Samples of 100 g dry weight of soil each were filled into glass incubation flasks and pre-equilibrated for 4 days prior to treatment at approximate study conditions (darkness,  $20 \pm 2$  °C, soil moisture content equivalent to  $55 \pm 5\%$  of maximum water holding capacity (MWHC)).

At the start of the test, each sample received 0.026 mg test substance/kg soil reflecting the maximum single field application rate of 133 g/ha of fluopicolide and a highly conservative formation level for the metabolite.

Samples were incubated and maintained at  $20 \pm 2$  °C and  $55 \pm 5\%$  of MWHC in the dark for a maximum of 120 days. Soil samples were maintained under stand conditions. All the flasks were supported with cotton wool. Untreated soil samples were incubated under the same conditions for determination of soil microbial activity. Additional untreated flasks containing 100g (dry weight) equivalent soil. We were used to provide fortification samples to confirm the analytical method efficiency. At each sampling interval two flasks were fortified at the LOQ level (0.001) mg/kg, 5% of the application rate, and two flasks at 22 times the LOQ (0.0286 mg/kg) 110% of the application rate).

### 2. Sampling

Duplicate samples were taken for analysis after 0, 1, 3, 6, 15, 30, 39 and 120 days of incubation. Microbial soil biomass samples were analysed at the part, midpoint and end of the experiment (DAT 0, 29 and 122).

### 3. Analytical procedures

The entire soil sample of each test vessel was extracted three times with a mixture of acetonitrile:0.05 M ammonium carbonate (80/20, v/v) at ambient temperature. Ambient extraction was followed by an additional microvave extraction with acetonitrile:0.05 M ammonium carbonate (80:20, v/v) at 60°C. All extracts were combined and an arquot centrifuged prior to analysis. Identification of M-05 in soil extracts was by HPIX-MS/MS. M-05 was quantified using the transition of m/z 252.0 to m/z 61.0 and in addition by the transition m/z 252.0 to m/z 46.0. Matrix matched calibration curves were used for the quantification of M-05. The analytical method was validated with all three soils prior to starting the test.

### 4. Determination of degradation kinetics

The degradation kinetics betermined in the report were evaluated according to the FOCUS guidance document on degradation kinetics using the software KinGUI 2. The degradation of M-05 followed single first order (SFO) kinetics in Language and Language soils based on the west only experience and visual assessments of fits.

Additionally, modelling endpoints for the degradation of M-05 have been re-calculated from the reported data following the ecompondations of the FOCUS work group using the software KinGUI (version 2.1) along with all other aerobic soil data relied on. Full details are provided in Document KCA 7.1.2.1.1/10 M-65 680 0-1). Sorief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints for M-05, an initial comparison was performed for each soil between the SFO and FOMC fits The FOMC fits did not provide a significant improvement on the SFO fits, and the SFO model was therefore accepted for all soils.



### **II. Results and Discussion**

### A. Analytical Methodology:

A full summary of the analytical method is provided in Document MCA 4, Section 4.1.2. The method complies with all criteria according to SANCO/3029/99 rev. 4 and is suitable for the determination of M-05 in soil samples by HPLC-MS/MS.

### B. Data:

M-05 was readily degraded in all three soils. The amount in soil extracts declined from between to 0.0253 mg/kg at time zero to 0.0005 to 0.0021 mg/kg by DAT 120, equivalent to 4.2%, 8 1.8% of applied in L and H

The results for each soil are summarized in Table 7.1.2.1.2- 56 to Table 7.1.2.1.2.

oil worder rerobic conditions at Table 7.1.2.1.2- 56: Degradation of M-05 (M) 20 °C

Damamatan	T I *4 a		Incubation time (PAT)							
Parameter	Units	0	J.º″	(£)3 «		<b>S</b>	<b>30</b> 💮	59	<b>120</b>	
Mean	mg/kg	0.0252	9925	©0.0243	0.0208	<b>0</b> :01245	. ~		o.0011	
SD	mg/kg	0.0002	Q.0003	0.0004	<b>%</b> ,0005	0.00	<b>9</b> 601	<b>7</b> 0.00 <b>06</b>	0.0003	
Mean	%	96.9 @	96.2	93.5 g		45/.8	©30.4 ₀	. 39/	4.2	
RSD	%	0.9	1.3	\$\text{1.4}_{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tin}\ext{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tin}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tin}\\\ \text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tex{\tex	2.3	\$\tag{\text{9}.2}\$	12.6	<b>2</b> 6.9	25.6	

DAT: days after treatment

DAT: days after treatment SD Standard deviation, RSD Relative standard deviation

Table 7.1.2.1.2-5 Degradation soil under aerobic

Davamatan	Units	≪/ n	Incubation fime (DAT)							
Parameter	Onitso	, 0 «	Q 14		0 6 W		30	59	120	
Mean	mg/kg	©0.0249Ç	0.039	0.0240\$	0.0224	0.0129	0.0085	0.0035	0.0021	
SD	mg/kg	0.0093	£0,0003		0.0004	≫0.0004	0.0009	0.0006	0.0003	
Mean	%	§ 95.7	91.97	<b>92</b> .4	© 86.2	49.5	32.7	13.4	8.1	
RSD	9, ,	(T) 1.1	ĮQA	`~\J1.1 ~\C	_ 🔾	3.4	11.0	17.3	14.0	

DAT: days after treatment

SD Standard deviation, RSD Ret

Degradation of soil under aerobic

Davamatan	Junitaria (	\	Incubation time (DAT)							
Parameter Units	Units			3	6	15	30	59	120	
Mean	m <b>g</b> kg	O.02535	0.0238	0.0238	0.0217	0.0165	0.0107	0.0027	0.0005	
SDÇ	mg/kg_1	0.0063	0.0001	0.0005	0.002	0.0007	0.0004	0.0003	0.0001	
		27.2	91.4	91.5	83.4	63.4	41.0	10.5	1.8	
&RSD	%	<b>1.1</b>	0.3	1.9	9.2	4.6	4.1	11.4	31.4	

DAT: days after treatment

SD Standard deviation, RSD Relative standard deviation



### F. Degradation Kinetics

Best fit reported DT₅₀ values of M-05 under aerobic conditions were 16.8, 19.0 and 22.5 days in and H soils, respectively. The experimental data were best described by a simple first order (SFO) kinetic model in each soil. Details are provided below in Table 7.1.2.1.2-59.

Table 7.1.2.1.2- 59: Reported degradation rate of M-05 under aerobic conditions at 20 °C (best fit DT₅₀ values for trigger endpoints)

Soil	Kinetic model	$\mathbf{M}_0$	Parameter (k, k1, k2, g, tb, α, β)	X ² , %-error	rob >t	Lower CI	Upper C	DT (datys)	DT&
L	SFO	0.0260182	k 0.0411709	4.85	1.99e-10 ♠	\(\int_{\infty}\)	0. <b>0</b> 46 \$	, 16.8 C	55.9© 
L	SFO	0.0255707	k 0.0364451	& 6.6 0 . Ø	5.72e-0 <b>9</b>	0.0303984	© 0.042	*1\$\docume{0}	£3.2
H	SFO	0.0255028	k 0.0308704	3.6	3.75e-11		0.034	22.5	74%

In addition, the experimental data for the degradation of Med been re-explusted according to the FOCUS guidance document on Regradation kinetic (FOCUS, 2004) using the software KinGUI (version 2.1). Full details of the evaluation are provided in the sommar for KEA 74, 2.1.1/10. The resulting DT₅₀ values for trigger endpoints for M-15 are summarised below in Table 79.2.1.2- 60. Best fit kinetics are highlighted in bold and are the some as the reported walues).

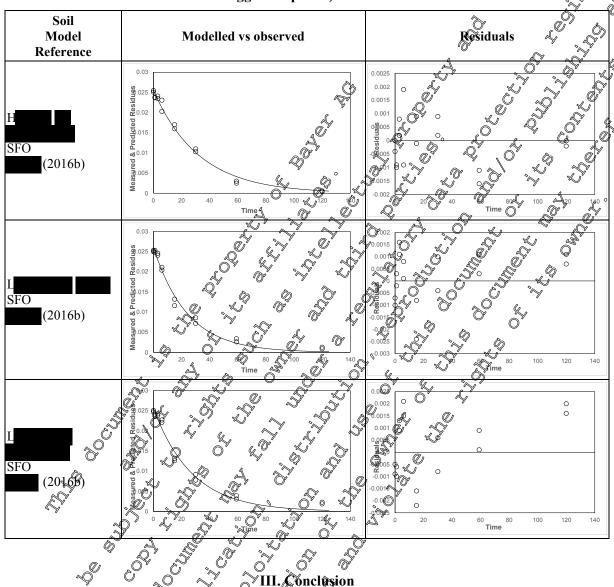
Table 7.1.2.1.2-60: Re-evaluated degradation rate of M-05 under aerobic conditions at 20 °C DT 50 values for trigger endpoints)

	@\Y		(I)	N. Y.		()	~		
Soil	Kinetis	NO.	Parameter (k, k1, k2, g, tb, φβ)	1 1 1 4	Prob>t	Lower	Upper CI	DT ₅₀ [days]	DT ₉₀ [days]
. 0	⊗FO ≪	0.02551	k 0.03086,	\$ 3.6 S	1.21EQ1	0.02765	0.034	22.5	74.6
H ₹2016b)	FOMC .	\$\hat{\delta}{2551}		©84 V	n.r.		1.01E+05 3.28E+06	22.5	74.6
L	SFO	0.02603	J. 0.04124	4.94	7.06E-11	0.03635	0.046	16.8	55.8
(2016)	<b>FOMC</b>	0.0263	g 4Q8 β β 3 0 2.9 β	~4.84 <u>~</u>	On.r. n.r.	-2.268 -68.98	11.87 274.7	16	63.3
4)	SHO	11 1985	LEW 03649	( = ×	1.83E-09	0.03089	0.042	19.0	63.2
(2016b)	FOMC A	0.02584	α 4.0 5 β 90.64	<b>3</b> 6.6	n.r. n.r.	-2.693 -90	10.84 285.3	18.1	74.2
SFO 0.0258									



Graphical representations of the final kinetic fits are shown below.

Table 7.1.2.1.1- 112: Degradation of M-05 under aerobic conditions at 20 °C (best-fit DT₅₀ values for trigger endpoints)



M-05 is a minor metabolite of Puopicolide, which would be predicted to form in the soil environment at very low levels. It was not observed in soil aboratory metabolism studies conducted with fluopicolide. M-05 was readily degraded in soil with half-lives of between 16.8 and 22.5 days and thus, it would not be expected to persist in the soil environment.

# Assessment and conclusion by applicant:

The study was conducted in accordance with OECD 307 (2002). The study is considered valid to assess the accordance degradation of M-05 in soil.



Data Point:	KCA 7.1.2.1.2/12
Report Author:	
Report Year:	2016
Report Title:	AE1344123: Aerobic degradation in three soils
Report No:	S15-04155
Document No:	<u>M-565224-01-1</u>
Guideline(s) followed in	OECD Test Guideline No. 307, 2002; SANCO/3029/99 v.4
study:	
Deviations from current	none State of the
test guideline:	
Previous evaluation:	No, not previously submitted $\nabla$
GLP/Officially	Yes, conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes & S & S & S & S

### **Executive Summary**

The degradation of M-10 (AE 1344123) was studied in three soils under aerobic conditions in the laboratory in the dark at  $20 \pm 2$  °C and 55% of the maximum water holding capacity for up to 350 days.

Soil	Texture (USDA)
L	Sloamy Ond S 5.3 5 2 1.5
L	sands Toam 5.1 5.1 5 1.9
Н	silt loam 0 5.8 1.9

M-10 was applied to foil samples at an application rate of 0.026 mg/kg dry weight, equivalent to a field application rate of 133 g/ha of Huopicolide and a Righly conservative estimate of the maximum occurrence of this metabolite. The chemical purity of M-10 was 98.5% which was considered in determining the application rate.

Samples were removed for extraction and analysis immediately after treatment (day 0) and 1, 3, 7, 15, 30, 59, 120 and 150 soil only) days of incubation. Soil samples were extracted at ambient temperature three times with acetonitrik 0.05 M ammonium carbonate (80:20, v/v) and then by microwave extraction with acetonitrile/0.05 M ammonium carbonate (80:20, v/v) at 60 °C. Soil extracts were analysed by FPLC MS/Ms to quantify the amount MQ0 remaining.

M-10 was rather slowly degraded steadily degraded in I soil, more readily degraded in I soil and most readily degraded in H soil. The amount of the metabolite in soil extracts declined from 0.0250 mg/kg at time zero to 0.0112 mg/kg by DAT 120, equivalent to 43.0% of applied in I soil, from 0.0242 mg/kg at time zero to 0.048 mg/kg by DAT 150, equivalent to 18.6% of applied in I soil and from 0.0244 mg/kg at time zero to 0.0026 mg/kg, equivalent to 10.1% of applied by DAT 59 in H soil.



The following DT₅₀ and DT₉₀ values were calculated for M-10 in the three soils.

	Soil (USDA texture)	Best Fit Kinetic Model	DT ₅₀ (days)	DT ₉₀ (days)	Chi ² Error (%)	Visual Assessment
L	(loamy sand)	DFOP	80.2	681.7	3.6	<b>G</b> ood
L	(sandy loam)	FOMC	20.9	237.5	8.1	Moderate
Н	(silt loam)	SFO	21.6	71.9	5.3	\$ Good

A re-evaluation of the degradation kinetics resulted in similar best-fit unformalised DX values of to 77.3 days but overall longer DT₉₀ values ranging from \$\forall 1.6 days to \$\infty 10000 days \$\infty\$

Degradation of the metabolite in aerobic soil was relatively slow, however M-100s a minor metabolity of fluopicolide formed in the soil environment at very low levels.

# to 77.3 days but overall longer DT₅₀ values ranging from \$1.6 days to \$10000 days \$7\$ Degradation of the metabolite in aerobic soil was relatively slow, however M-100s a minor metabolite of fluopicolide formed in the soil environment at very low levels. Should M-10 form in soil it would be steadily degraded and would not be expected to accumulate. 1. Materials 1. Test Item M-10 (referred to as AE 1344123 in the report). Sould M-10 form in soil it would be steadily degraded and would not be expected to accumulate. Sould M-10 form in soil it would be steadily degraded and would not be expected to accumulate. Sould M-10 form in soil it would be steadily degraded and would not be expected to accumulate. Sould M-10 form in soil it would be steadily degraded and would not be expected to accumulate. Sould M-10 form in soil it would be steadily degraded and would not be expected to accumulate. Sould M-10 form in soil it would be steadily degraded and would not be expected to accumulate. Sould M-10 form in soil it would be steadily degraded and would not be expected to accumulate. Sould M-10 form in soil it would be steadily degraded and would not be expected to accumulate. Sould M-10 form in soil it would be steadily degraded and would not be expected to accumulate.



### 2. Test Soils

The study was performed using three German soils as characterized in Table 7.1.2.1.2- 61. The same soils were also used in laboratory aerobic soil studies with fluopicolide. Soils were collected fresh from the field and used with minimal storage time (44 days) prior to sieving to 2 mm and dispersing into flasks.

Physico-chemical properties of test soils Table 7.1.2.1.2- 61:

Parameter	₽ PA	Soil	
Soil Designation	L	L	
Soil ID	W		
Geographic Location			
City	Monheim, •	Montheim,	Burscheid
Country	Germa@y 🕺	Germany (	Germany
GPS coordinates			
Batch Number	Z 20x 5081 PA	У 2 <b>0</b> 508ЫЛА	20750816A
Textural Classification (USDA)	Loamy Sand	Sandy Joan S	Silt Lyam
Sand [50 - 2000 μm] (%)	78		Ž
Silt [2 – 50 μm]	J 6 16 5	30 0	پ [*] 60
Clay [< 2 μm]		12	O* 14
pH 🔊 🔿	5 0 0		
in CaCl ₂ (1:2)	5.3	5.1	5.8
in H ₂ O (1:1)  Saturated paste in KCl (1:1)	0 50	5,3	5.9
Saturated paste	\$ \$.5 \$	©.3	5.9
	$\sqrt{} \sim 5.0$	4.8	5.5
Organic Matter (%) * 5	26	3.35	3.3
Organic Carbon (%)	Q.5 Q	Ø.9	1.9
Cation Exchange Capacity (meq/100 g)	8.2	<b>7</b> 10.6	12.2
Water Mording Capacity			
Maximum (g H ₂ O per 100 g DW) 😂	5×1.8 %	55.5	58.3
at 1/3 bar (%)	JY	15.8	20.7
Moisture Content During Incubation (%)	>55% <b>№</b> WHC	55% MWHC	55% MWHC
Bulk Density disturbed, g/cm	<b>1</b> 22 ~	1.13	1.08
Soil Microbial Biomass (mg microbial C	BIO BIO+	BIO- BIO+	BIO- BIO+
/100 g sc (10)			
Initial (DAT 2)	₩52.6 ₩	162.2	185.3
Mag (DAT 30)	179 \$ 199.3	206.9 222.4	240.3 235.5
Mig (DAT 30) Final (DAT 129) Final (DAT 156)	160.0	176.6 197.9	238.9 206.5
Final (DAT 186)		170.3 -	

^{*} Calculated by multiplying organic carbon content by 1.724

MWHC Maxing Water Holding Capacity

BIO samples were untreated BIO samples were treated with 400  $\mu$ L of methanol:water (1:1, v/v)



### **B. Study Design**

### 1. Experimental Conditions

Samples of 100 g dry weight of soil each were filled into glass incubation flasks and pre-equilibrated for 4 days prior to treatment at approximate study conditions (darkness,  $20 \pm 2$  °C, soil moisture content equivalent to  $55 \pm 5\%$  of maximum water holding capacity (MWHC)).

At the start of the test, each sample received 0.026 mg test substance/kg soil reflecting the maximum single field application rate of 133 g/ha of fluopicolide and a highly conservative formation level for the metabolite.

Samples were incubated and maintained at  $20 \pm 2$  °C and  $55 \pm 5\%$  of MWHC in the dark for maximum of 120 days in L and H soils and 150 days in Soils and 150 days in Soils samples were maintained under static conditions. All the flasks were stoppered with cotton wool. Untreated soil samples were incubated under the same conditions for determination of soil microbial activity. Additional untreated flasks containing 100g/dry worght) equivalent soil L were used to provide fortification samples to confirm the analytical method efficiency. At each sampling interval two flasks were fortified at the LOQ level 0.0012 mg/kg, 5% of the application rate and two flasks at 22 times the LOQ (0.0286 mg/kg, 110% of the application rate).

### 2. Sampling

Duplicate samples were taken for analysis after 0, 1, 3, 7, 13, 30, 59 and 120 days of incubation in Lagrangian and Harmonian Soils, and 0, 1, 7, 15, 30, 59, 120 and 150 days of incubation in Wurmwiese soil. Microbial Soil biomass samples were analysed at the start, midpoint and end of the experiment (DAP 2, 30 and 120) in each soil and an additional sample was taken at DAT 150 in Soil.

### 3. Analytical procedures

The entire soil sample of each test vessel was extracted three times with a mixture of acetonitrile:0.05 M ammonium carbonate (80:20, v/y) at ambient temperature. Ambient extraction was followed by an additional inferowave extraction with acetonic le:0.05 M ammonium carbonate (80:20, v/v) at 60°C. All extracts were combined and an abquot centrifued prior to analysis. Identification of M-10 in soil extracts was by HPLC MS/MS. M-10 was quantified using the transition of m/z 270.0 to m/z 162.0 and in addition by the transition m/z 270.0 to m/z 74. Matrix-matched calibration curves were used for the quantification of M-10. The analytical method was validated with all three soils prior to starting the test.

### 4. Determination of degradation kinetics

The degradation kinetics determined in the report were evaluated according to the FOCUS guidance document on degradation kinetics using the software KinGUI 2. The degradation of M-10 followed double first order in parallel (DFOP) kinetics in Lagrangian soil and simple first order (SFO) kinetics in H soil based on lowest chi² error values and visual assessments of fits.

Additionally, modelling endpoints for the degradation of M-10 have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1) along with all other aerobic soil data relied on. Full details are provided in Document KCA 7.1.28.1/10 (M-68) 80-(N-1). A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints for M-10, an initial comparison was performed for each soil between the SFO and FOMC fits. The SFO model provided a better fit for the H soils, with a lower  $\chi^2$  err% value. For the L and L soils, the FOMC model provided a better visual fit, and the DFOP model was therefore fitted as well. DFOP provided the best



visual fit for both soils, with the lowest  $\chi^2$  err% value. The DFOP model was accepted for both soils despite a lack of confidence in the optimised rate constants, as the estimated DT90 exceeded the relevant regulatory triggers with either bi-phasic model and DFOP kinetics provided the best visual description of the decline.

### **II. Results and Discussion**

### A. Analytical Methodology:

A full summary of the analytical method is provided in Decument MC 4, Section 4.7.2 complies with all criteria according to SANCO/3029/99 rev. 4 and M-10 in soil samples by HPLC-MS/MS.

### B. Data:

M-10 was rather slowly degraded steadily degraded in soil and most readily degraded in H of the metabolite in soil extracts declined from 0.0251 mg/kg at time zero to 0.0112 mg/kg by DA\$ 120, soil from 0.0242 mg/k@at time zero @ 0.048 equivalent to 43.0% of applied, in L mg/kg by DAT 150, equivalent to 19.6% proplied in k soil and from 0.0244 mg/kg at time zero to 0.0026 mg/kg, equivalent to 10.1% of applied, by DAT 39 in 1

The results for each soil are summarized in Table 7.1.2.1

oil wider rerobic conditions at Degradation of M-10 in 1 Table 7.1.2.1.2- 62:

Parameter	Units	L		/ 🍣 II	ncwbation	time (DAT			
rarameter				~3 °×	7 7 3	<b>J.</b> 3	<b>3</b> 0	59	120
Mean	@g/kg	0.0251	0 <b>.02</b> 41 _{(c}	©0.025£	0:0247	<b>3</b> 0.0217	0.0178	0.0140	0.0112
SD	mg/k	0.6902	0.0006	0.0001	00010	0.000	0.0006	0.0006	0.0000
Mean	%	<b>₹</b> 96.3 <b>₹</b>	7240	98.8	94,80	<b>~89</b> .3	68.3	53.7	43.0
RSI	% 🔪	1,00	\$5	, 0.4 O	<b>4</b> .0 .	©1.6	3.2	4.2	0.3

DAT: days after treatment

soil under aerobic

Parameter	~	Units		Incubation time (DAT)							
rarameter	Units			Q 3 \$\frac{9}{2}	,	15	30	59	120	150	
Mean	m <b>g</b> ∕k̂g	0.0242	Ç0.024 <b>&amp;</b>	.(C )) ·	0.0203	0.0150	0.0088	0.0065	0.0056	0.0048	
SD	∰g/kg	\$0.000°	0.0003	0.0004	0.0004	0.0001	0.0009	0.0004	0.0005	0.0000	
Mean			<b>3.7</b>	Ş 96.7	78.2	57.8	33.8	25.0	21.7	18.6	
RSD.♥″	W.	9.1 (	<b>1.2</b>	1.8	1.7	0.6	10.7	5.4	8.8	0.4	

SD Standard deviation, RSD Relative and and deviation

DAT: days after reatment SD Standard deviation RSD Relative standard deviation



Table 7.1.2.1.2-64: Degradation of M-10 in H conditions at 20 °C

soil under aerobic

Danamatan	Units		Incubation time (DAT)							
Parameter	Units	0	1	3	7	15	30	59		
Mean	mg/kg	0.0244	0.0267	0.0236	0.0213	0.0176	0.0029	0.0026	&LOD)	
SD	mg/kg	0.0031	0.0003	0.0003	0.0005	0.0004	0.0008	0.0002	<f0.00< td=""></f0.00<>	
Mean	%	94.0	102.8	90.9	82.0	67.5	<b>3</b> 7.9	100	OD,	
RSD	%	12.9	1.0	1.2	205	2.5	8.0		*LOD	

DAT: days after treatment

SD Standard deviation, RSD Relative standard deviation

LOQ = 0.0013 mg/kg; LOD = 0.0003 mg/kg

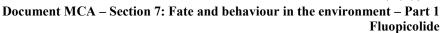
### F. Degradation Kinetics

Best fit reported DT₅₀ values of M-10 under acrobic conditions were 80.2, 20.9 and 21% days in and H soils, respectively. The experimental data were best described by a double first order in parallel (DFP) kinetic model in L soil, a first order multiple compartment (FOMC) model in L soil and a simple first order (SFO) model in H soil. Details are provided below in Table 7.1.2.1.2-65.

Table 7.1.2.1.2-65: Reported degradation rate of M-10 under aerobic conditions at 20 °C (bestfit DT 50 values for trigger endpoints)

Soil	Kinetic		Parameter (k, 41, k2,	$X^2$		Lower CI	Upper CI	DT50	DT90
1	model		<b>g, tb, α, β)</b> 1,00265468,	%-enfor	)1.85e∌\$	0"	\$"	(days)	(days)
П	DFO	\ \ \ \	k2 0,0024850	/ s.Y	ໃດ ດດ <b>ດ</b> ສັ49	0.01.83432@	0.004	80.2	681.7
L	FOM@		g 0 5558428 g 8.385e-01	(C) 20	\$.97e-0€		0.464 1.072	20.9	237.5
	SFO	\$\tag{\tag{\tag{26260}}}	β 1.62 <b>92</b> +01	56	0.0003/26	8.80%6e+00	23.739 0.036	21.6	71.9
1.1	310	0,020200 <del>9</del>	K 0.092040/\		5.Se-10,	<b>9</b> .0270023	0.030	21.0	/1.9

In addition, the experimental data for the degradation of M-10 been re-evaluated according to the FOCUS guidance document of degradation kinetics (FOCUS, 2014) using the software KinGUI (version 2.1). Full details of the evaluation are provided in the summary for KCA 7.1.2.1.1/10. The resulting DT₅₀ values for trigger endpoints for NN 5 are summarised below in Table 7.1.2.1.2- 66. Best fit kinetics are highlighten in bold.





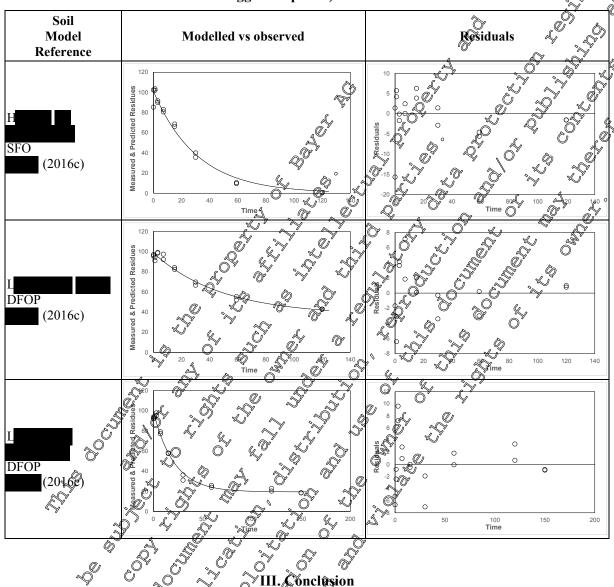
Re-evaluated degradation rate of M-10 under aerobic conditions at 20 °C Table 7.1.2.1.2- 66: (DT₅₀ values for trigger endpoints)

	,	50			,				0	
Soil	Kinetic model	$M_0$	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DS 60 Jays]	J.
H	SFO	101.1	k 0.03214	5.34	1.61E-09	0.0273	Ø.Ø37	21.6 🖏	71.6	
2016c)	FOMC	101.1	α 2.33E+05 β 7.26E+06	5.7	n.r. n.r.	2.33E+05 7.26E+06	2.33E+05 7.26E+06	266	71.6 71.6	ÖŞ J
	SFO	95.96	k 0.008261	4.79	7. <b>\$</b> E-09	0.006864	0.01	83.9	7 278 J	
L	FOMC	98.66	α 0.762 β 54.72	3.57 A	n.r. n.r.	0.2 <b>00</b> 4 4 <b>5</b> .75	1.324 © 115 🕭	8,152	278 J 3068 Q	
(2016c)	DFOP	98.68	k1 0.02068 k2 2.34E-14 g 0.6267 《	<b>3047</b>	0.171 0.5 n.r.	-0.0202 7-0.02341 -0.7739 **	0.062 0.023	0 77.3		
	SFO	94.31	k 0.02498	13,3	2.37 -06	<b>1</b> 01772	0.032	Q7.8	<b>4</b> ,92.2 _e ∘	
	FOMC	99.46	α 0.863 h β 177/3	%.12 _~	n.r.	0.4364	©.29 ©33.48	21.8	23 7.7	
[2016c]	DFOP	98.97	k1.0.04804 k22.34E-14 g 0.8041	6,34	0.000137 0.5 n.r.	0,02849 20.007782 0.6995	0.068 0.908 0.999 0.039 0.047	20.2	>10000	
	HS	98.36°	k1 0.03424 k2 0.003029 & tb 37.06	5.18	2.30F-20 0.4688 — n.r.	99298 6 9007402 27:81	0.039 0.097 48.11	©20.2	369.1	
Best fit model his										



Graphical representations of the final kinetic fits are shown below.

Table 7.1.2.1.1-113: Degradation of M-10 under aerobic conditions at 20 °C (best-fit DT₅₀ values for trigger endpoints)



M-10 is a minor metabolite of Duopicolide, which would be predicted to form in the soil environment at very low levels. It was not observed in soil aboundary metabolism studies conducted with fluopicolide. Should M-10 form or soil it would be steadily degraded with reported half-lives of between 21.6 and 80.2 days. Re-evaluated best fit  $DT_{50}$  values were similar ranging from 21.6 to 77.3 days.

# Assessment and conclusion by applicant:

The study was conducted in accordance with OECD 307 (2002). The study is considered valid to assess the accordance degradation of M-10 in soil.



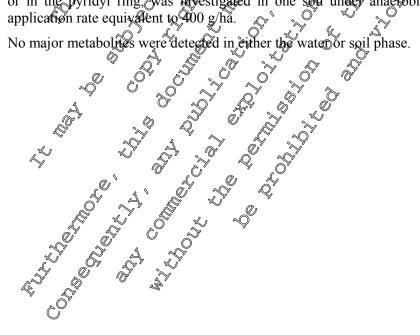
### CA 7.1.2.1.3 Anaerobic degradation of the active substance

Data Point:	KCA 7.1.2.1.3/01
	KCA 7.1.2.1.3/01
Report Author:	
Report Year:	2003
Report Title:	Route and rate of degradation of [2,6-14C-pyridinyl] and U-14C-benzow -AE
	C638206[ in a European sandy loam under laboratory anaerobic conditions at 20
	degrees C
Report No:	B004072
Document No:	<u>M-241050-01-1</u>
Guideline(s) followed in	EU (=EEC): 95/36/EC of July 1995
study:	
Deviations from current	Yes. The soil was not inculated under aerobic conditions for 30 days prior to
test guideline:	flooding. Due to the rate of degradation of fluopfolide in aerobic soil this will fet
	impact significantly on the results of the study.
Previous evaluation:	yes, evaluated and accepted Q V V V
	DAR (2005)
GLP/Officially	Yes, conducted under GDP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes O N N N N N N N N N N N N N N N N N N

The rate of degradation of Mopicolide under anaerobic conditions is summarised onder point CA 7.1.1.2.

# Apaerobic degradation of metabolites, breakdown and reaction CA 7.1.2.1.4 The fate of metabolites of fluopicolite in soil under anaerobic conditions was investigated as part of the

study on the abaerobic degradation and metabolism of the active substance. The details of this study are summarised under point 7.1.1.2. The route and rate of degradation of fluopicolide, labelled in the phenyl or in the pyridyl ring, was investigated in one soil under anaerobic conditions at 20°C and at an application rate equivalent to 400 g/ha.





### CA 7.1.2.2 Field studies

### CA 7.1.2.2.1 Soil dissipation studies

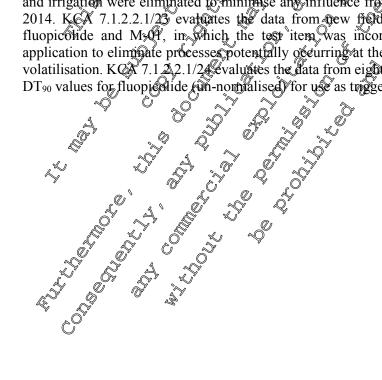
The field dissipation of fluopicolide has been investigated at a total of 17 locations; six 'legacy' European trials, five North American trials, two of which were identified as representative for European climate conditions and soil properties, and six new European trials where the design minimized soil surface processes as required by EFSA (2014). Separate trials were run concurrently at the latter six European sites with the metabolite M-01 (AE C653711) using a similar study design to minimized soil surface processes and included sampling of soil to a depth of 110 cm.

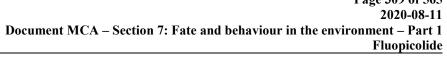
Four field dissipation studies (KCA 7.1.2.2.1/01, KCA 7.1.2.2.1/02, KCA 7.1.2.2.1/03, KCA 7.1.2.2.1/04) and two dissipation and accumulation studies (KCA 7.1.2.2.1/08 and KCA 7.1.2.2.1/09), conducted at six locations in Europe during 1999 to 2003, were evaluated during the previous EU review and are still considered as reliable to assess the rate of fluopicotide degradation in soft. A third accumulation study, where the trial was a continuation of the field dissipation trial conducted at the same site in previous years, was also evaluated during the previous EU review and is summarised under Point KCA 7.1.2.2.2 (KCA 7.1.2.2.2/01). North-American field dissipation studies (KCA 7.1.2.2.1/16 and KCA 7.1.2.2.1/17) were conducted during 2001 to 2003 but have not yet been reviewed. A peport assessing the relevance of North American trials for Europe is also provided (KCA 7.1.2.2.1/15).

In addition, new field studies KCA 7.1.2.2.1/12 and KCA 7.1.2.2.1/13 with fluor field and KCA 7.1.2.2.1/18, KCA 7.1.2.2.1/19 and KCA 7.1.2.2.1/20 with Medi (AE C653711) plus their corresponding kinetic evaluation reports to derive D₅₀ and DT₉₀ values (KCA 7.1.2.2.1/14 and KCA 7.1.2.2.1/21) are provided as new data not yet reviewed.

For procedural reasons five previously submitted reports also have to be included under Point KCA 7.1.2.2.1 in the current dossier (KCA 7.1.2.2.1/05, KCA 7.1.2.2.1/06, KCA 7.1.2.2.1/10 and KCA 2/1.2.2.3/11) but each has been fully superseded as described later.

Finally, new three kinetic evaluation reports (KCA 7.1.2.2.1/22, KCA 7.1.2.2.1/23 and KCA 7.1.2.2.1/24) are provided in KCA 7.1.2.2.1/22 and KCA 7.1.2.2.1/23 Deg T50_{matrix} values, normalised to 20°C and pE2, were derived from field data for use as modelling endpoints. KCA 7.1.2.2.1/22 evaluates the data from the six 'legacy' field dissipation trials in which data points before 10 mm rainfall and irrigation were eliminated to minimise any influence from surface processes as advised by EFSA, 2014. KCA 7.1.2.2.1/23 evaluates the data from new field dissipation trials run concurrently with fluopicoide and MyCl, in which the test item was incorporated into the soil immediately after application to eliminate processes potentially occurring at the soil surface such as photodegradation or volatilisation. KCA 7.1.2.2.1/24 evaluates the data from eight field dissipation trials to derive DT₅₀ and DT₉₀ values for fluopicoide (un-normalised) for use as tragger endpoints.







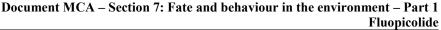
Report reference	Author, Year	Test item	Comment
KCA 7.1.2.2.1/01 M-218672-01-1	2003	Fluopicolide	Submitted and reviewed for first approval of fluopicolide, 2005. Considered valid and acceptable.
KCA 7.1.2.2.1/02 M-218667-01-1	2003	Fluopicolide	Submitted and reviewed for first approval of fluoricolide, 2005.  Considered varid and acceptable.
KCA 7.1.2.2.1/03 M-234424-01-1	2004	Fluopicolide	Submitted and reviewed to first approval of fluopicolide 2005.  Considered valid and acceptable.
KCA 7.1.2.2.1/04 M-220477-02-1	2003	Fluopicolide	Submitted and reviewed for first afforoval of fluoricolide, 2005. Considered valid and acceptable.
KCA 7.1.2.2.1/05 M-223191-01-1	2003	Fidopicolide	Submitted and reviewed for first approval of fluopic flide, 2005. Interim opport suberseded by KCA 7.1.22.1/08 of M-251338-01.1).
KCA 7.1.2.2.1/06 M-223195-01-1	2003	Fluopicolide O	(M-207945-67-1).
KCA 7.1.2.2.1/07 M-234722-01-1	2003	Modelling report	Submitted and reviewed for first approval of fluoricolide 2005. Considered valid and acceptable for the initial submission. Superseded by M-685676-01-1.
KCA 7.1.2.2.1/08 <u>M-251338-01-1</u>	2005	Fluoricolide	Submitted and reviewed for first approval of fluopicolide, 2005.  Considered valid and acceptable.
M-247945-01	2005	Fluopicolide	Submitted and reviewed for first approval of fluopicolide, 2005.  Considered valid and acceptable.
KCA 7.1.2.2.1/10 M-294400-01-1	V200767 & O		Sommitted and reviewed for first approval of fluopicolide, 2005. Considered valid and acceptable for the initial submission. Superseded by M-685682-01-1
KCA 7.1.2.2.1/11 M-294399-00	2067	Morelling report	Submitted and reviewed for first approval of fluopicolide, 2005. Considered valid and acceptable for the initial submission. Superseded by M-685676-01-1.
KCA7.1.2.2.1/12 × M-651181-01-1	Z019 Q	Tuopicolide	New data not yet reviewed.
KCA 7.1.2.2.1	Ø49 Q	Fluopicolide	New data not yet reviewed.
KCA 7.1.22.1/14 M-651636-01-1	0190	Fluopicolide modelling report	New data not yet reviewedö
KCA \$1.2.2 \$\frac{1}{3}5 M-5\frac{1}{2}872 \tag{Q}-1		Fluopicolide	New data not yet reviewed.
K&A 7.1©.2.1/16 M-24893-01-1	2004	Fluopicolide	New data not yet reviewed.
KCA 7.1.2.2.1/17 <u>M-251292-01-1</u>	2005	Fluopicolide	New data not yet reviewed.



# Document MCA – Section 7: Fate and behaviour in the environment – Part 1 Fluopicolide

Report reference	Author, Year	Test item	Comment
KCA 7.1.2.2.1/18	2019	M-01	New data not yet reviewed.
<u>M-647366-03-1</u>			<b>Q</b> °
KCA 7.1.2.2.1/19	2019	M-01	New data not yet reviewed.  New data not yet reviewed.
<u>M-647370-02-1</u>			
KCA 7.1.2.2.1/20	2019	M-01	New data not set reviewed.
<u>M-647363-02-1</u>			
KCA 7.1.2.2.1/21		M-01 modelling	New data not yet reviewed.
<u>M-650733-02-1</u>	019	report 💍	
KCA 7.1.2.2.1/22		Modelling	New data not yet reviewed.
<u>M-685676-01-1</u>	2020	report 🖴	
KCA 7.1.2.2.1/23		Modelling	New data not yet reviewed.  New data not yet reviewed.
<u>M-685675-01-1</u>	2020	report ^	
KCA 7.1.2.2.1/24		Modelling report	New data not yet reviewed.
<u>M-685682-01-1</u>	2020	Treport V	

Additional field studies are ongoing to investigate the degradation of M-OY (Study Director: Study Number: 18-2700, Title Terrestrial Field Dissipation Study with SAM SC 125 in France (North); Study Director: , Study Namber 18-2701, Take: Teprestrial ield Prssipation Study with BAM SC 125 in France (North); Study Director: , Stud&Number: 18-2702, Title: Terrestrial Field Dissipation Study with BAMSC 125 in Gomany and Sody Director: Study Number: 18-2203, Title: Terrestrial Field Dissipation Study with BAM SC 125 in Spain). Study Number: 18-203, Title! Terfestrial Field Dissipation Study with BAM SC 125 in Spain). Final reports for these studies were not available in time to be included in this dosser. As agreed with the RMS, an updated dosser will be submitted by the notifier which will include the final report and its OECD summary. Final reports for these studies were not available in time to be included in this dosser. As agreed with





	<del>-</del>
Data Point:	KCA 7.1.2.2.1/01
Report Author:	
Report Year:	2003
Report Title:	Aerobic outdoor field dissipation of the fungicide AE C638206 in a clay loam soil
Report No:	C035563
Document No:	<u>M-218672-01-1</u>
Guideline(s) followed in	BBA: IV, 4-1; SETAC: ; USEPA (=EPA): 164-1
study:	
Deviations from current	Yes. Report meets the requirement for field persistence criteria and
test guideline:	ecotoxicological risk assessment acrequired by EV 283/2013 and the requirements
	for assessing parent soil DegT50 matrix values as required by ELSA (2004) for
	legacy field studies. Report does not meet the equirement for assessing metabolite
	soil DegT50matrix values as required by EFSA (2014) for fold studies.
Previous evaluation:	yes, evaluated and accepted y
	DAR (2005)
GLP/Officially	Yes, conducted under GLP/Orbicially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes A A A A

### **Executive Summary**

Soil dissipation of fluopicolide was studied after application as a suspe-emulsion formulation containing 97.9 g/L to bare soil plots under field conditions for 720 days at the trial site in Rödelsee (Germany).

A nominal application rate was 400 g fluoricolide/ha was applied in June 2000.

The initial dissipation of fluopicolide was rapid followed by a slower dissipation phase. Residues of fluopicolide were detected majorly in the 0-10 cm soil horizon throughout the irval. In samples taken 14 to 360 days after application low residues were detected in the 10-20 cm horizon at concentrations ranging from 0.00% to 6041 mg/kg (prean-values) and once in the 20030 cm horizon at a mean concentration of 0.005 mg/kg. In deeper depths no residues of fluoricolide were found above the LOQ.

The concentration of M-OC (AE C653711) in the soil profite varied with the degradation rate of fluopicolide During the summer months when the degradation rate of the parent compound was relatively rapid, M-01 concentrations increased steadily reaching a peak at days 120 and declined thereafter as the degradation rate of fluorication state of fluorication. The metabolite M-01 was detected in 0-10 cm, 10-20 cm, and once in 20-30 cm soil depths. The maximum residue level in the 0-10 cm horizon was observed 120 days after application at 0.025 mg/kg (mean of three replicates). The maximum residue in the underlying 10-20 can horizon was also detected at 120 days after application at 0.010 mg/kg (mean value). In the Q0-30 cm horizon residue levels were below the LOQ except for one replicate at 540 days in which M-01 residues were detected at the LOOQ (0.005 mg/kg).

M-02 (AE C657188) and M-09 (AE 0608000) were very rapidly degraded in soil. M-02 was detected in the 0-10 cm depth in soil amples take 35, 14 and 30 days after application at concentrations ranging from 0.009 to 0.013 mg/kg/(mean values). One month after application no further residues of M-02 were detected. No residues of M-03 were found above the LOQ throughout the study. The degradation of M-03 is known to be pH dependant and is very rapidly degraded in neutral to alkaline soils such as the soil at the Rödelsee trial site.

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in best-fit SFO un-normalised DT₅₀ value of 256.9 days and DT₉₀ of 85\$7.5 days for floopicolide.



### I. Materials and Methods

### A. Materials

### 1. Test Item

Fluopicolide formulated as liquid suspo-emulsion (97.9 g/L fluopicolide)

Certificate of Analysis: AGF2000-0106-01

Lot No: OP200271

### 2. Trial Locations & Soils

A single site was selected east of Würzburg (region "Unterfranken") near the village Rodelsee in Southern Germany (see Table 7.1.2.2.1-1). The test site had no rignificant slope and the top soil was a heavy, fine texture sandy clay loam soil (USDA classification) mainly composed of clayed silty sediments with carbonate and gypsum layers between The field soft dissipation final consisted of three treated plots, each measuring 5 metres by 36 metres (540 m² in total), and an untreated plot (180 m²) which served as a control. No dichlobern containing pesticides were used during the study and two years before, according to personal communication.

Table 7.1.2.2.1-1: Location, site description and climatic data of test site

Cl			Rødels	ee B297348	Southern Gert	Dany (	
Characteristic	Units	Horizon 1	Horizon 2		Horizon 1 -3	Ho@zon 4	Horizon 5
Sampling depth	cm	√ 0- <b>√</b> 0	#10 - 20°0	20 30	° 0 ~300	<i>6</i> 30 − 50	50 - 90
Date of sampling		10004.00	7 10.0400	10.04.00	2 <b>8</b> .Qr.01	Ç28.11.01	28.11.01
pН	, CaÇ 🕏	§ 7.4 0 °	\$\$\$	O 7. <b>%</b>	7.3 ,	7.5	7.6
Cation exchange capacity	meq/000 g	160	\$ 17	18	7. K	7.6	7.2
Total organic carbon (ACC)	\$ % , Ø		1.40	Ø1.1	₽.A	1.0	0.3
Organic matter	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	& 2.9 N	2.4	ૐ 1.9_ <b>©</b> ″	× \$2.4	1.7	0.6
Biomass	mg 🚱 100 g	O 7.000 0°	₩.37 °	6.01	6.58	3.91	0.39
Soil water content	weight-%	18.8	9.95	96.0 ×	n.d.	n.d.	n.d.
Particle density	g/cm     g	on.d.	2.59	♥ n.d√	2.60	2.66	2.69
Dry (bulk) density	g/con	1.53	°.54 ≪	1.69	1.45	1.49	1.64
Pore volume	4 6			À			
Fine pores (<0.2 μm)	₄ Vol‰	&p.d.	22.®	n.d.	24.3	24.8	18.3
Medium pores + small coarse pores (0,2230 µm)	\ \V&\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	n.d	(S) 3.3 (S)	n.d.	16.2	12.7	11.4
Coarse pores (>30 µm)	Vol%		8.10	n.d.	4.2	6.5	9.3
Total pore volume (calc.)	Vol.	Th.d.		n.d.	44.7	44.0	39.0
Field capacity (≥pF 2.0)	Vol% ≥	n.d.	<b>≈</b> 035.9	n.d.	40.5	37.5	29.7
Available water storage capacity (pF 2.0-4.2)	Vol%	Political Control of the Control of	13.3	n.d.	16.2	12.7	11.4
Textural class	DØN -	alight clargey	sandy	sandy	sandy clayey	sandy	strong
0, 2		J loam V	clayey loam	clayey loam	loam	clayey loam	sandy loam
Particle size distribution (USDA)		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					
Clay < 0.002 mm		30.4	33.1	33.6	39.0	38.9	13.4
Total silt 0.002 0.050 km	~~/\/ _{\\\\}	20.4	20.4	20.0	15.1	15.1	10.4
Total sand 0.050 - 2 mm	\$ %	45.7	44.8	45.2	40.7	41.2	51.8
Gravel > Omm	%	2.4	1.2	0.9	3.6	3.4	17.0
Textural class	USDA	sandy clay loam	sandy clay loam	sandy clay loam	clay	clay	sandy loam
n.d: not determined							



### B. Study Design

### 1. Experimental Conditions

Fluopicolide was applied once as a suspo-emulsion containing 97.9 g/L at a nominal application rate of 400 g/ha on 7 June 2000. The nominal application rate was confirmed by measuring the mused formulation remaining in the spray tank to calibrate the amount applied (403 g/ha).

Throughout the study no cultivation was carried out and the plots were maintained as bare plots by periodic application of the herbicide glyphosate to control weeds.

The weather conditions and the soil hydrology were monitored in an adjacent site at a distance of approximately 200 metres from the test site. On the adjacent site rainfall, air temperature, soil temperature, wind speed, wind direction, relative air humidity, global radiation and soil moisture contents at depths of 30, 50, 80 and 120 cm were measured continuously. The total rainfall at the trial site amounted to 512 mm in 2000, 598 mm in 2001 and during the months January to May 2002 to 256 mm. The long term average rainfall for this region amounts to 594 mm.

Soil dissipation of fluopicolide was studied for 720 days.

### 2. Sampling

Soil cores were taken to a depth of 50 cm during the first year and to a depth of 50 cm during the second year, covering horizons of 0-10, 10-20, 20-30, 30-50, 50-70 and 70-90 cm. The sampling spots were equally distributed over sampling rows from each plot to obtain representative samples. At each sampling date 10 samples from each plot and each depth were taken using a Humax soil corer. In the first year it was not possible to sample to 50 cm depth at most sampling points as the soil was dry and hard and consequently samples were taken to a depth of 50 cm. This was not thought to have a detrimental effect on the study as the soil conditions and absence of water indicated that movement of residues to depth was inlikely.

Samples were taken, 1 do before application, directly after application (day 0) as well as 1, 5, 14, 30, 60, 120, 180, 279, 360, 50, 540 and 220 days after treatment (DOT).

The soil cores were fozen immediately after sampling. The soil samples from the same horizon of each subplot were thawed and blended in Germany and a subsample dispatched frozen to the analytical laboratory in France. The samples were then stored at -18 C until required for analysis.

### 3. Analytical Procedures

The analytical method AR 265-01 was used to determine levels of fluopicolide and its metabolites M-01 (AE C653711), M-02 (AE C65718) and M-09 (AE 0608000 referred to in the report as RPA 427667, fluopicolide-hydroxy). Soil samples of 20 g were extracted twice at ambient temperature for 5 minutes by mechanical agitation using acetontrile/water (70/30, v/v) acidified with 0.1% formic acid. After each extraction step, extract and soil were separated by centrifugation and decantation. The soil extracts were combined and diluted with acidified water to result in a final solvent of acetonitrile/water (30/70) with 0.1% formic acid. Quantification was carried out by LC-MS/MS using external standardisation for the parent compound and its metabolites. The limit of quantification (LOQ) was 0.005 pg/kg for each malyte.

During analysis of the dissipation samples of the current study, concurrent recovery samples were prepared freshly by fortification of control samples with test item fluopicolide and reference items M-01, M-02 and M-03 at levels of LOQ and 100 x LOQ and processed in parallel to the dissipation samples. The mean recoveries of LOQ and 100 x LOQ were 94 and 99% (RSD 6.4 and 5.5%) for fluopicolide, 96 and 102% (RSD 9.6 and 10.5%) for M-01, 95 and 93% (RSD 7.8 and 10.5%) for M-02 and 83 and 100% (RSD 12.0 and 8.7%) for M-03.



The validation of the extraction was carried out during the study, with samples taken immediately after the application of the test substance.

### 4. Determination of degradation kinetics

The degradation kinetics determined in the report were conducted prior to the ssuing of the FOCES guidance document on degradation kinetics and are no longer considered valid. DT₅₀ and DT₉₀ values for the degradation of fluopicolide have been re-calculated from the reported data bllowing the recommendations of the FOCUS work group using the software KinGUL version 2.12 Full details are provided in Document KCA 7.1.2.2.1/24. A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints, an initial comparison was performed for each site between the SFO and FOMC fits for fluopicolide. For the Rödelsee site the FOMC fit provided no significant improvement, and the SFO fit was therefore accepted.

A. Analytical Methodology

Full details and acceptable validation data to support this method are presented in Document M-CA 4, Section 4.1.2. The method complies with the QU regulatory requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of fluoricolide and its metabolites M-01 (AE C653711), M-02 (AE C657188) and \$603 (AE 0608000) in soil samples by HPLC-MS/MS.

### В. Data

The results for fluogeolide and its metabolites M-01 (AE C653711), M-02 (AE C657188) and M-03 (AE 0608000) are presented below as soil residue concentrations (of a mg/kg dry weight basis) for each of the treated plots in Fable 7.1.2.2.1.2 to Table 7.4.2.2.1.3. The results for fluor colide and its metabolites M-01 (AE C653711), M-02 (AE C657188) and M-03



Γable 7.1.2	2.2.1- 2:	Residue	es of fluop	oicolide in	different	depths of	soil at Rö	idelsee (G	ermany),	values exp	pressed a	mg/kg	≪C		and.
Depth	Sub								AT 18			260			
[cm]	plot	-1	0	1	5	14	30	60	\$\frac{1}{2}\dot{0}^1	180	©270	360	7 450 E	<b>5</b> ≥" 540	720
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0-10	2	<loq< td=""><td>0.455</td><td>0.412</td><td>0.369</td><td>0.237</td><td>0.291</td><td><b>4</b>286</td><td>8.339</td><td>, 39.315</td><td>© 239 «</td><td>0.138</td><td>0.070</td><td>0.047 0.045</td><td>0.050</td></loq<>	0.455	0.412	0.369	0.237	0.291	<b>4</b> 286	8.339	, 39.315	© 239 «	0.138	0.070	0.047 0.045	0.050
	3	<loq< td=""><td>0.484</td><td>0.454</td><td>0.378</td><td>0.256</td><td>0.288</td><td>0,273</td><td>0.3030</td><td>0.499 0 </td><td>0.17</td><td>0.15%</td><td></td><td>0.045</td><td>0.046</td></loq<>	0.484	0.454	0.378	0.256	0.288	0,273	0.3030	0.499 0 	0.17	0.15%		0.045	0.046
	mean	<loq< td=""><td>0.466</td><td>0.445</td><td>0.400</td><td>0.251</td><td>0.284</td><td>0.253</td><td>QV.317</td><td>0,239</td><td>O.214</td><td></td><td><b>©0.080</b></td><td><b>©0.047</b></td><td>0.046</td></loq<>	0.466	0.445	0.400	0.251	0.284	0.253	QV.317	0,239	O.214		<b>©0.080</b>	<b>©0.047</b>	0.046
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Mean   CLOQ   ST   CLOQ   Cl															

average of two determinations per subplot

2



### Residues of M-01 (AE C653711) in different depths of soil at Rödelsee (Germany), values expressed as mg/kg Table 7.1.2.2.1- 3:

Depth	Sub							<b>D</b> A	AT «			<u> </u>	~		9.D.O.
[cm]	plot	-1	0	1	5	14	30	60	120	180	276	360	. A50°	25 <b>40</b>	720
	1	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.013</td><td>0.012</td><td>0.017</td><td>0.017 0.01©</td><td>0.023</td><td>0.014</td><td>€ 0.008</td><td>0.010</td><td>0.012</td><td>0.009</td><td>0.006</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.013</td><td>0.012</td><td>0.017</td><td>0.017 0.01©</td><td>0.023</td><td>0.014</td><td>€ 0.008</td><td>0.010</td><td>0.012</td><td>0.009</td><td>0.006</td></loq<></td></loq<>	<loq< td=""><td>0.013</td><td>0.012</td><td>0.017</td><td>0.017 0.01©</td><td>0.023</td><td>0.014</td><td>€ 0.008</td><td>0.010</td><td>0.012</td><td>0.009</td><td>0.006</td></loq<>	0.013	0.012	0.017	0.017 0.01©	0.023	0.014	€ 0.008	0.010	0.012	0.009	0.006
0-10	2	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.008</td><td>0.010</td><td>0.018</td><td>0.010</td><td>0.034</td><td>0.018</td><td>0.008 0.009</td><td>0.808</td><td>0.012</td><td>0.009</td><td>0.005</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.008</td><td>0.010</td><td>0.018</td><td>0.010</td><td>0.034</td><td>0.018</td><td>0.008 0.009</td><td>0.808</td><td>0.012</td><td>0.009</td><td>0.005</td></loq<></td></loq<>	<loq< td=""><td>0.008</td><td>0.010</td><td>0.018</td><td>0.010</td><td>0.034</td><td>0.018</td><td>0.008 0.009</td><td>0.808</td><td>0.012</td><td>0.009</td><td>0.005</td></loq<>	0.008	0.010	0.018	0.010	0.034	0.018	0.008 0.009	0.808	0.012	0.009	0.005
0-10	3	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.009</td><td>0.012</td><td>0.017</td><td><b>6</b>0.021</td><td><b>6.029</b></td><td><b>9</b>0.019</td><td><b>6</b>.009 (</td><td><b>5</b>0.011</td><td>Q0.011</td><td>C0.009</td><td>0.005</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.009</td><td>0.012</td><td>0.017</td><td><b>6</b>0.021</td><td><b>6.029</b></td><td><b>9</b>0.019</td><td><b>6</b>.009 (</td><td><b>5</b>0.011</td><td>Q0.011</td><td>C0.009</td><td>0.005</td></loq<></td></loq<>	<loq< td=""><td>0.009</td><td>0.012</td><td>0.017</td><td><b>6</b>0.021</td><td><b>6.029</b></td><td><b>9</b>0.019</td><td><b>6</b>.009 (</td><td><b>5</b>0.011</td><td>Q0.011</td><td>C0.009</td><td>0.005</td></loq<>	0.009	0.012	0.017	<b>6</b> 0.021	<b>6.029</b>	<b>9</b> 0.019	<b>6</b> .009 (	<b>5</b> 0.011	Q0.011	C0.009	0.005
	mean	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.010</td><td>0.011</td><td>0.045</td><td>0.018</td><td>0.023</td><td>0.01</td><td>0.00</td><td>01000g</td><td>0.03</td><td>¢.009</td><td>0.005</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.010</td><td>0.011</td><td>0.045</td><td>0.018</td><td>0.023</td><td>0.01</td><td>0.00</td><td>01000g</td><td>0.03</td><td>¢.009</td><td>0.005</td></loq<></td></loq<>	<loq< td=""><td>0.010</td><td>0.011</td><td>0.045</td><td>0.018</td><td>0.023</td><td>0.01</td><td>0.00</td><td>01000g</td><td>0.03</td><td>¢.009</td><td>0.005</td></loq<>	0.010	0.011	0.045	0.018	0.023	0.01	0.00	01000g	0.03	¢.009	0.005
	1	<loq< td=""><td>-</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>SLOQ</td><td>E SLOQ <lqq< td=""><td>0.013</td><td>0.009</td><td><b>3.9</b>.008</td><td>©\$0.008° ×</td><td>\$LOQ</td><td>CO.006</td><td><loq< td=""></loq<></td></lqq<></td></loq<></td></loq<></td></loq<></td></loq<>	-	<loq< td=""><td><loq< td=""><td><loq< td=""><td>SLOQ</td><td>E SLOQ <lqq< td=""><td>0.013</td><td>0.009</td><td><b>3.9</b>.008</td><td>©\$0.008° ×</td><td>\$LOQ</td><td>CO.006</td><td><loq< td=""></loq<></td></lqq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>SLOQ</td><td>E SLOQ <lqq< td=""><td>0.013</td><td>0.009</td><td><b>3.9</b>.008</td><td>©\$0.008° ×</td><td>\$LOQ</td><td>CO.006</td><td><loq< td=""></loq<></td></lqq<></td></loq<></td></loq<>	<loq< td=""><td>SLOQ</td><td>E SLOQ <lqq< td=""><td>0.013</td><td>0.009</td><td><b>3.9</b>.008</td><td>©\$0.008° ×</td><td>\$LOQ</td><td>CO.006</td><td><loq< td=""></loq<></td></lqq<></td></loq<>	SLOQ	E SLOQ <lqq< td=""><td>0.013</td><td>0.009</td><td><b>3.9</b>.008</td><td>©\$0.008° ×</td><td>\$LOQ</td><td>CO.006</td><td><loq< td=""></loq<></td></lqq<>	0.013	0.009	<b>3.9</b> .008	©\$0.008° ×	\$LOQ	CO.006	<loq< td=""></loq<>
10-20	2	<loq< td=""><td>-</td><td><loq< td=""><td><loq< td=""><td><fo@< td=""><td>STOO C</td><td></td><td></td><td>0.008</td><td>0.008</td><td>0.007</td><td>&lt;1.00</td><td>0.008</td><td><loq< td=""></loq<></td></fo@<></td></loq<></td></loq<></td></loq<>	-	<loq< td=""><td><loq< td=""><td><fo@< td=""><td>STOO C</td><td></td><td></td><td>0.008</td><td>0.008</td><td>0.007</td><td>&lt;1.00</td><td>0.008</td><td><loq< td=""></loq<></td></fo@<></td></loq<></td></loq<>	<loq< td=""><td><fo@< td=""><td>STOO C</td><td></td><td></td><td>0.008</td><td>0.008</td><td>0.007</td><td>&lt;1.00</td><td>0.008</td><td><loq< td=""></loq<></td></fo@<></td></loq<>	<fo@< td=""><td>STOO C</td><td></td><td></td><td>0.008</td><td>0.008</td><td>0.007</td><td>&lt;1.00</td><td>0.008</td><td><loq< td=""></loq<></td></fo@<>	STOO C			0.008	0.008	0.007	<1.00	0.008	<loq< td=""></loq<>
10-20	3	<loq< td=""><td>-</td><td><loq< td=""><td><loq< td=""><td>, ₹¥ÖQ</td><td>*<u>Š</u>ĽÓQ</td><td>SLOQ S</td><td><b>%</b>.008</td><td></td><td>0.010</td><td>₩.009</td><td><loq< td=""><td>0.008</td><td>0.006</td></loq<></td></loq<></td></loq<></td></loq<>	-	<loq< td=""><td><loq< td=""><td>, ₹¥ÖQ</td><td>*<u>Š</u>ĽÓQ</td><td>SLOQ S</td><td><b>%</b>.008</td><td></td><td>0.010</td><td>₩.009</td><td><loq< td=""><td>0.008</td><td>0.006</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>, ₹¥ÖQ</td><td>*<u>Š</u>ĽÓQ</td><td>SLOQ S</td><td><b>%</b>.008</td><td></td><td>0.010</td><td>₩.009</td><td><loq< td=""><td>0.008</td><td>0.006</td></loq<></td></loq<>	, ₹¥ÖQ	* <u>Š</u> ĽÓQ	SLOQ S	<b>%</b> .008		0.010	₩.009	<loq< td=""><td>0.008</td><td>0.006</td></loq<>	0.008	0.006
	mean	<loq< td=""><td>-</td><td><loq< td=""><td><loq'></loq'></td><td><rb></rb>FOO</td><td><lqq></lqq></td><td><lqq< td=""><td>0.010</td><td>0.008_C</td><td>0.009</td><td>0.008</td><td><l@q°< td=""><td>0.007</td><td>0.004</td></l@q°<></td></lqq<></td></loq<></td></loq<>	-	<loq< td=""><td><loq'></loq'></td><td><rb></rb>FOO</td><td><lqq></lqq></td><td><lqq< td=""><td>0.010</td><td>0.008_C</td><td>0.009</td><td>0.008</td><td><l@q°< td=""><td>0.007</td><td>0.004</td></l@q°<></td></lqq<></td></loq<>	<loq'></loq'>	<rb></rb> FOO	<lqq></lqq>	<lqq< td=""><td>0.010</td><td>0.008_C</td><td>0.009</td><td>0.008</td><td><l@q°< td=""><td>0.007</td><td>0.004</td></l@q°<></td></lqq<>	0.010	0.008 _C	0.009	0.008	<l@q°< td=""><td>0.007</td><td>0.004</td></l@q°<>	0.007	0.004
	1	<loq< td=""><td>-</td><td><loq< td=""><td>LOQ C</td><td>LOOS</td><td><i>©</i>₽OQ</td><td>LOQ LOQ</td><td>~ COQ</td><td><b>La</b>QQ</td><td>SEOQ</td><td><b>E</b>LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	-	<loq< td=""><td>LOQ C</td><td>LOOS</td><td><i>©</i>₽OQ</td><td>LOQ LOQ</td><td>~ COQ</td><td><b>La</b>QQ</td><td>SEOQ</td><td><b>E</b>LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	LOQ C	LOOS	<i>©</i> ₽OQ	LOQ LOQ	~ COQ	<b>La</b> QQ	SEOQ	<b>E</b> LOQ	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20-30	2	<loq< td=""><td>-</td><td><loq\\(\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}< td=""><td><loq (<="" td=""><td></td><td>&lt; LOGG</td><td><loq®< td=""><td><lqq< td=""><td><lo6).< td=""><td><lqq<sup>()</lqq<sup></td><td><lqq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></lo6).<></td></lqq<></td></loq®<></td></loq></td></loq\\(\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}<></td></loq<>	-	<loq\\(\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}< td=""><td><loq (<="" td=""><td></td><td>&lt; LOGG</td><td><loq®< td=""><td><lqq< td=""><td><lo6).< td=""><td><lqq<sup>()</lqq<sup></td><td><lqq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></lo6).<></td></lqq<></td></loq®<></td></loq></td></loq\\(\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}<>	<loq (<="" td=""><td></td><td>&lt; LOGG</td><td><loq®< td=""><td><lqq< td=""><td><lo6).< td=""><td><lqq<sup>()</lqq<sup></td><td><lqq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></lo6).<></td></lqq<></td></loq®<></td></loq>		< LOGG	<loq®< td=""><td><lqq< td=""><td><lo6).< td=""><td><lqq<sup>()</lqq<sup></td><td><lqq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></lo6).<></td></lqq<></td></loq®<>	<lqq< td=""><td><lo6).< td=""><td><lqq<sup>()</lqq<sup></td><td><lqq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></lo6).<></td></lqq<>	<lo6).< td=""><td><lqq<sup>()</lqq<sup></td><td><lqq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></lo6).<>	<lqq<sup>()</lqq<sup>	<lqq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20 30	3	<loq< td=""><td>-</td><td>\$1000</td><td>_ \$I\$ÔQ</td><td>, <b>J</b>OQ</td><td>&amp;L8Q</td><td>SQ OO</td><td><pre>_<loq< pre=""></loq<></pre></td><td>\$<b>∮</b>®OQ</td><td>&amp; Poq</td><td>*LOQ</td><td><loq< td=""><td>0.005</td><td><loq< td=""></loq<></td></loq<></td></loq<>	-	\$1000	_ \$I\$ÔQ	, <b>J</b> OQ	&L8Q	SQ OO	<pre>_<loq< pre=""></loq<></pre>	\$ <b>∮</b> ®OQ	& Poq	*LOQ	<loq< td=""><td>0.005</td><td><loq< td=""></loq<></td></loq<>	0.005	<loq< td=""></loq<>
	mean	<loq< td=""><td>- , @</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ S</td><td><loq< td=""><td>* <loq< td=""><td><loq\$< td=""><td><rb></rb> <re> </re></td><td><loq< td=""><td><loq< td=""><td>0.003</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq\$<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	- , @	<loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ S</td><td><loq< td=""><td>* <loq< td=""><td><loq\$< td=""><td><rb></rb> <re> </re></td><td><loq< td=""><td><loq< td=""><td>0.003</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq\$<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>LOQ S</td><td><loq< td=""><td>* <loq< td=""><td><loq\$< td=""><td><rb></rb> <re> </re></td><td><loq< td=""><td><loq< td=""><td>0.003</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq\$<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>LOQ S</td><td><loq< td=""><td>* <loq< td=""><td><loq\$< td=""><td><rb></rb> <re> </re></td><td><loq< td=""><td><loq< td=""><td>0.003</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq\$<></td></loq<></td></loq<></td></loq<>	LOQ S	<loq< td=""><td>* <loq< td=""><td><loq\$< td=""><td><rb></rb> <re> </re></td><td><loq< td=""><td><loq< td=""><td>0.003</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq\$<></td></loq<></td></loq<>	* <loq< td=""><td><loq\$< td=""><td><rb></rb> <re> </re></td><td><loq< td=""><td><loq< td=""><td>0.003</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq\$<></td></loq<>	<loq\$< td=""><td><rb></rb> <re> </re></td><td><loq< td=""><td><loq< td=""><td>0.003</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq\$<>	<rb></rb> <re> </re>	<loq< td=""><td><loq< td=""><td>0.003</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.003</td><td><loq< td=""></loq<></td></loq<>	0.003	<loq< td=""></loq<>
	1	<loq< td=""><td>W. W.</td><td>-</td><td></td><td>OF</td><td><b>JOQ</b></td><td>ODO</td><td>OF E</td><td>K. D.</td><td></td><td>-</td><td><loq< td=""><td>-</td><td>-</td></loq<></td></loq<>	W. W.	-		OF	<b>JOQ</b>	ODO	OF E	K. D.		-	<loq< td=""><td>-</td><td>-</td></loq<>	-	-
30-50	2	<loq< td=""><td>-</td><td>- <u>,</u> C</td><td></td><td>- 5</td><td>C CLOQC</td><td>&gt;,<too< td=""><td>- 0]</td><td>- 3</td><td>-</td><td>-</td><td><loq< td=""><td>-</td><td>-</td></loq<></td></too<></td></loq<>	-	- <u>,</u> C		- 5	C CLOQC	>, <too< td=""><td>- 0]</td><td>- 3</td><td>-</td><td>-</td><td><loq< td=""><td>-</td><td>-</td></loq<></td></too<>	- 0]	- 3	-	-	<loq< td=""><td>-</td><td>-</td></loq<>	-	-
	3	<loq< td=""><td>-</td><td></td><td>1 Offin</td><td>100-7</td><td>\$I<b>D</b>Q</td><td>&amp;LOQ</td><td></td><td></td><td>-</td><td>-</td><td><loq< td=""><td>-</td><td>-</td></loq<></td></loq<>	-		1 Offin	100-7	\$I <b>D</b> Q	&LOQ			-	-	<loq< td=""><td>-</td><td>-</td></loq<>	-	-
	mean	<loq< td=""><td>- 9</td><td>- 1</td><td><u> </u></td><td></td><td>[©]<loq<sub>®</loq<sub></td><td>LOO!</td><td>- F</td><td>-</td><td>-</td><td>-</td><td><loq< td=""><td>-</td><td>-</td></loq<></td></loq<>	- 9	- 1	<u> </u>		[©] <loq<sub>®</loq<sub>	LOO!	- F	-	-	-	<loq< td=""><td>-</td><td>-</td></loq<>	-	-
DAT: days LOQ (limit	after treatme of quantitati	ent on) = 0.005 j	gri∯/kg	Cobj					O.K.C.						
¹ average	of two determ	minations	r subplot	900	/ ~ ****		O.E.		,						
								<b>3</b>							
			~ 1		S. C.										
		<u>_</u>		On Sign	,										
					- P.										
						, O _E									
	3														

average of two determinations per subplot

- 8



Residues of M-03 (AE 0608000) in different depths of soil at Rödelsee (Germany), values expressed in mg/kg Table 7.1.2.2.1- 4:

Cm   plot	Depth	Sub							D	<b>A</b> I	P. C.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	N. O. C.	~		977 ₀
1	_		-1	0	1	5	14	30		120	180	270	360		×540	720
1		1	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><loq_< td=""><td>Ç<b>Ç</b>LOQ</td><td><loq_3< td=""><td>ÇKTOÖ 🤞</td><td>LOQ</td><td><loq< td=""></loq<></td></loq_3<></td></loq_<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><loq_< td=""><td>Ç<b>Ç</b>LOQ</td><td><loq_3< td=""><td>ÇKTOÖ 🤞</td><td>LOQ</td><td><loq< td=""></loq<></td></loq_3<></td></loq_<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><loq_< td=""><td>Ç<b>Ç</b>LOQ</td><td><loq_3< td=""><td>ÇKTOÖ 🤞</td><td>LOQ</td><td><loq< td=""></loq<></td></loq_3<></td></loq_<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><loq_< td=""><td>Ç<b>Ç</b>LOQ</td><td><loq_3< td=""><td>ÇKTOÖ 🤞</td><td>LOQ</td><td><loq< td=""></loq<></td></loq_3<></td></loq_<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><loq_< td=""><td>Ç<b>Ç</b>LOQ</td><td><loq_3< td=""><td>ÇKTOÖ 🤞</td><td>LOQ</td><td><loq< td=""></loq<></td></loq_3<></td></loq_<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>LOQ</td><td><loq_< td=""><td>Ç<b>Ç</b>LOQ</td><td><loq_3< td=""><td>ÇKTOÖ 🤞</td><td>LOQ</td><td><loq< td=""></loq<></td></loq_3<></td></loq_<></td></loq<></td></loq<>	<loq< td=""><td>LOQ</td><td><loq_< td=""><td>Ç<b>Ç</b>LOQ</td><td><loq_3< td=""><td>ÇKTOÖ 🤞</td><td>LOQ</td><td><loq< td=""></loq<></td></loq_3<></td></loq_<></td></loq<>	LOQ	<loq_< td=""><td>Ç<b>Ç</b>LOQ</td><td><loq_3< td=""><td>ÇKTOÖ 🤞</td><td>LOQ</td><td><loq< td=""></loq<></td></loq_3<></td></loq_<>	Ç <b>Ç</b> LOQ	<loq_3< td=""><td>ÇKTOÖ 🤞</td><td>LOQ</td><td><loq< td=""></loq<></td></loq_3<>	ÇKTOÖ 🤞	LOQ	<loq< td=""></loq<>
1	0.10	2	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><l<b>OQ</l<b></td><td>&lt;1000</td><td><pre><eqqq< pre=""></eqqq<></pre></td><td><loq< td=""><td>&lt;1506</td><td>&lt;100°</td><td>&lt; [2006]</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><l<b>OQ</l<b></td><td>&lt;1000</td><td><pre><eqqq< pre=""></eqqq<></pre></td><td><loq< td=""><td>&lt;1506</td><td>&lt;100°</td><td>&lt; [2006]</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><l<b>OQ</l<b></td><td>&lt;1000</td><td><pre><eqqq< pre=""></eqqq<></pre></td><td><loq< td=""><td>&lt;1506</td><td>&lt;100°</td><td>&lt; [2006]</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><l<b>OQ</l<b></td><td>&lt;1000</td><td><pre><eqqq< pre=""></eqqq<></pre></td><td><loq< td=""><td>&lt;1506</td><td>&lt;100°</td><td>&lt; [2006]</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><l<b>OQ</l<b></td><td>&lt;1000</td><td><pre><eqqq< pre=""></eqqq<></pre></td><td><loq< td=""><td>&lt;1506</td><td>&lt;100°</td><td>&lt; [2006]</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><l<b>OQ</l<b></td><td>&lt;1000</td><td><pre><eqqq< pre=""></eqqq<></pre></td><td><loq< td=""><td>&lt;1506</td><td>&lt;100°</td><td>&lt; [2006]</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<l<b>OQ</l<b>	<1000	<pre><eqqq< pre=""></eqqq<></pre>	<loq< td=""><td>&lt;1506</td><td>&lt;100°</td><td>&lt; [2006]</td><td><loq< td=""></loq<></td></loq<>	<1506	<100°	< [2006]	<loq< td=""></loq<>
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DAT: days after treatment LOQ (limit of quantitation) = 0.005 maks  COD TURNET LIDER TO LIDER	30 30	3	<loq< td=""><td>-</td><td>10³</td><td></td><td></td><td>%<b>∮</b>EŎQ</td><td>&amp;LÖQ</td><td>@\$<u>-</u></td><td>~ <u>~</u> ~</td><td>-</td><td>-</td><td><loq< td=""><td>-</td><td>-</td></loq<></td></loq<>	-	10 ³			% <b>∮</b> EŎQ	&LÖQ	@\$ <u>-</u>	~ <u>~</u> ~	-	-	<loq< td=""><td>-</td><td>-</td></loq<>	-	-
DAT: days after treatment LOQ (limit of quantitation) = 0.005 my/kg  COLUMN TERMORE  LITE TO THE POLID LICE THIS BELOW BELLEVIOLET TO THE LOCAL TO THE POLID LICE THIS BELOW BELLEVIOLET TO THE LOCAL THE POLID LICE THIS BELOW BELLEVIOLET TO THE LOCAL THE POLID LICE THIS BELOW BELLEVIOLET TO THE LOCAL THE POLID LICE THIS BELOW BELLEVIOLET TO THE LOCAL THE POLID LICE THIS BELOW BELLEVIOLET TO THE LOCAL THE POLID LICE THE POLID LICE THE POLID LICE THIS BELOW BELLEVIOLET TO THE LOCAL THE POLID LICE THE		mean	<loq< td=""><td>- \$</td><td>- 3</td><td>· - K</td><td>- (</td><td><loq< td=""><td>&lt; LOQ</td><td>- FD</td><td>-</td><td>-</td><td>-</td><td><loq< td=""><td>-</td><td>-</td></loq<></td></loq<></td></loq<>	- \$	- 3	· - K	- (	<loq< td=""><td>&lt; LOQ</td><td>- FD</td><td>-</td><td>-</td><td>-</td><td><loq< td=""><td>-</td><td>-</td></loq<></td></loq<>	< LOQ	- FD	-	-	-	<loq< td=""><td>-</td><td>-</td></loq<>	-	-
Entry Course of Strain Front F	DAT: days LOQ (limit	after treatment of quantitation	(1) = 0.005 m	<b>e</b> j/kg	COP *											

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Residues of M-02 (AE C657188) different depths of soil at Rödelsee (Germany), values expressed mg/kg Table 7.1.2.2.1- 5:

Depth	Sub							D.	A. I.	P.S.		7	~		910°
[cm]	plot	-1	0	1	5	14	30	60	120	180	270	360	. A50	2540	720
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0-10	3	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.009</td><td>0.014</td><td></td><td>LOQ €</td><td>LOO K</td><td>%LOQ &gt;</td><td>Ç[©]LOQ _{∢Ç}</td><td>LOQ</td><td>NOO</td><td>ÇÉLOQ_©</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.009</td><td>0.014</td><td></td><td>LOQ €</td><td>LOO K</td><td>%LOQ &gt;</td><td>Ç[©]LOQ _{∢Ç}</td><td>LOQ</td><td>NOO</td><td>ÇÉLOQ_©</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.009</td><td>0.014</td><td></td><td>LOQ €</td><td>LOO K</td><td>%LOQ &gt;</td><td>Ç[©]LOQ _{∢Ç}</td><td>LOQ</td><td>NOO</td><td>ÇÉLOQ_©</td><td><loq< td=""></loq<></td></loq<>	0.009	0.014		LOQ €	LOO K	%LOQ >	Ç [©] LOQ _{∢Ç}	LOQ	NOO	ÇÉLOQ _©	<loq< td=""></loq<>
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30 30	3	<loq< td=""><td>-</td><td>20)</td><td></td><td></td><td>%<b>∮</b>EŎQ</td><td>&amp;LÖQ</td><td>ez-</td><td><u>~</u></td><td>-</td><td>-</td><td><loq< td=""><td>-</td><td>-</td></loq<></td></loq<>	-	20)			% <b>∮</b> EŎQ	&LÖQ	ez-	<u>~</u>	-	-	<loq< td=""><td>-</td><td>-</td></loq<>	-	-
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### C. Residues

Analysis of control samples showed no residues above the limit of quantification (LOQ) of 0.005 mg/kg.

The average initial concentration of fluopicolide in soil samples taken immediately after application was 0.466 mg/kg (range 0.455 to 0.484 mg/kg). This corresponds to an apparent application rate of 999 g/ha compared to the nominal application rate of 400 g/ha. This difference was concluded to be due to insufficient soil homogenisation, soil bulk density of less than 1.5 g/cm³ (assumed throughout the study) at sampling or difficulties during sampling.

The initial dissipation of fluoricolide was rapid followed by a slower assipation phase. Residue of fluopicolide were detected mainly in the 0-10 cm soil horizon throughout the trial. Re samples taken 14 to 360 days after application low residues were detected in the 10-20 cm horizon at conceptrations ranging from 0.004 to 0.041 mg/kg (mean values) and once in the 20-30 on horizon at a mean concentration of 0.005 mg/kg. In deeper depths represidues of thropicoffde were found above the LSQ.

The concentration of M-01 (AE C653711) at the foil profile varied with the degradation rate of fluopicolide. During the summer months when the degladation rate of the parent compound was relatively rapid, M-01 concentrations increased steadily reaching a peak at DAT-120 and declared thereafter as the degradation rate of fluoricolide flowed. The metabolite M was detected in 0.200 cm, 10-20 cm, and once in 20-30 cm soil depths. The maximum residue level in the 0-10 cm horizon was observed 120 days after application at 0.025 mg/kg/mean of three replicates). The maximum residue in the underlying 10-20 cm horizon was also detected at 120 days after application at 0.010 mg/kg (mean value). In the 20-30 cm horizon residue Jevels were below the LOQ exceptor on Creplicate at 540 days in which M-01 residues were detected at the LOQ (0.005 mg/kg)

M-02 (AE C657188) and M-03 (AE 0608000) were very rapidly degraded in soil M-02 was detected in the 0-10 cm depth in soil samples taken 5, 1 and 30 days after application at concentrations ranging from 0.009 to 0.013 mg/kg (mean values). One month after application no further residues of M-02 were detected. No residue of M-93 (AE 0608000) were found above the OOQ throughout the study. The degradation of M-65 is known to be phi dependant and is very rapidly degraded in neutral to alkaline soils such as the soil at the Rödelsee trial site

Based on these findings soil samples from the deeper soil layers (50 to 90 cm) taken in the second year were not analysed.

D. Kinetic Analysis

The half-life of the population included in the report was calculated using a bi-phasic first-order kinetic model (Hocker Stick) as 1323 days The Dr 90 was 863. Days and the r² was 0.987. The experimental data has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software King UI (version 2.1). Full details of the evaluation are provided in the summary for Document KQA 7.1.2.2.1.24. The resulting best-fit DT₅₀ values for trigger endpoints are summarised below in Table 7.1.2.2.1. Best fit kinetics are highlighted in bold.

Table 7.1.2.2.1-6: Degradation rate of fluopicolide under field conditions (DT₅₀ values for triggevendpoints) 🖓

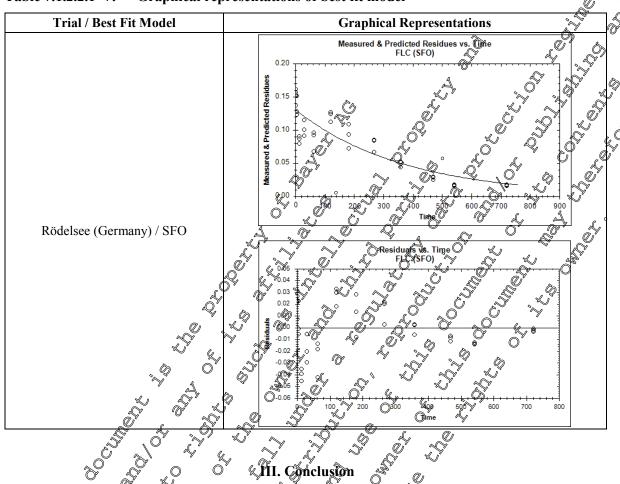
	Kinetic model		<b>Parameter</b> (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT ₉₀ [days]
	SFQ.	0.1302	k 0.002698	18.5	1.10E-09	0.002024	0.003	256.9	853.5
CA 7,1,2,2,1/01,	FOMC	0.1302	α 7858 β 2.91E+06	19.2	n.r. n.r.	7858 2.91E+06	7858 2.91E+06	256.9	853.6

Best fit model highlighted in bold



A graphical representation of the final kinetic fit is shown below.

Table 7.1.2.2.1-7: Graphical representations of best fit model



Following a single application of fluopicolide at a rate of nominal rate of 400 g/ha to bare soil in summer 2000, the decline of fluopicolide and the formation and decline of its metabolites M-01, M-02 and M-03 was followed for up to 721 days after application at a trial site in Rödelsee, Germany. A re-evaluation of the degradation energy in accordance with FOCOS guidance document on degradation kinetics (2014), resulted in a best-fit Sto un-normalised DT50 value of 256.9 days and DT90 value of 853.59 days for fluopicolide.

The metabolite M-01 was detected in 0-10 cm, 10-20 cm, and once in 20-30 cm soil depths. No residues of M-03 were found above LOO (0.005 mg/kg) throughout the study. M-02 was detected in the 0-10 cm soil depth in early time points at low concentrations. One month after application no further residues of M-02 were detected.

### Assessment and conclusion by applicant:

The study is considered valid to assess the dissipation of fluopicolide under field conditions in soil. The study meets the requirements to assess field persistence of fluopicolide and its metabolites, and to derive parent soil DegT_{50matrix} values for legacy field studies as defined by EFSA (2014). It is not suitable for assessing metabolite soil DegT_{50matrix} values as the design did not minimise soil surface processes immediately after application as required by EFSA (2014).



D . D .	WG - 5 1 0 0 1 /00
Data Point:	KCA 7.1.2.2.1/02
Report Author:	
Report Year:	2003
Report Title:	Field soil dissipation of AE C638206 following single application to bare soil
	Northern Germany
Report No:	C035562
Document No:	<u>M-218667-01-1</u>
Guideline(s) followed in	BBA: IV, 4-1; SETAC: ; USEPA (=EPA): 164-1
study:	
Deviations from current	Yes. Report meets the requirement for field persistence criteria and
test guideline:	ecotoxicological risk assessment as required by \$\times 283/2013 and the requirements
	for assessing parent soil DegT50matrix values@srequired by EFSA (2014) for
	legacy field studies. Report des not meet the requirement for assessing metholite
	soil DegT50matrix values is required by EFSA (20014) for field stadies.
Previous evaluation:	yes, evaluated and accepted
	DAR (2005) & Ø Š Ž Ž Š
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes O V V V V V V

### **Executive Summary**

Soil dissipation of fluopicolide was studied after application as a suppo-emulsion formulation containing 97.9 g/L to bare soil plots under field conditions for 720 days at a site at the trial site in Huntlosen (Germany).

A nominal application rate of 400 g flyopicobde/ha was applied in May 2000.

The initial dissipation of fluopicolide was rapid followed by a slower dissipation phase. Residues of fluopicolide were only detected in the 0-10 cm soil horizon throughout the tral at concentrations ranging from 0.040 to 0.250 mg/kg (mean values). In deeper depths no residues of fluopicolide were found above the LOQ.

The concentration of M-01 (AFC653-11) in the soil profile varied with the degradation rate of fluopicolide. During the summer months when the degradation rate of the parent compound was relatively rapid, M-04 concentrations increased steadily reaching a peak at days 120 and declined thereafter as the degradation rate of fluopicolide lowed. The metabolite M-01 was detected in 0-10 cm, 10-20 cm, and once in 20-30 cm soil depths. The maximum residue level in the 0-10 cm horizon was observed 120 days after application at 0.018 mg/kg/mean of three replicates). The maximum residue in the underlying 10-20 cm horizon was also detected at 270 days after application at 0.013 mg/kg (mean value). In the 20-30 cm horizon the maximum residue evels was detected at 0.006 mg/kg (mean value) at 360 days.

M-02 (AE C657188) was very rapidly degraded in soil. The meatobilite was only detected once in the 0-10 cm depth soil samples taken at 14 days after application at concentration of 0.008 mg/kg (mean of three replicates). M-03 was only found in soil samples from the 0-10 cm horizon reaching a maximum of 0.016 mg/kg at 180 days after application before steadily declining to 0.003 mg/kg at the end of the study. The degradation rate of M-03 in laboratory studies has been shown to be strongly pH dependant with bi-phasic degradation observed in strongly acidic soils.

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation function (2014), resulted in best-fit SFO un-normalised  $DT_{50}$  value of 290.2 days and  $DT_{90}$  of 963.9 days for fluopicolide.



### I. Materials and Methods

### A. Materials

### 1. Test Item

Fluopicolide formulated as liquid suspo-emulsion (97.9 g/L fluopicolide)

Certificate of Analysis: AGF2000-0106-01

Lot No: OP200271

### 2. Trial Location & Soil

A single site was selected near the village of Großenkneten-Huntlosen, D-26197 in Northern Germany (see Table 7.1.2.2.1-8). The test site was flat and the top soil was a sand (USDA classification) with silty layers in between. The field soil dissipation trial consisted of three treated plots, each measuring 5 metres by 36 metres (540 m² in total), and an untreated plot (180 m²) which served as a control. No dichlobenil containing pesticides were used during the study and two years before, according to personal communication.

Table 7.1.2.2.1-8: Location, site Description and climatic data of test site

Chanastanistia	Q 11-:42	Großenkne	tça∋Huntløsen, I	)-26/197, Norther	n Germany
Characteristic	Uni <b>t</b> s	Horizon 1	Horizon 2	Horizon 3 🌾	Horizon 4
Sampling depth	em 🔊	10-20	<b>20</b> ≥ 30 ⊘	30-50	50 – 90
Date of sampling		€ ¥3.04.0 <b>©</b>	23.08.01	×23.08.05	23.08.01
pН	Ca <b>©</b>	\$ 5.By _	3 4.5 °	\$ 48¥	5.1
Cation exchange capacity	me <b>g</b> 100 g ○	* \$4.5 \ Q	[*] \$9.3	, <b>6</b> )7	3.9
Total organic carbon (TOC)	% @	\$ 1.9 \$ "	1.8	& 0.8	0.5
Organic matter		3.85	© 3.1	<b>1.4</b>	0.9
Biomass	mg ₂ C/100 g	[™] .4.36 ~	i dia. S	n.a.	n.a.
23 May 2001	m@C/10@g	×n.a. 🏷	10.2	0.0	0.0
23 Nov 200 i	gmg C/100 g	n.a	1.52	n.a.	n.a.
Soil water content	weight %	8.5	/ & 6°	n.d.	n.d.
Particle density	gcm ³	[™] ©2.65 ♥	<u>,</u> Q.58	2.62	2.63
Dry (bulk) density	g/cmO	1.5 <b>%</b>	△ 1.42	1.31	1.50
Pore volume			>		
Fine pores (<0.2 µm)	<b>₩</b> % 🔊	<b>%</b> .5 \$	8.0	5.3	2.6
Medium pores small	Vol	17.6	16.8	8.7	6.0
coarse pores (0.2-30 μm)	9 4				
Coarse poos (>30 μm)	VØ/-%	2.V.6	20.2	36.0	34.4
Total por volume (calc )	Vol%	45.7	45.0	50.0	43.0
Field capacity (≥pF 2.6)	Vol.	24.1	24.8	14.0	8.6
Available water storage capacity (pF	V@l% &	17.6	16.8	8.7	6.0
2.0-4.2)	Q Q				
Particle size distribution WSDAG					
Clay < 0.002 mm	L %Q	3.2	3.9	1.2	0.7
Total silt @002 - @50 mm	%	8.9	8.7	2.8	1.1
Total sand 0.050 2 mm	%	86.0	87.0	94.6	97.8
Graver > 2 mm	%	1.37	0.3	1.0	0.3
Textural class	USDA	sand	sand	sand	sand

n.d: not determined, n.a: not applicable



### B. Study Design

### 1. Experimental Conditions

Fluopicolide was applied once as a suspo-emulsion containing 97.9 g/L at an application rate of 400 g/ha on 31 May 2000. The nominal application rate was confirmed by measuring the unused formulation remaining in the spray tank to calibrate the amount applied (399 g/ha).

Throughout the study no cultivation was carried out and the plots were maintained as bare plots by periodic application of the herbicide glyphosate to control weeds.

The weather conditions and the soil hydrology were monitored on site. The rainfall, air temperature, will temperature, wind speed and soil moisture contents at depths of 10 and 20 cm were measured continuously. The total rainfall at the trial site amounted to 477.6 mm in 2000, 933.6 mm in 2001 and during the months January to May 2002 to 354.1 mm. The long term average rainfall for this region amounts to 700 - 800 mm/year.

Soil dissipation of fluopicolide was studied for \$\forall 20 desc.

### 2. Sampling

Soil cores were taken to a depth of 50 cm during the first year and to a depth of 20 cm during the second year, covering horizons of 0-10, 16, 20, 20, 30, 30, 50, 50, 70 and 70-50 cm. The sampling spots were equally distributed over sampling rows from each plot to obtain representative samples. At each sampling date 10 samples from each plot and each depth were taken using a Human soil corer.

Samples were taken, 1 day before application, directly after application (day 6) as well as 1, 5, 14, 30, 60, 120, 180, 270, 360, 450, 540 and 720 days after treatment (DAT)

The soil cores were frozen immediately after ampling. The soil samples from the same horizon of each subplot were thawed and blended in Germany and a subsample dispatched frozen to the analytical laboratory in France. The samples were then stored at 18 °C Intil required for analysis.

### 3. Analytical Procedures

The analytical method AR 265-01 was used to determine levels of fluopicolide and its metabolites M-01 (AE 653711), M-02 (DE C657188), and M-03 (AE 0608000 referred to in the report as RPA 427967, fluopicolide bydroxy). Soil amples of 20 g were extracted twice at ambient temperature for 5 minutes by mechanical agration using actionityle/water (70/30, v/v) acidified with 0.1% formic acid. After each extraction step, extract and soil were separated by centrifugation and decantation. The soil extracts were combined and diluted with acidified water to result in a final solvent of acetonityle/water (30/70) with 0.1% formic acid. Quantification was carried out by LC-MS/MS using external standardisation for the parent compound and its metabolites. The limit of quantification (LOQ) was 0.065 mg/kg for each analyte.

During analysis of the dissipation samples of the current study, concurrent recovery samples were prepared freshly by fortification of control samples with test item fluopicolide and reference items M-01, M-02 and M-03 at levels of LOQ and 100 x LOQ and processed in parallel to the dissipation samples. The mean vectors is of LOQ and 100 x LOQ were 92 and 94% (RSD 15.4 and 4.8%) for fluopicolide, 97 and 98% (RSD 9 and 6%) for M-01, 91 and 88% (RSD 9.4 and 10.4%) for M-02 and 96 and 144% (RSD 22.7 and 12.2%) for M-03.

The validation of the extraction was carried out during the study, with samples taken immediately after the application of the test substance.



### 4. Determination of degradation kinetics

The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. DT₅₀ and DT₉₀ values for the degradation of fluopicolide have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1). Full details are provided in Document KCA 7.1.2.2.1/24. A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints, an initial comparison was performed for each site between the SFO and FOMC fits for fluopicolide. For the Huntlosen site, the FOMC fit provided no significant improvement, and the SFO fit was therefore accepted.

# II. Results and Discussion

### **Analytical Methodology:**

Full details and acceptable validation data to support this method are presented in Document M-CA4, Section 4.1.2. The method complies with the El regulatory requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of fluoricolide and its metabolites M-01 (AE C653711), M-02 (AE C657188) and M 3 (AE 0608000) in soil samples by HPL & MS/MS.

B. Data

The results for fluopicolide and its metabolites W-01 (AE C653711) M-02 (AE C657188) and M-03 (AE 0608000) are presented below as son residue concentrations (on a mg/kg dry weight basis) for each The results for fluopicolide and its metabolites N=01 (AE C653711) M=02 (AE (608000)) are presented below as soft residue concentrations (on a mg/kg dry w of the treated plots in Table 7, 12.2.1-9 to Table 7, 12.2.1-12.



Residues of fluopicolide in different depths of soil at Huntlosen (Germany), values expressed as mg/kg Table 7.1.2.2.1- 9:

D (1	6.1							n	AT 402		· OEL	<i>b</i>	\$		)»·
Depth [cm]	Sub plot	-1	0	1	5	14	30	60 B	AT 120	180 «	270	360 .	450	540	720
[CIII]	<u> </u>		0.247					00	120	100			0 430 E	0.025	
	1	<loq< td=""><td></td><td>0.202</td><td>0.185</td><td>0.167</td><td>0.106</td><td>0.122</td><td>0.120</td><td>0.108</td><td>0.109 ©0.109</td><td>0,090</td><td>0.038</td><td>0.039</td><td>0.033</td></loq<>		0.202	0.185	0.167	0.106	0.122	0.120	0.108	0.109 ©0.109	0,090	0.038	0.039	0.033
0-10	2	<loq< td=""><td>0.271</td><td>0.221</td><td>0.187</td><td>0.162</td><td>0.138</td><td>9.115</td><td>₩.100</td><td>012e[%]</td><td>0.109</td><td>0.096 0.126</td><td>Q 40.034</td><td>0.033</td><td>0.042</td></loq<>	0.271	0.221	0.187	0.162	0.138	9.115	₩.100	012e [%]	0.109	0.096 0.126	Q 40.034	0.033	0.042
	3	<loq< td=""><td>0.233</td><td>0.187</td><td>0.234</td><td>0.210</td><td>0.116</td><td>0.122 0.115 0.2143</td><td>0.26</td><td>0408 × 00.158 × 0128 ×</td><td>0.190</td><td>4.62</td><td>0.060</td><td>0.035</td><td>0.044</td></loq<>	0.233	0.187	0.234	0.210	0.116	0.122 0.115 0.2143	0.26	0408 × 00.158 × 0128 ×	0.190	4.62	0.060	0.035	0.044
	mean	<loq< td=""><td>0.250</td><td>0.203</td><td>0.202</td><td>0.180</td><td>0.120</td><td>W.130</td><td><b>⊘</b>,¥9.162 _{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\ext{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\$}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}</td><td>W.131</td><td><b>30</b>.121</td><td><b>0</b>9!111</td><td>©0.044</td><td>©0.037</td><td>0.040</td></loq<>	0.250	0.203	0.202	0.180	0.120	W.130	<b>⊘</b> ,¥9.162 _{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\ext{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\$}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	W.131	<b>30</b> .121	<b>0</b> 9!111	©0.044	©0.037	0.040
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	mean	<loq< td=""><td>NO.</td><td>69 J</td><td>6.30°</td><td></td><td>≤<b>k</b>ØQ</td><td>\$1.00</td><td><b>₹</b>J0Q</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	NO.	69 J	6.30°		≤ <b>k</b> ØQ	\$1.00	<b>₹</b> J0Q	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
DAT: days	after treatment			CO P AN	J. T.	- K			<b>3.</b> V						
LOQ (limit	of quantitation)	= 0.00 mg	/kg	200	* CO										
1 average of	f two determinat	Kons per sub	plot	\$ .1				V							
					- FQ	, all	O.D.	)P							
		e e	». 1				, Š								
		026			-0,5		,								
		OF TOTAL			2°										
				, <b>*</b>	@. °Q"										
			A N	, O ^O	0										
	Cogra	OP		•											
			da .												

¹ average of two determinations per subplot

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Table 7.1.2.2.1-10: Residues of M-01 (AE C653711) in different depths of soil at Huntlosen (Germany), values expressed as mg/kg

Depth	Sub							<b>D</b> A	^¹ √.	P.S.	~~~~	, J	~		F. D.
[cm]	plot	-1	0	1	5	14	30	60	120	180	20°	360	<u>. 450</u>	590	720
	1	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.012</td><td>0.013</td><td>S S</td><td>0.016</td><td>0.016</td><td>0.007 0.008</td><td>0.012</td><td>0.009</td><td>0.07</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.012</td><td>0.013</td><td>S S</td><td>0.016</td><td>0.016</td><td>0.007 0.008</td><td>0.012</td><td>0.009</td><td>0.07</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.012</td><td>0.013</td><td>S S</td><td>0.016</td><td>0.016</td><td>0.007 0.008</td><td>0.012</td><td>0.009</td><td>0.07</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.012</td><td>0.013</td><td>S S</td><td>0.016</td><td>0.016</td><td>0.007 0.008</td><td>0.012</td><td>0.009</td><td>0.07</td><td><loq< td=""></loq<></td></loq<>	0.012	0.013	S S	0.016	0.016	0.007 0.008	0.012	0.009	0.07	<loq< td=""></loq<>
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	3	<loq< td=""><td></td><td>A SITOQ a</td><td>  \&amp;TOO ∛</td><td>J OS ŁUŲ</td><td>SEOQ 3</td><td>&amp;&amp;ŁOQ ၙ</td><td>\ \sqrt{LOQ}</td><td><b></b>  ■LOQ</td><td><b>3</b>9.006</td><td>&gt;0.008</td><td>0.006</td><td>0.007</td><td>0.007</td></loq<>		A SITOQ a	\&TOO ∛	J OS ŁUŲ	SEOQ 3	&&ŁOQ ၙ	\ \sqrt{LOQ}	<b></b> ■LOQ	<b>3</b> 9.006	>0.008	0.006	0.007	0.007
	mean	<loq< td=""><td>\$ \$</td><td><lqq< td=""><td><loq< td=""><td><loq<sup>®</loq<sup></td><td><lqq<sup>D</lqq<sup></td><td><lqq< td=""><td><loq< td=""><td><lq@< td=""><td>9</td><td>0.006</td><td>0.004</td><td>0.004</td><td>0.004</td></lq@<></td></loq<></td></lqq<></td></loq<></td></lqq<></td></loq<>	\$ \$	<lqq< td=""><td><loq< td=""><td><loq<sup>®</loq<sup></td><td><lqq<sup>D</lqq<sup></td><td><lqq< td=""><td><loq< td=""><td><lq@< td=""><td>9</td><td>0.006</td><td>0.004</td><td>0.004</td><td>0.004</td></lq@<></td></loq<></td></lqq<></td></loq<></td></lqq<>	<loq< td=""><td><loq<sup>®</loq<sup></td><td><lqq<sup>D</lqq<sup></td><td><lqq< td=""><td><loq< td=""><td><lq@< td=""><td>9</td><td>0.006</td><td>0.004</td><td>0.004</td><td>0.004</td></lq@<></td></loq<></td></lqq<></td></loq<>	<loq<sup>®</loq<sup>	<lqq<sup>D</lqq<sup>	<lqq< td=""><td><loq< td=""><td><lq@< td=""><td>9</td><td>0.006</td><td>0.004</td><td>0.004</td><td>0.004</td></lq@<></td></loq<></td></lqq<>	<loq< td=""><td><lq@< td=""><td>9</td><td>0.006</td><td>0.004</td><td>0.004</td><td>0.004</td></lq@<></td></loq<>	<lq@< td=""><td>9</td><td>0.006</td><td>0.004</td><td>0.004</td><td>0.004</td></lq@<>	9	0.006	0.004	0.004	0.004
	1	<loq< td=""><td>W. K. F.</td><td>- ~</td><td><b>~</b></td><td>0⁵-</td><td>J. SLOQ.</td><td>D TOQ</td><td>OFOQ_</td><td>  <b>%</b>₽ÖQ</td><td><b>SLOQ</b></td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	W. K. F.	- ~	<b>~</b>	0 ⁵ -	J. SLOQ.	D TOQ	OFOQ_	<b>%</b> ₽ÖQ	<b>SLOQ</b>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
1															<loq< td=""></loq<>
	3	<loq< td=""><td> «</td><td>10°)</td><td></td><td>10°7- 5</td><td><b>L</b>SOÖQ</td><td>S<loo< td=""><td>LOQ</td><td><b>₹</b>ŁÓQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.005</td></loq<></td></loq<></td></loq<></td></loq<></td></loo<></td></loq<>	«	10°)		10°7- 5	<b>L</b> SOÖQ	S <loo< td=""><td>LOQ</td><td><b>₹</b>ŁÓQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.005</td></loq<></td></loq<></td></loq<></td></loq<></td></loo<>	LOQ	<b>₹</b> ŁÓQ	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.005</td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.005</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.005</td></loq<></td></loq<>	<loq< td=""><td>0.005</td></loq<>	0.005
	mean	<loq< td=""><td>- \$</td><td><u> </u></td><td></td><td><u> </u></td><td>* &lt; LO</td><td>&lt; LOO</td><td>* &lt; LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><l0q< td=""><td><loq< td=""><td>0.003</td></loq<></td></l0q<></td></loq<></td></loq<></td></loq<></td></loq<>	- \$	<u> </u>		<u> </u>	* < LO	< LOO	* < LOQ	<loq< td=""><td><loq< td=""><td><loq< td=""><td><l0q< td=""><td><loq< td=""><td>0.003</td></loq<></td></l0q<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><l0q< td=""><td><loq< td=""><td>0.003</td></loq<></td></l0q<></td></loq<></td></loq<>	<loq< td=""><td><l0q< td=""><td><loq< td=""><td>0.003</td></loq<></td></l0q<></td></loq<>	<l0q< td=""><td><loq< td=""><td>0.003</td></loq<></td></l0q<>	<loq< td=""><td>0.003</td></loq<>	0.003
DAT: days LOQ (limit ¹ average	after treatment of quantitation) of two determines	ethors	kg subplot	iner fin	s bette		ioth i		A.C.						

average of two determinations per subplot

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Table 7.1.2.2.1- 11: Residues of M-02 (AE C657188) different depths of soil at Huntlosen (Germany), values expressed as mg/kg

CM	Depth	Sub							D	AI //	P.G.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	7	~♡		O. D. O.
1			-1	0	1	5	14	30		126		270	360	\ \ <b>45</b> 0°	540	720
1		1	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><loq< td=""><td>Ç~LOQ</td><td><loq.< td=""><td>C[®]LOQ €</td><td>∌™LOQ  </td><td><loq< td=""></loq<></td></loq.<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><loq< td=""><td>Ç~LOQ</td><td><loq.< td=""><td>C[®]LOQ €</td><td>∌™LOQ  </td><td><loq< td=""></loq<></td></loq.<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><loq< td=""><td>Ç~LOQ</td><td><loq.< td=""><td>C[®]LOQ €</td><td>∌™LOQ  </td><td><loq< td=""></loq<></td></loq.<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.007</td><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><loq< td=""><td>Ç~LOQ</td><td><loq.< td=""><td>C[®]LOQ €</td><td>∌™LOQ  </td><td><loq< td=""></loq<></td></loq.<></td></loq<></td></loq<></td></loq<></td></loq<>	0.007	<loq< td=""><td><loq< td=""><td>LOQ</td><td><loq< td=""><td>Ç~LOQ</td><td><loq.< td=""><td>C[®]LOQ €</td><td>∌™LOQ  </td><td><loq< td=""></loq<></td></loq.<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>LOQ</td><td><loq< td=""><td>Ç~LOQ</td><td><loq.< td=""><td>C[®]LOQ €</td><td>∌™LOQ  </td><td><loq< td=""></loq<></td></loq.<></td></loq<></td></loq<>	LOQ	<loq< td=""><td>Ç~LOQ</td><td><loq.< td=""><td>C[®]LOQ €</td><td>∌™LOQ  </td><td><loq< td=""></loq<></td></loq.<></td></loq<>	Ç~LOQ	<loq.< td=""><td>C[®]LOQ €</td><td>∌™LOQ  </td><td><loq< td=""></loq<></td></loq.<>	C [®] LOQ €	∌™LOQ	<loq< td=""></loq<>
1	0.10	2	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.006</td><td></td><td><pre><looq**< pre=""></looq**<></pre></td><td>&lt;1600</td><td><ra>EQQ</ra></td><td>≤<u>L</u>OQ</td><td>&lt;1506</td><td>&lt;100°</td><td>&lt;1000</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.006</td><td></td><td><pre><looq**< pre=""></looq**<></pre></td><td>&lt;1600</td><td><ra>EQQ</ra></td><td>≤<u>L</u>OQ</td><td>&lt;1506</td><td>&lt;100°</td><td>&lt;1000</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.006</td><td></td><td><pre><looq**< pre=""></looq**<></pre></td><td>&lt;1600</td><td><ra>EQQ</ra></td><td>≤<u>L</u>OQ</td><td>&lt;1506</td><td>&lt;100°</td><td>&lt;1000</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.006</td><td></td><td><pre><looq**< pre=""></looq**<></pre></td><td>&lt;1600</td><td><ra>EQQ</ra></td><td>≤<u>L</u>OQ</td><td>&lt;1506</td><td>&lt;100°</td><td>&lt;1000</td><td><loq< td=""></loq<></td></loq<>	0.006		<pre><looq**< pre=""></looq**<></pre>	<1600	<ra>EQQ</ra>	≤ <u>L</u> OQ	<1506	<100°	<1000	<loq< td=""></loq<>
1	0-10	3	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.010</td><td><loq_< td=""><td>€\$LOQ</td><td>KLOQ_K</td><td>VLOQ:</td><td><b>LOQ</b></td><td><b>%</b>LOQ</td><td>*Q*\LOQ_\;</td><td>Ç[©]LOQ_®</td><td>, <loq< td=""></loq<></td></loq_<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.010</td><td><loq_< td=""><td>€\$LOQ</td><td>KLOQ_K</td><td>VLOQ:</td><td><b>LOQ</b></td><td><b>%</b>LOQ</td><td>*Q*\LOQ_\;</td><td>Ç[©]LOQ_®</td><td>, <loq< td=""></loq<></td></loq_<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.010</td><td><loq_< td=""><td>€\$LOQ</td><td>KLOQ_K</td><td>VLOQ:</td><td><b>LOQ</b></td><td><b>%</b>LOQ</td><td>*Q*\LOQ_\;</td><td>Ç[©]LOQ_®</td><td>, <loq< td=""></loq<></td></loq_<></td></loq<></td></loq<>	<loq< td=""><td>0.010</td><td><loq_< td=""><td>€\$LOQ</td><td>KLOQ_K</td><td>VLOQ:</td><td><b>LOQ</b></td><td><b>%</b>LOQ</td><td>*Q*\LOQ_\;</td><td>Ç[©]LOQ_®</td><td>, <loq< td=""></loq<></td></loq_<></td></loq<>	0.010	<loq_< td=""><td>€\$LOQ</td><td>KLOQ_K</td><td>VLOQ:</td><td><b>LOQ</b></td><td><b>%</b>LOQ</td><td>*Q*\LOQ_\;</td><td>Ç[©]LOQ_®</td><td>, <loq< td=""></loq<></td></loq_<>	€\$LOQ	KLOQ _K	VLOQ:	<b>LOQ</b>	<b>%</b> LOQ	*Q*\LOQ_\;	Ç [©] LOQ _®	, <loq< td=""></loq<>
10-20   2		mean	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td></td><td></td><td>000</td><td></td><td>$\sim$ $\sim$ $\sim$</td><td>&lt;1,000</td><td>&lt;<b>LO</b>Ø</td><td><l@@*< td=""><td>&lt;<b>LO</b>Q</td><td><loq< td=""></loq<></td></l@@*<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td></td><td></td><td>000</td><td></td><td>$\sim$ $\sim$ $\sim$</td><td>&lt;1,000</td><td>&lt;<b>LO</b>Ø</td><td><l@@*< td=""><td>&lt;<b>LO</b>Q</td><td><loq< td=""></loq<></td></l@@*<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td></td><td></td><td>000</td><td></td><td>$\sim$ $\sim$ $\sim$</td><td>&lt;1,000</td><td>&lt;<b>LO</b>Ø</td><td><l@@*< td=""><td>&lt;<b>LO</b>Q</td><td><loq< td=""></loq<></td></l@@*<></td></loq<></td></loq<>	<loq< td=""><td></td><td></td><td>000</td><td></td><td>$\sim$ $\sim$ $\sim$</td><td>&lt;1,000</td><td>&lt;<b>LO</b>Ø</td><td><l@@*< td=""><td>&lt;<b>LO</b>Q</td><td><loq< td=""></loq<></td></l@@*<></td></loq<>			000		$\sim$ $\sim$ $\sim$	<1,000	< <b>LO</b> Ø	<l@@*< td=""><td>&lt;<b>LO</b>Q</td><td><loq< td=""></loq<></td></l@@*<>	< <b>LO</b> Q	<loq< td=""></loq<>
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3	10-20	2	<loq< td=""><td>-</td><td><loq< td=""><td><loq< td=""><td>&lt;1.00Q</td><td><lqq<sup>©</lqq<sup></td><td><lqq< td=""><td><lqq< td=""><td><l@q.< td=""><td><lqq< td=""><td><loq< td=""><td>&lt;1.00</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></l@q.<></td></lqq<></td></lqq<></td></loq<></td></loq<></td></loq<>	-	<loq< td=""><td><loq< td=""><td>&lt;1.00Q</td><td><lqq<sup>©</lqq<sup></td><td><lqq< td=""><td><lqq< td=""><td><l@q.< td=""><td><lqq< td=""><td><loq< td=""><td>&lt;1.00</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></l@q.<></td></lqq<></td></lqq<></td></loq<></td></loq<>	<loq< td=""><td>&lt;1.00Q</td><td><lqq<sup>©</lqq<sup></td><td><lqq< td=""><td><lqq< td=""><td><l@q.< td=""><td><lqq< td=""><td><loq< td=""><td>&lt;1.00</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></l@q.<></td></lqq<></td></lqq<></td></loq<>	<1.00Q	<lqq<sup>©</lqq<sup>	<lqq< td=""><td><lqq< td=""><td><l@q.< td=""><td><lqq< td=""><td><loq< td=""><td>&lt;1.00</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></l@q.<></td></lqq<></td></lqq<>	<lqq< td=""><td><l@q.< td=""><td><lqq< td=""><td><loq< td=""><td>&lt;1.00</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></l@q.<></td></lqq<>	<l@q.< td=""><td><lqq< td=""><td><loq< td=""><td>&lt;1.00</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></l@q.<>	<lqq< td=""><td><loq< td=""><td>&lt;1.00</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<>	<loq< td=""><td>&lt;1.00</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<1.00	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
1	10 20	3	<loq< td=""><td>-</td><td><loq< td=""><td></td><td>- 2</td><td>%\$LOQ /</td><td>200</td><td>A -</td><td>7 12 . 91</td><td>, LOQ,</td><td>\LOQ_@</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	-	<loq< td=""><td></td><td>- 2</td><td>%\$LOQ /</td><td>200</td><td>A -</td><td>7 12 . 91</td><td>, LOQ,</td><td>\LOQ_@</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>		- 2	%\$LOQ /	200	A -	7 12 . 91	, LOQ,	\LOQ_@	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
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mean   <loq -="" <lo<="" <loq="" td=""  =""><td>20 30</td><td>3</td><td>`</td><td></td><td></td><td>PEOO 3</td><td>SEUU</td><td>© LOO</td><td>&amp; EUQ</td><td></td><td></td><td>· //</td><td>%LUQ</td><td><loq< td=""><td>`</td><td><loq< td=""></loq<></td></loq<></td></loq>	20 30	3	`			PEOO 3	SEUU	© LOO	& EUQ			· //	%LUQ	<loq< td=""><td>`</td><td><loq< td=""></loq<></td></loq<>	`	<loq< td=""></loq<>
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30-50 2		1	<loq< td=""><td>W. W.</td><td>-</td><td><b>*</b></td><td>0 -</td><td>√<b>J</b>ŁOQ į́.</td><td>O DEVOQ</td><td>© LOQ E</td><td><b>₩</b>₩ÖQ</td><td><b></b>ZDOQ</td><td>-</td><td>_</td><td>~</td><td><loq< td=""></loq<></td></loq<>	W. W.	-	<b>*</b>	0 -	√ <b>J</b> ŁOQ į́.	O DEVOQ	© LOQ E	<b>₩</b> ₩ÖQ	<b></b> ZDOQ	-	_	~	<loq< td=""></loq<>
mean < LOQ	30-50	2	<loq< td=""><td>-</td><td>,- C</td><td>/\$</td><td>- \$</td><td><loq< td=""><td>, <rd< td=""><td>&lt; LOQ</td><td>&lt; LQQ</td><td></td><td>`</td><td>`</td><td>`</td><td>`</td></rd<></td></loq<></td></loq<>	-	,- C	/\$	- \$	<loq< td=""><td>, <rd< td=""><td>&lt; LOQ</td><td>&lt; LQQ</td><td></td><td>`</td><td>`</td><td>`</td><td>`</td></rd<></td></loq<>	, <rd< td=""><td>&lt; LOQ</td><td>&lt; LQQ</td><td></td><td>`</td><td>`</td><td>`</td><td>`</td></rd<>	< LOQ	< LQQ		`	`	`	`
mean <loq< td=""><td></td><td>3</td><td><loq< td=""><td>-</td><td>305</td><td></td><td></td><td>% <b>£</b>OQ</td><td>&amp;LÖQ</td><td><b>ELOQ</b></td><td><doq< td=""><td>`</td><td>`</td><td>`</td><td>`</td><td></td></doq<></td></loq<></td></loq<>		3	<loq< td=""><td>-</td><td>305</td><td></td><td></td><td>% <b>£</b>OQ</td><td>&amp;LÖQ</td><td><b>ELOQ</b></td><td><doq< td=""><td>`</td><td>`</td><td>`</td><td>`</td><td></td></doq<></td></loq<>	-	305			% <b>£</b> OQ	&LÖQ	<b>ELOQ</b>	<doq< td=""><td>`</td><td>`</td><td>`</td><td>`</td><td></td></doq<>	`	`	`	`	
DAT: days after treatment LOQ (limit of quantitation) = 0.005 mg/kg  COR JULIA LICATION LICAT		mean	<loq< td=""><td>- \$</td><td>- 3</td><td>,</td><td>-</td><td><loq< td=""><td>* &lt; LOQ</td><td><loq\\< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><l0q< td=""><td><l0q< td=""></l0q<></td></l0q<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq\\<></td></loq<></td></loq<>	- \$	- 3	,	-	<loq< td=""><td>* &lt; LOQ</td><td><loq\\< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><l0q< td=""><td><l0q< td=""></l0q<></td></l0q<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq\\<></td></loq<>	* < LOQ	<loq\\< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><l0q< td=""><td><l0q< td=""></l0q<></td></l0q<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq\\<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><l0q< td=""><td><l0q< td=""></l0q<></td></l0q<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><l0q< td=""><td><l0q< td=""></l0q<></td></l0q<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><l0q< td=""><td><l0q< td=""></l0q<></td></l0q<></td></loq<></td></loq<>	<loq< td=""><td><l0q< td=""><td><l0q< td=""></l0q<></td></l0q<></td></loq<>	<l0q< td=""><td><l0q< td=""></l0q<></td></l0q<>	<l0q< td=""></l0q<>
	DAT: days LOQ (limit	after treatment of quantitation		ykg English English	ner tr	oner of the second										

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Table 7.1.2.2.1- 12: Residues of M-03 (AE 0608000) in different depths of soil at Huntlosen (Germany), values expressed as mg/kg

Depth	Sub							D		Par		7	~		STA OF
[cm]	plot	-1	0	1	5	14	30	60	120	180 ¹	276	360	. A50	540	720
	1	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.008</td><td>0.006</td><td>0.005</td><td>©0.011</td><td>0.018</td><td>C 0.016</td><td>0.012</td><td>LELOQ (</td><td><u>.</u> ≫ກ ∩∩7 I</td><td>0.005</td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.008</td><td>0.006</td><td>0.005</td><td>©0.011</td><td>0.018</td><td>C 0.016</td><td>0.012</td><td>LELOQ (</td><td><u>.</u> ≫ກ ∩∩7 I</td><td>0.005</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.008</td><td>0.006</td><td>0.005</td><td>©0.011</td><td>0.018</td><td>C 0.016</td><td>0.012</td><td>LELOQ (</td><td><u>.</u> ≫ກ ∩∩7 I</td><td>0.005</td></loq<></td></loq<>	<loq< td=""><td>0.008</td><td>0.006</td><td>0.005</td><td>©0.011</td><td>0.018</td><td>C 0.016</td><td>0.012</td><td>LELOQ (</td><td><u>.</u> ≫ກ ∩∩7 I</td><td>0.005</td></loq<>	0.008	0.006	0.005	©0.011	0.018	C 0.016	0.012	LELOQ (	<u>.</u> ≫ກ ∩∩7 I	0.005
0-10	2	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.006</td><td>0.006</td><td>0.006</td><td><l@q< td=""><td>0,009</td><td>0.019</td><td>0.016 0.013 0.012</td><td>0.009</td><td>400</td><td>&lt;1000 &lt;1000</td><td><loq< td=""></loq<></td></l@q<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.006</td><td>0.006</td><td>0.006</td><td><l@q< td=""><td>0,009</td><td>0.019</td><td>0.016 0.013 0.012</td><td>0.009</td><td>400</td><td>&lt;1000 &lt;1000</td><td><loq< td=""></loq<></td></l@q<></td></loq<></td></loq<>	<loq< td=""><td>0.006</td><td>0.006</td><td>0.006</td><td><l@q< td=""><td>0,009</td><td>0.019</td><td>0.016 0.013 0.012</td><td>0.009</td><td>400</td><td>&lt;1000 &lt;1000</td><td><loq< td=""></loq<></td></l@q<></td></loq<>	0.006	0.006	0.006	<l@q< td=""><td>0,009</td><td>0.019</td><td>0.016 0.013 0.012</td><td>0.009</td><td>400</td><td>&lt;1000 &lt;1000</td><td><loq< td=""></loq<></td></l@q<>	0,009	0.019	0.016 0.013 0.012	0.009	400	<1000 <1000	<loq< td=""></loq<>
0-10	3	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.008</td><td>0.012</td><td>0.006</td><td>0 1//</td><td>&amp; 0.016</td><td>\D0.012_}</td><td>©.012 _«</td><td></td><td>\Q\ZLOQ_\\</td><td>େ≪LOQ ୄ</td><td>, <loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.008</td><td>0.012</td><td>0.006</td><td>0 1//</td><td>&amp; 0.016</td><td>\D0.012_}</td><td>©.012 _«</td><td></td><td>\Q\ZLOQ_\\</td><td>େ≪LOQ ୄ</td><td>, <loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.008</td><td>0.012</td><td>0.006</td><td>0 1//</td><td>&amp; 0.016</td><td>\D0.012_}</td><td>©.012 _«</td><td></td><td>\Q\ZLOQ_\\</td><td>େ≪LOQ ୄ</td><td>, <loq< td=""></loq<></td></loq<>	0.008	0.012	0.006	0 1//	& 0.016	\D0.012_}	©.012 _«		\Q\ZLOQ_\\	େ≪LOQ ୄ	, <loq< td=""></loq<>
	mean	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.006</td><td>0.009</td><td>0.096</td><td>0.004</td><td>0.002</td><td>0.01%</td><td>0.024</td><td>0,000</td><td><l@@"< td=""><td>0.004</td><td>0.003</td></l@@"<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.006</td><td>0.009</td><td>0.096</td><td>0.004</td><td>0.002</td><td>0.01%</td><td>0.024</td><td>0,000</td><td><l@@"< td=""><td>0.004</td><td>0.003</td></l@@"<></td></loq<></td></loq<>	<loq< td=""><td>0.006</td><td>0.009</td><td>0.096</td><td>0.004</td><td>0.002</td><td>0.01%</td><td>0.024</td><td>0,000</td><td><l@@"< td=""><td>0.004</td><td>0.003</td></l@@"<></td></loq<>	0.006	0.009	0.096	0.004	0.002	0.01%	0.024	0,000	<l@@"< td=""><td>0.004</td><td>0.003</td></l@@"<>	0.004	0.003
	1	<loq< td=""><td>-</td><td><loq< td=""><td><loq< td=""><td><loq td="" «<=""><td>ZŽČQ.</td><td><b>LOQ</b></td><td>© LOQ ∂</td><td><b>≱</b>LOQ</td><td>D. LOQ</td><td>ÇÇLOQ 🛚</td><td>\$LOQ</td><td>Ç<b>©</b>ĽOQ</td><td><loq< td=""></loq<></td></loq></td></loq<></td></loq<></td></loq<>	-	<loq< td=""><td><loq< td=""><td><loq td="" «<=""><td>ZŽČQ.</td><td><b>LOQ</b></td><td>© LOQ ∂</td><td><b>≱</b>LOQ</td><td>D. LOQ</td><td>ÇÇLOQ 🛚</td><td>\$LOQ</td><td>Ç<b>©</b>ĽOQ</td><td><loq< td=""></loq<></td></loq></td></loq<></td></loq<>	<loq< td=""><td><loq td="" «<=""><td>ZŽČQ.</td><td><b>LOQ</b></td><td>© LOQ ∂</td><td><b>≱</b>LOQ</td><td>D. LOQ</td><td>ÇÇLOQ 🛚</td><td>\$LOQ</td><td>Ç<b>©</b>ĽOQ</td><td><loq< td=""></loq<></td></loq></td></loq<>	<loq td="" «<=""><td>ZŽČQ.</td><td><b>LOQ</b></td><td>© LOQ ∂</td><td><b>≱</b>LOQ</td><td>D. LOQ</td><td>ÇÇLOQ 🛚</td><td>\$LOQ</td><td>Ç<b>©</b>ĽOQ</td><td><loq< td=""></loq<></td></loq>	ZŽČQ.	<b>LOQ</b>	© LOQ ∂	<b>≱</b> LOQ	D. LOQ	ÇÇLOQ 🛚	\$LOQ	Ç <b>©</b> ĽOQ	<loq< td=""></loq<>
10-20	2	<loq< td=""><td>-</td><td><loq< td=""><td><loq< td=""><td>&lt;1.00</td><td><lqq< td=""><td><lqq»< td=""><td>  <loq< td=""><td>&lt; LØØ.</td><td><lqq< td=""><td><loq< td=""><td>&lt;1.00°</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></loq<></td></lqq»<></td></lqq<></td></loq<></td></loq<></td></loq<>	-	<loq< td=""><td><loq< td=""><td>&lt;1.00</td><td><lqq< td=""><td><lqq»< td=""><td>  <loq< td=""><td>&lt; LØØ.</td><td><lqq< td=""><td><loq< td=""><td>&lt;1.00°</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></loq<></td></lqq»<></td></lqq<></td></loq<></td></loq<>	<loq< td=""><td>&lt;1.00</td><td><lqq< td=""><td><lqq»< td=""><td>  <loq< td=""><td>&lt; LØØ.</td><td><lqq< td=""><td><loq< td=""><td>&lt;1.00°</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></loq<></td></lqq»<></td></lqq<></td></loq<>	<1.00	<lqq< td=""><td><lqq»< td=""><td>  <loq< td=""><td>&lt; LØØ.</td><td><lqq< td=""><td><loq< td=""><td>&lt;1.00°</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></loq<></td></lqq»<></td></lqq<>	<lqq»< td=""><td>  <loq< td=""><td>&lt; LØØ.</td><td><lqq< td=""><td><loq< td=""><td>&lt;1.00°</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></loq<></td></lqq»<>	<loq< td=""><td>&lt; LØØ.</td><td><lqq< td=""><td><loq< td=""><td>&lt;1.00°</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></loq<>	< LØØ.	<lqq< td=""><td><loq< td=""><td>&lt;1.00°</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<>	<loq< td=""><td>&lt;1.00°</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<1.00°	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
10-20	3	<loq< td=""><td>-</td><td><loq< td=""><td><loq< td=""><td><b>₹Ł</b>ŐQ</td><td>**\OQ /</td><td>\$LOQ</td><td><b>₹</b>ŽŐQ</td><td>&amp; Log .</td><td>\$\text{LOQ}</td><td>\\LOQ_</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	-	<loq< td=""><td><loq< td=""><td><b>₹Ł</b>ŐQ</td><td>**\OQ /</td><td>\$LOQ</td><td><b>₹</b>ŽŐQ</td><td>&amp; Log .</td><td>\$\text{LOQ}</td><td>\\LOQ_</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><b>₹Ł</b>ŐQ</td><td>**\OQ /</td><td>\$LOQ</td><td><b>₹</b>ŽŐQ</td><td>&amp; Log .</td><td>\$\text{LOQ}</td><td>\\LOQ_</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<b>₹Ł</b> ŐQ	**\OQ /	\$LOQ	<b>₹</b> ŽŐQ	& Log .	\$\text{LOQ}	\\LOQ_	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
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	1 <loq \$\frac{1}{2}\text{loq}="" -="" <="" <loq="" \\="" \frac{1}{2}\text{loq}="" td=""></loq>														
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	mean	<loq< td=""><td>- \$</td><td>- 3</td><td>· - K</td><td>-</td><td><loq< td=""><td>* &lt; LOQ</td><td><loq\\(\alpha\)< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq\\(\alpha\)<></td></loq<></td></loq<>	- \$	- 3	· - K	-	<loq< td=""><td>* &lt; LOQ</td><td><loq\\(\alpha\)< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq\\(\alpha\)<></td></loq<>	* < LOQ	<loq\\(\alpha\)< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq\\(\alpha\)<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
DAT: days	after treatment			~0 ²			101h	. 10°	a Ke						
LOQ (limit	of quantitation of two determi	n = 0.005  m	g/kg subplot	30 ^C			,		0,						
average	or two determin	mations per s	suopioi .				0°	J							
		<i>y</i>			42	) jo	) Pr	). -							
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average of two determinations per subplot



## C. Residues

Analysis of control samples showed no residues above the limit of quantification (LOQ) of 0.005 mg/kg.

The average initial concentration of fluopicolide in soil samples taken immediately after application was 0.250 mg/kg (range 0.233 to 0.271 mg/kg). This corresponds to an apparent application rate of 303 g/ha compared to the nominal application rate of 400 g/ha.

The initial dissipation of fluopicolide was rapid followed by a slower dissipation phase Residue's of fluopicolide were detected mainly in the 0-10 cm soil horizon throughout the trial. A fall other soil depths, no residues of fluopicolide were found above the LOQ.

The concentration of M-01 (AE C653711) in the soil profile varied with the degradation rate of fluopicolide. During the summer months when the degradation rate of the parent compound was relatively rapid, M-01 concentrations increased steadily reaching a peak at DAT-120 and declined thereafter as the degradation rate of fluopicolide slowed. The metabolite M-01 was detected in 0-10 cm, 10-20 cm, and once in 20-30 cm soil horizons. The maximum residue level in the 10 cm horizon was observed 120 days after application at 0.018 Mg/kg, mean of three replicates). The maximum residues in the underlying 10-20 cm and 20-30 cm horizon were detected at 270 and 360 days after application at 0.013 and 0.006 mg/kg (mean values), respectively. In the 30-50 cm horizon residue levels were below the LOQ except for one replicate at 720 days in which AE C63711 residues were detected at the LOQ (0.005 mg/kg. In the overlying horizons at 720 days virtually no residues of AE C653711 were detected.

M-02 (AE C657188) was very rapidly degraded in soft. The metabolite was only detected once in the 0-10 cm depth soil samples taken at 14 days after application at concentration of 0.008 mg/kg (mean of three replicates). No other residues of M-02 were detected throughout the trial M-03 was only found in soil samples from the 0-10 cm horizon reaching maximum of 0.016 mg/kg at 180 days after application before steadily declining to 0.003 mg/kg at the end of the study. This concentration (0.016 mg/kg) represents the maximum formation of M-03 in terrestrial field dissipation studies (6.1%). The degradation rate of M-03 in laboratory studies has been shown to be strongly pH dependant with biphasic degradation observed in strongly acidic soils.

Based on these indines soil samples from the deeper soil layers 50 to 90 cm) taken in the second year were not analysed.

## D. Kinetic Analysis

The half-life of floopicolide included in the report was calculated using a bi-phasic first-order kinetic model (Hockey Stick) at 121. Fdays, The DT₅₀ was 892.8 days and the r² was 0.959. The experimental data has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the oftware King JI (version J1). Full details of the evaluation are provided in the summary for Document KCA 7.12.2.1/24. The resulting best-fit DT₅₀ values for trigger endpoints are summarised below in Table 7.12.2.1-13. Besofit kinetics are highlighted in bold.

Table 7.1.2.2.1-13: Degradation rate of floopicolide under field conditions (DT₅₀ values for trigger endpoints)

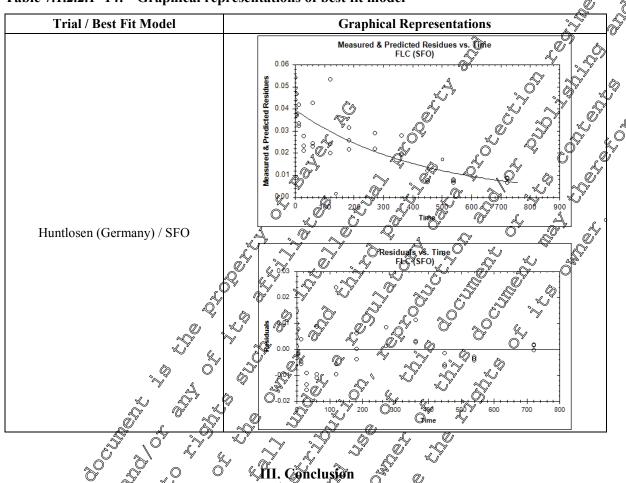
-	* *		~ ~ ~ ·							
	SON, G	Kinede model		Pavameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT90 [days]
Ī	Huntlose	<b>₹</b> SFQ ₹	<b>0</b> .03948	k 0.002389	16.5	1.13E-07	0.001649	0.003	290.2	963.9
	Germany), A 7.1.22.1/02, (2003)	FOMC	0.03948	α 2442 β 1.02E+06	17.1	n.r. n.r.	2442 1.02E+06	2442 1.02E+06	290.2	964.2

Best fit model highlighted in bold



A graphical representation of the final kinetic fit is shown below.

Table 7.1.2.2.1- 14: Graphical representations of best fit model

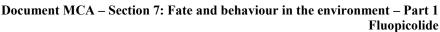


Following a single application of fluoricolide at a nominal application rate of 400 g/ha to bare soil in summer 2000, the decline of fluoricolide and the formation and decline of its metabolites M-01, M-02 and M-03 was followed for up to 720 days after application at a trial site in Huntlosen, Germany. A reevaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit SFO unknormalised LOT 50 value of 290.2 days and DT 90 value of 963.9 days for fluoricolide.

The metabolite M-01 was detected in 0-00 cm. W0-20 cm, and once in 20-30 cm soil depths. M-02 was only detected once at 14 days in the 0-10 cm soil horizon at 0.008 mg/kg while M-03 were found in the 0-10 cm soil horizon throughout the study from 5 days after application.

# Assessment and conclusion by appleant:

The study inconsidered which to assess the dissipation of fluopicolide under field conditions in soil. The study meets the requirements to assess field persistence of fluopicolide and its metabolites, and to derive parent soil DegT_{50matrix} values for legacy field studies as defined by EFSA (2014). It is not suitable for assessing metabolite soil DegT_{50matrix} values as the design did not minimise soil surface processes immediately after application as required by EFSA (2014).





Data Point:	KCA 7.1.2.2.1/03
Report Author:	
Report Year:	2004
Report Title:	Field soil dissipation of AE C638206 following a single application to bare soil
_	plots at 1 location in Spain, 2001
Report No:	C034123
Document No:	<u>M-234424-01-1</u>
Guideline(s) followed in	BBA: Part IV, 4-1; EU (=EEC): Anonymus, (1997); IVA: Beutel, (1993);
study:	SETAC: Lynch, (1995)
Deviations from current	Yes. Report meets the requirement for field persistence criteria and
test guideline:	ecotoxicological risk assessment as required by \$\times 283/2013 apply the requirements
	for assessing parent soil DegT50matrix values@srequired by EFSA (3014) fer
	legacy field studies. Report des not meet the requirement for assessing metabolito
	soil DegT50matrix values is required by EFSA (2014) footfield stadies.
Previous evaluation:	yes, evaluated and accepted
	DAR (2005) & & & & & & & & & & & & & & & & & & &
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes O V V V V V V

## **Executive Summary**

Soil dissipation of fluopicolide was studied after application as a suspo-emulsion formulation containing 90.1 g/L to bare soil plots under field conditions for 708 days at the trial site in Alboraya, Valencia, Eastern Spain.

A nominal application rate was 400 g fluopicolide da was applied in July 2001 of

The initial dissipation of fluoricotive was rapid followed by a slower dissipation phase. Residues of fluoricolide were setected mainly in the 0-10 cm son horizon throughout the trial. Low residues were detected in the 10-20 cm horizon at concentrations ranging from \$002.50 0.018 mg/kg (mean values). In the deeper tepths in residues of Ouopiconde were found above the LOQ.

The concentration of M-01 (AE 653741) in soil increased rapidly in the first month after application and then remained fairly constant arroughout the study due to its constant formation from the degradation of parent before declining at the end of the study period. M-01 was detected in 0-10 cm soil depth and at low levels in 10-20 cm depth from 1.28 days after application (November 2001). The maximum residue levels in the 0.10 cm horizon was observed 36 days after application at 0.021 mg/kg (mean of four replicates). The maximum residue in the paderlying 10-20 cm horizon was detected in January 2003 120 days after application at 0.009 mg/kg (mean value). In the 20-30 cm horizon and deeper soil layers residue levels were below the LOQ 0.005 mg/kg).

M-02 (ACC C657188) was detected at timepoints up to 247 days after application in the 0-10 cm layer at a maximum concentration of 0.017 mg/kg/mean value) 36 days after application. No residues of M-02 were detected in deeper said depits above the SOQ.

No residues of M-03 (AE 0668000) were found above the LOQ throughout the study. The degradation of M-03 is known to be placement and is very rapidly degraded in neutral to alkaline soils such as the soil at the Valencia trol site.

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit DFOP un-normalised  $DT_{50}$  value of 53.9 days and  $DT_{50}$  days for flaopicolide



## I. Materials and Methods

### Materials

### **Test Item**

Fluopicolide formulated as liquid suspo-emulsion (90.1 g/L fluopicolide)

Certificate of Analysis: AGF2001-0174-01

Lot No: OP210510

#### **Trial Location & Soil** 2.

A single site was selected near the village of Alboraya, Valencia, Eastern Spain (see Table 1.1.2.2) 15). The soil at the test site was a loamy sand (Den classification) which was relatively unform with depth. The field soil dissipation trial consisted of four treated plots, each measuring metres by 20 metres (240 m² in total), and an untreated plot (360m²) which served as a control.

Table 7.1.2.2.1-15: Location, site description and climatic data of test ofte

	Conts S	Alboy	aya, Valencia,	Spain O
Characteristic	Units 5	Horizon 1	Horizon 2	Horizon 3
Sampling depth		0 - 200	20 - 50	°>√ 50 - 90
Sampling date		√3 July <b>Q</b> 001	3 Jul 2001 %	/ 3 July 2001
оН	GaCl ₂	, 47.3	<i>≈</i> 7.4	7.6
Cation exchange capacity, 👰	O goval/100 g	11.5	11.0	12.9
Γotal organic carbon (TOC)		1287	~ 1 <u>~</u> 33	1.58
Biomass & O	mg_C/100 (C)	A (2) X v	, n.d.	n.d.
Soil Density		(No.48) (No.48	🧖 1410	1300
Particle size distribution (DIN)			Ş	
Clay < 0.002 mm			75.0	60.1
Γotal silt 0.002 - 0.063 mm		16.14	16.2	23.4
Fotal sand 0.063 - 2 mm		10.1	8.8	16.5
Γextural√class ♀ ♀		Loamy sand	Loamy sand	Loamy san
Water Holding Capacity	Wol % at 1/10 bar (pF2)	24.6	24.2	n.d.
	Vol at 15 Var (pF4.2)	10.6	11.2	n.d.
Clay < 0.002 part  Fotal silt 0.002 - 0.003 mm  Fotal sand 0.063 - 2 mm  Fextural class  Water Holding Capacity  d. = not determined				



## **Study Design**

## **Experimental Conditions**

Fluopicolide was applied once as a suspo-emulsion containing 90.1 g/L at a nominal application rate of 400 g/ha on 04 July 2001. The nominal application rate was confirmed by measuring the investor formulation remaining in the spray tank to calibrate the amount applied (423 g/kg).

Throughout the study no cultivation was carried out and the plots were maintained as bare plots periodic application of the herbicide glyphosate to control weeds.

The weather conditions and the soil hydrology were monitored on site. The rainfall, air temperature, will temperature, relative air humidity, global radiation and the soil moisture content a depth of to cm were measured continuously. The total rainfall at the trial site amounted to 156 mm in July to December 2001, 503 mm in 2002 and during the months January to June 2003 to 192 mm. The corresponding long term average rainfall for this region over these two periods amounted to 240 mm in 2001, 403 mm in 2002 and 164 mm in 2003. Supplemental irrigation was applied to the soil sufface of 2001

Soil dissipation of fluopicolide was studied

#### **Sampling** 2.

Soil cores were taken to a depth of 50 cm during the first two weeks, to a depth of 50 cm at time-points up to two months and to a depth of 90 cm during the remoder of the study (2 months). At each sampling date 5 samples from such plot were taken 60 cores in to al).

Samples were taken, 1 day before application, directly after application (day 6) as well as 1, 3, 14, 36, 65, 128, 194, 247, 315, 37\$\, 460, \$\, 53 and 708 days after treatment (DAT)

The soil cores were frozen immediately after Campling. The soil samples from the same horizon of each subplot were thawed and blended in Germany and a subsample dispatched frozen to the analytical laboratory in France. The sample owere then stored at 78 °C, antil required for analysis.

#### Analytical Procedures

The analytical method AR 265 01 was used to determine levels of fluopicolide and its metabolites M-01 (AE 653711), M 02 (AE 657188) and M-03 (AE 6608000 referred to in the report as hydroxy RPA 427967). Soil samples of 20 g wee extracted twice a sambient temperature for 5 minutes by mechanical agitation using acetonitrile water (70/30, 9/v) acidified with 0.1% formic acid. After each extraction step, extract and soil were separated by contribugation and decantation. The soil extracts were combined and fuluted with feidified water to result in a final solvent of acetonitrile/water (30/70) with 0.1% formic acid. Quantification was capried out by LC-MS/MS using external standardisation for the parent compound and its metabolites. The limit of quantification (LOQ) was 0.005 mg/kg for each analyte.

During analysis of the dissipation samples of the current study, concurrent recovery samples were prepared freshly by fortification of control camples with test item fluopicolide and reference items M-01, M-02 and M-03 at levels of COQ and 100 x LOQ and processed in parallel to the dissipation samples. The mean recoveries of LOQ and 100 x LOQ were 92 and 94% (RSD 9.1 and 7.2%) for fluopicolide, 96 and 100% (RSD 10.3 and 9.0%) for M-01, 85 and 98% (RSD 11.1 and 10.2%) for M-02 and 82 and 77% (RSD 13.1 and 14.2%) for M-03.

The validation of the extraction was carried out during the study, with samples taken immediately after the application of the test substance.



## **Determination of degradation kinetics**

The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. DT₅₀ and DT₉₀ values for the degradation of fluopicolide have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1). Full defails are provided in Document KCA 7.1.2.2.1/24. A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints, an initial comparison was performed for each site between the SFO and FOMC fits for fluoricolide. The comparison of the SFQ and FOMC for suggested by phasic declare, and the DFOP model was therefore also fitted. For the Valencia site OFOP provided the best fit of the residues, with the lowest  $\chi^2$  err% value, and was therefore accepted.

# II. Results and Discussion

## **Analytical Methodology:**

Full details and acceptable validation data to support this method are presented in Document M A 4, Section 4.1.2. The method complies with the EU regulatory requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of fluopic of the act its pretabolites M-01 (AE C653711), M-02 (AE C657185) and M-03 (AE 0608000) is soil completely HPEC-MS/MS.

#### В. Data

The results for fluopicolide and its metabolites M-01 (AE C653201) and M-02 (AE C657188) are The results for fluopicolide and its metabolites M-Q1 (AE C653711) and M-Q2 (AE C657188) are presented below as soil residue conceptrations for a fig/kg dry weight basis) for each of the treated plots in Table 7.1.2.2.1- 16, to Table 7.1.2.2.1, 18. No residues of M-Q3 (AE 0608000) were detected throughout the trial presented below as soil residue concentrations on a rog/kg by weight basis) for each of the treated plots

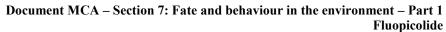




Table 7.1.2.2.1- 16: Residues of fluopicolide in different depths of soil at Valencia (Spain), values expressed as mg/kg

Depth	Sub								DAT	0,\$	4	25°		<b>△</b>	, Ó	
[cm]	plot	-1	0	1	3	14	36	65	128	194	247	315	373 C	460	553	708
	1	<loq< td=""><td>0.339</td><td>0.255</td><td>0.307</td><td>0.268</td><td>0.282</td><td>0.073</td><td>£ 0.083</td><td>0.102</td><td><b>Q</b>.125</td><td>0.141</td><td>© 073</td><td>~ B.BÖÖ</td><td><b>6</b>050</td><td>0.040</td></loq<>	0.339	0.255	0.307	0.268	0.282	0.073	£ 0.083	0.102	<b>Q</b> .125	0.141	© 073	~ B.BÖÖ	<b>6</b> 050	0.040
	2	<loq< td=""><td>0.446</td><td>0.220</td><td>0.237</td><td>0.240</td><td>0.166</td><td>0.099</td><td>0.087\$</td><td>° 0.084</td><td>0.139\$</td><td>° 0.1050</td><td>♥ 0.074<b></b>%</td><td>0.071</td><td>0.054</td><td>0.037</td></loq<>	0.446	0.220	0.237	0.240	0.166	0.099	0.087\$	° 0.084	0.139\$	° 0.1050	♥ 0.074 <b></b> %	0.071	0.054	0.037
0-10	3	<loq< td=""><td>0.304</td><td>0.236</td><td>0.198</td><td>0.228</td><td>0.187</td><td><b>~0</b>.190</td><td><b>0</b>:099</td><td>Ø£132</td><td>20,¥61</td><td>0.105 0.984</td><td>0.053</td><td>19(1)43</td><td>W.1933</td><td>0.050</td></loq<>	0.304	0.236	0.198	0.228	0.187	<b>~0</b> .190	<b>0</b> :099	Ø£132	20,¥61	0.105 0.984	0.053	19(1)43	W.1933	0.050
	4	<loq< td=""><td>0.245</td><td>0.303</td><td>0.371</td><td>0.213</td><td>0.123</td><td>0.129</td><td>0.109</td><td>0.1020</td><td>0.132</td><td>0.082</td><td>0.055</td><td>0.051</td><td>0.038</td><td>0.035</td></loq<>	0.245	0.303	0.371	0.213	0.123	0.129	0.109	0.1020	0.132	0.082	0.055	0.051	0.038	0.035
	mean	<loq< th=""><th>0.334</th><th>0.254</th><th>0.278</th><th>0.237</th><th><b>Q.191</b></th><th><b>0</b>123</th><th><b>*0.</b>695</th><th><b>2010</b>5</th><th>0.<del>13</del>9</th><th>A. 103</th><th>Q.064</th><th>0:054</th><th>0.049</th><th>0.041</th></loq<>	0.334	0.254	0.278	0.237	<b>Q.191</b>	<b>0</b> 123	<b>*0.</b> 695	<b>2010</b> 5	0. <del>13</del> 9	A. 103	Q.064	0:054	0.049	0.041
	1	<loq< td=""><td>0.009</td><td>0.008</td><td>0.024</td><td>0.010</td><td><rb></rb>LQG6</td><td><lqq®< td=""><td><loq\\< td=""><td>&lt; LOQ</td><td><pre>LOO</pre></td><td>&gt; <loq< td=""><td><loq *<="" td=""><td>LOQ</td><td>0.007</td><td><loq< td=""></loq<></td></loq></td></loq<></td></loq\\<></td></lqq®<></td></loq<>	0.009	0.008	0.024	0.010	<rb></rb> LQG6	<lqq®< td=""><td><loq\\< td=""><td>&lt; LOQ</td><td><pre>LOO</pre></td><td>&gt; <loq< td=""><td><loq *<="" td=""><td>LOQ</td><td>0.007</td><td><loq< td=""></loq<></td></loq></td></loq<></td></loq\\<></td></lqq®<>	<loq\\< td=""><td>&lt; LOQ</td><td><pre>LOO</pre></td><td>&gt; <loq< td=""><td><loq *<="" td=""><td>LOQ</td><td>0.007</td><td><loq< td=""></loq<></td></loq></td></loq<></td></loq\\<>	< LOQ	<pre>LOO</pre>	> <loq< td=""><td><loq *<="" td=""><td>LOQ</td><td>0.007</td><td><loq< td=""></loq<></td></loq></td></loq<>	<loq *<="" td=""><td>LOQ</td><td>0.007</td><td><loq< td=""></loq<></td></loq>	LOQ	0.007	<loq< td=""></loq<>
	2	<loq< td=""><td>0.008</td><td>0.007</td><td>0.012</td><td>&amp;LŎQ</td><td>&lt;ÊOQ</td><td>જા∳ઉQ</td><td>0.009 <loq< td=""><td><b> ® ® ®</b></td><td>E COO</td><td>0€907 ≥©<loo≪< td=""><td><i>≨[</i>390]Q</td><td><loq< td=""><td>0.016</td><td><loq< td=""></loq<></td></loq<></td></loo≪<></td></loq<></td></loq<>	0.008	0.007	0.012	&LŎQ	<ÊOQ	જા∳ઉQ	0.009 <loq< td=""><td><b> ® ® ®</b></td><td>E COO</td><td>0€907 ≥©<loo≪< td=""><td><i>≨[</i>390]Q</td><td><loq< td=""><td>0.016</td><td><loq< td=""></loq<></td></loq<></td></loo≪<></td></loq<>	<b> ® ® ®</b>	E COO	0€907 ≥© <loo≪< td=""><td><i>≨[</i>390]Q</td><td><loq< td=""><td>0.016</td><td><loq< td=""></loq<></td></loq<></td></loo≪<>	<i>≨[</i> 390]Q	<loq< td=""><td>0.016</td><td><loq< td=""></loq<></td></loq<>	0.016	<loq< td=""></loq<>
10-20	3	<loq< td=""><td>0.008</td><td>0.009</td><td>0.017</td><td><lqq<sup>©</lqq<sup></td><td>&lt; LOO</td><td>► <loq®< td=""><td><loq6< td=""><td>_\LOQ\\</td><td>0.008</td><td>LOQ</td><td><loq @<="" td=""><td>LOQ</td><td>0.012</td><td><loq< td=""></loq<></td></loq></td></loq6<></td></loq®<></td></loq<>	0.008	0.009	0.017	<lqq<sup>©</lqq<sup>	< LOO	► <loq®< td=""><td><loq6< td=""><td>_\LOQ\\</td><td>0.008</td><td>LOQ</td><td><loq @<="" td=""><td>LOQ</td><td>0.012</td><td><loq< td=""></loq<></td></loq></td></loq6<></td></loq®<>	<loq6< td=""><td>_\LOQ\\</td><td>0.008</td><td>LOQ</td><td><loq @<="" td=""><td>LOQ</td><td>0.012</td><td><loq< td=""></loq<></td></loq></td></loq6<>	_\LOQ\\	0.008	LOQ	<loq @<="" td=""><td>LOQ</td><td>0.012</td><td><loq< td=""></loq<></td></loq>	LOQ	0.012	<loq< td=""></loq<>
	4	<loq< td=""><td><loq< td=""><td>0.011</td><td><b>®</b>.019</td><td><b>2000</b>8</td><td>_ &lt;<b>£</b>OQ</td><td><b>A</b>OQ</td><td>0.\$23</td><td>SOO</td><td>SICO Q</td><td>[®] <del>{</del>¶<b>©</b>Q</td><td><pqq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></pqq<></td></loq<></td></loq<>	<loq< td=""><td>0.011</td><td><b>®</b>.019</td><td><b>2000</b>8</td><td>_ &lt;<b>£</b>OQ</td><td><b>A</b>OQ</td><td>0.\$23</td><td>SOO</td><td>SICO Q</td><td>[®] <del>{</del>¶<b>©</b>Q</td><td><pqq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></pqq<></td></loq<>	0.011	<b>®</b> .019	<b>2000</b> 8	_ < <b>£</b> OQ	<b>A</b> OQ	0.\$23	SOO	SICO Q	[®] <del>{</del> ¶ <b>©</b> Q	<pqq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></pqq<>	<loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<>	0.007	<loq< td=""></loq<>
	mean	<loq< th=""><th>0.006</th><th>0.009</th><th>0.018</th><th>0.005</th><th><loq< th=""><th><loq< th=""><th>$^{\odot}$0.0081$\!\!\!$</th><th><loq< th=""><th>$\bigcirc_{0.002}^{\scriptscriptstyle 1}$</th><th>0.0021</th><th>\$<loq< th=""><th><loq< th=""><th>0.011</th><th><loq< th=""></loq<></th></loq<></th></loq<></th></loq<></th></loq<></th></loq<></th></loq<>	0.006	0.009	0.018	0.005	<loq< th=""><th><loq< th=""><th>$^{\odot}$0.0081$\!\!\!$</th><th><loq< th=""><th>$\bigcirc_{0.002}^{\scriptscriptstyle 1}$</th><th>0.0021</th><th>\$<loq< th=""><th><loq< th=""><th>0.011</th><th><loq< th=""></loq<></th></loq<></th></loq<></th></loq<></th></loq<></th></loq<>	<loq< th=""><th>$^{\odot}$0.0081$\!\!\!$</th><th><loq< th=""><th>$\bigcirc_{0.002}^{\scriptscriptstyle 1}$</th><th>0.0021</th><th>\$<loq< th=""><th><loq< th=""><th>0.011</th><th><loq< th=""></loq<></th></loq<></th></loq<></th></loq<></th></loq<>	$^{\odot}$ 0.008 1 $\!\!\!$	<loq< th=""><th>$\bigcirc_{0.002}^{\scriptscriptstyle 1}$</th><th>0.0021</th><th>\$<loq< th=""><th><loq< th=""><th>0.011</th><th><loq< th=""></loq<></th></loq<></th></loq<></th></loq<>	$\bigcirc_{0.002}^{\scriptscriptstyle 1}$	0.0021	\$ <loq< th=""><th><loq< th=""><th>0.011</th><th><loq< th=""></loq<></th></loq<></th></loq<>	<loq< th=""><th>0.011</th><th><loq< th=""></loq<></th></loq<>	0.011	<loq< th=""></loq<>
	1	<loq< td=""><td><loq< td=""><td><b>∂</b>ŁOQ</td><td>&amp; doo</td><td>, SIOQ</td><td><b>√©</b>OQ</td><td>LOQ LOQ</td><td>%LOQ <loq< td=""><td>~¶,®Q</td><td>ŞLΦQ ≫<loq< td=""><td>_≸LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><b>∂</b>ŁOQ</td><td>&amp; doo</td><td>, SIOQ</td><td><b>√©</b>OQ</td><td>LOQ LOQ</td><td>%LOQ <loq< td=""><td>~¶,®Q</td><td>ŞLΦQ ≫<loq< td=""><td>_≸LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<b>∂</b> ŁOQ	& doo	, SIOQ	<b>√©</b> OQ	LOQ LOQ	%LOQ <loq< td=""><td>~¶,®Q</td><td>ŞLΦQ ≫<loq< td=""><td>_≸LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	~¶,®Q	ŞLΦQ ≫ <loq< td=""><td>_≸LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	_≸ LOQ	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	2	<loq< td=""><td><loo \$<="" td=""><td><loq®< td=""><td>~ ~ (\^)</td><td>SCLQQ *</td><td>LQQ</td><td>LOQ.</td><td></td><td>LOQ</td><td>⊳≼LOQ</td><td>Q LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq®<></td></loo></td></loq<>	<loo \$<="" td=""><td><loq®< td=""><td>~ ~ (\^)</td><td>SCLQQ *</td><td>LQQ</td><td>LOQ.</td><td></td><td>LOQ</td><td>⊳≼LOQ</td><td>Q LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq®<></td></loo>	<loq®< td=""><td>~ ~ (\^)</td><td>SCLQQ *</td><td>LQQ</td><td>LOQ.</td><td></td><td>LOQ</td><td>⊳≼LOQ</td><td>Q LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq®<>	~ ~ (\^)	SCLQQ *	LQQ	LOQ.		LOQ	⊳≼LOQ	Q LOQ	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
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## Document MCA – Section 7: Fate and behaviour in the environment – Part 1 Fluopicolide

Depth	Sub								DAT	Ĉa		9		49	_T.T.T.	<u> </u>
[cm]	plot	-1	0	1	3	14	36	65	128	194	247	315	373	460	553	708
	1	<loq< td=""><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td><loq_(< td=""><td>⊵≹LOQ</td><td><loq_(< td=""><td>LOQ</td><td><loq_< td=""><td>rs-LOQ,</td><td>⊙[©]n.a.</td><td>n.a.</td></loq_<></td></loq_(<></td></loq_(<></td></loq<>	-	-	-	-	-	-	<loq_(< td=""><td>⊵≹LOQ</td><td><loq_(< td=""><td>LOQ</td><td><loq_< td=""><td>rs-LOQ,</td><td>⊙[©]n.a.</td><td>n.a.</td></loq_<></td></loq_(<></td></loq_(<>	⊵≹LOQ	<loq_(< td=""><td>LOQ</td><td><loq_< td=""><td>rs-LOQ,</td><td>⊙[©]n.a.</td><td>n.a.</td></loq_<></td></loq_(<>	LOQ	<loq_< td=""><td>rs-LOQ,</td><td>⊙[©]n.a.</td><td>n.a.</td></loq_<>	rs-LOQ,	⊙ [©] n.a.	n.a.
	2	<loq< td=""><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>&lt; K00/Q1 1</td><td><loq< td=""><td>&lt;1,000)</td><td><loq< td=""><td>&lt; FO</td><td><rp><rp><rp></rp></rp></rp></td><td>n.a.</td><td>n.a.</td></loq<></td></loq<></td></loq<>	-	-	-	-	-	-	< K00/Q1 1	<loq< td=""><td>&lt;1,000)</td><td><loq< td=""><td>&lt; FO</td><td><rp><rp><rp></rp></rp></rp></td><td>n.a.</td><td>n.a.</td></loq<></td></loq<>	<1,000)	<loq< td=""><td>&lt; FO</td><td><rp><rp><rp></rp></rp></rp></td><td>n.a.</td><td>n.a.</td></loq<>	< FO	<rp><rp><rp></rp></rp></rp>	n.a.	n.a.
70-90	3	<loq< td=""><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>- (</td><td>LOQ</td><td>。<loq< td=""><td>\$LOQ</td><td><loq td="" ×<=""><td>&amp;LOQ_</td><td>ZŽČQ</td><td>₩a.</td><td>n.a.</td></loq></td></loq<></td></loq<>	-	-	-	-	-	- (	LOQ	。 <loq< td=""><td>\$LOQ</td><td><loq td="" ×<=""><td>&amp;LOQ_</td><td>ZŽČQ</td><td>₩a.</td><td>n.a.</td></loq></td></loq<>	\$LOQ	<loq td="" ×<=""><td>&amp;LOQ_</td><td>ZŽČQ</td><td>₩a.</td><td>n.a.</td></loq>	&LOQ_	ZŽČQ	₩a.	n.a.
	4	<loq< td=""><td>-</td><td>-</td><td>-</td><td>ı</td><td>-</td><td></td><td>&lt;1000</td><td><lqq< td=""><td>&lt;1000</td><td><lqq< td=""><td>&lt; LQQ⁰⁰⁰</td><td><lq@< td=""><td>n.a.</td><td>n.a.</td></lq@<></td></lqq<></td></lqq<></td></loq<>	-	-	-	ı	-		<1000	<lqq< td=""><td>&lt;1000</td><td><lqq< td=""><td>&lt; LQQ⁰⁰⁰</td><td><lq@< td=""><td>n.a.</td><td>n.a.</td></lq@<></td></lqq<></td></lqq<>	<1000	<lqq< td=""><td>&lt; LQQ⁰⁰⁰</td><td><lq@< td=""><td>n.a.</td><td>n.a.</td></lq@<></td></lqq<>	< LQQ ⁰⁰⁰	<lq@< td=""><td>n.a.</td><td>n.a.</td></lq@<>	n.a.	n.a.
	mean	<loq< td=""><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>- , d</td><td>Log</td><td><u>"</u>ĜĽoQ_"</td><td>Ç≹LÖQ_</td><td><loq< td=""><td>_⊃%LŐQ</td><td>, Stoq</td><td>Ja.a.</td><td>n.a.</td></loq<></td></loq<>	-	-	-	-	-	- , d	Log	<u>"</u> ĜĽoQ _"	Ç≹LÖQ_	<loq< td=""><td>_⊃%LŐQ</td><td>, Stoq</td><td>Ja.a.</td><td>n.a.</td></loq<>	_⊃ %LŐQ	, Stoq	Ja.a.	n.a.

DAT: days after treatment
LOQ (limit of quantitation) = 0.005 mg/kg, n.a. = not analysed, 1 Replicate value LOQ

Table 7.1.2.2.1- 17: Residues of M-01 (AE C653711) in different depths of soil at Valencia (Spain), values expressed as mg/kg

				de		92 p	<u> </u>		● D A T	<del></del>	<u> </u>	710	-Ola .			
Depth	Sub		ı		PR.		, S	17 P.	<b>⊘DAT</b>	. O >	9000	4 Dr.	<u> </u>	T	ı	1
[cm]	plot	-1	0	ZO CO	30		\$ 36	68	128	194	240,0	315	373	460	553	708
	1	<loq< td=""><td><loq td="" ₡<=""><td>0.005</td><td>0.013</td><td></td><td></td><td></td><td></td><td><b>6.012</b></td><td><b>\$9</b>.020</td><td>©<b>0</b>:011</td><td>0.014</td><td>0.015</td><td>0.015</td><td>0.009</td></loq></td></loq<>	<loq td="" ₡<=""><td>0.005</td><td>0.013</td><td></td><td></td><td></td><td></td><td><b>6.012</b></td><td><b>\$9</b>.020</td><td>©<b>0</b>:011</td><td>0.014</td><td>0.015</td><td>0.015</td><td>0.009</td></loq>	0.005	0.013					<b>6.012</b>	<b>\$9</b> .020	© <b>0</b> :011	0.014	0.015	0.015	0.009
	2	<loq< td=""><td>&lt;1000</td><td><loq< td=""><td>0.607</td><td>0.018</td><td>0.018</td><td>0.00</td><td>0.020</td><td>0.000</td><td>0.020</td><td>0.009</td><td>0.015</td><td>0.020</td><td>0.015</td><td>0.009</td></loq<></td></loq<>	<1000	<loq< td=""><td>0.607</td><td>0.018</td><td>0.018</td><td>0.00</td><td>0.020</td><td>0.000</td><td>0.020</td><td>0.009</td><td>0.015</td><td>0.020</td><td>0.015</td><td>0.009</td></loq<>	0.607	0.018	0.018	0.00	0.020	0.000	0.020	0.009	0.015	0.020	0.015	0.009
0-10	3	<loq< td=""><td><loq< td=""><td>0.006</td><td>0.008</td><td>\$0.020</td><td><b>©</b>.015₀.</td><td>© 0.023 j</td><td><b>©</b>.015</td><td>©.008 s</td><td><i>ര</i>ൂന്17</td><td>0.010</td><td>0.012</td><td>0.011</td><td>0.016</td><td>0.012</td></loq<></td></loq<>	<loq< td=""><td>0.006</td><td>0.008</td><td>\$0.020</td><td><b>©</b>.015₀.</td><td>© 0.023 j</td><td><b>©</b>.015</td><td>©.008 s</td><td><i>ര</i>ൂന്17</td><td>0.010</td><td>0.012</td><td>0.011</td><td>0.016</td><td>0.012</td></loq<>	0.006	0.008	\$0.020	<b>©</b> .015 ₀ .	© 0.023 j	<b>©</b> .015	©.008 s	<i>ര</i> ൂന്17	0.010	0.012	0.011	0.016	0.012
	4	<loq< td=""><td><loq< td=""><td>6.000 6.000</td><td>0.63</td><td>0.01d</td><td>0.029 0.018 0.015 0.022</td><td>0.021</td><td>0.018</td><td><loq<sup>©</loq<sup></td><td>0.021</td><td>0.012</td><td>0.013</td><td>0.012</td><td>0.011</td><td>0.008</td></loq<></td></loq<>	<loq< td=""><td>6.000 6.000</td><td>0.63</td><td>0.01d</td><td>0.029 0.018 0.015 0.022</td><td>0.021</td><td>0.018</td><td><loq<sup>©</loq<sup></td><td>0.021</td><td>0.012</td><td>0.013</td><td>0.012</td><td>0.011</td><td>0.008</td></loq<>	6.000 6.000	0.63	0.01d	0.029 0.018 0.015 0.022	0.021	0.018	<loq<sup>©</loq<sup>	0.021	0.012	0.013	0.012	0.011	0.008
	mean	<loq< td=""><td></td><td>© 0.005</td><td><b>√0.011</b> _≥</td><td>1. 0.017</td><td>0.021</td><td>-080.01)</td><td><b>©.</b>016</td><td><b>9.007</b></td><td>0.020</td><td>0.011</td><td>0.014</td><td>0.015</td><td>0.014</td><td>0.010</td></loq<>		© 0.005	<b>√0.011</b> _≥	1. 0.017	0.021	-080.01)	<b>©.</b> 016	<b>9.007</b>	0.020	0.011	0.014	0.015	0.014	0.010
	1	<loq< td=""><td>&lt;1500</td><td><loq< td=""><td>&lt;1.00°</td><td><loq <loq <loq< td=""><td><loq< td=""><td><lqq< td=""><td><lo@< td=""><td>0.009</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></lo@<></td></lqq<></td></loq<></td></loq<></loq </loq </td></loq<></td></loq<>	<1500	<loq< td=""><td>&lt;1.00°</td><td><loq <loq <loq< td=""><td><loq< td=""><td><lqq< td=""><td><lo@< td=""><td>0.009</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></lo@<></td></lqq<></td></loq<></td></loq<></loq </loq </td></loq<>	<1.00°	<loq <loq <loq< td=""><td><loq< td=""><td><lqq< td=""><td><lo@< td=""><td>0.009</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></lo@<></td></lqq<></td></loq<></td></loq<></loq </loq 	<loq< td=""><td><lqq< td=""><td><lo@< td=""><td>0.009</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></lo@<></td></lqq<></td></loq<>	<lqq< td=""><td><lo@< td=""><td>0.009</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></lo@<></td></lqq<>	<lo@< td=""><td>0.009</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></lo@<>	0.009	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<>	0.007	<loq< td=""></loq<>
	2	<loq< td=""><td>LOQ</td><td>CLOQ</td><td>ZVLÖQ,</td><td>LOQ</td><td><b>S</b>LOQ</td><td><loq< td=""><td><b>10.009</b></td><td><loq< td=""><td><loq< td=""><td>0.008</td><td>0.007</td><td>0.007</td><td>0.010</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	LOQ	CLOQ	ZVLÖQ,	LOQ	<b>S</b> LOQ	<loq< td=""><td><b>10.009</b></td><td><loq< td=""><td><loq< td=""><td>0.008</td><td>0.007</td><td>0.007</td><td>0.010</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<b>10.009</b>	<loq< td=""><td><loq< td=""><td>0.008</td><td>0.007</td><td>0.007</td><td>0.010</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.008</td><td>0.007</td><td>0.007</td><td>0.010</td><td><loq< td=""></loq<></td></loq<>	0.008	0.007	0.007	0.010	<loq< td=""></loq<>
10-20	3	< LOQ	LOQ <loq <loq< td=""><td>&lt; LOQ</td><td>$-\langle I_{i}Q_{i}Q_{i}^{C}\rangle$</td><td><løq< td=""><td>CLOQ</td><td><lqq< td=""><td><loq< td=""><td>0.007</td><td>0.008</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.012</td><td>0.008</td></loq<></td></loq<></td></loq<></td></loq<></td></lqq<></td></løq<></td></loq<></loq 	< LOQ	$-\langle I_{i}Q_{i}Q_{i}^{C}\rangle$	<løq< td=""><td>CLOQ</td><td><lqq< td=""><td><loq< td=""><td>0.007</td><td>0.008</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.012</td><td>0.008</td></loq<></td></loq<></td></loq<></td></loq<></td></lqq<></td></løq<>	CLOQ	<lqq< td=""><td><loq< td=""><td>0.007</td><td>0.008</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.012</td><td>0.008</td></loq<></td></loq<></td></loq<></td></loq<></td></lqq<>	<loq< td=""><td>0.007</td><td>0.008</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>0.012</td><td>0.008</td></loq<></td></loq<></td></loq<></td></loq<>	0.007	0.008	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.012</td><td>0.008</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.012</td><td>0.008</td></loq<></td></loq<>	<loq< td=""><td>0.012</td><td>0.008</td></loq<>	0.012	0.008
	4	LOQ	<loq_< td=""><td>LOQ</td><td>NAŐQ į</td><td>SLOQ <loq SLOQ</loq </td><td>Ø₽OQ .</td><td><b>S</b>ŁOQ</td><td>0.008</td><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq_<>	LOQ	NAŐQ į	SLOQ <loq SLOQ</loq 	Ø₽OQ .	<b>S</b> ŁOQ	0.008	<loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.007</td><td><loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	0.007	<loq< td=""><td><loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.007</td><td><loq< td=""></loq<></td></loq<>	0.007	<loq< td=""></loq<>
	mean	<loq< td=""><td><lo\(\varphi\)< td=""><td><lqq< td=""><td><lo@< td=""><td><lqq< td=""><td><lqq< td=""><td><loq< td=""><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>0.0021</td><td>0.009</td><td>0.0021</td></loq<></td></lqq<></td></lqq<></td></lo@<></td></lqq<></td></lo\(\varphi\)<></td></loq<>	<lo\(\varphi\)< td=""><td><lqq< td=""><td><lo@< td=""><td><lqq< td=""><td><lqq< td=""><td><loq< td=""><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>0.0021</td><td>0.009</td><td>0.0021</td></loq<></td></lqq<></td></lqq<></td></lo@<></td></lqq<></td></lo\(\varphi\)<>	<lqq< td=""><td><lo@< td=""><td><lqq< td=""><td><lqq< td=""><td><loq< td=""><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>0.0021</td><td>0.009</td><td>0.0021</td></loq<></td></lqq<></td></lqq<></td></lo@<></td></lqq<>	<lo@< td=""><td><lqq< td=""><td><lqq< td=""><td><loq< td=""><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>0.0021</td><td>0.009</td><td>0.0021</td></loq<></td></lqq<></td></lqq<></td></lo@<>	<lqq< td=""><td><lqq< td=""><td><loq< td=""><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>0.0021</td><td>0.009</td><td>0.0021</td></loq<></td></lqq<></td></lqq<>	<lqq< td=""><td><loq< td=""><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>0.0021</td><td>0.009</td><td>0.0021</td></loq<></td></lqq<>	<loq< td=""><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>$0.004^{1}$</td><td>0.0021</td><td>0.0021</td><td>0.009</td><td>0.0021</td></loq<>	0.0021	$0.004^{1}$	0.0021	$0.004^{1}$	0.0021	0.0021	0.009	0.0021
	Co _l	der moi		LOO SLOO LOO	be b	Loppino.										



# **Document MCA – Section 7: Fate and behaviour in the environment – Part 1** Fluopicolide

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70-90	3	<loq< td=""><td>100 P</td><td><u>-</u>04</td><td>-0.D.</td><td></td><td>* OD</td><td>- 0,</td><td></td><td>&lt;_LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a.</td><td>n.a.</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	100 P	<u>-</u> 04	-0.D.		* OD	- 0,		<_LOQ	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a.</td><td>n.a.</td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a.</td><td>n.a.</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>n.a.</td><td>n.a.</td></loq<></td></loq<>	<loq< td=""><td>n.a.</td><td>n.a.</td></loq<>	n.a.	n.a.
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	mean	<\rangle 000000000000000000000000000000000000	-	-30		٥ - ١ <u>٠</u> ١	- OF	- 3	[©] <loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a.</td><td>n.a.</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a.</td><td>n.a.</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a.</td><td>n.a.</td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a.</td><td>n.a.</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>n.a.</td><td>n.a.</td></loq<></td></loq<>	<loq< td=""><td>n.a.</td><td>n.a.</td></loq<>	n.a.	n.a.

DAT: days after treatment

LOQ (limit of quantitation) = 0.005 mg/kg, n.a. P = not stratysed, Replicate value > LOQ

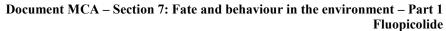




Table 7.1.2.2.1- 18: Residues of M-02 (AE C657188) different depths of soil at Valencia (Spain), mean values expressed as mg/kg

										<u> </u>		<u> </u>	<i>y</i>			<i>J</i> °
Depth	Sub								DAT	~ F>				~ (°)	9. D.	
[cm]	plot	-1	0	1	3	14	36	65	128	194	247	≥ 315	0 1		\$53	708
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	4	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.009</td><td>0.014</td><td>0.018</td><td>0.018</td><td>0.006</td><td>LOQ</td><td>@ \ //</td><td>&amp;<loq<sub>N</loq<sub></td><td>o∜LoQ</td><td>CPLOQ_{&amp;}</td><td>O LOQ</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.009</td><td>0.014</td><td>0.018</td><td>0.018</td><td>0.006</td><td>LOQ</td><td>@ \ //</td><td>&amp;<loq<sub>N</loq<sub></td><td>o∜LoQ</td><td>CPLOQ_{&amp;}</td><td>O LOQ</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.009</td><td>0.014</td><td>0.018</td><td>0.018</td><td>0.006</td><td>LOQ</td><td>@ \ //</td><td>&amp;<loq<sub>N</loq<sub></td><td>o∜LoQ</td><td>CPLOQ_{&amp;}</td><td>O LOQ</td><td><loq< td=""></loq<></td></loq<>	0.009	0.014	0.018	0.018	0.006	LOQ	@ \ //	& <loq<sub>N</loq<sub>	o∜LoQ	CPLOQ _{&amp;}	O LOQ	<loq< td=""></loq<>
	mean	<loq< th=""><th><loq< th=""><th><loq< th=""><th>0.0041</th><th>0.015</th><th>0.017</th><th>Q.017</th><th>0.0021</th><th><b>₹06</b></th><th>0.003</th><th><l@q< th=""><th>&lt;1.00</th><th><lq@< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></lq@<></th></l@q<></th></loq<></th></loq<></th></loq<>	<loq< th=""><th><loq< th=""><th>0.0041</th><th>0.015</th><th>0.017</th><th>Q.017</th><th>0.0021</th><th><b>₹06</b></th><th>0.003</th><th><l@q< th=""><th>&lt;1.00</th><th><lq@< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></lq@<></th></l@q<></th></loq<></th></loq<>	<loq< th=""><th>0.0041</th><th>0.015</th><th>0.017</th><th>Q.017</th><th>0.0021</th><th><b>₹06</b></th><th>0.003</th><th><l@q< th=""><th>&lt;1.00</th><th><lq@< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></lq@<></th></l@q<></th></loq<>	0.0041	0.015	0.017	Q.017	0.0021	<b>₹06</b>	0.003	<l@q< th=""><th>&lt;1.00</th><th><lq@< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></lq@<></th></l@q<>	<1.00	<lq@< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></lq@<>	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
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## **Document MCA – Section 7: Fate and behaviour in the environment – Part 1** Fluopicolide

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#### C. Residues

Analysis of control samples showed no residues above the limit of quantification (LOQ) of 0.005 mg/kg.

The average initial concentration of fluopicolide in soil samples taken immediately after application was 0.334 mg/kg (range 0.245 to 0.446 mg/kg) in 0-10 cm layer directly after application plus 0.006 mg/kg (range < LOQ to 0.009 mg/kg) in the 10-20 cm layer. This corresponds to an apparent application rate of 509.6 g/ha compared to the nominal application rate of 400 g/ha.

The initial dissipation of fluopicolide was relatively rapid followed by a slower dissipation phase during the winter months due to the cold climate and possibly reduced availability of fluopicolide due to increased adsorption to soil with ageing. The initial dissipation of fluopicolide was relatively capid followed by a slower dissipation phase during the winter months due to the cold climate and possibly reduced availability of fluopicolide due to increased adsorption to soil with ageing. Residues of fluopicolide were detected mainly in the 0-10 cm soil horizon throughout the trial. Yow residues were detected in the 10-20 cm horizon at concentrations ranging from 0.002 to 0.018 ng/kg (mean values). In the deeper depths no residues of fluopicolide were found above the LQQ.

The concentration of M-01 (AE C653711) in the soil profile in soil increased rapidly in the first month after application and then remained fairly constant throughout the study due to its constant formation from the degradation of parent, before declining at the end of the study period M-01 was detected in 0-10 cm soil depth and at low levels in 19-20 cm depth from 28 days after application (November 2001). The maximum residue level in the 0-10 cm horizon was observed 36 days after application at 0.021 mg/kg (mean of four replicates). The maximum residue in the underlying 10-20 cm horizon was detected in January 2003, 120 days after application at 0.009 rag/kg (mean value). In the 20-30 cm horizon and deeper soil layers residue levels were below the LOQ (0.005 mg/g).

M-02 (AE C657188) was detected at timepoints up to 247 days after application in the 0-10 cm layer at a maximum concentration of 0017 mg/kg (mean value) 36 days after application. No residues of M-02 were detected in deeper soil depths above the LQQ.

No residues of M 3 (AE 0608000) were found above the LOQ throughout the study. The degradation of M-03 is known to be pH dependent and severy rapidly degraded in routral to alkaline soils such as the soil at the valence trial ste.

## D. Kinetic Analysis

The half-life of fluopicolide included in the report was calculated using a bi-phasic first-order kinetic model (Hockey Sack) as 50 days. The DT₉₀ was 973 days and the r² was 0.953. The experimental data has been re-evaluated according to the FOCUS goldance document on degradation kinetics (FOCUS, 2014) using the software RinGUI (version 24). Full details of the evaluation are provided in the summary for Document KCA 79.2.2 494. The resulting best-fit DT₅₀ values for trigger endpoints are summarised below in Table 70.2.2.1-19. Best fit kinetics are highlighted in bold.

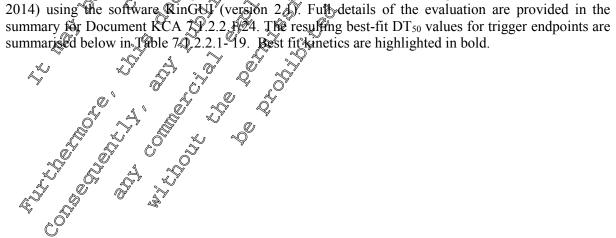




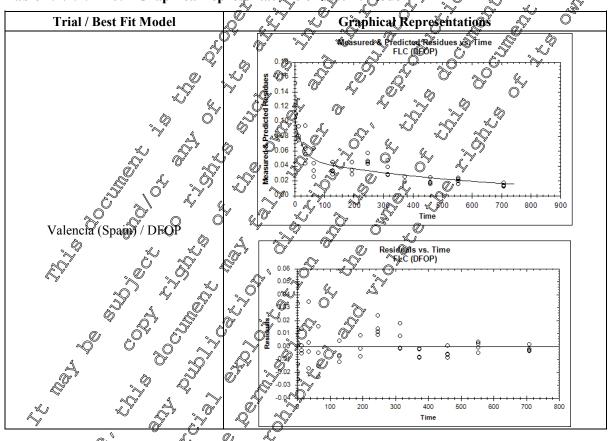
Table 7.1.2.2.1- 19: Degradation rate of fluopicolide under field conditions (DT₅₀ values for trigger endpoints)

Soil	Kinetic model	M ₀	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DSF90 Jays]
	SFO	0.08862	k 0.003908	21.5	1.92E-10	0.002905	<b>9</b> .005	177.4	5890.3
Valencia (Spain), CA 7.1.2.2.1/03,	FOMC	0.1048	α 0.4169 β 14	12.7	n.r. n.r.	0.2407	0.593 31.43	,5 <u>0</u> 8	<b>3</b> 490
(2004)	DFOP	0.104	k1 0.03872 k2 0.001574 g 0.5271	12		0.006458 0.000443 0.3584	0.071	53.2	9 <b>8</b> ₹.5

Best fit model highlighted in bold

A graphical representation of the final kinetic of is slown below.

Table 7.1.2.2.1-20: Graphical representations of best fit model





### **III. Conclusion**

Following a single application of fluopicolide at a nominal application rate of 400 g/ha to bare soil in summer 2001, the decline of fluopicolide and the formation and decline of its metabolites M-01, M-02 and M-03 was followed for up to 708 days after application at a trial site in Valencia, Spaint A revaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit DFOP un-normalised DT₅₀ value of 53 plays and DT₆₀ value of 987.5 days for fluopicolide.

The metabolites M-01 (AE C653711) and M-02 (AE C657188) were detected in Valencia scal. M-02 was detected in the 0-10 cm soil depth and at low concentrations in the 10-20 cm depth M-02 was detected only in the 0-10 cm depth. No residues of M-03 were detected throughout the study.

# Assessment and conclusion by applicant:

The study is considered valid to assess the dissipation of thiopicolide under field conditions in soil. The study meets the requirements to assess field persistence of thiopicolide and its metabolites, and to derive parent soil DegT_{50matrix} values for legacy field studies as defined by EFSA (2014). It is not suitable for assessing metabolite soil DegT_{50matrix} values as the design did not minimise soil suitace processes immediately after application as required by EFSA (2014).

D-4- D-1-4-	
Data Point:	<b>I</b> §CA 7.02.2.1/ <b>⊗</b> ²
Report Author:	
Report Year:	
Report Title:	Field soil dissipation of AE C63\$206 following@ingle application to bare soil
	plots at two locations in Europe in 1999
Report No:	C036344
Document No: O	M220477 72-1 6 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Guideline(s) followed in	BBA: part IV, 4-1, SET &C: ; USEPA (©EPA); 464-1
study: 🛴 🗸	
Deviations from current &	
test guideline:	econoxicological risk assessment as required by EU 283/2013 and the requirements
<b>*</b>	for assessing parent soil DegT50matrix values as required by EFSA (2014) for
	legac Wield studies. Report does not speet the requirement for assessing metabolite
	soil DegT5@matrix values & required by EFSA (2014) for field studies.
Previous evaluation:	yes, evaluated and accepted
	PAR (2005) Q Q Q
GLP/Officially	Yes, conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes 😽 Q S
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# Executive Summary

The soil dissipation of Duopicolide, formulated as a suspension concentrate containing 20.4 % w/w fluopicolide, was initiated at two trial sites at sites near Plusha, Cornwall, UK and Senas, Southern France. The trial at Plusha was terminated and no analytical data was reported for this site.

A nominal application rate was 500 g fluopicolide /ha was applied in June 1999.



The initial dissipation of fluopicolide was relatively rapid followed by a slower dissipation phase during the winter months due to the cold climate. Dissipation continued the following summer at a slower rate than the initial rapid phase possibly due to the reduced availability of fluopicolide due to increased adsorption to soil with ageing. Residues of fluopicolide were detected only in the 0-10 cm soil horizon throughout the trial at concentrations ranging from 0.018 to 0.218 mg/kg (mean values). In the deeper depths no residues of fluopicolide were found above the LOQ.

The concentration of M-01 (AE C653711) in soil increased rapidly in the two months after application and then remained fairly constant throughout the first year due to its constant formation from the degradation of parent, before declining rapidly in the second year. The maximum residue level in the 0-10 cm horizon was observed 60 days after application at 0.026 mg/kg (mean of three replicates). The maximum residue in the underlying 10-20 cm was detected at 240 days after application at 0.008 mg/kg (mean values). In the 20-30 cm horizon residue levels were below the LOQ except for one replicate at 300 days in which AE C653711 residues were detected at 0.006 mg/kg. No residue were detected in 30-45 cm depth above the LOQ. By the end of the study after two years, residue levels had declined to the LOQ.

M-02 (AE C657188) was detected at time points up to 60 days after application in the 0-10 m layer at a maximum concentration of 0.021 mg/kg (mean value) 28 days after application. We residues of M-02 were detected in deeper soil depths above the DOQ.

No residues of M-03 (AE 0608000) were found above the LOQ throughout the study. The degradation of M-03 is known to be pH dependent and is very rapidly degraded in neutral to alkaline soils such as the soil at the Valencia trial site.

A re-evaluation of the degradation kinetics in accordance with ECUS guidance document on degradation kinetics (2014), resulted in obest-for DFOP un-normalised DT3 value of 109.8 days and DT90 of 627.2 days for fluoricolide

## L Materials and Methods

#### A. Materials

#### Test Item

Fluopicolide formulated as a suspension concentrate (20.4% w/w/fluopicolide)

Lot No."

∡TM99**©**00750∕

#### 2. Trial Location & Soil

A terrestrial field dissipation study with Quopicolide was initiated at two trial sites at sites near Plusha, Cornwall K and Senas, Southern France.

The Senas test site was selected to be representative of a vine growing region. The top soil was a sandy silt foam / clay loan soil. ADAS classification). The characteristics of the soil are summarised in Table 7.1.2.2.1-21. Three experimental plots each measuring 2.5 metres by 26 metres (65 m² in total), were treated with the test substance. Each plot was divided into two strips 13 metres long and one of these strips from each plot was sampled and reported in this study. The other strip has been sampled and reported separately as an accumulation trial (KCA 7.1.2.2.2/01, M-223186-01-1). A fourth identical plot was left intreated to provide ontrol samples.

The trial at Phisha was terminated after 1 year as the high organic matter and biomass at this site, which had previously been pasture land, led to high variations in the soil residues and no analytical data was reported for this site.



Table 7.1.2.2.1- 21: Location, site description and climatic data of test site

Characteristic	Units	Senas, Provence, France
Sampling date		6 December 1999
рН	Water	7.6
Cation exchange capacity	meq/100 g	11.8 2 5
Organic carbon	%	1.6
Biomass	μg C/g	55,305
Dry matter content (of air-dried soil)	%C(m/m)	<b>29</b> 9.0 <b>3</b>
Water content (of air-dried soil)	(m/m) Q	Ø 1.03
Bulk density (disturbed sample)	g/cm³	1.2
Particle size distribution (ADAS)		
Clay < 0.002 mm		16.76
Total silt 0.002 - 0.063 mm		¥
Total sand 0.063 - 2 mm		*.50 °
Textural class	ADAS, A	Sandy silt loam / Clay losm
Loss on ignition		
WHC _{max}	%(m/m)// S	Ø7.6 g
WHC _{0.05bar}	% (m/m)	\$\tag{\text{\text{\$\infty}}} 32.3\text{\text{\$\infty}}
WHC _{15bar}	% (pym) &	32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3° 32.3°
Dry matter content (of field-moly soil)	% (m/m) %	<b>©</b> 1.4
Water content (of field-moist soil)	% (m/m) ~	§ 0 9.4

^{*} Calculated from data reported for this summar

## B. Study Design

#### 1. Experimental Conditions

Fluopicolide applied as a suspension concentrate containing 20.4 %, www fluopicolide, was initiated at two trial sites at sites near Plusha, Cornwall, ok and Senas Southern France. The formulated material was applied once, at the rate required to achieve an application of 500 g/ha of fluopicolide. The nominal application rate was confirmed by measuring the unused formulation remaining in the spray tank to calibrate the amount applied (500 g/ha). The test item was applied on the 24 June 1999 at Senas and on the 7 July 1999 at Plusha (as already stated the trial at Plusha was terminated and no analytical data was reported for this site).

Throughout the study no cultivation was carried out and the plots were maintained as bare plots by periodic application of the herbicides application to control weeds.

The weather conditions were monitored in a secure location at a distance of approximately 2 kilometres from the test site. Kainfall air temperature and soil temperature were measured daily.

Soil dissipation of fluopicolide was studied for 716 days.

### 2. Sampling

Soil cotes (5 cm diameter) were taken to a depth of 10 cm and 30 cm during the first year. It was not possible to sample of 30 cm depth for the first 6 months as the soil was dry and hard. This was not thought to have a detrimental effect on the study as the soil conditions indicated that due to the lack of water, movement of residues to depth was unlikely. After 6 months soil cores (2.5 cm diameter) were taken to a depth of 30 cm until the end of the study. At the final two sampling points 21 and 24 months additional soil cores (2.5 cm diameter) were taken to a depth of 45 cm. Field samples were frozen after



sampling and dispatched frozen to the analytical laboratories in the UK and France. The samples were then stored at -18 °C until required for analysis.

#### 3. **Analytical Procedures**

The analytical method AR 265-01 was used to determine levels of fluopicolide and its metabolites. 01 (AE C653711), M-02 (AE C657188) and M-03 (AE 0608000, referred to in the report as RPA 427967). Soil samples of 20 g were extracted twice at ambient temperature for minutes by mechanical agitation using acetonitrile/water (70/30, v/v) acidified with 0.1% formicacid. After each extraction step, extract and soil were separated by centrifugation and decantation. The soil extracts avere combined and diluted with acidified water to result in final solven of acetonitrile water 30/70 with 0.1% formic acid. Quantification was carried out by CC-MS/MS wing external standardisation for the parent compound and its metabolites. The limit of quantification (Loo) was 0.005 mg/kg for each analyte.

During analysis of the dissipation samples of the current study concurrent recovery samples were prepared freshly by fortification of control samples with test them fluopicolide and reference items M-01, M-02 and M-03 at levels of LOQ and 100 x LOQ and processed in parallel to the dissipation samples. The mean recoveries of LOQ2 and 1000 x LQ20 west 97 and 99% (RSD) 4.9 and 10.0%) for fluopicolide, 106 and 105% (RSD 59 and 9.6%) for MS01, 92 and 96% (RSD 8.9 and 4.4%) for M-02 and 95 and 91% (RSD 15.7 and 8.4%) for M-03

The validation of the extraction was caused out during the study th samples taken immediately after the application of the test substance.

4. Determination of degradation kinetics

The degradation kinetics The degradation kinesics determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. DT 50 and DT 90 values for the degradation of fluopicolide have been re-valculated from the reported data following the recommendations of the FOGUS work group using the software KinGUI (version 2.1). Full details are provided in Document KCA 7.1,2.2.1/24. A brief surmary of the approach for trigger endpoints is provided below.

To derive trigger endpoints an initial comparison was performed for each site between the SFO and FOMC fits for fluoricolide. The comparison of the SKO and FOMC fits suggested bi-phasic decline, and the DFOP model was therefore also fitted. For the Senas site, DFOP provided the best fit to the residues, with the lowest  $y^2$  errow value, and was therefore accepted.

## II. Results and Discussion

## Analytical Methodology:

Full details and acceptable validation data to Support this method are presented in Document M-CA 4, Section 4.1.2, The method comples with the EU regulatory requirements outlined within SANCO/302999 rev-14 and is suitable for the determination of fluopicolide and its metabolites M-01 (AE C653787), Me02 (AE C657188) and M-03 (AE 0608000) in soil samples by HPLC-MS/MS.

The results for fluopicolide and its metabolites M-01 (AE C653711), M-02 (AE C657188) and M-03 (AE 0608000) are presented below as soil residue concentrations (on a mg/kg dry weight basis) for each of the treated plots in Table 7.1.2.2.1- 22 to Table 7.1.2.2.1- 25.

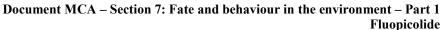
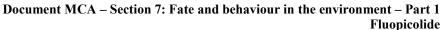




Table 7.1.2.2.1- 22: Residues of fluopicolide in different depths of soil at Senas, Provence, France values expressed as mg/kg

Depth Sub [cm] plot								D.								
[cm] plot		_						DE	AT 10		et		(4.39)	, , , , ,	9	
		0	1	3	14	28	60		181		<b>Z360</b>	368	<b>459</b>	535A	630 ¹	716
1	<loq< td=""><td>0.189</td><td>0.242</td><td>0.195</td><td>0.174</td><td>0.151</td><td>0.152</td><td>00995</td><td>0,104 0.101</td><td>0:091</td><td>0.076</td><td>0.043</td><td>0.040</td><td>0.032 0.021</td><td>J. 0.017</td><td>0.017</td></loq<>	0.189	0.242	0.195	0.174	0.151	0.152	00995	0,104 0.101	0:091	0.076	0.043	0.040	0.032 0.021	J. 0.017	0.017
0-10	<loq< td=""><td>0.239</td><td>0.168</td><td>0.171</td><td>0.121</td><td>0.161</td><td>0.095</td><td>0.061</td><td>0.101</td><td><b>00.073</b></td><td>©:055</td><td>ØC050</td><td>900⁴0</td><td></td><td></td><td>0.014</td></loq<>	0.239	0.168	0.171	0.121	0.161	0.095	0.061	0.101	<b>00.073</b>	©:055	ØC050	900 ⁴ 0			0.014
3	<loq< td=""><td>0.226</td><td>0.193</td><td>0.161</td><td>0.150</td><td>0.150</td><td>0217</td><td>0.001</td><td>Q.08[©]</td><td>0.080</td><td>0.06%</td><td>0.045</td><td></td><td>227</td><td>0.014</td><td>0.024</td></loq<>	0.226	0.193	0.161	0.150	0.150	0217	0.001	Q.08 [©]	0.080	0.06%	0.045		227	0.014	0.024
mea		0.218	0.201	0.176	0.148	0.154	0.12	0.075 _©	0.097	<b>%</b> 081	<b>30.066</b>	0.046	0.937	0.025	0.015	0.018
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0-10	2	<loq< td=""><td><loq< td=""><td>0.010</td><td>0.013</td><td>0.012</td><td>0.023</td><td>0.021</td><td>00015</td><td>QQ17</td><td>0.017</td><td>0.014</td><td>0.020</td><td>0.020</td><td>0.003</td><td><loq LOQ</loq </td><td>0.003</td></loq<></td></loq<>	<loq< td=""><td>0.010</td><td>0.013</td><td>0.012</td><td>0.023</td><td>0.021</td><td>00015</td><td>QQ17</td><td>0.017</td><td>0.014</td><td>0.020</td><td>0.020</td><td>0.003</td><td><loq LOQ</loq </td><td>0.003</td></loq<>	0.010	0.013	0.012	0.023	0.021	00015	QQ17	0.017	0.014	0.020	0.020	0.003	<loq LOQ</loq 	0.003
0-10	3	<loq< td=""><td><loq< td=""><td>0.011</td><td>0.011</td><td>0.015</td><td>0.021</td><td>0.02%</td><td>I 0.017,₹</td><td>©.017_%</td><td>0.019</td><td><b>6</b>.014</td><td>©.019</td><td>09020</td><td>Q:003°</td><td><poo< td=""><td>0.006</td></poo<></td></loq<></td></loq<>	<loq< td=""><td>0.011</td><td>0.011</td><td>0.015</td><td>0.021</td><td>0.02%</td><td>I 0.017,₹</td><td>©.017_%</td><td>0.019</td><td><b>6</b>.014</td><td>©.019</td><td>09020</td><td>Q:003°</td><td><poo< td=""><td>0.006</td></poo<></td></loq<>	0.011	0.011	0.015	0.021	0.02%	I 0.017,₹	©.017 _%	0.019	<b>6</b> .014	©.019	09020	Q:003°	<poo< td=""><td>0.006</td></poo<>	0.006
	mean	<loq< td=""><td><loq< td=""><td>0.012</td><td>0.013</td><td>0.016</td><td>0.021</td><td><b>. 1992</b>6</td><td>₂0,016</td><td>Q.Ø.7</td><td>0.918</td><td>0.013</td><td>0.0180</td><td>0.019_©</td><td>0.004</td><td>∫≷LOQ</td><td>0.005</td></loq<></td></loq<>	<loq< td=""><td>0.012</td><td>0.013</td><td>0.016</td><td>0.021</td><td><b>. 1992</b>6</td><td>₂0,016</td><td>Q.Ø.7</td><td>0.918</td><td>0.013</td><td>0.0180</td><td>0.019_©</td><td>0.004</td><td>∫≷LOQ</td><td>0.005</td></loq<>	0.012	0.013	0.016	0.021	<b>. 1992</b> 6	₂ 0,016	Q.Ø.7	0.918	0.013	0.0180	0.019 _©	0.004	∫≷LOQ	0.005
	1	<loq< td=""><td>-</td><td>-</td><td>-</td><td>-</td><td><u>-02,</u></td><td>- 5</td><td>/ - _* @</td><td>,</td><td><b>6</b>.008</td><td>∂<b>Ø</b>.008</td><td>Pod ,</td><td>.∉J\$0Q</td><td>0.067</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	-	-	-	-	<u>-02,</u>	- 5	/ - _* @	,	<b>6</b> .008	∂ <b>Ø</b> .008	Pod ,	.∉J\$0Q	0.067	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
10-20	2	<loq< td=""><td>-</td><td>-</td><td>-</td><td>- 🦠</td><td>e - E</td><td><u> </u></td><td></td><td>~ in</td><td>0.007</td><td><lqq< td=""><td><loq< td=""><td>&gt;<loq\< td=""><td>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq\<></td></loq<></td></lqq<></td></loq<>	-	-	-	- 🦠	e - E	<u> </u>		~ in	0.007	<lqq< td=""><td><loq< td=""><td>&gt;<loq\< td=""><td>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq\<></td></loq<></td></lqq<>	<loq< td=""><td>&gt;<loq\< td=""><td>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq\<></td></loq<>	> <loq\< td=""><td>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq\<>	LOQ	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
10-20	3	<loq< td=""><td>-</td><td>-</td><td>-</td><td>_ *\</td><td>- 🐧</td><td>- Q</td><td>) - <u>a</u></td><td></td><td><b>CO.009</b></td><td>, <b>30</b>.009</td><td>0.907</td><td>≨ŁĴOQ</td><td>0.005</td><td>0.005</td><td><loq< td=""></loq<></td></loq<>	-	-	-	_ *\	- 🐧	- Q	) - <u>a</u>		<b>CO.009</b>	, <b>30</b> .009	0.907	≨ŁĴOQ	0.005	0.005	<loq< td=""></loq<>
	mean	<loq< td=""><td>-</td><td>-</td><td>-</td><td><u> </u></td><td>0\$</td><td><u> </u></td><td>O.F.O.</td><td></td><td>0.008</td><td>0.006</td><td>0.004</td><td><loq< td=""><td>0.005</td><td>0.004</td><td><loq< td=""></loq<></td></loq<></td></loq<>	-	-	-	<u> </u>	0\$	<u> </u>	O.F.O.		0.008	0.006	0.004	<loq< td=""><td>0.005</td><td>0.004</td><td><loq< td=""></loq<></td></loq<>	0.005	0.004	<loq< td=""></loq<>
	1	<loq< td=""><td>-</td><td>-</td><td></td><td></td><td>- 61</td><td>- ~</td><td> 🦠</td><td></td><td>©LÖQ</td><td><b>0.00</b>6</td><td><b>O</b>OOQ</td><td>&lt;1200 Q</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	-	-			- 61	- ~	🦠		©LÖQ	<b>0.00</b> 6	<b>O</b> OOQ	<1200 Q	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20-30	2	<loq< td=""><td>-</td><td>- _</td><td>JIII-</td><td></td><td></td><td>CALE CO</td><td><i>₽</i></td><td>Ley.</td><td>&lt; LO</td><td>_( )</td><td>LOQ.</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	-	- _	JIII-			CALE CO	<i>₽</i>	Ley.	< LO	_( )	LOQ.	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20 30	3	<loq< td=""><td>-</td><td>ð.oc</td><td></td><td></td><td>-</td><td>- 26</td><td>) - _</td><td>1 -</td><td><b>\$</b>2OQ</td><td>\$POQ</td><td>&lt;\)\00000\00000</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	-	ð.oc			-	- 26	) - _	1 -	<b>\$</b> 2OQ	\$POQ	<\)\00000\00000	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	<loq< td=""><td>- 2</td><td>\$ - ¢</td><td></td><td>%"</td><td>" The</td><td>TIRO</td><td>1-0D</td><td>- 10 m</td><td><loq®< td=""><td>0.004</td><td><loq< td=""><td><l0q< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></l0q<></td></loq<></td></loq®<></td></loq<>	- 2	\$ - ¢		%"	" The	TIRO	1-0D	- 10 m	<loq®< td=""><td>0.004</td><td><loq< td=""><td><l0q< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></l0q<></td></loq<></td></loq®<>	0.004	<loq< td=""><td><l0q< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></l0q<></td></loq<>	<l0q< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></l0q<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	1	-	LE DE	-	, - K	- 0\$	- 3	00	D~ -	~~- ~~-	A. J. J.		-	-	-	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
30-45	2	-	-	-	,¢ <u>~</u>	K,\$-	\$-0°		J.S.C	- o\$	~	-	=	-	=	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
50 .5	3	-	-	10 ¹ )	_ <u> </u>	- 0	- 3	<b>5</b> - 2	-	e\$ -	% <u>*</u>	-	-	-	-	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	-	-	\$-	3-	F - 188		810C	O. O		-	-	-	-	-	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
DAT: day LOQ (lim ¹ Cores we	mean s after treat it of quantit ere analysed	ment ation) = 0.0 as 0-15 co	004 mg/kg, 15-25 cm	a, 25-35 am	ond 35-45 Parish	Contraction of the second of t		of th									

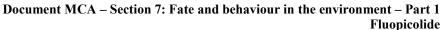




Table 7.1.2.2.1- 24: Residues of M-02 (AE C657188) in different depths of soil at Senas, Provence, France values expressed as mg/kg ***

											a C		<u> </u>		- 0\"	$\sim$	7
Depth	Sub								DA	AT «	Fr	al .			L. S.	9 D. J. J.	
[cm]	plot	-1	0	1	3	14	28	60	130	181	231	300	368	4595°	554 S	6301	716
	1	<loq< td=""><td><loq< td=""><td>0.007</td><td>0.010</td><td>0.026</td><td>0.020</td><td>0.017</td><td><lqq< td=""><td>ŽLOQ</td><td><loq< td=""><td>Ç∕LÖQ</td><td><loq< td=""><td>Z, SLOO</td><td><u>,</u> <b>\$®</b>Q</td><td><b>SLOQ</b></td><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></loq<></td></loq<>	<loq< td=""><td>0.007</td><td>0.010</td><td>0.026</td><td>0.020</td><td>0.017</td><td><lqq< td=""><td>ŽLOQ</td><td><loq< td=""><td>Ç∕LÖQ</td><td><loq< td=""><td>Z, SLOO</td><td><u>,</u> <b>\$®</b>Q</td><td><b>SLOQ</b></td><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></loq<>	0.007	0.010	0.026	0.020	0.017	<lqq< td=""><td>ŽLOQ</td><td><loq< td=""><td>Ç∕LÖQ</td><td><loq< td=""><td>Z, SLOO</td><td><u>,</u> <b>\$®</b>Q</td><td><b>SLOQ</b></td><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<>	ŽLOQ	<loq< td=""><td>Ç∕LÖQ</td><td><loq< td=""><td>Z, SLOO</td><td><u>,</u> <b>\$®</b>Q</td><td><b>SLOQ</b></td><td><loq< td=""></loq<></td></loq<></td></loq<>	Ç∕LÖQ	<loq< td=""><td>Z, SLOO</td><td><u>,</u> <b>\$®</b>Q</td><td><b>SLOQ</b></td><td><loq< td=""></loq<></td></loq<>	Z, SLOO	<u>,</u> <b>\$®</b> Q	<b>SLOQ</b>	<loq< td=""></loq<>
0-10	2	<loq< td=""><td><loq< td=""><td>0.007</td><td>0.009</td><td>0.013</td><td>0.020</td><td>0.017</td><td>&lt;000Q</td><td><b>₫</b>,0Q</td><td><pre><pre>CDQQ</pre></pre></td><td><loq< td=""><td><foo< td=""><td><lo@< td=""><td>LOQ,</td><td>LOQ</td><td><loq< td=""></loq<></td></lo@<></td></foo<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.007</td><td>0.009</td><td>0.013</td><td>0.020</td><td>0.017</td><td>&lt;000Q</td><td><b>₫</b>,0Q</td><td><pre><pre>CDQQ</pre></pre></td><td><loq< td=""><td><foo< td=""><td><lo@< td=""><td>LOQ,</td><td>LOQ</td><td><loq< td=""></loq<></td></lo@<></td></foo<></td></loq<></td></loq<>	0.007	0.009	0.013	0.020	0.017	<000Q	<b>₫</b> ,0Q	<pre><pre>CDQQ</pre></pre>	<loq< td=""><td><foo< td=""><td><lo@< td=""><td>LOQ,</td><td>LOQ</td><td><loq< td=""></loq<></td></lo@<></td></foo<></td></loq<>	<foo< td=""><td><lo@< td=""><td>LOQ,</td><td>LOQ</td><td><loq< td=""></loq<></td></lo@<></td></foo<>	<lo@< td=""><td>LOQ,</td><td>LOQ</td><td><loq< td=""></loq<></td></lo@<>	LOQ,	LOQ	<loq< td=""></loq<>
0-10	3	<loq< td=""><td><loq< td=""><td>0.008</td><td>0.008</td><td>0.016</td><td>0.023</td><td>0.016</td><td>[↓]<loq∜< td=""><td>LOQ</td><td>NLOQ :</td><td>LOQ</td><td>JŁOQ</td><td>⊲QÕQ</td><td>KOQ</td><td>&lt; LOQ</td><td><loq< td=""></loq<></td></loq∜<></td></loq<></td></loq<>	<loq< td=""><td>0.008</td><td>0.008</td><td>0.016</td><td>0.023</td><td>0.016</td><td>[↓]<loq∜< td=""><td>LOQ</td><td>NLOQ :</td><td>LOQ</td><td>JŁOQ</td><td>⊲QÕQ</td><td>KOQ</td><td>&lt; LOQ</td><td><loq< td=""></loq<></td></loq∜<></td></loq<>	0.008	0.008	0.016	0.023	0.016	[↓] <loq∜< td=""><td>LOQ</td><td>NLOQ :</td><td>LOQ</td><td>JŁOQ</td><td>⊲QÕQ</td><td>KOQ</td><td>&lt; LOQ</td><td><loq< td=""></loq<></td></loq∜<>	LOQ	NLOQ :	LOQ	JŁOQ	⊲QÕQ	KOQ	< LOQ	<loq< td=""></loq<>
	mean	<loq< th=""><th><loq< th=""><th>0.007</th><th>0.009</th><th>0.018</th><th>0.021</th><th><b>. 1991</b>7</th><th>\<b>\^1</b>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</th><th>&lt;<b>T©</b>Ø</th><th>&lt;1.00</th><th><lo@< th=""><th><rb></rb> <rb></rb> LOO</th><th><loq<sup>*(</loq<sup></th><th>O LOO</th><th>√LOQ</th><th><loq< th=""></loq<></th></lo@<></th></loq<></th></loq<>	<loq< th=""><th>0.007</th><th>0.009</th><th>0.018</th><th>0.021</th><th><b>. 1991</b>7</th><th>\<b>\^1</b>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</th><th>&lt;<b>T©</b>Ø</th><th>&lt;1.00</th><th><lo@< th=""><th><rb></rb> <rb></rb> LOO</th><th><loq<sup>*(</loq<sup></th><th>O LOO</th><th>√LOQ</th><th><loq< th=""></loq<></th></lo@<></th></loq<>	0.007	0.009	0.018	0.021	<b>. 1991</b> 7	\ <b>\^1</b> \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	< <b>T©</b> Ø	<1.00	<lo@< th=""><th><rb></rb> <rb></rb> LOO</th><th><loq<sup>*(</loq<sup></th><th>O LOO</th><th>√LOQ</th><th><loq< th=""></loq<></th></lo@<>	<rb></rb> <rb></rb> LOO	<loq<sup>*(</loq<sup>	O LOO	√LOQ	<loq< th=""></loq<>
	1	<loq< td=""><td>-</td><td>-</td><td>-</td><td>-</td><td><del>-</del>0\$</td><td></td><td>- , @</td><td>,</td><td><b>¾</b>LOQ</td><td>&amp; LOQ</td><td>, poq</td><td><b>⊗</b>I<b>®</b>OQ</td><td>&lt;1¢60</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	-	-	-	-	<del>-</del> 0\$		- , @	,	<b>¾</b> LOQ	& LOQ	, poq	<b>⊗</b> I <b>®</b> OQ	<1¢60	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
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LOQ (limit of quantitation) = 0.003 mg/kg

Cores were analysed as 0-15 cm, 15-25 cm, 25-35 en and 35-45 or horizons of the control of the con



Table 7.1.2.2.1- 25: Residues of M-03 (AE 0608000) in different depths of soil at Senas, Provence, France values expressed as mg/kg

Depth	Sub								<b>D</b> A			<i>\text{\rm M}</i>			L C C C	O. J.	
[cm]	plot	-1	0	1	3	14	28	60	130	181	231	300	368	458 [©]		6301	716
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### C. Residues

Analysis of control samples showed no residues above the limit of quantification (LOQ) of 0.005 mg/kg.

The average initial concentration of fluopicolide in soil samples taken immediately after application was 0.218 mg/kg (range 0.189 to 0.239 mg/kg). This corresponds to an apparent application rate of \$27 g/ha which is lower than the nominal application rate of 500 g/ha.

The initial dissipation of fluoricolide was relatively rapid followed by a slower dissipation phase carring the winter months due to the cold climate. Dissipation continued the following summer at a slower rate than the initial rapid phase possibly due to the reduced vailability of fluopicolide due to increased adsorption to soil with ageing. Residues of fluopicolide were detected only in the 900 cm soil horizon of throughout the trial. At all other soil depths no residues of fluopicolide were found above the LOO.

The concentration of the metabolite AE C653710 in soil increased rapidly of the two months after application and then remained fairly constant throughout the first year due to its constant formation from the degradation of parent, before declining rapidly in the second year. The maximum residue level in the 0-10 cm horizon was observed 60 days after application at 0.026 mg/kg (mean of three replicates). This concentration represents the maximum formation of M₂01 in terrestrial field dissipation studies (24.1%). The maximum residue in the prederlying 10,70 cm was detected at 240 days after application at 0.008 mg/kg (mean values). In the 20-30 cm horizon restatue levels were below the 5000 except for one replicate at 300 days in which AE C653711 residues were detected at 0506 mg/kg. No residues were detected in 30-45 cm depth above the LOQ. By the end of the stody after two years, residue levels had declined to the LOQ.

M-02 (AE C657188) was detected at time points up to 60 days after application in the 0-10 cm layer at a maximum concentration of 0.025 mg/kg (mean value) 28 days after application. This concentration represents the maximum formation of Me02 interrestrial field dissipation studies (§ 6.4%). No residues of M-02 were detected in deeper soil depths above the LQQ.

No residues of M-02 (AE 060800) were found above the LOQ throughout the study. The degradation of M-03 is known to be off dependent and is very rapidly degraded in neutral to alkaline soils such as

D. Kinetic Analysis

The half-life of fluoricolide included in the report was calculated using a simple first-order kinetic model (SEO) as 12 days The 12 and 12 days The 12 days The 12 and 12 days The 12 and 12 days The model (SFO) as M days. The DT₉₀ was 43 days. The experimental data has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 2.1) Full details of the valuation are provided in the summary for Document KCA ...ues po 7.1.2.2.1/24. The resulting Dest-fit DT₅₀ values for tregger endpoints are summarised below in Table 7.1.2.2.1- Best fit kinetics are highlighted in bold



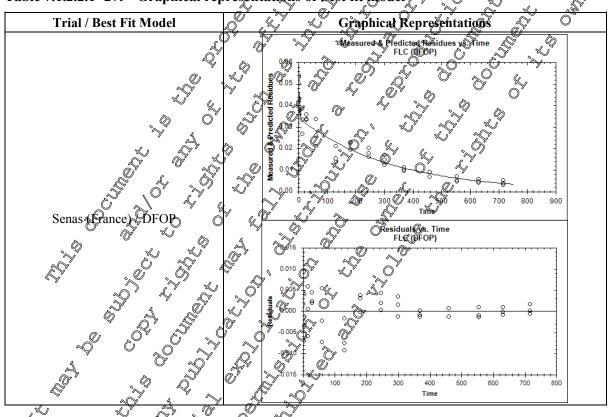
Table 7.1.2.2.1- 26: Degradation rate of fluopicolide under field conditions (DT₅₀ values for trigger endpoints)

Soil	Kinetic model	M ₀	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DSF90 Jays]
	SFO	0.04026	k 0.003881	14.3	1.18E-14	0.003203	<b>9</b> .005	178.6	593(37)
Senas (France), CA 7.1.2.2.1/04,	FOMC	0.0436	α 0.8025 β 76.06	11.8	n.r. n.r.	0.3857	1.219 153.6	105.4	<b>2</b> 64
2003)	DFOP	0.04855	k1 0.3279 k2 0.00311 g 0.2965	7.9	0.0207 4.90E-14 n.r.	0.02257 0.002553 0.2113	0.633 0.004 0.382	1093	627.2

Best fit model highlighted in bold

A graphical representation of the final kinetic is skewn below

Table 7.1.2.2.1- 27: Graphical representations of best fit model





### **III. Conclusion**

Following a single application of fluopicolide at a nominal application rate of 500 g/ha to bare soil in summer 1999, the decline of fluopicolide and the formation and decline of its metabolites M-01, M-02 and M-03 was followed for up to 740 days after application at a site in Senas, Southern France evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit DFOP un-normalised DT₅₀ value of 109 sodays and DT₆ value of 627.2 days for fluopicolide.

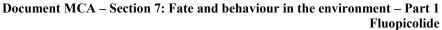
The metabolites M-01 (AE C653711) and M-02 (AE C657188) were detected in Senas soil. M-01 was detected at low concentrations in 0-10 cm, 10-20 cm and once in the 20-30 cm soil depths M-02 was detected only at early timepoints in the 0-10 cm depth, No residues of M-03 were detected throughout the study.

# Assessment and conclusion by applicant:

The study is considered valid to assess the dissipation of fluopicolide under field conditions in soil. The study meets the requirements to assess field persistence of fluopicolide and its metabolites, and to derive parent soil DegT_{50matrix} values for legacy field studies as defined by EFSA (2014). It is not suitable for assessing metabolite soil DegT_{50matrix} values as the design and not fininitise soil surface processes immediately after application as required by EFSA (2014).

Data Point:  Report Author:  Report Year:  Report Title:  Report Title:  A CA 7.1.2.2.1/05  A CA 7.1.2.2.1/0
Report Author:  Report Year:  Report Title:  Report Year:  Report Title:  Report Title:
Report Title: Field sold dissipation of AE Cos 8206 following a single application and multiple applications to bare soil plots at 1 location in France 2000 Interim report
Report Title: Field sold dissipation of AE Cos 8206 following a single application and multiple applications to bare soil plots at 1 location in France 2000 Interim report
applications to bare soil plots at 1 location in France 2000 Interim report
Report No: 0 C037583 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Document No.
Guideline (scriptollowed in BBAz Part IV 1; Et = EEC). Anonymous 1997; IVA: (1993); SETAC: (1995) study:
study: St
Deviations from current   none
rest gardenne.
Previous evaluation. Jyes, evaluated and accepted
Q DA (2005)
GLP/Officially Ves, conducted under GLP/Officially recognised testing facilities
recognised testing facilities:
recognised testing facilities:
Acceptability/Reliability/ Yes

For procedural reasons the previously submitted interim report is included under Point KCA 7.1.2.2.1 in the current dossier (KCA 2.1.2.2) 705). However the interim report has been fully superseded by the final report which was also reviously submitted as part of the original EU approval (KCA 7.1.2.2.1/08). Consequently no summary of the interim report has been included in this dossier. A summary of the final report has been provided under KCA 7.1.2.2.1/08.



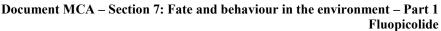


Data Point:	KCA 7.1.2.2.1/06
Report Author:	
Report Year:	2004
Report Title:	Field soil dissipation of AE C638206 following a single application and multiple
	applications to bare soil plots at 1 location in Germany, 2000
Report No:	C037584
Document No:	<u>M-223195-01-1</u>
Guideline(s) followed in	BBA: Part IV, 4-1; EU (=EEC): Anonymous, 1997; IVA: (1993); SETAC: (1995)
study:	
Deviations from current	none & & & &
test guideline:	
Previous evaluation:	yes, evaluated and accepted &
	DAR (2005)
GLP/Officially	Yes, conducted under GLP officially recognised testing facilities
recognised testing	Yes, conducted under GLP Officially recognised setting facilities
facilities:	
Acceptability/Reliability:	Yes O', O', O', O', A,

For procedural reasons the previously submitted interim report is included under Point & CA 71.2.2.1 in the current dossier (KCA 7.1.2.2.1.06). However the interim report has been fully superseded by the final report which was also previously submitted as part of the original bu approval (KCA 7.1.2.2.1/09). Consequently no summary of the interior report has been included in this dossier A summary of the final report has been provided under KCA 7.1.2.2.1/09.

Data Point:	KCA7.1.2.201/07 O S S S S S S S S S S S S S S S S S S
Report Author: Report Year: Report Title:	
Report Year:	
Report Title:	Kinetic evaluation of field dissipation studies after application of AE C638206
	using ModelMaker Pearland Pest Codes AE C638206, AE 0608000, AE
	Ø\$3711, AE C6₹7188 Ø . Ø . Ø
Report No: 🚱	C034324 A 7 0 0
Document No:	M-20-722-001
Guideling(s) followed in	
study:	
Deviations from current test guideline:	none of the second seco
test gardenne.	
Previous evaluation:	yes, evaluated and accepted
	PAR (2005) D D D D D D D D D D D D D D D D D D D
GLP/Officially	No, not conducted under GLP Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes A Q Q
- "	

For procedural reasons the peviously submitted modelling report is included under Point KCA 7.1.2.2.1 in the current dosser (KOA 7.1.2.2.1/07). However the report has been fully superseded by two new kinetic evaluation reports of the original field dissipation trials (KCA 7.1.2.2.1/22, M-685676-01-1 and KCA 7.1.2.2.1/24, M-885682-01-1). Consequently no summary of this report has been included in this dossier.





	Taranta and a same
Data Point:	KCA 7.1.2.2.1/08
Report Author:	
Report Year:	2005
Report Title:	Field soil dissipation of AE C638206 following a single application and multiple
	applications to bare soil plots at 1 location in France, 2000
Report No:	C048340
Document No:	<u>M-251338-01-1</u>
Guideline(s) followed in	BBA: 1986; EU (=EEC): 1999; IVA: 1993; SETAC: 1995
study:	
Deviations from current	Yes. Report meets the requirement for field persistence criteria and
test guideline:	ecotoxicological risk assessment as required by \$\times 283/2013 and the requirements
	for assessing parent soil DegT50matrix values@srequired by EFSA (3014) feet
	legacy field studies. Report does not meet the requirement for assessing metabolito
	soil DegT50matrix values is required by EFSA (2014) for field stadies.
Previous evaluation:	yes, evaluated and accepted
	DAR (2005) & & & & & & & & & & & & & & & & & & &
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes O V V V V V V

## **Executive Summary**

A four year terrestrial field discipation and accumulation study with fluopicolide. Formulated as a suspoemulsion containing 97.9 g/L fluopicolide. AE C638206 00 SEV0 A3), has been conducted at a site at Appilly in the Picardie region in Northern France. The top soil at the test site was a sandy silt soil. The formulated material was applied once a year, at the rate required to achieve an antival application of 400 g/ha of fluopicolide using a salibrated boom sprayer to bare soil. Nominal application rates were confirmed by measuring the unused formulation remaining in the spray tank to calibrate the amount applied. The initial application was one to June 2000 with subsequent applications on the 27 August 2001, 17 July 2002, 18 June 2003 and 30 June 2004. Samples of soil have been taken at intervals over a four year period and analysed by an LCMS/MS method to determine levels of fluopicolide and its metabolites M-01 (AE C653711) M-02 (AE C657188) and M-03 (AE 0608000) present in the samples.

The initial dissipation of fluoricolide was relatively capid followed by a slower dissipation phase during the winter months due to the cold climate and possibly reduced availability of fluoricolide due to increased adsorption to soft with ageing. Residires of Haopicolide were detected mainly in the 0-10 cm soil horizon throughout the trial Low residues were detected in the 10-20 cm horizon at concentrations ranging from 0.002 to 0.008 mg/kg/mean values. Residue levels of parent declined to 76 g/ha two years after the first treatment which represented approximately 20 % of the initial concentration. Throughout the dissipation phase no residues of fluoricolide were detected above the LOQ below 20 cm depth.

The negtabolite M-05 (AE \$6537\$) was detected in 0-10 cm soil depth and occasionally at low levels in 10×20 cm depth in the dissipation plot. The maximum residue level was observed 31 days after application at 0.017 mg/kg (mean value) equivalent to 25 g/ha. In the 20-30 cm horizon and deeper soil layers residue evels were below the LOQ throughout the dissipation phase.

M-02 (AE C657188) and M-03 (AE 0668000) were rapidly degraded in the trial. Residues of M-02 were only detected at two early time-points in 0-10 cm soil depth in the dissipation plot. The maximum residue observed was 0.17 mg/kg (Mean value) equivalent to 25.5 g/ha 14 days after the initial application. No residues of M-02 were detected above the LOQ below 10 cm depth. No residues of M-03 were found above the LOQ throughout the study. The degradation of M-03 is known to be pH dependent and is very rapidly degraded in neutral to alkaline soils such as the soil at the Appilly trial site.



A re-evaluation of the degradation kinetics of the dissipation phase of the trial in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in best-fit DFOP un-normalised DT₅₀ value of 143.4 days and DT₉₀ of 1695.0 days for fluopicolide

The plateau concentrations of fluopicolide and M-01 after four years are summarised below.

Plateau concentration	Time-point	Fluopicolide (mg/kg)		Time-point	M-01 (ang/kg)		
concentration		0-10 cm	0-20 cm	'a L	0-10 cm	0-20 cm	
High ¹	Day 0 5 th Application	0.387	0.199	Day 190 after 4 th Application	<b>2</b> 036	0.026	
Low ²	Day 378 after 4 th Application	0.144	<b>9-08</b> 0	Day 0 after 5 th Application Q	0.034	G.025	

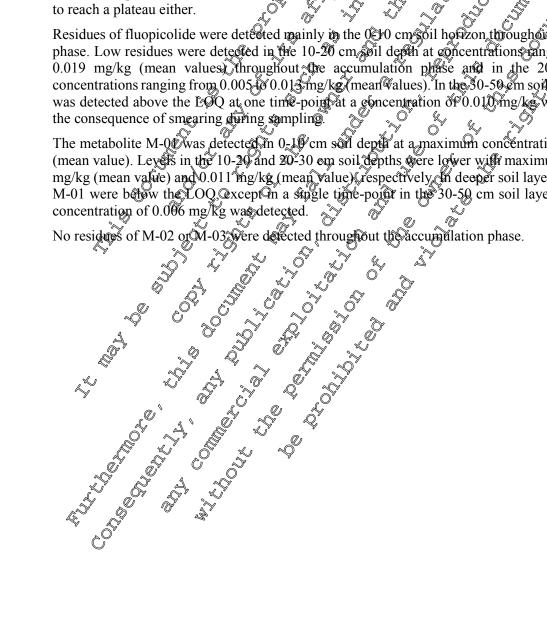
¹ maximum of the high values of the "saw teeth" curve

It was stated in Addendum 1 to the DAR (2007) that it was inconclusive whether fluopicolide residues had reached plateau concentrations in the Appully trial For M-01 residues were lower bucdid no appear

to reach a plateau either.

Residues of fluopicolide were detected mainly in the 000 cm foil hop zon throughout the accumulation phase. Low residues were detected in the 10-20 cm will depth at concentrations ranging from 0.006 to 0.019 mg/kg (mean values) throughout the accumulation phase and in the 20-90 cm depth at concentrations ranging from 0.005 to 0.013 mg/kg/(mean values). In the 30-50 cm soft depth fluoricolide was detected above the LOO at one time-point at a concentration of 0.010 mg/kg which was possibly

The metabolite M-00 was detected in 0-10 cm soil depth at a maximum concentration of 0.036 mg/kg (mean value). Levels in the 10-20 and 20-30 cm soil depths were lower will maximum values of 0.020 mg/kg (mean value) and 0.011 mg/kg (mean value) respectively. In deeper soil layers residue levels of M-01 were below the LOQ except on a single time-point in the 30-50 cm soil layer in which a mean



² maximum of the low values of the "saw teeth" curve



## I. Materials and Methods

### **Materials**

### **Test Item**

Fluopicolide formulated as liquid suspo-emulsion (fluopicolide)

Year of application:	2000 and 2001	2002 and 2003	<b>3</b> 604
Content of a.s.:	97.9 g/L	97.5 g/L	¥00 g/h
Certificate of Analysis:	AGF2000-0106-01	AGF2001-9 <b>2</b> 27-01	AGF2003G0035-0
Lot No:	OP200271	OP2 ₁ 9914	OP 20828 9

## **Trial Location & Soil**

A four year terrestrial field dissipation and accumulation study with fluoricolide formulated as a suspoemulsion containing 97.9 g/L fluopicolide AAE C@8206@0 SETO A3), has been conducted at a site at Appilly in the Picardie region in Northern France. The top soil was a sandy spit soil (DIN classification) with sandy silt / loamy silt subsoil. The characteristics of the soil are summarised in Table 7.1.20.1-28. Three experimental plots, each measuring 3 metres by 26 metres (234 mg/m total), were treated with the test substance. A fourth plot measuring 3 metres by 12 metres was left undeated to provide control samples. The treated plots were subdivided into separate areas for the dissipation phase treated once in 2000 and for the accumulation shase treated up to five times in 2000, 2001, 2002, 2002, and 2004.

Table 7.1.2.2.1-28: Location, site description and climatic data of test site

Appilly, Picardie, France				
Horizon 15	Horizon 2	Horizon 3		
©0 - 2 <b>0</b>	<b>20 - 50</b>	50 - 90		
	7.2	6.8		
å 9.7 €	18.8	20.4		
1.51	1.41	0.44		
24.4	n.d.	n.d.		
<b>2</b> 5.2	n.d.	n.d.		
15.5	n.d.	n.d.		
30.0	n.d.	n.d.		
1200	1480	1410		
32.0	23.2	21.0		
62.6	69.4	69.6		
5.4	7.4	9.4		
Sandy silt	Sandy silt	Loamy silt		
34.70	38.96	35.30		
11.77	14.56	17.84		
	Horizon (**)  0 - 20  7 - 20  19.7  1.5)  24.4  25.2  15.5  30.0  1200  32.0  62.6  5.4  Sandy silt  34.70	Horizon 2  0 - 20  7 20 - 50  7 7 2  18.8  1.51  1.41  25.2  n.d.  15.5  n.d.  30.0  n.d.  1200  1480  32.0  23.2  62.6  69.4  5.4  7.4  Sandy silt  Sandy silt  34.70  38.96		



## B. Study Design

## 1. Experimental Conditions

The formulated material was applied once a year, at the rate required to achieve an annual application of 400 g/ha of fluopicolide using a calibrated boom sprayer. Nominal application rates were confirmed by measuring the unused formulation remaining in the spray tank to calibrate the amount applied (397 g/ha for the first application). The initial application was on 16 June 2000 with subsequent applications on the 27 August 2001, 17 July 2002, 18 June 2003 and 30 June 2004.

All applications were made to bare soil. Throughout the study the plots were maintained as bare soil by the periodic application of the herbicide glyphosate to control weeds.

The following weather conditions were monitored continuously at the test site; rainfall, an temperature relative air humidity, soil temperature and soil moisture content at 10 cm depth. Wind speed and global radiation were taken from the regional official weather service (Chauny, 1997) or 50. Questin,

## 2. Sampling

Soil cores (5 cm diameter) for the dissipation phase were taken immediately after treatment, \$\tilde{Q}\$ day, 3 days, 14 days and 1, 2, 4, 6, 8, 10, 12, 15, 18 and 24 months after the first application. Samples for the accumulation phase were taken immediately after each treatment and additionally approximately 4 and 12 months after the second, third and fourth applications in 2001, 2002 and 2003. The final sample was taken immediately after the fifth application in 2004. Soil cores for the dissipation phase were taken to a depth of 30 cm during the first month and to a depth of 50 cm at inne-points up to two years. Soil cores for the accumulation phase were taken to a depth of 50 cm following the second application and up to 4 months after the third. Attimepoints after this soil cores were taken to a depth of 90 cm. At each sampling date 7 samples from each plot were taken (2) cores in total). Field samples were frozen immediately after sampling and shipped frozen to GAB Biotechnologie GmbH, Germany. The soil samples from the same borizon of each plot were bended in Germany and a subsample dispatched frozen to the Bayer CropScience analytical laboratory in France. The samples were then stored at -18 °C until required for analysis.

### 3. Aralytical Procedures

The analytical method AR 265-01 was used to determine levels of fluopicolide and its metabolites M-01 (AE C653714), M-02 (AE C657188), and M-03 (AP 0608000 referred to in the report as RPA 427967). Soil samples of 20 g were extracted twice at ambient temperature for 5 minutes by mechanical aptration using acetonitrile/water (70/30, 10/20) acidified with 0.1% formic acid. After each extraction step, extract and soil were separated by centrifugation and decantation. The soil extracts were combined and diluted with actified water to result in a final solvent of acetonitrile/water (30/70) with 0.1% formic acid. Quantification was carried out by LC-MS/MS using external standardisation for the parent compound and its metabolites. The limit of quantification (LOQ) was 0.005 mg/kg for each analyte.

During analysis of the dissipation samples of the current study, concurrent recovery samples were prepared freshly by fortification of control samples with test item fluopicolide and reference items M-01, M-02 and M-03 at levels of LOQ and 100 x LOQ and processed in parallel to the dissipation samples. The mean recoveries of LOQ and 100 x LOQ were 100 and 96% (RSD 12.2 and 5.5%) for fluopicolide 104 and 98% (RSD 10.4 and 80.5%) for M-01, 95 and 91% (RSD 10.6 and 8.5%) for M-02 and 96 and 88% (RSD 10.1 and 10.5%) for M-03. No residues of fluopicolide or its metabolites were found above the LOQ in the analysed untreated samples.

The validation of the extraction was carried out during the study, with samples taken immediately after the application of the test substance.



## **Determination of degradation kinetics**

The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. DT₅₀ and DT₉₀ values for the degradation of fluopicolide have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1). Full details are provided in Document KCA 7.1.2.2.1/24. A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints, an initial comparison was performed for each site between the SFO and FOMC fits for fluopicolide. The comparison of the SFQ and FOMC for suggested by phasis declare, and the DFOP model was therefore also fitted. For the Appilly site, the DFOP model was accepted the as best fit to the residues, despite a lack of confidence in the optimised rate constants, as DFOP Onetics provided the best visual description of the decline. The FOMC fir was not accepted as extrapolation beyond the experimental period is not recommended for deriving robust DT90 values using this model (EFSA, 2009). It is noted that the estimated OT₉₀ exceeded the relevant regulatory triggers for all models.

A. Analytical Methodology:

Full details and acceptable validation data to support this method are presented in Document M-CA 4, Section 4.1.2. The method complies with the EU regular requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of fluopicolide and its metabolites M-01 (AE C653711), M-02 (AE 657188) and M-03 (AE 0608000) in soft samples by HPLC-MS/MS.

#### В. Data

The results for fluopicolide and its metabolities M. O. (ALC657111) and M-02 (AE C657188) are presented below as soil residue concentrations (on a mg/kg dry weight basis) for each of the treated plots in Table 7.1.22.1- 29 to Table 7.4.2.2.1 34. No residues of M-16 (AE 0608000) were detected throughout the trial.

The level of residues for each analyte in the three replicate or eated plots were generally in good agreement throughout the trial except after the third application on 17 July 2002 and also to some extent after the fourth and fifth applications in 2003 and 2004. Fluopicolide residue levels immediately after the third application of 7 July 2002 were 1 = 0.278 mg/kg, 17 = 0.338 mg/kg and 17 = 0.602 mg/kg. The Plot T3 replicate was discarded as an Outlier as the Concentration was significantly higher than in the other plots. The dissipation and accumulation of fluoricolide (mean values and individual plots) and M-01 (mean values) at Appilly are presented in Figure 7.1.2.2.1-1 and Figure 7.1.2.2.1-2. In order to calculate mean values concentrations < LOQ (0.005 mg/kg) were assumed to be 0 mg/kg. Where individual replicate values exceeded the OQ the calculated mean concentration has been reported, Tow the LC including mean values that are below the LOC For the conversion of mg/kg into g/ha a soil density of 1.5 g/cm³ was used.

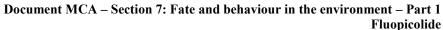




Table 7.1.2.2.1- 29: Residues of fluopicolide in soil after an application of 400 g a.s./ha DISSIPATION phase 2000-2002 values expressed as rog/kg

									- A						
Depth	Sub						DA	DAAIC							
[cm]	plot	0	1	3	14	31	62	136	187	245 ₍ O	× 309	370	483	584	735
	1	0.291	0.273	0.207	0.377	0.242	0.162	<b>⊕</b> 102	0,095	0.088	0.078	<b>€</b> 087	<b>9.011</b>	×0.9037	0.043
0.10	2	0.232	0.203	0.255	0.136	0.273	0.136	0.108	0.073	0.075	0.0980	0.045	0.037	0.039	0.037
0-10	3	0.244	0.161	0.171	0.162	0.279	0236	~Q:084	<b>6.690</b>	or.093	<b>2</b> 087	<b>. 49</b> 9078	©0042	0.037	0.050
	mean	0.256	0.212	0.211	0.225	0.265	Õb.15k €	0.098	0.086	[©] 0.08 <b>5</b> √2	0.088	0.070\$	0.0410	0.038	0.043
	1	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>&lt; POO.</td><td><løq< td=""><td>.&lt;4ç0Q</td><td>≶F<b>©</b>Q</td><td>0.011</td><td><l<b>ØQ</l<b></td><td>0.006</td><td>T. T. B.O.</td><td><loq< td=""><td>0.008</td></loq<></td></løq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>&lt; POO.</td><td><løq< td=""><td>.&lt;4ç0Q</td><td>≶F<b>©</b>Q</td><td>0.011</td><td><l<b>ØQ</l<b></td><td>0.006</td><td>T. T. B.O.</td><td><loq< td=""><td>0.008</td></loq<></td></løq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>&lt; POO.</td><td><løq< td=""><td>.&lt;4ç0Q</td><td>≶F<b>©</b>Q</td><td>0.011</td><td><l<b>ØQ</l<b></td><td>0.006</td><td>T. T. B.O.</td><td><loq< td=""><td>0.008</td></loq<></td></løq<></td></loq<></td></loq<>	<loq< td=""><td>&lt; POO.</td><td><løq< td=""><td>.&lt;4ç0Q</td><td>≶F<b>©</b>Q</td><td>0.011</td><td><l<b>ØQ</l<b></td><td>0.006</td><td>T. T. B.O.</td><td><loq< td=""><td>0.008</td></loq<></td></løq<></td></loq<>	< POO.	<løq< td=""><td>.&lt;4ç0Q</td><td>≶F<b>©</b>Q</td><td>0.011</td><td><l<b>ØQ</l<b></td><td>0.006</td><td>T. T. B.O.</td><td><loq< td=""><td>0.008</td></loq<></td></løq<>	.<4ç0Q	≶F <b>©</b> Q	0.011	<l<b>ØQ</l<b>	0.006	T. T. B.O.	<loq< td=""><td>0.008</td></loq<>	0.008
10.20	2	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq td="" ≒<=""><td>LOQ</td><td>Ç€LOQ &amp;</td><td>LOQ 🖔</td><td>LOQ</td><td>0.006</td><td>0.008 C</td><td><loq<sub>1</loq<sub></td><td><loq< td=""><td><loq< td=""><td>0.006</td></loq<></td></loq<></td></loq></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq td="" ≒<=""><td>LOQ</td><td>Ç€LOQ &amp;</td><td>LOQ 🖔</td><td>LOQ</td><td>0.006</td><td>0.008 C</td><td><loq<sub>1</loq<sub></td><td><loq< td=""><td><loq< td=""><td>0.006</td></loq<></td></loq<></td></loq></td></loq<></td></loq<>	<loq< td=""><td><loq td="" ≒<=""><td>LOQ</td><td>Ç€LOQ &amp;</td><td>LOQ 🖔</td><td>LOQ</td><td>0.006</td><td>0.008 C</td><td><loq<sub>1</loq<sub></td><td><loq< td=""><td><loq< td=""><td>0.006</td></loq<></td></loq<></td></loq></td></loq<>	<loq td="" ≒<=""><td>LOQ</td><td>Ç€LOQ &amp;</td><td>LOQ 🖔</td><td>LOQ</td><td>0.006</td><td>0.008 C</td><td><loq<sub>1</loq<sub></td><td><loq< td=""><td><loq< td=""><td>0.006</td></loq<></td></loq<></td></loq>	LOQ	Ç€LOQ &	LOQ 🖔	LOQ	0.006	0.008 C	<loq<sub>1</loq<sub>	<loq< td=""><td><loq< td=""><td>0.006</td></loq<></td></loq<>	<loq< td=""><td>0.006</td></loq<>	0.006
10-20	3	<loq< td=""><td><loq< td=""><td><loq< td=""><td>&lt;ĽQ<b>Q</b></td><td><løq td="" ″<=""><td>LOQ Q006</td><td>&lt; 1000</td><td>&lt; LOO</td><td>Q.006</td><td>Q00M</td><td>&lt;<b>\$</b>\$\$\tilde{Q}\tilde{Q}\tilde{\tilde{Q}}</td><td><i>≨</i>L0Q</td><td><loq< td=""><td>0.008</td></loq<></td></løq></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>&lt;ĽQ<b>Q</b></td><td><løq td="" ″<=""><td>LOQ Q006</td><td>&lt; 1000</td><td>&lt; LOO</td><td>Q.006</td><td>Q00M</td><td>&lt;<b>\$</b>\$\$\tilde{Q}\tilde{Q}\tilde{\tilde{Q}}</td><td><i>≨</i>L0Q</td><td><loq< td=""><td>0.008</td></loq<></td></løq></td></loq<></td></loq<>	<loq< td=""><td>&lt;ĽQ<b>Q</b></td><td><løq td="" ″<=""><td>LOQ Q006</td><td>&lt; 1000</td><td>&lt; LOO</td><td>Q.006</td><td>Q00M</td><td>&lt;<b>\$</b>\$\$\tilde{Q}\tilde{Q}\tilde{\tilde{Q}}</td><td><i>≨</i>L0Q</td><td><loq< td=""><td>0.008</td></loq<></td></løq></td></loq<>	<ĽQ <b>Q</b>	<løq td="" ″<=""><td>LOQ Q006</td><td>&lt; 1000</td><td>&lt; LOO</td><td>Q.006</td><td>Q00M</td><td>&lt;<b>\$</b>\$\$\tilde{Q}\tilde{Q}\tilde{\tilde{Q}}</td><td><i>≨</i>L0Q</td><td><loq< td=""><td>0.008</td></loq<></td></løq>	LOQ Q006	< 1000	< LOO	Q.006	Q00M	< <b>\$</b> \$\$\tilde{Q}\tilde{Q}\tilde{\tilde{Q}}	<i>≨</i> L0Q	<loq< td=""><td>0.008</td></loq<>	0.008
	mean	<loq< th=""><th><loq< th=""><th><loq_< th=""><th><b>KLOQ</b></th><th>[ <loq_< th=""><th>℃0.002¹</th><th></th><th>[®]LOQ (</th><th>0.008</th><th>$0.006^{\circ}$</th><th>$\bigcirc 0.002^{1}$</th><th>LOQ</th><th><loq< th=""><th>0.007</th></loq<></th></loq_<></th></loq_<></th></loq<></th></loq<>	<loq< th=""><th><loq_< th=""><th><b>KLOQ</b></th><th>[ <loq_< th=""><th>℃0.002¹</th><th></th><th>[®]LOQ (</th><th>0.008</th><th>$0.006^{\circ}$</th><th>$\bigcirc 0.002^{1}$</th><th>LOQ</th><th><loq< th=""><th>0.007</th></loq<></th></loq_<></th></loq_<></th></loq<>	<loq_< th=""><th><b>KLOQ</b></th><th>[ <loq_< th=""><th>℃0.002¹</th><th></th><th>[®]LOQ (</th><th>0.008</th><th>$0.006^{\circ}$</th><th>$\bigcirc 0.002^{1}$</th><th>LOQ</th><th><loq< th=""><th>0.007</th></loq<></th></loq_<></th></loq_<>	<b>KLOQ</b>	[ <loq_< th=""><th>℃0.002¹</th><th></th><th>[®]LOQ (</th><th>0.008</th><th>$0.006^{\circ}$</th><th>$\bigcirc 0.002^{1}$</th><th>LOQ</th><th><loq< th=""><th>0.007</th></loq<></th></loq_<>	℃0.002 ¹		[®] LOQ (	0.008	$0.006^{\circ}$	$\bigcirc 0.002^{1}$	LOQ	<loq< th=""><th>0.007</th></loq<>	0.007
	1	<loq< td=""><td><loq< td=""><td>&lt;[LQQ</td><td><loq<sup>®</loq<sup></td><td><pre><!--AQQ</pre--></pre></td><td><log< td=""><td>&lt;[4]QQ</td><td><p000< td=""><td>\$<b>.0</b>00</td><td><pqq< td=""><td>_{SLOO</td><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></pqq<></td></p000<></td></log<></td></loq<></td></loq<>	<loq< td=""><td>&lt;[LQQ</td><td><loq<sup>®</loq<sup></td><td><pre><!--AQQ</pre--></pre></td><td><log< td=""><td>&lt;[4]QQ</td><td><p000< td=""><td>\$<b>.0</b>00</td><td><pqq< td=""><td>_{SLOO</td><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></pqq<></td></p000<></td></log<></td></loq<>	<[LQQ	<loq<sup>®</loq<sup>	<pre><!--AQQ</pre--></pre>	<log< td=""><td>&lt;[4]QQ</td><td><p000< td=""><td>\$<b>.0</b>00</td><td><pqq< td=""><td>_{SLOO</td><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></pqq<></td></p000<></td></log<>	<[4]QQ	<p000< td=""><td>\$<b>.0</b>00</td><td><pqq< td=""><td>_{SLOO</td><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></pqq<></td></p000<>	\$ <b>.0</b> 00	<pqq< td=""><td>_{SLOO</td><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></pqq<>	_{SLOO	n.a	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20.20	2	<loq< td=""><td><loq< td=""><td></td><td></td><td>LOQ</td><td>Q100 a</td><td>%LOQ</td><td><b>%</b>T 00</td><td>S <loq< td=""><td>D[©]LOQ_%</td><td>Ç₹LOQ</td><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td></td><td></td><td>LOQ</td><td>Q100 a</td><td>%LOQ</td><td><b>%</b>T 00</td><td>S <loq< td=""><td>D[©]LOQ_%</td><td>Ç₹LOQ</td><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>			LOQ	Q100 a	%LOQ	<b>%</b> T 00	S <loq< td=""><td>D[©]LOQ_%</td><td>Ç₹LOQ</td><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	D [©] LOQ _%	Ç₹LOQ	n.a	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20-30	3	<loq< td=""><td><pre><lqq pre="" ©<=""></lqq></pre></td><td><lqq \(<="" td=""><td><l000< td=""><td>&lt;1.000°</td><td>&lt;1.000°</td><td><loo< td=""><td>&lt;<b>L</b>ÔQ</td><td>≰L<b>©</b>Q</td><td><p@o< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></p@o<></td></loo<></td></l000<></td></lqq></td></loq<>	<pre><lqq pre="" ©<=""></lqq></pre>	<lqq \(<="" td=""><td><l000< td=""><td>&lt;1.000°</td><td>&lt;1.000°</td><td><loo< td=""><td>&lt;<b>L</b>ÔQ</td><td>≰L<b>©</b>Q</td><td><p@o< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></p@o<></td></loo<></td></l000<></td></lqq>	<l000< td=""><td>&lt;1.000°</td><td>&lt;1.000°</td><td><loo< td=""><td>&lt;<b>L</b>ÔQ</td><td>≰L<b>©</b>Q</td><td><p@o< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></p@o<></td></loo<></td></l000<>	<1.000°	<1.000°	<loo< td=""><td>&lt;<b>L</b>ÔQ</td><td>≰L<b>©</b>Q</td><td><p@o< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></p@o<></td></loo<>	< <b>L</b> ÔQ	≰L <b>©</b> Q	<p@o< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></p@o<>	<loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	n.a	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	<loq th="" «<=""><th><b>√§¥LÖQ</b></th><th><loq< th=""><th></th><th><pre>\$<loq< pre=""></loq<></pre></th><th><b>_<loq< b="">_{}</loq<></b></th><th>_%≪LoQ ॄ</th><th>≸∠LOQ ≿</th><th></th><th>₃&lt;ĽOQ</th><th><loq< th=""><th>n.a</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<></th></loq<></th></loq>	<b>√§¥LÖQ</b>	<loq< th=""><th></th><th><pre>\$<loq< pre=""></loq<></pre></th><th><b>_<loq< b="">_{}</loq<></b></th><th>_%≪LoQ ॄ</th><th>≸∠LOQ ≿</th><th></th><th>₃&lt;ĽOQ</th><th><loq< th=""><th>n.a</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<></th></loq<>		<pre>\$<loq< pre=""></loq<></pre>	<b>_<loq< b="">_{}</loq<></b>	_% ≪LoQ ॄ	≸∠LOQ ≿		₃<ĽOQ	<loq< th=""><th>n.a</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<>	n.a	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
	1	-	-	, <u>-</u>	- <del>-</del> \$	£0,	<lôq< td=""><td>&lt;1,000</td><td><løq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></løq<></td></lôq<>	<1,000	<løq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></løq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	n.a	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
30-50	2	-				4	&LOQ \	<b>₽</b> LOQ		<b>₹</b> ŽÓQ	<loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	n.a	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	3	-	- g ^o	- ~ ^		- 3	' <lqq< td=""><td>&lt; LQQ</td><td>&lt; T. 600</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></lqq<>	< LQQ	< T. 600	<loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	n.a	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	-	~°-	01-			%LOQ		© <loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	n.a	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>

DAA: days after application
n.a not analysed, LOQ (limit of quantitation) = 0.005 mg/kg, Replicate value & LOQ

The land of th

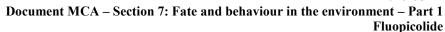




Table 7.1.2.2.1- 30: Residues of fluopicolide in soil after annual applications of 400 g a.s./ha ACCUMULATION phase values expressed as mg/kg

								•	<u> </u>		
Depth	Sub	DAA2			DAA3			, K	DAA4		DAA5
[cm]	plot	0	147	361	0	128	<b>336</b>	BOD TO	120 🖫 🖰	378	0
	1	0.196	0.122	0.087	0.278	0.186	0.129	£0.408	0.185	9.125	0.457
0-10	2	0.245	0.192	0.088	$0.338^2$	0.190	© 0.140 €	0.293	% <b>9</b> .190 %	0.143	0.235
0-10	3	0.222	0.165	0.101	0.602	0.172	0.149	9.312 O	0.163	1 20164 E	0.469
	mean	0.221	0.160	0.092	0.308	0.183	<b>√ ©0.138</b>	0.338	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0.1440	0.387
	1	0.040	0.018	0.012	0.012	£ 0.015, ©	0.019	<b>39.017</b>	0.034	0.023	<loq< td=""></loq<>
10.20	2	0.080	0.020	0.008	© 0.009 °	0.020	\$ 0.020 °C	1 0.042	~0.011 ×	0.007	0.011
10-20	3	0.010	0.020	0.012	0.623	\$0.009 ×	0.04%	9.011 ₁₀	0.0104	0.017	0.008
	mean	0.019	0.019	0.01	0.015	0.013	~ 19 018 ~ °	0.013	0.017	\$ ° 0.016	0.006
	1	<loq< td=""><td>0.015</td><td>0.007</td><td>0.000</td><td>€0.009 €</td><td>0.000</td><td>~100010 a</td><td>CLOQUE CLOQUE</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	0.015	0.007	0.000	€0.009 €	0.000	~100010 a	CLOQUE CLOQUE	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20.20	2	<loq< td=""><td>DIL 200.0</td><td>0.007 0.007</td><td>&amp; LOQ W</td><td><lo@< td=""><td>LEOQ (</td><td>STOON TO</td><td><b>J</b>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></lo@<></td></loq<>	DIL 200.0	0.007 0.007	& LOQ W	<lo@< td=""><td>LEOQ (</td><td>STOON TO</td><td><b>J</b>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></lo@<>	LEOQ (	STOON TO	<b>J</b> LOQ	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20-30	3	<loq< td=""><td><b>®</b>94 €</td><td>0.008</td><td>0.012</td><td>&amp; Loo</td><td>&lt;100g</td><td>DEOQ _</td><td>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<b>®</b> 94 €	0.008	0.012	& Loo	<100g	DEOQ _	LOQ	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	<loq 3<="" td=""><td>\$ 0.013 D</td><td>0.007</td><td><b>₹0.006</b> √</td><td>0.005</td><td><b>0.007</b> %</td><td>© 0.0050°</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq>	\$ 0.013 D	0.007	<b>₹0.006</b> √	0.005	<b>0.007</b> %	© 0.0050°	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	1	<loq*< td=""><td>0.010</td><td>, KLOQ O</td><td>&lt; T.O.O.</td><td>, OLOQ (</td><td>0,006</td><td><b>₹0.</b>006</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq*<>	0.010	, KLOQ O	< T.O.O.	, OLOQ (	0,006	<b>₹0.</b> 006	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20.50	2	<loq< td=""><td>0.007 و ١</td><td></td><td>LOQ</td><td>&lt; LQQ</td><td>QÖQ 🖔</td><td>S &lt; LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	0.007 و ١		LOQ	< LQQ	QÖQ 🖔	S < LOQ	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
30-50	3	<loq< td=""><td>002</td><td>LOQ</td><td>&lt; 1.00°</td><td>&amp;LOQ _@</td><td><lqq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></lqq<></td></loq<>	002	LOQ	< 1.00°	&LOQ _@	<lqq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></lqq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	<loq< th=""><th>\$0.010 a \$</th><th>&lt;<u>L</u>;<b>Q</b>,Q</th><th>_ <loq< th=""><th><lqq< th=""><th>0.002</th><th>0.002</th><th><loq< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<></th></lqq<></th></loq<></th></loq<>	\$0.010 a \$	< <u>L</u> ; <b>Q</b> ,Q	_ <loq< th=""><th><lqq< th=""><th>0.002</th><th>0.002</th><th><loq< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<></th></lqq<></th></loq<>	<lqq< th=""><th>0.002</th><th>0.002</th><th><loq< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<></th></lqq<>	0.002	0.002	<loq< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<>	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
	1	- 4			FOR	EDE - JOH	, [©] <loq< td=""><td>n.a</td><td>n.a</td><td>n.a</td><td>n.a</td></loq<>	n.a	n.a	n.a	n.a
50.70	2				- F	"-07°	<loq< td=""><td>n.a</td><td>n.a</td><td>n.a</td><td>n.a</td></loq<>	n.a	n.a	n.a	n.a
50-70	3	~ ~				~ 42°	<loq< td=""><td>n.a</td><td>n.a</td><td>n.a</td><td>n.a</td></loq<>	n.a	n.a	n.a	n.a
	mean	<del>-</del> 5,	- 00 - 00	10	20 - 20	<u> </u>	<loq< td=""><td>n.a</td><td>n.a</td><td>n.a</td><td>n.a</td></loq<>	n.a	n.a	n.a	n.a
	1	- 🦂 1		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	- O	-	n.a	n.a	n.a	n.a	n.a
70-90	2			o Call		-	n.a	n.a	n.a	n.a	n.a
	3	- 11			<b>-</b>	-	n.a	n.a	n.a	n.a	n.a
	mean		Olling - Ex		_	-	n.a	n.a	n.a	n.a	n.a

DAA: days are application. n.a not analysed, LQQ (limit of quantitation) = 0.005 mg/kg, ¹ Replicate value > LQQ, ² mean of two replicates



**Document MCA – Section 7: Fate and behaviour in the environment – Part 1** Fluopicolide

Table 7.1.2.2.1-31: Residues of M-01 (AE C653711) in soil after an application of 400 g a.s./ha DISSIPATION phase 2000-2002 values expressed as mg/kg

											- K 1 B				
Depth	Sub							DA	A1©	,		۸ ۱		100	
[cm]	plot	0	1	3	14	31	62	136 💖	<b>187</b>	245C	309	370	483	584	735
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0-10	2	<loq< td=""><td><loq< td=""><td>0.009</td><td>0.010</td><td>0.018</td><td>0.012</td><td>J 0.002</td><td>0.006</td><td>Û 0.00<b>6</b> €</td><td>0.003</td><td>0.007</td><td>0.008</td><td>0.006</td><td>0.008</td></loq<></td></loq<>	<loq< td=""><td>0.009</td><td>0.010</td><td>0.018</td><td>0.012</td><td>J 0.002</td><td>0.006</td><td>Û 0.00<b>6</b> €</td><td>0.003</td><td>0.007</td><td>0.008</td><td>0.006</td><td>0.008</td></loq<>	0.009	0.010	0.018	0.012	J 0.002	0.006	Û 0.00 <b>6</b> €	0.003	0.007	0.008	0.006	0.008
0-10	3	<loq< td=""><td><loq< td=""><td>0.007</td><td>0.012</td><td>0.014</td><td>00013</td><td>° 6.008</td><td><b>\$</b>\$06</td><td>eco66</td><td><b>2</b>007</td><td><b>S</b> 11</td><td>©0008</td><td><b>9</b>006</td><td>0.010</td></loq<></td></loq<>	<loq< td=""><td>0.007</td><td>0.012</td><td>0.014</td><td>00013</td><td>° 6.008</td><td><b>\$</b>\$06</td><td>eco66</td><td><b>2</b>007</td><td><b>S</b> 11</td><td>©0008</td><td><b>9</b>006</td><td>0.010</td></loq<>	0.007	0.012	0.014	00013	° 6.008	<b>\$</b> \$06	eco66	<b>2</b> 007	<b>S</b> 11	©0008	<b>9</b> 006	0.010
	mean	<loq< th=""><th><loq< th=""><th>0.008</th><th>0.014</th><th>0.017</th><th>© 6.013€ §</th><th>0.009</th><th>0.007</th><th>0.006</th><th>0.006</th><th>0.010\$</th><th>0.009@</th><th>0.006</th><th>0.009</th></loq<></th></loq<>	<loq< th=""><th>0.008</th><th>0.014</th><th>0.017</th><th>© 6.013€ §</th><th>0.009</th><th>0.007</th><th>0.006</th><th>0.006</th><th>0.010\$</th><th>0.009@</th><th>0.006</th><th>0.009</th></loq<>	0.008	0.014	0.017	© 6.013€ §	0.009	0.007	0.006	0.006	0.010\$	0.009@	0.006	0.009
	1	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>\$00</td><td><løq< td=""><td>[%]₹¢oo,Ó</td><td><u></u>≲EØQ</td><td>0.006 <loq< td=""><td><løq< td=""><td>_&lt;Ĺ⁄ØQ</td><td><b>M</b>OQ</td><td><loq< td=""><td>0.008</td></loq<></td></løq<></td></loq<></td></løq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>\$00</td><td><løq< td=""><td>[%]₹¢oo,Ó</td><td><u></u>≲EØQ</td><td>0.006 <loq< td=""><td><løq< td=""><td>_&lt;Ĺ⁄ØQ</td><td><b>M</b>OQ</td><td><loq< td=""><td>0.008</td></loq<></td></løq<></td></loq<></td></løq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>\$00</td><td><løq< td=""><td>[%]₹¢oo,Ó</td><td><u></u>≲EØQ</td><td>0.006 <loq< td=""><td><løq< td=""><td>_&lt;Ĺ⁄ØQ</td><td><b>M</b>OQ</td><td><loq< td=""><td>0.008</td></loq<></td></løq<></td></loq<></td></løq<></td></loq<></td></loq<>	<loq< td=""><td>\$00</td><td><løq< td=""><td>[%]₹¢oo,Ó</td><td><u></u>≲EØQ</td><td>0.006 <loq< td=""><td><løq< td=""><td>_&lt;Ĺ⁄ØQ</td><td><b>M</b>OQ</td><td><loq< td=""><td>0.008</td></loq<></td></løq<></td></loq<></td></løq<></td></loq<>	\$00	<løq< td=""><td>[%]₹¢oo,Ó</td><td><u></u>≲EØQ</td><td>0.006 <loq< td=""><td><løq< td=""><td>_&lt;Ĺ⁄ØQ</td><td><b>M</b>OQ</td><td><loq< td=""><td>0.008</td></loq<></td></løq<></td></loq<></td></løq<>	[%] ₹¢oo,Ó	<u></u> ≲EØQ	0.006 <loq< td=""><td><løq< td=""><td>_&lt;Ĺ⁄ØQ</td><td><b>M</b>OQ</td><td><loq< td=""><td>0.008</td></loq<></td></løq<></td></loq<>	<løq< td=""><td>_&lt;Ĺ⁄ØQ</td><td><b>M</b>OQ</td><td><loq< td=""><td>0.008</td></loq<></td></løq<>	_<Ĺ⁄ØQ	<b>M</b> OQ	<loq< td=""><td>0.008</td></loq<>	0.008
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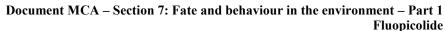




Table 7.1.2.2.1- 32: Residues of M-01 (AE C653711) in soil after annual applications of 400 g a.s./ha ACCUMULATION phase values expressed as mg/kg

Donth	Sub		DAA2			DAA3		W. 4	DAA4		DAA5
Depth [cm]	plot	0	147	361	0	128	336	Ber.	120 . S	3780	0
. ,	1	0.013	0.013	0.021	0.017	0.027		CO.015	0.044	\$ <b>3 9 0 2 9</b>	0.036
	2	0.013	0.013	0.018	0.017	0.02	0.025 %	0.012	× 6030	0.032%	0.031
0-10	3	0.013	0.014	0.018	0.023	0.032 × 5	0.022	9.015	0.034	0.034	0.031
		0.012	0.014	0.018	0.023	0.032	© 0.023	<del>\</del> \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0.034	0.0320	0.034
	mean		0.014			10° 11'A 10'		<b>0.01</b>	0.030	0.03201 0.823	
	1	<l0q< td=""><td></td><td>0.010</td><td>0.007</td><td>0.012</td><td>0.010</td><td>0.010</td><td>0.019\$</td><td>(/_n/</td><td>0.015</td></l0q<>		0.010	0.007	0.012	0.010	0.010	0.019\$	(/ _n /	0.015
10-20	2	<loq< td=""><td>0.008</td><td>0.006 0.0008 🖏</td><td>0.006</td><td>0.913</td><td>9.018 OF</td><td>0.010</td><td>0.013</td><td>0.018</td><td>0.017</td></loq<>	0.008	0.006 0.0008 🖏	0.006	0.913	9.018 OF	0.010	0.013	0.018	0.017
	3	<loq< td=""><td><loq< td=""><td>0.0000</td><td>0.009</td><td>\$0.012</td><td>0.01.2</td><td>30.011</td><td>0.0121</td><td>0.018</td><td>0.015</td></loq<></td></loq<>	<loq< td=""><td>0.0000</td><td>0.009</td><td>\$0.012</td><td>0.01.2</td><td>30.011</td><td>0.0121</td><td>0.018</td><td>0.015</td></loq<>	0.0000	0.009	\$0.012	0.01.2	30.011	0.0121	0.018	0.015
	mean	<loq< th=""><th>0.0051</th><th>0.898</th><th>0.007</th><th>0.013</th><th>0.016</th><th>0.0145</th><th>0.015</th><th>° 0.020</th><th>0.016</th></loq<>	0.0051	0.898	0.007	0.013	0.016	0.0145	0.015	° 0.020	0.016
	1	<loq< td=""><td><loq< td=""><td>0.006 <loq< td=""><td>0.000</td><td>~ 0.009 ~</td><td>0.0100</td><td><b>0</b>007</td><td>J. 0.010 J. C.</td><td>0.011</td><td>0.007</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.006 <loq< td=""><td>0.000</td><td>~ 0.009 ~</td><td>0.0100</td><td><b>0</b>007</td><td>J. 0.010 J. C.</td><td>0.011</td><td>0.007</td></loq<></td></loq<>	0.006 <loq< td=""><td>0.000</td><td>~ 0.009 ~</td><td>0.0100</td><td><b>0</b>007</td><td>J. 0.010 J. C.</td><td>0.011</td><td>0.007</td></loq<>	0.000	~ 0.009 ~	0.0100	<b>0</b> 007	J. 0.010 J. C.	0.011	0.007
20-30	2	<loq< td=""><td><loq<sub>Q</loq<sub></td><td>&lt;100°</td><td>&amp;LOQ</td><td>0.00%</td><td>Ø.Ø13 8</td><td>O 0.006 JUL</td><td>9.006</td><td>0.009</td><td>0.010</td></loq<>	<loq<sub>Q</loq<sub>	<100°	&LOQ	0.00%	Ø.Ø13 8	O 0.006 JUL	9.006	0.009	0.010
20 30	3	<loq< td=""><td><b>⊴.o</b>℃</td><td>  QLOQ O</td><td>0.006 0.006</td><td><b>20</b>.006</td><td>0.009\$</td><td><b>8,9</b>07</td><td>0.007</td><td>0.009</td><td>0.007</td></loq<>	<b>⊴.o</b> ℃	QLOQ O	0.006 0.006	<b>20</b> .006	0.009\$	<b>8,9</b> 07	0.007	0.009	0.007
	mean	<loq <sub="">2</loq>	\$ <loq< th=""><th>0.002</th><th>  <b>%.004</b>1</th><th>0.007</th><th>*0.011 %</th><th>\$ 0.007₀</th><th>0.008</th><th>0.010</th><th>0.008</th></loq<>	0.002	<b>%.004</b> 1	0.007	*0.011 %	\$ 0.007 ₀	0.008	0.010	0.008
	1	- 1710	<loq< td=""><td>*Loq of</td><td><p6< td=""><td>JOSÉ O O</td><td>0.01 K</td><td>.0<b>₽</b>06</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></p6<></td></loq<>	*Loq of	<p6< td=""><td>JOSÉ O O</td><td>0.01 K</td><td>.0<b>₽</b>06</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></p6<>	JOSÉ O O	0.01 K	.0 <b>₽</b> 06	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
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	1	- *	- 1 P	C	8 - a	-	n.a	n.a	n.a	n.a	n.a
70.00	2	<b></b>				-	n.a	n.a	n.a	n.a	n.a
70-90	3		1 - cc		9 ⁵ ~ -	-	n.a	n.a	n.a	n.a	n.a
	mean			e - 000	-	-	n.a	n.a	n.a	n.a	n.a

DAA: days after application, ha not analysed, LOQ (limit of quadration) = 0.005 mg/kg, 1 Replicate value > LOQ

Table 7.1.2.2.1-33: Residues of M-02 (AE C657188) in soil after an application of 400 g a.s./ha DISSIPATION phase 2000-2002 values expressed as mg/kg

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Depth	Sub							DA	Are			^		129	
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0.10	2	<loq< td=""><td><loq< td=""><td>0.010</td><td>0.014</td><td><loq< td=""><td><loq< td=""><td>(LOQ</td><td>E LOQ</td><td>CLOQ @</td><td>S<loqv< td=""><td><loq< td=""><td><loq®< td=""><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></loq®<></td></loq<></td></loqv<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.010</td><td>0.014</td><td><loq< td=""><td><loq< td=""><td>(LOQ</td><td>E LOQ</td><td>CLOQ @</td><td>S<loqv< td=""><td><loq< td=""><td><loq®< td=""><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></loq®<></td></loq<></td></loqv<></td></loq<></td></loq<></td></loq<>	0.010	0.014	<loq< td=""><td><loq< td=""><td>(LOQ</td><td>E LOQ</td><td>CLOQ @</td><td>S<loqv< td=""><td><loq< td=""><td><loq®< td=""><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></loq®<></td></loq<></td></loqv<></td></loq<></td></loq<>	<loq< td=""><td>(LOQ</td><td>E LOQ</td><td>CLOQ @</td><td>S<loqv< td=""><td><loq< td=""><td><loq®< td=""><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></loq®<></td></loq<></td></loqv<></td></loq<>	(LOQ	E LOQ	CLOQ @	S <loqv< td=""><td><loq< td=""><td><loq®< td=""><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></loq®<></td></loq<></td></loqv<>	<loq< td=""><td><loq®< td=""><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></loq®<></td></loq<>	<loq®< td=""><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></loq®<>	<lqq< td=""><td><loq< td=""></loq<></td></lqq<>	<loq< td=""></loq<>
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Table 7.1.2.2.1- 34: Residues of M-02 (AE C657188) in soil after annual applications of 400 g a.s./ha ACCUMULATION phase values expressed as mg/kg

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Depth	Sub	T.	DAA2			DAA3			DAA4		DAA5
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50-70	3	The	- 20		- OF	J JO	<loq< td=""><td>n.a</td><td>n.a</td><td>n.a</td><td>n.a</td></loq<>	n.a	n.a	n.a	n.a
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70.00	2	<b>₹</b> €¹				_	n.a	n.a	n.a	n.a	n.a
70-90	3				9 ² -	-	n.a	n.a	n.a	n.a	n.a
	mean			e - 000	-	-	n.a	n.a	n.a	n.a	n.a
	1 1/2		STATE OF THE								

DAA: days after application of quantitation = 0005 mg/kg Replicate value > LOQ



### C. Residues

# Dissipation phase (2000 - 2002)

The theoretical initial concentration of fluopicolide in the 0-10 cm layer was 0.265 mg/kg based on the calibrated application rate of 397 g/ha, assuming a soil density of 1.5 g/cm³. The average initial concentration of fluopicolide in the soil samples taken immediately after application was 0.256 mg/kg (range 0.232 to 0.291 mg/kg). This corresponds to an apparent application rate of 383.5 g/ha which is in good agreement with the nominal application rate of 400 g/ha. The initial dissipation of fluopicolide was relatively rapid followed by a slower dissipation phase during the winter months due to the cold climate and possibly reduced availability of fluopicolide due to increased adsorption to soil with ageing. Residues of fluopicolide were detected mainly in the 0-10 cm soil florizon throughout the trial Low residues were detected in the 10-20 cm horizon at concentrations ranging from 0.002 to 0.008 mg/kg (mean values). Residue levels of parent declined to 76 g/ha two years after the first treatment which represented approximately 20 % of the initial concentration. Throughout the dissipation phase no residues of fluopicolide were detected above the LOQ below 20 cm depth.

The metabolite M-01 (AE C653711) was detected in 0-10 cm soul depth and occasionally at 10 w levels in 10-20 cm depth. The maximum residue level was observed 1 days after application at 0.017 mg/kg (mean value) equivalent to 25 g/ha. In the 20-30 cm, for izon and deper soil layers residue levels were below the LOQ throughout the dissipation phase.

M-02 (AE C657188) and M-03 (AD 0608000) were rapidly descaded in the trial. Residues of M-02 were only detected at two early time-points in 0-10 on soil depth. The maximum residue observed was 0.017 mg/kg (mean value) equivalent to 25.3 g/ha 14 days after the initial application. No residues of M-02 were detected above the LOQ below 10 cm depth. No residues of M-03 were found above the LOQ throughout the study. The degradation of M-03 is known to be pri dependent and is very rapidly degraded in neutral to alkaline soils such as the soil of the Appilly trial site.

## **Accumulation:**

The maximum average concentration of fluopicolide in soil was 0.387 mg/kg in 0 to 10 cm soil depth immediately after the fifth application in 2004. Although the upper finit of the 'saw teeth' curve still appears to increase the plateau concentration at the lower limit appears to have been reached (see Figure 7.1.2.2.1.71). The apparent increase in the upper limit could be a result of variations in concentration immediately after application. Variation between replicate plots is very much less for the lower limit of the 'saw teeth' curve.

Residues of fluopicolice were retected mainly in the 0-10 m soil horizon throughout the accumulation phase. Low residues were detected in the 10-20 cm soil depth at concentrations ranging from 0.006 to 0.019 mg/kg (mean values) throughout the accumulation phase and in the 20-30 cm depth at concentrations ranging from 0.005 to 0.013 mg/kg (mean values). In the 30-50 cm soil depth fluopicolide was detected above the LOQ at one time-point at a concentration of 0.010 mg/kg which was possibly the consequence of smearing during sampling.

The metabolite M-01 was detected in 0-10 cm soil depth at a maximum concentration of 0.036 mg/kg (mean value). Levels in the 10-20 and 20-30 cm soil depths were lower with maximum values of 0.020 mg/kg (mean value) and 0.011 mg/kg (mean value), respectively. In deeper soil layers residue levels of M-01 were below the LOO, except in a single time-point in the 30-50 cm soil layer in which a mean concentration of 0.006 mg/kg was detected.

M-02 was dejected only at early time-points after the initial application during the dissipation phase of the trial. No residues of M-02 were detected throughout the accumulation phase. No residues of M-03 were detected throughout the dissipation or accumulation phases of the trial.

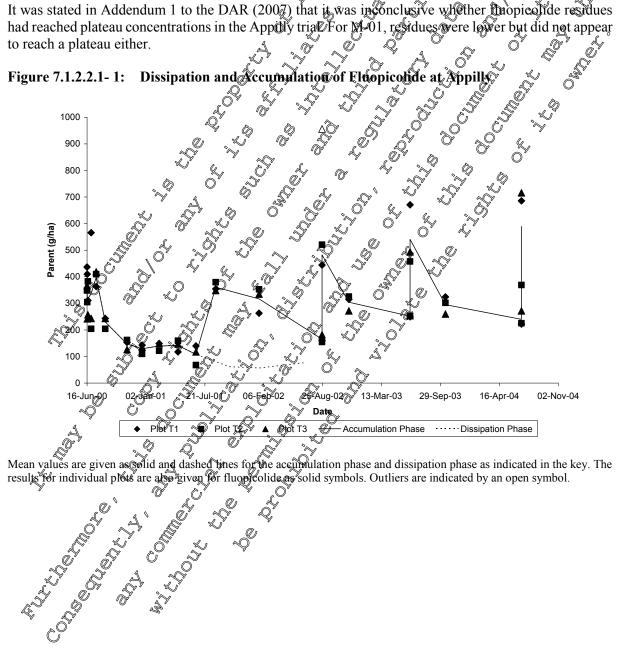


The plateau concentrations of fluopicolide and M-01 after four years are summarised below.

Plateau concentration	Time-point	Fluopicolide (mg/kg)		Time-point	M-01 (mg/kg)
Concenti ation		0-10 cm	0-20 cm		> 0-10 cm   0520 cm
High ¹	Day 0 5 th Application	0.387	0.199	Day 120 after 4 th Application	0.036
Low ²	Day 378 after 4 th Application	0.144	0.080	Day 0 after 5 th Application	0.034 0.025

¹ maximum of the high values of the "saw teeth" curve

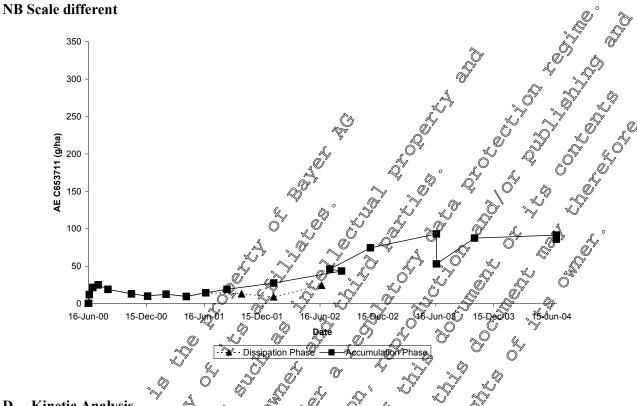
It was stated in Addendum 1 to the DAR (2007) that it was inconclusive whether thropical de residues



² maximum of the low values of the "saw teeth" curve



Figure 7.1.2.2.1- 2: Dissipation and Accumulation of M-01 (AE C653711) at Appilly



# D. Kinetic Analysis

The half-life of fluor colide included in the report was calculated using a bi-phasic first-order kinetic model (Hockey Stick) as 99 days The DT 90 was 953 days and the 12 was 08891. The experimental data has been re-evaluated according to the FOCUS guidance document on digradation kinetics (FOCUS, 2014) using the software KinGUI (Version 2.1). Full details of the evaluation are provided in the summary for Document K&A 7.1.2.2.1/24. The resulting best-fit DT50 values for trigger endpoints are summarised below in Table 7.12.2.1-35. Best kinetics are highlighted in bold.

Degradation rate of fluopicolide under field conditions (DT50 values for trigger endpoints)

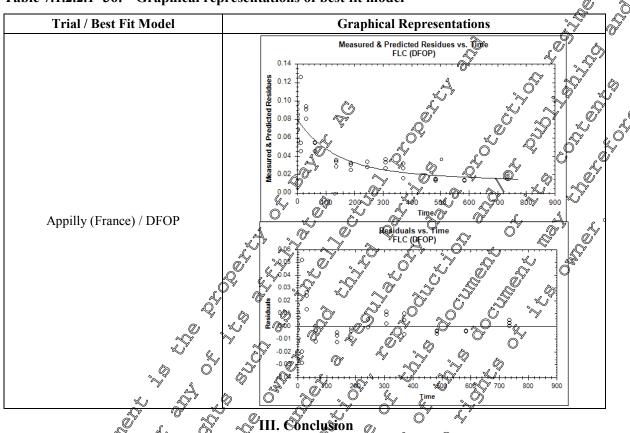
Soil ©	Konetic of model		<b>2</b> ,30, u.y)	χ², %Φ error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT ₉₀ [days]
	SE O	<del>)</del> 7668	@k 0.003\$66	<b>4</b> 6.3	7.97E-09	0.002575	0.005	194.4	645.7
Appilly (France), CA 7.1.2.2.1/08,	FOMCA	0.07992	a 116 \$ 175.4	14.8	n.r. n.r.	-0.3699 -197.3	2.603 547.4	150.7	1202
(Pollmann, 2005b)	DROP	© Ø.079 <del>9</del> 5	41 0.007931 k2 0.0006561 g-0.6959	15	0.1236 0.3988 n.r.	-0.005294 -0.004323 -0.2273	0.021 0.006 1.619	143.4	1695

Best fit model highlighted in bold



A graphical representation of the final kinetic fit is shown below.

Table 7.1.2.2.1-36: Graphical representations of best fit model



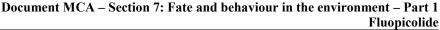
Following a single application of fluoricolide at a nomina application rate of 400 g/ha to bare soil in summer 2000. The decline of fluoricolide and the formation and feeline of its metabolites M-01, M-02 and M-03 was followed for up to 735 days after application and trial site in Appilly, Northern France. A re-evaluation of the degradation function in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit of OP un-normalised DT₅₀ value of 143.4 days and DT₉₀ value of 1695 days for Nuopicolide

The accumulation potential of fuopicalide and its metabolites M-01, M-02 and M-03 was assessed at the same site for up to four years after repeated application to bare soil. It was concluded during the previous evaluation that it was not clear that fluopicolide residues had reached plateau concentrations in the Appilly trial. For 10-01, residues were fower but also did not appear to reach a plateau. The metabolites M-02 and M-03 were rapidly degraded in soil and were either not detected or disappeared completely within one month. In this submission definitive assessment of the accumulation of fluopicolide and its metabolites in soil is addressed in Document MCP-9 by calculation.

# Assessment and conclusion by applicant:

The study is considered valid to assess the dissipation of fluopicolide under field conditions in soil. The study meets the requirements to assess field persistence of fluopicolide and its metabolites under EU 283/2015 and to derive parent soil DegT_{50matrix} values for legacy field studies as defined by EFSA (2004). It is not uitable for assessing metabolite soil DegT_{50matrix} values as the design did not minimise soil surface processes immediately after application as required by EFSA (2014).

The study is considered as supportive information to assess the possibility of accumulation of residues in soil. Definitive assessment of the accumulation of fluopicolide and its metabolites in soil is addressed in Document MCP-9 by calculation.





Data Point:	KCA 7.1.2.2.1/09
Report Author:	
Report Year:	2005
Report Title:	Field soil dissipation of AE C638206 following a single application and multiple
	applications to bare soil plots at 1 location in Germany, 2000
Report No:	C047266
Document No:	<u>M-247945-01-1</u>
Guideline(s) followed in	BBA: Part IV, 4-1; EU (=EEC): Anonymous 1999; IVA: Beutel et al. (1993)
study:	SETAC: Lynch, (1995)
Deviations from current	Yes. Report meets the requirement for field persistence criteria and
test guideline:	ecotoxicological risk assessment as required by \$\times 283/2013 and the requirements
	for assessing parent soil DegT50matrix values@srequired by EFSA (3014) fer
	legacy field studies. Report does not meet the requirement for assessing metholitic
	soil DegT50matrix values is required by EFSA (2014) for field stadies.
Previous evaluation:	yes, evaluated and accepted
	DAR (2005) & & & & & & & & & & & & & & & & & & &
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes O V V V V V V

# **Executive Summary**

A four year terrestrial field discipation and accumulation study with fluopicolide, formulated as a suspoemulsion containing 97.9 g/L fluopicolide, AE C638206 00 SEV0 A32 has been conducted at a site at Philippsburg, Southern Germany. The top soil at the test site was a foamy sand soil. The formulated material was applied once a year, at the rate required to achieve an annual application of 400 g/ha of fluopicolide using a calibrate boom sprayer to bay soil. Nominal application rates were confirmed by measuring the unused formulation remaining in the spray tank to calibrate the amount applied. The initial application was on 30 June 2000 with subsequent applications on the 24 July 2001, 26 June 2002, 5 June 2003 and July 2004. Samples of soil have been taken at intervals over a four year period and analysed by an LC/MS/MS method to determine levels of fluopicolide and its metabolites M-01 (AE C653711), M-02 (AE C657188) and M-03 (AE 0608000) present in the samples.

The initial dissipation of fluoricolide was rapid followed by a slower dissipation phase during the winter months due to the cold climate. Dissipation continued the following summer at a slower rate than the initial rapid phase possibly due to the reduced availability of fluoricolide due to increased adsorption to soil with ageing. Residues of fluoricolide were detected mainly in the 0-10 cm soil horizon throughout the trial. Lower residues were detected in the 10-20 cm and 20-30 cm horizons in the dissipation phase at concentrations ranging from 0.073 to 0.002 trig/kg and 0.023 to 0.002 mg/kg, respectively (mean values). Residue levels of parent declined to 85.5 g/ha two years after the first treatment which represented less than 20% of the measured (485.5 g/ha) initial concentration. Throughout the dissipation phase no residues of phopicolide were detected above the LOQ below 30 cm depth.

The concentration of Mol1 (Afr C653411) of the soil profile varied with the degradation rate of fluopicolide. During the summer months when the degradation rate of the parent compound was relatively rapid. M-01 concentrations were highest and declined during the winter as the degradation rate of fluopicolide slowed. Residue levels of M-01 reached a maximum two months after the first application at a concentration equivalent to 35.5 g/ha in August 2000. The metabolite was detected at soil depths down to 50 cm. The maximum residue level in the 0-10 cm horizon was observed 62 days after application at 0.015 mg/kg (mean of three replicates). The maximum residue in the underlying 10-20 cm was detected at 120 days after application at 0.011 mg/kg (mean values) during the dissipation phase. In the 20-30 cm and 30-50 cm horizons residue levels were generally at or below the LOQ (maximum in dissipation phase 0.007 mg/kg). Overall residue levels of M-01 declined to a concentration equivalent to 2.5 g/ha the end of the dissipation phase.



M-02 (AE C657188) and M-03 (AE 0608000) were rapidly degraded in the trial. Residues of M-02 were only detected at early timepoints in the 0-10 cm soil depth up to 62 days after application at a maximum concentration of 0.009 mg/kg (mean value), equivalent to 13.4 g/ha. Residues of M-03 were detected one and three days after application in the 0-10 cm soil layer at the LOQ (0.005 mg/kg) in single represented samples. The degradation of AE 0608000 is known to be pH dependant and is very rapidly degraded in slightly acidic soils such as the soil at the Philippsburg trial site. No residues of M-02 and M03 were detected above the LOQ below 10 cm depth.

A re-evaluation of the degradation kinetics of the dissipation phase of the trial in accordance FOCUS guidance document on degradation kinetics (2013), resulted in best-fit DFQP un-normalised DT₅₀ value of 133.0 days and DT₉₀ of 1417.0 days for fluopicolide

The plateau concentrations of fluopicolide and M-01 after four years are summarised below

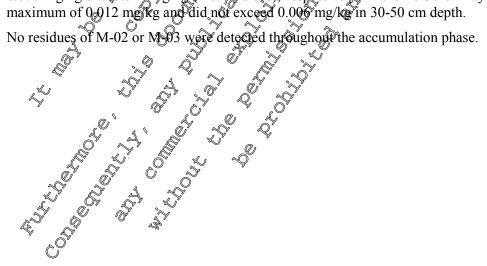
Plateau concentration	Time-point	Fluopicolide
High ¹	Day 0 2 nd Application	0.341 0.19 Day 23 0 0.070 0.042
Low ²	Day 368 after 4 th Application	Day O S COL

¹ maximum of the high values of the "saw teeth curve"

It was stated in Addendam 1 to the BAR (2007) that fluoricolide residues had reached a plateau concentration in the accumulation phase of the Philippsburg trial For M-01, residues levels were lower but did not appeared to reach a plateau.

Residues of fluoricolide overe desected mainly in the 9-10 cm and 40-20 cm soil horizons throughout the accumulation phase Residues in the 10-20cm soil depth reached a maximum of 0.073 mg/kg one day after the first approcation Low Pesidues were detected in the 20-39 cm soil depth at concentrations ranging from 0.003 to 0.033 mg/kg (mean values) throughout the accumulation phase. In the 30-50 cm soil depth Nuopicolide was detected on occasions at concentrations 20.005 mg/kg (mean values) except for one replicate at 0.025 mg/02 immediately.

The metabolite M-D was detected in 0-10 cm and 10-20 cm soil depth at maximum concentrations of 0.070 mg/kg and 0.024 mg/kg mean values), respectively. In the 20-30 cm layer residues reached a maximum of 0.012 mg/kg and did not exceed 0.006 mg/kg in 30-50 cm depth.



² maximum of the low values of the Caw teeth? curve



## I. Materials and Methods

## A. Materials

## 1. Test Item

Fluopicolide formulated as liquid suspo-emulsion (fluopicolide)

Year of application:	2000 and 2001	2002 and 2003	2504
Content of a.s.:	97.9 g/L	97.5 g/L	√ĴØ0 g/Ľ≫″ ~~
Certificate of Analysis:	AGF2000-0106-01	AGF2001-022-01	AG\$\tilde{\pi}2003\tilde{}0035-Q1\tilde{}
Lot No:	OP200271	OP210994	♥ OP220828 ♥

## 2. Trial Location & Soil

A four year terrestrial field dissipation and accumulation study with fluoricolide formulated as a suspoemulsion containing 97.9 g/L fluoricolide AAE C@8206 00 SETO A3), has been conducted at a site at Philippsburg, Southern Germany. The top soil was a low organic carbon sitt sand (DIN classification) overlying sand subsoil. The character trics of the soil are summarised to Table 7.1.22.1-30 Three experimental plots, each measuring of metres by 26 metres (234 or in total), were treated with the test substance. A fourth plot measuring of metres by 12 metres was left untreated to provide control samples. The treated plots were subdivided into separate areas for the dissipation phase treated once in 2000 and for the accumulation phase treated up to five times in 2000, 2001, 2002, 2003 and 2004.

Table 7.1.2.2.1-37: Location, site description and climatic data of test site

A			1
Characteristic Units 5		urg, Baden-Wü Germany	rttemberg,
Characteristic Units 5	Morizon 1	Horizon 2	Horizon 3
Sampling depth C cm	5 0 <b>- 20</b> 2	<b>20 - 50</b>	50 - 90
pH O O CACl ₂	<b>36</b> .4	5.4	7.3
Cation exchange capacity	5.59	3.90	3.50
Total organic carbon (TOC) % %	~ O.27	0.53	0.11
Biomass 2000 mg (2100 g)	² 1,7.48	nd	nd
2002 Rug C/100 g	10.00	nd	nd
003 mg C400 g	9.35	nd	nd
2004 mg C/100 g	O ^v 13.2	nd	nd
Soil Density Q g/LQ Q	1950	1650	1416
Particle size distribution (DIN)			
Clay < 0.002 mm	81.7	83.8	89.0
Total sand 0.063 - 2 mm	12.8	11.4	7.0
Total sand 0.063 - 2 mm	5.5	4.8	4.0
Textural class & Sin N	Loamy sand	Silty sand	Sand
Water Holding Capacity Vol % 1/10 bar (pF2)	15.15	11.99	12.00
Vol % at 15 bar (pF4.2)	3.32	2.64	nd

n.d. = not determined



# **Study Design**

# **Experimental Conditions**

The formulated material was applied once a year, at the rate required to achieve an annual application of 400 g/ha of fluopicolide using a calibrated boom sprayer. Nominal application rates were confirmed? by measuring the unused formulation remaining in the spray tank to determine the actual amount applied (411 g/ha for the first application). The initial application was on 20 June 2000 with subsequent applications on the 24 July 2001, 26 June 2002, 5 June 2003 and 6 July 2004.

All applications were made to bare soil. Throughout the story the plots were maintained as bare soil. the periodic application of the herbicide glyphosate to control weeds.

The weather conditions were monitored at a distance of 1 km from the test site. Wind speed globa radiation, rainfall, air temperature, relative air hymidity, soil temperature at 10 cm/depth and moisture at 5 different depths were monitored commuously).

2. Sampling
Soil cores (5 cm diameter) for the dissiplation phase were taken implediately after treatment, 1 day, 3 days, 14 days and 1, 2, 4, 6, 8, 10, 12, 45, 1, and 24 months after the first application, Samples for the accumulation phase were taken immediately after each treatment and additionally approximately 4 and 12 months after the second, third and fourth applications in 2001, 2002 and 2003. The final sample was taken immediately after the fifth application in 2004 Soil cores for the dissipation phase were taken to a depth of 30 cm during the 191st month and to a depth of 50 cm at time-points up to two years. Soil cores for the accumulation phase were taken to a depth of 50 chr following the second application and up to 4 months after the third. At timepoints after this, soil cores were taken to a depth of 90 cm. At each sampling date 7 samples from each plot were taken (21 Field samples were frozen immediately after sampling and shapped frozen to GAB Biotechnologie GunbH, Germany. The soil samples from the same horizon of each plot were blended in Germany and a subsample dispatched frozen to the Bayer Crop Science analytical laboratory in France. The samples were then stored at -18 °C until required for applysis.

3. Analytical Procedures

The analytical method AR 265-01 was used to determine levels of fluopicolide and its metabolites M-01 (AE C653711) M-02 (AE C657188) and M-03 (AE 0608000 referred to in the report as RPA 427967). Soil samples of 20 govere extracted twice at ambient temperature for 5 minutes by mechanical agitation using acetonitible/water (70/30, v/v) acidified with 0.1% formic acid. After each extraction step, extract and soil were separated by centification and decantation. The soil extracts were combined and diluted with acidified water to result in a final solvent of acetonitrile/water (30/70) with 0.1% forence acid. Quantification was carried out by LC-MS/MS using external standardisation for the parent compound and its metabolites. The limit of quantification (LOQ) was 0.005 mg/kg for each analyte.

During analysis of the dissipation samples of the current study, concurrent recovery samples were prepared freshly by fortification of control samples with test item fluoricolide and reference items M-01, M-02 and M-03 at revels of LQO and 100 x LOQ and processed in parallel to the dissipation samples. The mean recoveries of LOO and 100 x LOO were 99 and 96% (RSD 7.7 and 11.2%) for fluopicolide, 100 and 94% (RSD 5.6 and 8.3%) for M-01, 97 and 95% (RSD 7.8 and 8.7%) for M-02 and 102 and 97% (RSD 6.0 and 11.0%) for M-03. No residues of fluopicolide or its metabolites were found above the LOO in the analysed untreated samples.

The validation of the extraction was carried out during the study, with samples taken immediately after the application of the test substance.



# 4. Determination of degradation kinetics

The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. DT₅₀ and DT₉₀ values for the degradation of fluopicolide have been re-calculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1). Full deals are provided in Document KCA 7.1.2.2.1/24. A brief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints, an initial comparison was performed for each site between the SFO and FOMC fits for fluopicolide. The comparison of the SFO and FOMC for suggested of phasic declare, and the DFOP model was therefore also fitted. For the Philippsburg site, confidence in the k1 DFOP rate constant was slightly low (p=0.064), however the DFOP fit provided the besovisual description of the residues, and was accepted.

# II. Results and Discussion

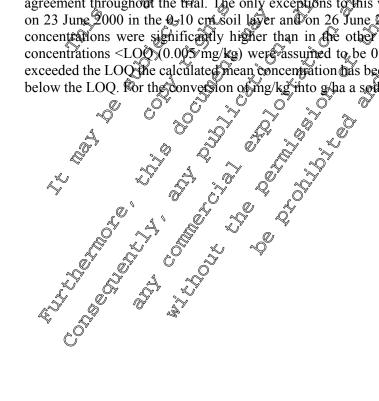
# A. Analytical Methodology:

Full details and acceptable validation data to support this method are presented in Document MSCA 4, Section 4.1.2. The method complies with the EU regulatory requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of fluopicolide and its metabolites M-01 (AE C653711), M-02 (AE C657188) and M-03 (AE 0608000) in soil samples by HPLC-MS/MS.

## B. Data

The results for fluopicolide and its metabolites M. W (AEC 653711), M-02 (AEC 657188) and M-03 (AE 0608000) are presented below as soil residue concentration on a mg/kg dry weight basis) for each of the treated plots in Table 7.1.2.2.1-38 to Table 7.1.2.2.1-45. The fluopicolide concentrations for the individual plots are also shown in Figure 7.1.2.2.1-3 and Figure 7.1.2.2.1.4.

The levels of residue for each analyte in the three replicate freated plots were generally in good agreement throughout the trial. The only exceptions to this were fluoricolide residue levels in Plot T1 on 23 June 2000 in the 4-10 cm soil layer and on 26 June 2002 in the 10-20 cm soil layer, where the concentrations were significantly higher than in the other plots. In order to calculate mean values, concentrations <LOO (0.005 mg/kg) were assumed to be 0 mg/kg. Where individual replicate values exceeded the LOO the calculated mean concentration has been reported, including mean values that are below the LOO. For the conversion of mg/kg into g/ha a soil density of 1.5 g/cm³ was used.



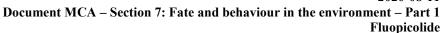




Table 7.1.2.2.1-38: Residues of fluopicolide in soil after an application of 400 g a.s./ha DISSIPATION phase 2000-2002 values expressed as more

D 41	6.1							DA	A1 &						
Depth	Sub		1			1			Al	1		1		9	
[cm]	plot	0	1	3	14	36	62	120	181	244	<b>© 308</b>	367	O* 461	<b>≥</b> 546	735
	1	0.242	0.210	0.970	0.150	0.172	0.162	0.404	0.096	0.107	0.082	Sagg.	Q.969	040	0.037
0-10	2	0.183	0.333	0.145	0.193	0.156	0.110		₽\$0.093 <u> </u>	0.047	\$ 0.060 ₀	0.055	90.033 _©	\$\tilde{0}.026	0.021
0-10	3	0.195	0.210	0.291	0.169	0.111	0.1307	0.080	0.H	0,082	0.079	0.053	0.693	0.036	0.028
	mean	0.207	0.251	0.2181	0.171	0.146	<b>©</b> 136 g	<b>0.086</b>	0.102	00.082	<b>%0.</b> 072 🙊	0.059	©0.046	0.034	0.029
	1	0.007	0.121	<loq< td=""><td>0.012</td><td>0.016</td><td>0.012</td><td>0.020</td><td>0.020</td><td>0.040</td><td>0.066</td><td>0.1036</td><td>&lt;100</td><td>0.014</td><td>0.035</td></loq<>	0.012	0.016	0.012	0.020	0.020	0.040	0.066	0.1036	<100	0.014	0.035
10-20	2	0.009	0.048	0.085	0.016	<b>70</b> .016	<b>3</b> .016	0.014	0.021	© 6.023 . (		<b>%</b> 0.018	<b>L</b> OQ	0.012	0.009
10-20	3	<loq< td=""><td>0.049</td><td><loq< td=""><td>0.038</td><td>[™] 0.005 [™]</td><td>0.012</td><td><pre>COO ()</pre></td><td>0.025</td><td>0.064</td><td>0.035</td><td>0.033</td><td>0.006</td><td>0.029</td><td>0.022</td></loq<></td></loq<>	0.049	<loq< td=""><td>0.038</td><td>[™] 0.005 [™]</td><td>0.012</td><td><pre>COO ()</pre></td><td>0.025</td><td>0.064</td><td>0.035</td><td>0.033</td><td>0.006</td><td>0.029</td><td>0.022</td></loq<>	0.038	[™] 0.005 [™]	0.012	<pre>COO ()</pre>	0.025	0.064	0.035	0.033	0.006	0.029	0.022
	mean	$0.005^{2}$	0.073	0.028	0.022	a 0.010	<b>.</b> 0.013	0.011 ²	Ø.025	<b>39.042</b>	<b>©</b> 0.043	<b>₹</b> 0.027	$\bigcirc 0.002^2$	0.018	0.022
	1	<loq< td=""><td><loq< td=""><td>0.062</td><td>LOQQ</td><td>^⅓ <lqq\$< td=""><td><lq@< td=""><td><lqq\(\sigma\)< td=""><td>&lt; LOO</td><td>&lt; LOQ</td><td>0.01</td><td>0.065</td><td>0.030</td><td><loq< td=""><td>0.012</td></loq<></td></lqq\(\sigma\)<></td></lq@<></td></lqq\$<></td></loq<></td></loq<>	<loq< td=""><td>0.062</td><td>LOQQ</td><td>^⅓ <lqq\$< td=""><td><lq@< td=""><td><lqq\(\sigma\)< td=""><td>&lt; LOO</td><td>&lt; LOQ</td><td>0.01</td><td>0.065</td><td>0.030</td><td><loq< td=""><td>0.012</td></loq<></td></lqq\(\sigma\)<></td></lq@<></td></lqq\$<></td></loq<>	0.062	LOQQ	^⅓ <lqq\$< td=""><td><lq@< td=""><td><lqq\(\sigma\)< td=""><td>&lt; LOO</td><td>&lt; LOQ</td><td>0.01</td><td>0.065</td><td>0.030</td><td><loq< td=""><td>0.012</td></loq<></td></lqq\(\sigma\)<></td></lq@<></td></lqq\$<>	<lq@< td=""><td><lqq\(\sigma\)< td=""><td>&lt; LOO</td><td>&lt; LOQ</td><td>0.01</td><td>0.065</td><td>0.030</td><td><loq< td=""><td>0.012</td></loq<></td></lqq\(\sigma\)<></td></lq@<>	<lqq\(\sigma\)< td=""><td>&lt; LOO</td><td>&lt; LOQ</td><td>0.01</td><td>0.065</td><td>0.030</td><td><loq< td=""><td>0.012</td></loq<></td></lqq\(\sigma\)<>	< LOO	< LOQ	0.01	0.065	0.030	<loq< td=""><td>0.012</td></loq<>	0.012
20-30	2	<loq< td=""><td><loq< td=""><td>J. O. O.</td><td>0,009</td><td>_N N OQ</td><td><b>STOQ</b></td><td>~LÔQ</td><td>~£OQ</td><td>0.007</td><td>OCLOO</td><td><b>⊗</b>\$LOQ</td><td>0.017</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>J. O. O.</td><td>0,009</td><td>_N N OQ</td><td><b>STOQ</b></td><td>~LÔQ</td><td>~£OQ</td><td>0.007</td><td>OCLOO</td><td><b>⊗</b>\$LOQ</td><td>0.017</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	J. O. O.	0,009	_N N OQ	<b>STOQ</b>	~LÔQ	~£OQ	0.007	OCLOO	<b>⊗</b> \$LOQ	0.017	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20-30	3	<loq< td=""><td><loq td="" ĉ<=""><td>&gt; <roop< td=""><td><loq\< td=""><td>&gt; <lqq@< td=""><td><loq< td=""><td></td><td>&lt; LQQ &gt;</td><td><lqq<sup>©</lqq<sup></td><td>0.008</td><td>0.005</td><td>0.023</td><td>0.009</td><td>0.007</td></loq<></td></lqq@<></td></loq\<></td></roop<></td></loq></td></loq<>	<loq td="" ĉ<=""><td>&gt; <roop< td=""><td><loq\< td=""><td>&gt; <lqq@< td=""><td><loq< td=""><td></td><td>&lt; LQQ &gt;</td><td><lqq<sup>©</lqq<sup></td><td>0.008</td><td>0.005</td><td>0.023</td><td>0.009</td><td>0.007</td></loq<></td></lqq@<></td></loq\<></td></roop<></td></loq>	> <roop< td=""><td><loq\< td=""><td>&gt; <lqq@< td=""><td><loq< td=""><td></td><td>&lt; LQQ &gt;</td><td><lqq<sup>©</lqq<sup></td><td>0.008</td><td>0.005</td><td>0.023</td><td>0.009</td><td>0.007</td></loq<></td></lqq@<></td></loq\<></td></roop<>	<loq\< td=""><td>&gt; <lqq@< td=""><td><loq< td=""><td></td><td>&lt; LQQ &gt;</td><td><lqq<sup>©</lqq<sup></td><td>0.008</td><td>0.005</td><td>0.023</td><td>0.009</td><td>0.007</td></loq<></td></lqq@<></td></loq\<>	> <lqq@< td=""><td><loq< td=""><td></td><td>&lt; LQQ &gt;</td><td><lqq<sup>©</lqq<sup></td><td>0.008</td><td>0.005</td><td>0.023</td><td>0.009</td><td>0.007</td></loq<></td></lqq@<>	<loq< td=""><td></td><td>&lt; LQQ &gt;</td><td><lqq<sup>©</lqq<sup></td><td>0.008</td><td>0.005</td><td>0.023</td><td>0.009</td><td>0.007</td></loq<>		< LQQ >	<lqq<sup>©</lqq<sup>	0.008	0.005	0.023	0.009	0.007
	mean	<loq< th=""><th>ŞÎ<b>,O</b>Q</th><th>0.0212</th><th>$0.003^{2}$</th><th>_©<løq< th=""><th>&lt;1\00Q</th><th><b>_</b>C1≥OQ</th><th>Ç<löq< th=""><th><b>0.002</b>²</th><th>0.009²</th><th>$0.003^{2}$</th><th>0.023</th><th>$0.003^{2}$</th><th>$0.006^{2}$</th></löq<></th></løq<></th></loq<>	ŞÎ <b>,O</b> Q	0.0212	$0.003^{2}$	_© <løq< th=""><th>&lt;1\00Q</th><th><b>_</b>C1≥OQ</th><th>Ç<löq< th=""><th><b>0.002</b>²</th><th>0.009²</th><th>$0.003^{2}$</th><th>0.023</th><th>$0.003^{2}$</th><th>$0.006^{2}$</th></löq<></th></løq<>	<1\00Q	<b>_</b> C1≥OQ	Ç <löq< th=""><th><b>0.002</b>²</th><th>0.009²</th><th>$0.003^{2}$</th><th>0.023</th><th>$0.003^{2}$</th><th>$0.006^{2}$</th></löq<>	<b>0.002</b> ²	0.009 ²	$0.003^{2}$	0.023	$0.003^{2}$	$0.006^{2}$
	1	-		- *	V - (		· ^{)/} <loqo< td=""><td>ScLOQ (</td><td>CLQQ "</td><td>L_<fö< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></fö<></td></loqo<>	ScLOQ (	CLQQ "	L_ <fö< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></fö<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
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30-50	3		- 🦓	9	9" - <u>10</u> 0	) - 3°	> <loq< td=""><td>&lt; CLOQ</td><td><lqq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></lqq<></td></loq<>	< CLOQ	<lqq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></lqq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	-	\$			7	<løq< td=""><td>&lt;100Q</td><td>&lt;ĎØQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></løq<>	<100Q	<ĎØQ	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>

DAA: days after application
LOQ (limit of quantitation) = 0.003 mg/kg, 1 mean of two replicates. Replicate value > LOO Latter than the latter

Fluopicolide



Table 7.1.2.2.1- 39: Residues of fluopicolide in soil after annual applications of 400 g a.s./ha ACCUMULATION phase values expressed as mg/kg

Dandh	Cl-		DAA2			DAA3			DAA4		DAA5
Depth [cm]	Sub plot	0	126	363	0		342	ACT V	123 °	368	$\frac{\bullet  DAAS}{0}$
	1	0.261	0.0093	0.053	0.345	0.126	0.087	<b>20.240</b>	0.150	<b>9.080</b>	0278
	2	0.407	0.097	0.085	0.276	0.109	. 0.006 @	0.276	× €129 «	0.086	0.249
0-10	3	0.354	0.128	0.059	0.196	×50.137 ×	0.096	<b>9</b> .215	0.1492	*0.F08	0.233
	mean	0.341	0.106	0.066	0.272	0.137	~ © 0.090 ~ S	0.235	1 0 163	0.0940	0.252
	1	0.048	0.032	0.038	0.0286	\$ 0.049	0.052	∂Ø.091 ₁₀	0.044\$	0.627	0.039
	2	0.042	0.027	0.063	0.031	0.040	\$ 0.044 A	1 0.060	0.030	0.044	0.023
10-20	3	0.031	0.034	0.037	0.853	\$0.043 ×	0.050	0.056	0.0191	0.028	0.033
	mean	0.040	0.031	0.0₺	0.0421	0.043	30.049 33	0.069	0.031	<b>%</b> ° 0.033	0.032
	1	<loq< td=""><td><loq< td=""><td>0.012</td><td><l@q< td=""><td>~ 0.015 ~ C</td><td>0.0100</td><td><b>30</b>3024</td><td>0.013,70</td><td><loq< td=""><td>0.015</td></loq<></td></l@q<></td></loq<></td></loq<>	<loq< td=""><td>0.012</td><td><l@q< td=""><td>~ 0.015 ~ C</td><td>0.0100</td><td><b>30</b>3024</td><td>0.013,70</td><td><loq< td=""><td>0.015</td></loq<></td></l@q<></td></loq<>	0.012	<l@q< td=""><td>~ 0.015 ~ C</td><td>0.0100</td><td><b>30</b>3024</td><td>0.013,70</td><td><loq< td=""><td>0.015</td></loq<></td></l@q<>	~ 0.015 ~ C	0.0100	<b>30</b> 3024	0.013,70	<loq< td=""><td>0.015</td></loq<>	0.015
20.20	2	0.009	0.006	0.012	A A A — A . (C	0.02	<b>3 3 3 3</b>	0.016377	<b>ELOQ</b>	0.013	0.005
20-30	3	<loq< td=""><td>0.008</td><td>\ \@.0009 &amp;\</td><td>0.022</td><td><b>20</b>.012</td><td>0.013\$</td><td><b>9.9</b>09</td><td>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	0.008	\ \@.0009 &\	0.022	<b>20</b> .012	0.013\$	<b>9.9</b> 09	LOQ	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	$0.003^2$	\$ 0.005 ²	0.01\$	≥ 0.033 ²	0.0160	0.012	\$ 0.0160 ^{\$}	$0.004^{2}$	$0.004^{2}$	$0.007^{2}$
	1	0.045	<loq< td=""><td><b>₹0</b>.009 0</td><td>&lt;1.QQ</td><td><b>D</b> 605</td><td>~LOOK</td><td>0.005</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<b>₹0</b> .009 0	<1.QQ	<b>D</b> 605	~LOOK	0.005	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20.50	2	0.008	<loq_c< td=""><td>0.063</td><td>&amp; POQ _~</td><td>0.009</td><td>SOO ;</td><td>♂[©]<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq_c<>	0.063	& POQ _~	0.009	SOO ;	♂ [©] <loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
30-50	3	<loq< td=""><td>&lt;<b>f</b></td><td>, Aloq_a</td><td>1 0,013</td><td>A<loq< td=""><td>∜ <loq td="" ∜<=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq></td></loq<></td></loq<>	< <b>f</b>	, Aloq_a	1 0,013	A <loq< td=""><td>∜ <loq td="" ∜<=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq></td></loq<>	∜ <loq td="" ∜<=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	0.018 ³	\$LOQ_ \$	0.0052	0.0042	0.005%	<b>€ĴΩ</b> ØQ	$0.002^{2}$	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	1	- %	. 607		D. 1-02	~@- ×	C <loq< p=""></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<>	n.a	<loq< td=""><td>n.a</td></loq<>	n.a
50-70	2		Č			- Ja	<loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<>	n.a	<loq< td=""><td>n.a</td></loq<>	n.a
30-70	3		, - 90°		- OF		<loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<>	n.a	<loq< td=""><td>n.a</td></loq<>	n.a
	mean	<u> </u>	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		1000	<u></u>	<loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<>	n.a	<loq< td=""><td>n.a</td></loq<>	n.a
	1	-		<u> </u>	5 - a	-	n.a	n.a	n.a	n.a	n.a
70-90	2	-ZC 1				-	n.a	n.a	n.a	n.a	n.a
/0-90	3	200- 1	1 -202		9 ⁵ -	-	n.a	n.a	n.a	n.a	n.a
	mean			e - 0 ⁰	-	-	n.a	n.a	n.a	n.a	n.a

DAA: days after application DA

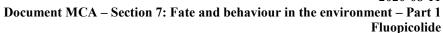




Table 7.1.2.2.1-40: Residues of M-01 (AE C6563711) in soil after an application of 400 g a.s./ha DISSIPATION policies expressed as mg/kg

	6.1							D.4	10.					- Ø	
Depth	Sub							DA	A1©		0 ^{©,"}	. (	J _{III}	2000	
[cm]	plot	0	1	3	14	36	62	120 🍪	<b>181</b>	244	<b>308</b>	36 <b>%</b>	46 <b>Ł</b>	546	735
	1	<loq< td=""><td>0.007</td><td>0.017</td><td>0.013</td><td>0.017</td><td>0.018</td><td>609 , 0.009</td><td>~LOQ</td><td>√<løq< td=""><td>¸ςLOQ</td><td>₩<b>©</b>006</td><td><b>0</b>.011</td><td>KEOQ</td><td><loq< td=""></loq<></td></løq<></td></loq<>	0.007	0.017	0.013	0.017	0.018	609 , 0.009	~LOQ	√ <løq< td=""><td>¸ςLOQ</td><td>₩<b>©</b>006</td><td><b>0</b>.011</td><td>KEOQ</td><td><loq< td=""></loq<></td></løq<>	¸ςLOQ	₩ <b>©</b> 006	<b>0</b> .011	KEOQ	<loq< td=""></loq<>
0-10	2	<loq< td=""><td>0.013</td><td>0.007</td><td>0.013</td><td>0.013</td><td>0.013</td><td>, 0.009</td><td>&lt; LQQ</td><td>0.004</td><td>&lt; LOQC</td><td>0.007</td><td>0.007</td><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></loq<>	0.013	0.007	0.013	0.013	0.013	, 0.009	< LQQ	0.004	< LOQC	0.007	0.007	<lqq< td=""><td><loq< td=""></loq<></td></lqq<>	<loq< td=""></loq<>
0-10	3	<loq< td=""><td>0.007</td><td>0.015</td><td>0.012</td><td>0.011</td><td>00015</td><td>~Q.006</td><td><b>&amp;</b>\$06</td><td><b>A</b> QÓ</td><td>∑ &amp;TOØ</td><td>ï\$05</td><td>©0007</td><td>&amp; LOQ</td><td><loq< td=""></loq<></td></loq<>	0.007	0.015	0.012	0.011	00015	~Q.006	<b>&amp;</b> \$06	<b>A</b> QÓ	∑ &TOØ	ï\$05	©0007	& LOQ	<loq< td=""></loq<>
	mean	<loq< th=""><th>0.009</th><th>0.013</th><th>0.013</th><th>0.014</th><th>© 5.01<b>5</b> €</th><th>0.008</th><th>$\sqrt[8]{0.002^{1}}$</th><th>0.001<b>4</b></th><th>&lt; LOQ</th><th>0.006\$</th><th>0.008©</th><th><l0q< th=""><th><loq< th=""></loq<></th></l0q<></th></loq<>	0.009	0.013	0.013	0.014	© 5.01 <b>5</b> €	0.008	$\sqrt[8]{0.002^{1}}$	0.001 <b>4</b>	< LOQ	0.006\$	0.008©	<l0q< th=""><th><loq< th=""></loq<></th></l0q<>	<loq< th=""></loq<>
	1	<loq< td=""><td>0.006</td><td><loq< td=""><td><loq< td=""><td>0008</td><td>0.009</td><td>0.014</td><td>20:008</td><td>0.006</td><td>&lt;1<b>0</b>0</td><td>ຼ&lt;Ď0ŎQ</td><td>^K Jargó</td><td>0.006</td><td>0.005</td></loq<></td></loq<></td></loq<>	0.006	<loq< td=""><td><loq< td=""><td>0008</td><td>0.009</td><td>0.014</td><td>20:008</td><td>0.006</td><td>&lt;1<b>0</b>0</td><td>ຼ&lt;Ď0ŎQ</td><td>^K Jargó</td><td>0.006</td><td>0.005</td></loq<></td></loq<>	<loq< td=""><td>0008</td><td>0.009</td><td>0.014</td><td>20:008</td><td>0.006</td><td>&lt;1<b>0</b>0</td><td>ຼ&lt;Ď0ŎQ</td><td>^K Jargó</td><td>0.006</td><td>0.005</td></loq<>	0008	0.009	0.014	20:008	0.006	<1 <b>0</b> 0	ຼ<Ď0ŎQ	^K Jargó	0.006	0.005
10-20	2	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq td="" ¾<=""><td>0.005</td><td>60.008 S</td><td>0.010 🖔</td><td>0.007</td><td>O &lt; LOQ</td><td>LOQ C</td><td>LOQ1</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq td="" ¾<=""><td>0.005</td><td>60.008 S</td><td>0.010 🖔</td><td>0.007</td><td>O &lt; LOQ</td><td>LOQ C</td><td>LOQ1</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq></td></loq<></td></loq<>	<loq< td=""><td><loq td="" ¾<=""><td>0.005</td><td>60.008 S</td><td>0.010 🖔</td><td>0.007</td><td>O &lt; LOQ</td><td>LOQ C</td><td>LOQ1</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq></td></loq<>	<loq td="" ¾<=""><td>0.005</td><td>60.008 S</td><td>0.010 🖔</td><td>0.007</td><td>O &lt; LOQ</td><td>LOQ C</td><td>LOQ1</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq>	0.005	60.008 S	0.010 🖔	0.007	O < LOQ	LOQ C	LOQ1	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
10-20	3	<loq< td=""><td><loq< td=""><td><loq< td=""><td>&lt;13<b>0</b>0</td><td>0.607</td><td>0.008</td><td>0.008</td><td>0.009</td><td></td><td><i>≨</i>DÓQ</td><td>&lt;<b>₹</b>\$\$\$Q</td><td><b>LOQ</b></td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>&lt;13<b>0</b>0</td><td>0.607</td><td>0.008</td><td>0.008</td><td>0.009</td><td></td><td><i>≨</i>DÓQ</td><td>&lt;<b>₹</b>\$\$\$Q</td><td><b>LOQ</b></td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>&lt;13<b>0</b>0</td><td>0.607</td><td>0.008</td><td>0.008</td><td>0.009</td><td></td><td><i>≨</i>DÓQ</td><td>&lt;<b>₹</b>\$\$\$Q</td><td><b>LOQ</b></td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<13 <b>0</b> 0	0.607	0.008	0.008	0.009		<i>≨</i> DÓQ	< <b>₹</b> \$\$\$Q	<b>LOQ</b>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	<loq< th=""><th>$0.002^{1}$</th><th><loq< th=""><th><b>∜</b>≺LOQ_≪</th><th></th><th>⁵0.008√</th><th>0.010</th><th>0.008</th><th>$0.002^{1}$</th><th>CLOQ</th><th>[©]<loq< th=""><th><loq< th=""><th>$0.002^{1}$</th><th>$0.002^{1}$</th></loq<></th></loq<></th></loq<></th></loq<>	$0.002^{1}$	<loq< th=""><th><b>∜</b>≺LOQ_≪</th><th></th><th>⁵0.008√</th><th>0.010</th><th>0.008</th><th>$0.002^{1}$</th><th>CLOQ</th><th>[©]<loq< th=""><th><loq< th=""><th>$0.002^{1}$</th><th>$0.002^{1}$</th></loq<></th></loq<></th></loq<>	<b>∜</b> ≺LOQ_≪		⁵ 0.008√	0.010	0.008	$0.002^{1}$	CLOQ	[©] <loq< th=""><th><loq< th=""><th>$0.002^{1}$</th><th>$0.002^{1}$</th></loq<></th></loq<>	<loq< th=""><th>$0.002^{1}$</th><th>$0.002^{1}$</th></loq<>	$0.002^{1}$	$0.002^{1}$
	1	n.a	<loq< td=""><td><l@0< td=""><td><loq< td=""><td>\Z<b>I®</b>Q</td><td>&lt; LOC</td><td>0.207</td><td>000</td><td>8,006</td><td>STOO CLOQ</td><td>_{ZLØQ</td><td>0.010</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></l@0<></td></loq<>	<l@0< td=""><td><loq< td=""><td>\Z<b>I®</b>Q</td><td>&lt; LOC</td><td>0.207</td><td>000</td><td>8,006</td><td>STOO CLOQ</td><td>_{ZLØQ</td><td>0.010</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></l@0<>	<loq< td=""><td>\Z<b>I®</b>Q</td><td>&lt; LOC</td><td>0.207</td><td>000</td><td>8,006</td><td>STOO CLOQ</td><td>_{ZLØQ</td><td>0.010</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	\Z <b>I®</b> Q	< LOC	0.207	000	8,006	STOO CLOQ	_{ZLØQ	0.010	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20-30	2	n.a	<loq< td=""><td>OCTOQ 1</td><td>OZLOQ Z</td><td>XXLOQ</td><td>QLOQ @</td><td>,SLOQ</td><td>0.006</td><td>S <loq< td=""><td>~ &gt;&gt;</td><td>Ç</td><td>0.004</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	OCTOQ 1	OZLOQ Z	XXLOQ	QLOQ @	,SLOQ	0.006	S <loq< td=""><td>~ &gt;&gt;</td><td>Ç</td><td>0.004</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	~ >>	Ç	0.004	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
20-30	3	n.a	<lqq td="" ∪<=""><td>&lt;_LQQ</td><td>&lt; LOQQ</td><td><fq0< td=""><td>&lt;[L,@@</td><td><pre></pre></td><td>0:608</td><td>≰<b>L©</b>Q</td><td>&lt;1.OQ Î</td><td><loq< td=""><td>0.006</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></fq0<></td></lqq>	<_LQQ	< LOQQ	<fq0< td=""><td>&lt;[L,@@</td><td><pre></pre></td><td>0:608</td><td>≰<b>L©</b>Q</td><td>&lt;1.OQ Î</td><td><loq< td=""><td>0.006</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></fq0<>	<[L,@@	<pre></pre>	0:608	≰ <b>L©</b> Q	<1.OQ Î	<loq< td=""><td>0.006</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	0.006	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	n.a 🦿	<b>PLOQ</b>	<loq< th=""><th>&amp;Loq_</th><th><b>S</b>LOQ</th><th>√&lt;ĽOQ ؞</th><th>$0.002^{1}$</th><th><b>№0.007</b> ×</th><th>0.0021</th><th>ồ &lt;ĽOQ</th><th><loq< th=""><th>0.007</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<></th></loq<>	&Loq_	<b>S</b> LOQ	√<ĽOQ ؞	$0.002^{1}$	<b>№0.007</b> ×	0.0021	ồ <ĽOQ	<loq< th=""><th>0.007</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<>	0.007	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
	1	-	-	~~~~			<lóq< td=""><td>&lt;<b>L@Q</b></td><td>0.005</td><td>&lt; LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></lóq<>	< <b>L@Q</b>	0.005	< LOQ	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
30-50	2	-				J - 1	\$ LOQ	<loo< td=""><td>%<loq< td=""><td>LÓQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loo<>	% <loq< td=""><td>LÓQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	LÓQ	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
30-30	3	-	- g ^{rj}	- 🎺		- 0	<lqq< td=""><td></td><td><t.< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></t.<></td></lqq<>		<t.< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></t.<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	-	~°-	- 19 <u>- 19</u>			<b>%LŎQ</b>	Z_CLOQ_	$\bigcirc 0.002^{1}$	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>

DAA: days after application
LOQ (limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation) = 0.005 mg/kg, 1 Replicate value > 1.000 limit of quantitation of quan



Document MCA – Section 7: Fate and behaviour in the environment – Part 1 Fluopicolide

Table 7.1.2.2.1- 41: Residues of M-01 (AE C6563711) in soil after annual applications of 400 g a.s./ha ACCUMULATION phase values expressed as mg/kg

		0 0					N "	-K/	<u>]</u> L		O. C.
Depth	Sub		DAA2			DAA3			DAA4		DAA5
[cm]	plot	0	126	363	0	121 💖	342	COF.	123	, \$ <b>36</b> 8	0
	1	0.010	0.013	0.006	0.008			0.01 l © 0.12	©063 °C	0.015%	0.023
0-10	2	0.013	0.011	0.010	0.010	<b>√</b> ∫0.016 <b>√</b>	0.010	<b>©</b> .012	CO 0.0842	<b>9</b> , <b>6</b> 25	0.025
0-10	3	0.011	0.010	0.002	0.011	0.013	© £008	0.01	è67 (	0.030	0.025
	mean	0.011	0.011	0.007	0.010	0.014	\$20 <b>0.</b> 0	@011 ~	0.070\$	9.023	0.024
	1	0.007	0.018	0.010	a ñ¥nn9	0.010	\$ <b>10</b> .009	0.011	0.047	©0.021	0.016
10.20	2	0.007	0.015	0.011 🔾	0.000	0.018	0.0100	0.909	0.0131	0.025	0.018
10-20	3	0.050	0.018	0.00\$	\$0.008	0.0180	0.010	C 0.0110°	0:001	€ ∘ 0.026	0.018
	mean	0.021	0.017	0.009	0.008	0.018	0.0100	03910	<b>₹</b> 0.014 <i>₹</i> \$\$	0.024	0.017
	1	<loq< td=""><td>0.012</td><td>0.00</td><td>J &amp; LÓQ J</td><td>0.013</td><td><b>QQ</b>05</td><td>0.005</td><td>0.007</td><td>0.010</td><td>0.008</td></loq<>	0.012	0.00	J & LÓQ J	0.013	<b>QQ</b> 05	0.005	0.007	0.010	0.008
20-30	2	<loq< td=""><td>0.012</td><td>0.000</td><td>0.005</td><td>© 010</td><td>[™] 0.007\$</td><td><b>39.00</b>07</td><td>°√0.006</td><td>0.014</td><td>0.008</td></loq<>	0.012	0.000	0.005	© 010	[™] 0.007\$	<b>39.00</b> 07	°√0.006	0.014	0.008
20-30	3	<loq ,<="" td=""><td>0.015</td><td>\\ \\ \LOQ^\(\)</td><td><b>10.005</b></td><td>0.0130</td><td>:008 ·</td><td>\$ 0.005\$</td><td>0.006</td><td>0.008</td><td>0.010</td></loq>	0.015	\\ \\ \LOQ^\(\)	<b>10.005</b>	0.0130	:008 ·	\$ 0.005\$	0.006	0.008	0.010
	mean	<loq< td=""><td>0.012</td><td><b>€</b>0.005¹ €</td><td>0.0031</td><td>0.012</td><td>S 0.007</td><td>0006</td><td>0.006</td><td>0.011</td><td>0.009</td></loq<>	0.012	<b>€</b> 0.005¹ €	0.0031	0.012	S 0.007	0006	0.006	0.011	0.009
	1	<loq "<="" td=""><td><loq_c< td=""><td>&lt; LOO</td><td>&amp; DOQ_</td><td>0.007© 0.007©</td><td>SOQ ,</td><td><b>J</b>LLOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq_c<></td></loq>	<loq_c< td=""><td>&lt; LOO</td><td>&amp; DOQ_</td><td>0.007© 0.007©</td><td>SOQ ,</td><td><b>J</b>LLOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq_c<>	< LOO	& DOQ_	0.007© 0.007©	SOQ ,	<b>J</b> LLOQ	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
30-50	2	<loq< td=""><td><loq< td=""><td><b>0.005</b></td><td>1 &lt;1000</td><td></td><td>© 0.005 📞</td><td>0.009</td><td><loq< td=""><td>0.006</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><b>0.005</b></td><td>1 &lt;1000</td><td></td><td>© 0.005 📞</td><td>0.009</td><td><loq< td=""><td>0.006</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<b>0.005</b>	1 <1000		© 0.005 📞	0.009	<loq< td=""><td>0.006</td><td><loq< td=""></loq<></td></loq<>	0.006	<loq< td=""></loq<>
30-30	3	<loq< td=""><td>\$<b>9</b>.005 &lt;</td><td><loq<sup>®</loq<sup></td><td><qoq< td=""><td>D.005</td><td>z gogo</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></qoq<></td></loq<>	\$ <b>9</b> .005 <	<loq<sup>®</loq<sup>	<qoq< td=""><td>D.005</td><td>z gogo</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></qoq<>	D.005	z gogo	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	<loq th="" √∫<=""><th>0.0031</th><th><b>J Q 0 0 2</b>¹</th><th>\$&gt; 1 &lt; <b>TOO</b>\$</th><th>9.006</th><th>© 0.002¹</th><th>$0.003^{1}$</th><th><loq< th=""><th>0.0021</th><th><loq< th=""></loq<></th></loq<></th></loq>	0.0031	<b>J Q 0 0 2</b> ¹	\$> 1 < <b>TOO</b> \$	9.006	© 0.002¹	$0.003^{1}$	<loq< th=""><th>0.0021</th><th><loq< th=""></loq<></th></loq<>	0.0021	<loq< th=""></loq<>
	1	ā	O			*	<loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<>	n.a	<loq< td=""><td>n.a</td></loq<>	n.a
50-70	2	The Thirty	- 20		- F		<loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<>	n.a	<loq< td=""><td>n.a</td></loq<>	n.a
30-70	3	-				ð -	<loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<>	n.a	<loq< td=""><td>n.a</td></loq<>	n.a
	mean	- *			\$ - al	-	<loq< td=""><td><loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>n.a</td><td><loq< td=""><td>n.a</td></loq<></td></loq<>	n.a	<loq< td=""><td>n.a</td></loq<>	n.a
	1					-	n.a	n.a	n.a	n.a	n.a
70-90	2	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			9 ² -	-	n.a	n.a	n.a	n.a	n.a
70-30	3				-	-	n.a	n.a	n.a	n.a	n.a
	mean			@\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	-	-	n.a	n.a	n.a	n.a	n.a

DAA: days after application, n.a not analysed 100 (limit of quantitation) = 0.005 mg/kg, 1 Replicate value > LOQ



Table 7.1.2.2.1-42: Residues of M-02 (AE C657188) in soil after an application of 400 g a.s./ha DISSIPATION phase 2000-2002 values expressed as mg/kg

									√ ·					-Os	
Depth	Sub							DA	AI®	·		a 1		70°9	
[cm]	plot	0	1	3	14	36	62	120 📎	181	244	<b>308</b>	367	464	546	735
	1	<loq< td=""><td>0.007</td><td>0.010</td><td>0.007</td><td><loq< td=""><td>0.005</td><td>₫<b>ø</b>Q</td><td>SLOQ SLOQ</td><td><l00< td=""><td>&lt;1.00</td><td>_K¶LÖQ .</td><td><b>J</b>ŁÖQ "</td><td>, &amp;£OQ</td><td><loq< td=""></loq<></td></l00<></td></loq<></td></loq<>	0.007	0.010	0.007	<loq< td=""><td>0.005</td><td>₫<b>ø</b>Q</td><td>SLOQ SLOQ</td><td><l00< td=""><td>&lt;1.00</td><td>_K¶LÖQ .</td><td><b>J</b>ŁÖQ "</td><td>, &amp;£OQ</td><td><loq< td=""></loq<></td></l00<></td></loq<>	0.005	₫ <b>ø</b> Q	SLOQ SLOQ	<l00< td=""><td>&lt;1.00</td><td>_K¶LÖQ .</td><td><b>J</b>ŁÖQ "</td><td>, &amp;£OQ</td><td><loq< td=""></loq<></td></l00<>	<1.00	_K ¶LÖQ .	<b>J</b> ŁÖQ "	, &£OQ	<loq< td=""></loq<>
0.10	2	<loq< td=""><td>0.009</td><td>0.009</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>, LOQ</td><td></td><td></td><td><lqqc< td=""><td>SLOW</td><td>&lt; LOQ</td><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></lqqc<></td></loq<></td></loq<></td></loq<></td></loq<>	0.009	0.009	<loq< td=""><td><loq< td=""><td><loq< td=""><td>, LOQ</td><td></td><td></td><td><lqqc< td=""><td>SLOW</td><td>&lt; LOQ</td><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></lqqc<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>, LOQ</td><td></td><td></td><td><lqqc< td=""><td>SLOW</td><td>&lt; LOQ</td><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></lqqc<></td></loq<></td></loq<>	<loq< td=""><td>, LOQ</td><td></td><td></td><td><lqqc< td=""><td>SLOW</td><td>&lt; LOQ</td><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></lqqc<></td></loq<>	, LOQ			<lqqc< td=""><td>SLOW</td><td>&lt; LOQ</td><td><lqq< td=""><td><loq< td=""></loq<></td></lqq<></td></lqqc<>	SLOW	< LOQ	<lqq< td=""><td><loq< td=""></loq<></td></lqq<>	<loq< td=""></loq<>
0-10	3	<loq< td=""><td>0.006</td><td>0.008</td><td><loq< td=""><td><loq< td=""><td><i>≨</i>1800°Q</td><td>, LDOQ</td><td>, <b>₹</b>ÔŎ</td><td>T A C</td><td>§LOØ</td><td>S SOQ</td><td>good .</td><td>, o£oQ</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	0.006	0.008	<loq< td=""><td><loq< td=""><td><i>≨</i>1800°Q</td><td>, LDOQ</td><td>, <b>₹</b>ÔŎ</td><td>T A C</td><td>§LOØ</td><td>S SOQ</td><td>good .</td><td>, o£oQ</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><i>≨</i>1800°Q</td><td>, LDOQ</td><td>, <b>₹</b>ÔŎ</td><td>T A C</td><td>§LOØ</td><td>S SOQ</td><td>good .</td><td>, o£oQ</td><td><loq< td=""></loq<></td></loq<>	<i>≨</i> 1800°Q	, LDOQ	, <b>₹</b> ÔŎ	T A C	§LOØ	S SOQ	good .	, o£oQ	<loq< td=""></loq<>
	mean	<loq< th=""><th>0.007</th><th>0.009</th><th>$0.002^{1}$</th><th><l0q_{< <="" th=""><th>©8.00<u>2</u>, §</th><th>LOQ</th><th>&gt; ~<lo<sub>2Q ~</lo<sub></th><th>CLOO</th><th><loqô< th=""><th><lqq6< th=""><th><lqq®< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></lqq®<></th></lqq6<></th></loqô<></th></l0q_{<></th></loq<>	0.007	0.009	$0.002^{1}$	<l0q_{< <="" th=""><th>©8.00<u>2</u>, §</th><th>LOQ</th><th>&gt; ~<lo<sub>2Q ~</lo<sub></th><th>CLOO</th><th><loqô< th=""><th><lqq6< th=""><th><lqq®< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></lqq®<></th></lqq6<></th></loqô<></th></l0q_{<>	©8.00 <u>2</u> , §	LOQ	> ~ <lo<sub>2Q ~</lo<sub>	CLOO	<loqô< th=""><th><lqq6< th=""><th><lqq®< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></lqq®<></th></lqq6<></th></loqô<>	<lqq6< th=""><th><lqq®< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></lqq®<></th></lqq6<>	<lqq®< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></lqq®<>	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
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	1	n.a	<loq< td=""><td>&lt; [ QQ</td><td><loq< td=""><td>QQ V</td><td><lqq< td=""><td>&lt;[4]QQ</td><td>&lt; <b>LOW</b></td><td><b>4.00</b></td><td>&lt; PiQQ</td><td>ŞLØQ Ç<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></lqq<></td></loq<></td></loq<>	< [ QQ	<loq< td=""><td>QQ V</td><td><lqq< td=""><td>&lt;[4]QQ</td><td>&lt; <b>LOW</b></td><td><b>4.00</b></td><td>&lt; PiQQ</td><td>ŞLØQ Ç<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></lqq<></td></loq<>	QQ V	<lqq< td=""><td>&lt;[4]QQ</td><td>&lt; <b>LOW</b></td><td><b>4.00</b></td><td>&lt; PiQQ</td><td>ŞLØQ Ç<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></lqq<>	<[4]QQ	< <b>LOW</b>	<b>4.00</b>	< PiQQ	ŞLØQ Ç <loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
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30-50	3	-	- g ^o	- 2	<u>-</u> 100	- 0	<lqq< td=""><td>&lt; LQQ</td><td>&lt; T.000</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></lqq<>	< LQQ	< T.000	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	-	~		er-	OD 1 . (	~&TQ		© <loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>



Table 7.1.2.2.1- 43: Residues of M-02 (AE C657188) in soil after annual applications of 400 g a.s./ha ACCUMULATION phase values expressed as mg/kg

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Sub	T	DAA2			DAA3			DAA4		DAA5
plot	0	147	361	0		#2\  k		120	378	0
1	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq td="" ♡<=""><td><loq< td=""><td>Z LÖQ</td><td>&lt; LOO</td><td></td><td><loq< td=""></loq<></td></loq<></td></loq></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq td="" ♡<=""><td><loq< td=""><td>Z LÖQ</td><td>&lt; LOO</td><td></td><td><loq< td=""></loq<></td></loq<></td></loq></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq td="" ♡<=""><td><loq< td=""><td>Z LÖQ</td><td>&lt; LOO</td><td></td><td><loq< td=""></loq<></td></loq<></td></loq></td></loq<></td></loq<>	<loq< td=""><td><loq td="" ♡<=""><td><loq< td=""><td>Z LÖQ</td><td>&lt; LOO</td><td></td><td><loq< td=""></loq<></td></loq<></td></loq></td></loq<>	<loq td="" ♡<=""><td><loq< td=""><td>Z LÖQ</td><td>&lt; LOO</td><td></td><td><loq< td=""></loq<></td></loq<></td></loq>	<loq< td=""><td>Z LÖQ</td><td>&lt; LOO</td><td></td><td><loq< td=""></loq<></td></loq<>	Z LÖQ	< LOO		<loq< td=""></loq<>
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3	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><i.qq< td=""><td>J. J. L.OQ</td><td>S &lt; LOQ</td><td>J. T. O.</td><td><loq< td=""></loq<></td></i.qq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><i.qq< td=""><td>J. J. L.OQ</td><td>S &lt; LOQ</td><td>J. T. O.</td><td><loq< td=""></loq<></td></i.qq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>LOQ</td><td><i.qq< td=""><td>J. J. L.OQ</td><td>S &lt; LOQ</td><td>J. T. O.</td><td><loq< td=""></loq<></td></i.qq<></td></loq<></td></loq<>	<loq< td=""><td>LOQ</td><td><i.qq< td=""><td>J. J. L.OQ</td><td>S &lt; LOQ</td><td>J. T. O.</td><td><loq< td=""></loq<></td></i.qq<></td></loq<>	LOQ	<i.qq< td=""><td>J. J. L.OQ</td><td>S &lt; LOQ</td><td>J. T. O.</td><td><loq< td=""></loq<></td></i.qq<>	J. J. L.OQ	S < LOQ	J. T. O.	<loq< td=""></loq<>
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DAA: days after application of quantitation = 0005 mg/kg Replicate value > LOQ



**Document MCA – Section 7: Fate and behaviour in the environment – Part 1** Fluopicolide

Table 7.1.2.2.1- 44: Residues of M-03 (AE 0608000) in soil after an application of 400 g a.s./ha DISSIPATION phase 2000-2002 values expressed as mg/kg

Depth	Sub							DA	A1 (	*			~ (°	0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
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0.10	2	<loq< td=""><td>0.005</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>₽₽₽</td><td><b>€</b>FOQ</td><td><b></b> √LÒQ</td><td>_<loq< td=""><td>*SEOQ</td><td><b>√</b>DEÖQ</td><td><b>€</b>ŁÖQ</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	0.005	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>₽₽₽</td><td><b>€</b>FOQ</td><td><b></b> √LÒQ</td><td>_<loq< td=""><td>*SEOQ</td><td><b>√</b>DEÖQ</td><td><b>€</b>ŁÖQ</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>₽₽₽</td><td><b>€</b>FOQ</td><td><b></b> √LÒQ</td><td>_<loq< td=""><td>*SEOQ</td><td><b>√</b>DEÖQ</td><td><b>€</b>ŁÖQ</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>₽₽₽</td><td><b>€</b>FOQ</td><td><b></b> √LÒQ</td><td>_<loq< td=""><td>*SEOQ</td><td><b>√</b>DEÖQ</td><td><b>€</b>ŁÖQ</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>₽₽₽</td><td><b>€</b>FOQ</td><td><b></b> √LÒQ</td><td>_<loq< td=""><td>*SEOQ</td><td><b>√</b>DEÖQ</td><td><b>€</b>ŁÖQ</td><td><loq< td=""></loq<></td></loq<></td></loq<>	₽₽₽	<b>€</b> FOQ	<b></b> √LÒQ	_ <loq< td=""><td>*SEOQ</td><td><b>√</b>DEÖQ</td><td><b>€</b>ŁÖQ</td><td><loq< td=""></loq<></td></loq<>	*SEOQ	<b>√</b> DEÖQ	<b>€</b> ŁÖQ	<loq< td=""></loq<>
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	mean	<loq< th=""><th>0.0021</th><th>0.0021</th><th><loq< th=""><th><loq< th=""><th>A SO Q</th><th>" &amp;T Q.Ó</th><th>~<b>₽</b>ØQ</th><th><b>STOQ</b></th><th><b>√</b>\$OQ</th><th>) Ø OQ</th><th><b>E</b>OQ</th><th>(DOQ</th><th><loq< th=""></loq<></th></loq<></th></loq<></th></loq<>	0.0021	0.0021	<loq< th=""><th><loq< th=""><th>A SO Q</th><th>" &amp;T Q.Ó</th><th>~<b>₽</b>ØQ</th><th><b>STOQ</b></th><th><b>√</b>\$OQ</th><th>) Ø OQ</th><th><b>E</b>OQ</th><th>(DOQ</th><th><loq< th=""></loq<></th></loq<></th></loq<>	<loq< th=""><th>A SO Q</th><th>" &amp;T Q.Ó</th><th>~<b>₽</b>ØQ</th><th><b>STOQ</b></th><th><b>√</b>\$OQ</th><th>) Ø OQ</th><th><b>E</b>OQ</th><th>(DOQ</th><th><loq< th=""></loq<></th></loq<>	A SO Q	" &T Q.Ó	~ <b>₽</b> ØQ	<b>STOQ</b>	<b>√</b> \$OQ	) Ø OQ	<b>E</b> OQ	(DOQ	<loq< th=""></loq<>
	1	<loq< th=""><th><loq< th=""><th><loq< th=""><th><loq< th=""><th><loq√< th=""><th>CLO@ S</th><th><lqq< th=""><th><loq< th=""><th>S &lt; LOQ</th><th></th><th>&gt;¹<loq\$< th=""><th><lqq<sup>®</lqq<sup></th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq\$<></th></loq<></th></lqq<></th></loq√<></th></loq<></th></loq<></th></loq<></th></loq<>	<loq< th=""><th><loq< th=""><th><loq< th=""><th><loq√< th=""><th>CLO@ S</th><th><lqq< th=""><th><loq< th=""><th>S &lt; LOQ</th><th></th><th>&gt;¹<loq\$< th=""><th><lqq<sup>®</lqq<sup></th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq\$<></th></loq<></th></lqq<></th></loq√<></th></loq<></th></loq<></th></loq<>	<loq< th=""><th><loq< th=""><th><loq√< th=""><th>CLO@ S</th><th><lqq< th=""><th><loq< th=""><th>S &lt; LOQ</th><th></th><th>&gt;¹<loq\$< th=""><th><lqq<sup>®</lqq<sup></th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq\$<></th></loq<></th></lqq<></th></loq√<></th></loq<></th></loq<>	<loq< th=""><th><loq√< th=""><th>CLO@ S</th><th><lqq< th=""><th><loq< th=""><th>S &lt; LOQ</th><th></th><th>&gt;¹<loq\$< th=""><th><lqq<sup>®</lqq<sup></th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq\$<></th></loq<></th></lqq<></th></loq√<></th></loq<>	<loq√< th=""><th>CLO@ S</th><th><lqq< th=""><th><loq< th=""><th>S &lt; LOQ</th><th></th><th>&gt;¹<loq\$< th=""><th><lqq<sup>®</lqq<sup></th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq\$<></th></loq<></th></lqq<></th></loq√<>	CLO@ S	<lqq< th=""><th><loq< th=""><th>S &lt; LOQ</th><th></th><th>&gt;¹<loq\$< th=""><th><lqq<sup>®</lqq<sup></th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq\$<></th></loq<></th></lqq<>	<loq< th=""><th>S &lt; LOQ</th><th></th><th>&gt;¹<loq\$< th=""><th><lqq<sup>®</lqq<sup></th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq\$<></th></loq<>	S < LOQ		> ¹ <loq\$< th=""><th><lqq<sup>®</lqq<sup></th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq\$<>	<lqq<sup>®</lqq<sup>	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
10-20	2	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>~{<b>\$</b>OQ[®]</td><td>≨LØQ V<loq<i>®</loq<i></td><td><b>∑®</b>Ø</td><td>*LØQ</td><td><b>₽</b>BDQ</td><td>LÔÕ</td><td><b>L</b>ÔQ</td><td><b>COQ</b></td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>~{<b>\$</b>OQ[®]</td><td>≨LØQ V<loq<i>®</loq<i></td><td><b>∑®</b>Ø</td><td>*LØQ</td><td><b>₽</b>BDQ</td><td>LÔÕ</td><td><b>L</b>ÔQ</td><td><b>COQ</b></td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>~{<b>\$</b>OQ[®]</td><td>≨LØQ V<loq<i>®</loq<i></td><td><b>∑®</b>Ø</td><td>*LØQ</td><td><b>₽</b>BDQ</td><td>LÔÕ</td><td><b>L</b>ÔQ</td><td><b>COQ</b></td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>~{<b>\$</b>OQ[®]</td><td>≨LØQ V<loq<i>®</loq<i></td><td><b>∑®</b>Ø</td><td>*LØQ</td><td><b>₽</b>BDQ</td><td>LÔÕ</td><td><b>L</b>ÔQ</td><td><b>COQ</b></td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	~{ <b>\$</b> OQ [®]	≨LØQ V <loq<i>®</loq<i>	<b>∑®</b> Ø	*LØQ	<b>₽</b> BDQ	LÔÕ	<b>L</b> ÔQ	<b>COQ</b>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
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	mean	<loq< th=""><th><loq< th=""><th><loq< th=""><th><lqq< th=""><th>&lt;<b>₽</b>ØØ</th><th><b>ŞQ</b>Q<b>Ğ</b></th><th>≤KÇOQ</th><th><b>₹</b>DØQ</th><th><b>LOQ</b></th><th>STOO Q</th><th>_<e@q< th=""><th><b>≨</b>ÇOQ</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></e@q<></th></lqq<></th></loq<></th></loq<></th></loq<>	<loq< th=""><th><loq< th=""><th><lqq< th=""><th>&lt;<b>₽</b>ØØ</th><th><b>ŞQ</b>Q<b>Ğ</b></th><th>≤KÇOQ</th><th><b>₹</b>DØQ</th><th><b>LOQ</b></th><th>STOO Q</th><th>_<e@q< th=""><th><b>≨</b>ÇOQ</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></e@q<></th></lqq<></th></loq<></th></loq<>	<loq< th=""><th><lqq< th=""><th>&lt;<b>₽</b>ØØ</th><th><b>ŞQ</b>Q<b>Ğ</b></th><th>≤KÇOQ</th><th><b>₹</b>DØQ</th><th><b>LOQ</b></th><th>STOO Q</th><th>_<e@q< th=""><th><b>≨</b>ÇOQ</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></e@q<></th></lqq<></th></loq<>	<lqq< th=""><th>&lt;<b>₽</b>ØØ</th><th><b>ŞQ</b>Q<b>Ğ</b></th><th>≤KÇOQ</th><th><b>₹</b>DØQ</th><th><b>LOQ</b></th><th>STOO Q</th><th>_<e@q< th=""><th><b>≨</b>ÇOQ</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></e@q<></th></lqq<>	< <b>₽</b> ØØ	<b>ŞQ</b> Q <b>Ğ</b>	≤KÇOQ	<b>₹</b> DØQ	<b>LOQ</b>	STOO Q	_ <e@q< th=""><th><b>≨</b>ÇOQ</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></e@q<>	<b>≨</b> ÇOQ	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
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20-30	3	n.a	<loq< td=""><td>©≼roď /</td><td>OLOQ C</td><td>LOQ</td><td>Q_{LOQ}</td><td>LOQ ,</td><td><loq.< td=""><td>`</td><td>O<loq< td=""><td>LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq.<></td></loq<>	©≼roď /	OLOQ C	LOQ	Q _{LOQ}	LOQ ,	<loq.< td=""><td>`</td><td>O<loq< td=""><td>LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq.<>	`	O <loq< td=""><td>LOQ</td><td><loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	LOQ	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
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DAA: days after application

n.a not analysed, LOQ (limit of quantitation) & 0.005 mg/kg. Replicate value 1200

Line 1200

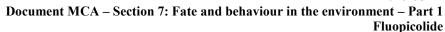




Table 7.1.2.2.1- 45: Residues of M-03 (AE 0608000) in soil after annual applications of 400 g a.s/ha ACCUMULATION phase values expressed as mg/kg

	1			1					1	<del></del>	
Depth	Sub		DAA2			DAA3			DAA4		DAA5
[cm]	plot	0	147	361	0	128	<b>336</b>	Be,	120	378	0
	1	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq td="" ♥<=""><td><loq< td=""><td>Z LÖQ</td><td>&lt; LOW</td><td></td><td><loq< td=""></loq<></td></loq<></td></loq></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq td="" ♥<=""><td><loq< td=""><td>Z LÖQ</td><td>&lt; LOW</td><td></td><td><loq< td=""></loq<></td></loq<></td></loq></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq td="" ♥<=""><td><loq< td=""><td>Z LÖQ</td><td>&lt; LOW</td><td></td><td><loq< td=""></loq<></td></loq<></td></loq></td></loq<></td></loq<>	<loq< td=""><td><loq td="" ♥<=""><td><loq< td=""><td>Z LÖQ</td><td>&lt; LOW</td><td></td><td><loq< td=""></loq<></td></loq<></td></loq></td></loq<>	<loq td="" ♥<=""><td><loq< td=""><td>Z LÖQ</td><td>&lt; LOW</td><td></td><td><loq< td=""></loq<></td></loq<></td></loq>	<loq< td=""><td>Z LÖQ</td><td>&lt; LOW</td><td></td><td><loq< td=""></loq<></td></loq<>	Z LÖQ	< LOW		<loq< td=""></loq<>
0-10	2	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><l<b>OQ</l<b></td><td>S <loq< td=""><td>S <loq< td=""><td>SEOQ N</td><td>J&gt; <lqq\\ td=""  <=""><td><loq< td=""></loq<></td></lqq\\></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><l<b>OQ</l<b></td><td>S <loq< td=""><td>S <loq< td=""><td>SEOQ N</td><td>J&gt; <lqq\\ td=""  <=""><td><loq< td=""></loq<></td></lqq\\></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><l<b>OQ</l<b></td><td>S <loq< td=""><td>S <loq< td=""><td>SEOQ N</td><td>J&gt; <lqq\\ td=""  <=""><td><loq< td=""></loq<></td></lqq\\></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><l<b>OQ</l<b></td><td>S <loq< td=""><td>S <loq< td=""><td>SEOQ N</td><td>J&gt; <lqq\\ td=""  <=""><td><loq< td=""></loq<></td></lqq\\></td></loq<></td></loq<></td></loq<>	<l<b>OQ</l<b>	S <loq< td=""><td>S <loq< td=""><td>SEOQ N</td><td>J&gt; <lqq\\ td=""  <=""><td><loq< td=""></loq<></td></lqq\\></td></loq<></td></loq<>	S <loq< td=""><td>SEOQ N</td><td>J&gt; <lqq\\ td=""  <=""><td><loq< td=""></loq<></td></lqq\\></td></loq<>	SEOQ N	J> <lqq\\ td=""  <=""><td><loq< td=""></loq<></td></lqq\\>	<loq< td=""></loq<>
0-10	3	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><ioo< td=""><td>Į ŠPLOQ 👩</td><td>\ \TO</td><td>L TOQ</td><td>&gt; <loq< td=""></loq<></td></ioo<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><ioo< td=""><td>Į ŠPLOQ 👩</td><td>\ \TO</td><td>L TOQ</td><td>&gt; <loq< td=""></loq<></td></ioo<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>LOQ</td><td><ioo< td=""><td>Į ŠPLOQ 👩</td><td>\ \TO</td><td>L TOQ</td><td>&gt; <loq< td=""></loq<></td></ioo<></td></loq<></td></loq<>	<loq< td=""><td>LOQ</td><td><ioo< td=""><td>Į ŠPLOQ 👩</td><td>\ \TO</td><td>L TOQ</td><td>&gt; <loq< td=""></loq<></td></ioo<></td></loq<>	LOQ	<ioo< td=""><td>Į ŠPLOQ 👩</td><td>\ \TO</td><td>L TOQ</td><td>&gt; <loq< td=""></loq<></td></ioo<>	Į ŠPLOQ 👩	\ \TO	L TOQ	> <loq< td=""></loq<>
	mean	<loq< td=""><td><loq< td=""><td><loq< td=""><td><l0q_0< td=""><td><lqq< td=""><td> ^ &amp;LOQ _^3</td><td>,</td><td>_ \ ©©OQ</td><td>CLQQ</td><td><loq< td=""></loq<></td></lqq<></td></l0q_0<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><l0q_0< td=""><td><lqq< td=""><td> ^ &amp;LOQ _^3</td><td>,</td><td>_ \ ©©OQ</td><td>CLQQ</td><td><loq< td=""></loq<></td></lqq<></td></l0q_0<></td></loq<></td></loq<>	<loq< td=""><td><l0q_0< td=""><td><lqq< td=""><td> ^ &amp;LOQ _^3</td><td>,</td><td>_ \ ©©OQ</td><td>CLQQ</td><td><loq< td=""></loq<></td></lqq<></td></l0q_0<></td></loq<>	<l0q_0< td=""><td><lqq< td=""><td> ^ &amp;LOQ _^3</td><td>,</td><td>_ \ ©©OQ</td><td>CLQQ</td><td><loq< td=""></loq<></td></lqq<></td></l0q_0<>	<lqq< td=""><td> ^ &amp;LOQ _^3</td><td>,</td><td>_ \ ©©OQ</td><td>CLQQ</td><td><loq< td=""></loq<></td></lqq<>	^ &LOQ _^3	,	_ \ ©©OQ	CLQQ	<loq< td=""></loq<>
	1	<loq< td=""><td><loq< td=""><td><loq< td=""><td>\$P\$\$</td><td>&amp; LOQ &amp;</td><td>&lt; IOO</td><td>ð POQ</td><td>Ç &lt; LQQ\$</td><td>AGO TOO</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>\$P\$\$</td><td>&amp; LOQ &amp;</td><td>&lt; IOO</td><td>ð POQ</td><td>Ç &lt; LQQ\$</td><td>AGO TOO</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td>\$P\$\$</td><td>&amp; LOQ &amp;</td><td>&lt; IOO</td><td>ð POQ</td><td>Ç &lt; LQQ\$</td><td>AGO TOO</td><td><loq< td=""></loq<></td></loq<>	\$P\$\$	& LOQ &	< IOO	ð POQ	Ç < LQQ\$	AGO TOO	<loq< td=""></loq<>
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	mean			e - 000°	-	-	n.a	n.a	n.a	n.a	n.a

DAA: days after application of quantitation = 0.005 mg/kg Replicate value > LOQ



### C. Residues

# **Dissipation phase (2000 – 2002)**

The theoretical initial concentration of fluopicolide in the 0-10 cm layer was 0.274 mg/kg based on the calibrated application rate of 411 g/ha, assuming a soil density of 1.5 g/cm. The measured initial concentration of fluopicolide in 0-10 cm was 0.207 mg/kg (mean value) immediately after application and 0.251 mg/kg (mean value) three days later with an additional 0.073 mg/kg detected in the 10-20 cm depth, equivalent to 318 g/ha and 485.5 g/ha, respectively. These deviations to the nominal appropriate of 400 g/ha appear to be acceptable taking into account the uncertainties (e.g. soil density, homogenisation, application) related to the samples collected soon after treatment.

The initial dissipation of fluopicolide was rapid followed by a slower dissipation phase during the winter months due to the cold climate. Dissipation continued the following summer at a slower rate than the initial rapid phase possibly due to the reduced availability of fluopicolide due to increased adsorption to soil with ageing. Residues of fluopicolide were detected mainly in the 0-10 cm soil horizon throughout the trial. Lower residues were detected in the 00-20 cm and 20-30 cm horizon in the dissipation phase at concentrations ranging from 0.073 to 0.002 mg/kg and 0.020 to 0.002 mg/kg, respectively (mean values). Residue levels of parent declined to 85.5 g/ha two years after the first treatment which represented less than 20% of the measured (485.5 g/ha/initial concentration. Throughout the dissipation phase no residues of fluopicolide were detected above the 100 below 30 cm depth.

The concentration of M-01 (AEQ 653711) in the soil profile varied with the degradation rate of fluopicolide. During the summer months when the degradation rate of the parent compound was relatively rapid, M-01 concentrations were highest and declined during the winter at the degradation rate of fluopicolide slowed. Residue levels of M-01 reached a maximum two months after the first application at a concentration equivalent to 350 g/ha in August 2000. The metabolite was detected at soil depths down to 50 cm. The maximum residue level in the 0-10 cm horizon was observed 62 days after application at 0.015 mg/kg (mean of three replicates). The maximum residue in the underlying 10-20 cm was detected at 120 days after application at 0.011 mg/kg (mean values) during the dissipation phase. In the 20-30 cm and 30-50 cm horizons residue levels were generally at or below the LOQ (maximum in dissipation phase 0.00 kmg/kg). Overall residue levels of M-01 declined to a concentration equivalent to 25 g/ha/the epp of the dissipation phase.

M-02 (AE C657188) and M-03 (AE 0608000) were rapidly degraded in the trial. Residues of M-02 were only detected at early timepoints in the 0-10 cm soil depth up to 62 days after application at a maximum concentration of 0.009 mg/kg (mean value), equivalent to 13 4 g/ha. Residues of M-03 were detected one and three days after application in the 0-10 cm soil diver at the LOQ (0.005 mg/kg) in single replicate samples. The degradation of M-03 is known to be pH dependant and is very rapidly degraded in slightly acidic soils such as the soil at the Philippsong trial site. No residues of M-02 and M-03 were detected above the LOQ below 10 cm depth.

# Accumulation:

The maximum average concentration of fluorocolide in soil was 0.341 mg/kg in 0 to 10 cm soil depth immediately after the second application in 2001.

Residues of diopicoride were detected mainly in the 0-10 cm and 10-20 cm soil horizons throughout the accumulation hase. Residues in the 10-20 cm soil depth reached a maximum of 0.073 mg/kg one day after the first application. Ow residues were detected in the 20-30 cm soil depth at concentrations ranging from 0.03 to 0.032 mg/kg (mean values) throughout the accumulation phase. In the 30-50 cm soil depth thropicolide was detected on occasions at concentrations  $\leq 0.005$  mg/kg (mean values) except for one replicate at 0.045 mg/kg immediately after the second application on 24 July 2001 which was concluded to be a result of contamination during sampling.



The metabolite M-01 was detected in 0-10 cm and 10-20 cm soil depth at maximum concentrations of 0.070 mg/kg and 0.024 mg/kg (mean values), respectively. In the 20-30 cm layer residues reached a maximum of 0.012 mg/kg and did not exceed 0.006 mg/kg in 30-50 cm depth.

M-02 and M-03 were detected only at early time-points after the initial application during the dissipation phase of the trial. No residues of either metabolite were detected throughout the accumulation phase

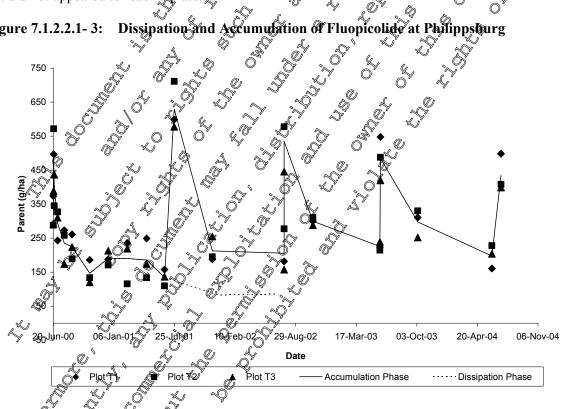
The plateau concentrations of fluopicolide and M-01 after four years are summarised below

Plateau concentration	Time-point	(mg	y/kg)	I IIIIC DOIII	MA O (mg	kg) J
		0-10 cm	0-20 cm		√0-10 com	0 <b>3</b> 0 cm%
High ¹	Day 0 2 nd Application	0.341	<b>19</b> 1	Pay 123° after 4 th Application	670	0.042
Low ²	Day 368 after 4 th Application	0.094	0.064	Day 0 Safter 5 Application	0.024	0.021

¹ maximum of the high values of the "saw teeth" curve

It was stated in Addendum 1 to the DAR (200%) concentration in the accumulation phase of the Philippsburg to al. F residues levers were lower but did not appeared to reach a Pateau.

Figure 7.1.2.2.1- 3:

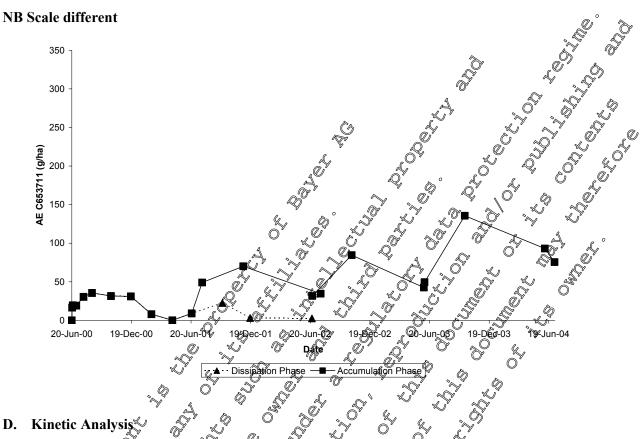


Mean values are gitch as solid and to shed lines for the accumulation phase and dissipation phase as indicated in the key. The results for individual plots are also given for fluopicolide as solid symbols.

² maximum of the low values of the "saw teeth" wut



Figure 7.1.2.2.1- 4: Dissipation and Accumulation of M-01 (AE C653711) at Philippsburg



The half-life of fluoricolide included in the report was calculated using a bi-phasic first-order kinetic model (Hockey Stock) as 99 days. The DT₉₀ was 1184 days and they was 0.879. The experimental data has been re-evaluated according to the FQCUS guidance document on degradation kinetics (FOCUS, 2014) using the software kinGUI (version 2.19. Full details of the evaluation are provided in the summary for Document KCA 7.12.2.144. The resulting best-fit DT₅₀ values for trigger endpoints are summarised below in Table 7.12.2.146. Best fit kinetics are highlighted in bold.

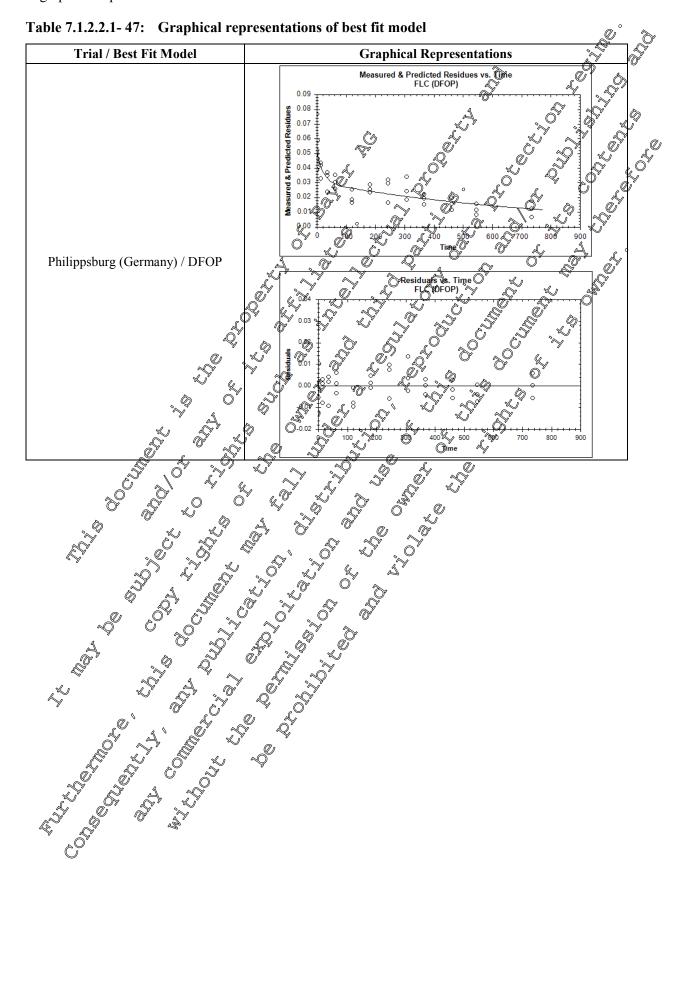
Table 7.1.2.2.1- 460 Degradation rate of fluoricolide under field conditions (DT50 values for trigger endpoints)

Soil	Kinetic mode	, ~	Parameter (k) k1, k2 (g, tb, q, p)	χ-,‰- ergror	Prob>t	Lower CI	Upper CI	DT ₅₀ [days]	DT90 [days]
	SFO 0	04317		<b>≫</b> 18.8	6.53E-08	0.001671	0.003	288.3	957.8
Philippsburg (Germany), CA	FOMC 0.	.0 <b>50</b> 99	o@.3088 13.90	13.5	n.r. n.r.	0.1372 -10.57	0.48 38.38	117.3	>10000
7.1.2.2.1/09, (Pollmann, 2005a)	<b>H</b> FOP 0.	.05131	k1 0,64642 k2 0.001252 \$ 0.4104	12.7	0.06404 0.00473 n.r.	-0.01203 0.0003557 0.2359	0.105 0.002 0.585	133	1417

Best fit model highlighted in Gold



A graphical representation of the final kinetic fit is shown below.





## **III. Conclusion**

Following a single application of fluopicolide at a nominal application rate of 400 g/ha to bare soil in summer 2000, the decline of fluopicolide and the formation and decline of its metabolites M-01, M-02 and M-03 was followed for up to 735 days after application at a trial site in Philippsburg, Germany. A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in a best-fit DFOP un-normalised DT₅₀ value of 13 days and DT₉ value of 1417 days for fluopicolide.

The accumulation potential of fluopicolide and its metabolites M-01, M-02 and M-03 was assessed at the same site for up to four years after repeated application to bare soil. It was concluded during the previous evaluation that fluopicolide residues had reached plateau concentrations in the Philipp burg trial. For M-01, residues were lower but also did not appear to reach a plateau. In this submission definitive assessment of the accumulation of fluopicolide and its metabolites in soil is addressed in Document MCP-9 by calculation.

# Assessment and conclusion by applicant:

The study is considered valid to assess the dissipation of fluopicolide under field conditions in soil. The study meets the requirements to assess field persistence of fluopicolide and its metabolites under EU 283/2013, and to derive parents oil Dept somation values for legacy field studies as defined by EFSA (2014). It is not suitable for assessing metabolite soil Dept somation values as the design did not minimise soil surface processes immediately after application as required by EFSA (2014).

The study is considered as supportive information to assess the possibility of accumulation of residues in soil. Definitive assessment of the accumulation of fluopicoligic and its metabolites in soil is addressed in Document MCP-2 by calculation.

	KC457 1 2/2 1/10 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Data Point:	11011/1.1.202:1/10
Report Author	
Report Year:	<del>29</del> 0
Report Title	Evaluation of Soil degradation parameters for fluopicolide (AE C638206) for use
	THE PARTICLE VIOLET OF THE PROPERTY OF THE PRO
Report No:	MFF-07/265 \$
Document No:	1M-294M0-01₩
Guideline(s) followed in	not specified
study.	
Deviations from current	Not applicable
test guideline:	
Previous valuation:	ves Naluat Orand accepted
	in the Addendum To the DAR (2007)
GLP*Officially	applicable of the control of the con
recognised testing	
facilities:	
Acceptability/Reliability:	

For procedural casons the previously submitted report is included under Point KCA 7.1.2.2.1 in the current dossic (KCA 7.1.2.2.1/10). However, the report has been fully superseded by two new kinetic evaluation peports of the laboratory data (KCA 7.1.2.1.1/10, M-685680-01-1) and original field dissipation trials (KCA 7.1.2.2.1/24, M-685682-01-1). Consequently, no summary of this report has been included in this dossier.



Data Point:	KCA 7.1.2.2.1/11
Report Author:	
Report Year:	2007
Report Title:	Evaluation of soil degradation parameters for fluopicolide and its metabolite from
	laboratory and field trials for modelling purposes
Report No:	MEF07/266
Document No:	<u>M-294399-01-1</u>
Guideline(s) followed in	not specified
study:	
Deviations from current	Not applicable
test guideline:	
Previous evaluation:	yes, evaluated and accepted vestorial accepted vest
	in the Addendum 1 to the DAR (2007)
GLP/Officially	not applicable
recognised testing	not applicable
facilities:	
Acceptability/Reliability:	No A O O O

For procedural reasons the previously submitted report is included under Point KCA7.1.2.2.1 in the current dossier (KCA 7.1.2.2.1/11) However, the report has been full superseded by two new kinetic evaluation reports of the laboratory data (KCA 7.02.1.1.00), M-085680-01-13 and original field dissipation trials (KCA 7.1.2.24/22; M-6856/6-013). Consequently, no summary of this report has been included in this dossier.

Data Point:	KCA-7, 1.2.2, 1/12
Report Author:	
Report Year: Report Title:	2019
Report Title:	Terrestral field dissipation study with fluopie olide & propamocarb-hydrochloride
	SC 687.5 in Germany, United Kingdom, and France (North)
Report No:	<u>M©5118 Q01-1</u> & Q
Document No:	<u>M-651}81-01-1</u>
Guideline(s) followed in &	Regulation (FC) No. P107/2009 of the European Parliament and of the Council of
study:	21 Sctober 2009 including Pata Requirements SANCO/11803/2010 Rev. 7 and
	Test Methods SANCO/14843/2010 Rev. 4
	DFSA Guidance Document for Evaluating Laboratory and Field Dissipation
	Studies to obtain Deg 150 Values of Octive Substances of Plant Protection
	Products and Transformation Products of these Active Substances in Soil, EFSA
	Journal 2014; 12(5):3662, 2014
Deviations from current	Yes. Report meets the requirement for assessing test substance soil DegT50matrix
test guideline:	values as required by EFSA (2014) for field studies. The endpoints may be too
	conservative for comparison to field persistence criteria and ecotoxicological risk
, 10 % //	assessment as required by EU 283/201.
Previous evaluation:	No, not previously submitted
GLP/Officially (	Y. conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptablity/Retrability:	Yeo

## Executive Summary

Soil degradation of fluopicolide under Northern European field conditions was investigated after application of Fluopicolide and Propamocarb-hydrochloride SC 687.5 onto bare soil plots in Burscheid (Germany), Great Chishill (United Kingdom), and Lignieres de Touraine (France).



Fluopicolide and Propamocarb-hydrochloride SC 687.5 was sprayed once onto 400 sqm to 564 sqm plots at a rate of 6.40 L/ha, corresponding to nominal 400 g/ha fluopicolide. Subsequently the test item was incorporated by a rotary harrow to a target depth of 7 cm followed by rolling the soil surface.

Soil cores were taken 0 days before up to 751 days post-application to a maximum depth of No. The soil cores were cut into 10-cm soil layers, bulked soil layers were homogenised and finally analysed for fluopicolide.

Sub-samples of homogenised soil were extracted in a microwave extractor with organic solvent. Potential matrix effects were eliminated by using an internal standard solution of isosopically labeled reference items added to sample extracts. Following separation of fine particles from soil extracts by centrifugation the identification and quantitation of the analytes was performed by high performance liquid chromatography using MS/MS detection in the multiple reaction monitoring mode. The applytical method was validated using three different soils. The limit of quantitation (LOQ) was 50 µg/kg and the limit of detection (LOD) was 1.5 µg/kg for fluopicolide.

At Burscheid (Germany), the mean amount of Nuopicolide at day 0 was 45 g/ha representing 113% of the nominal application rate. Fluopicolide declined from \$1 g/\square in soo at day 0 to \$8.8 g/\square at day 701.

At Great Chishill (United Kingdom) with a mean affount of fly opicolide at the opical representing 78.0% of the nominal apprication rate Fluor Colider Teclined from \$12 gara in soil at day 0 to 111 g/ha at day 751.

At Lignieres de Touraine (France), the mean amount of fluor colide at day was \$56 g/ha, representing 89% of the nominal application rate. Pluopicolide declined from 36 g/ga in soil at do 0 to 58.5 g/ha at day 700.

# **Materials**

## **Test Item**

Fluopicolide + Propanocarb-hydrochloride formulated as a suspension concentrate (62.5g/L fluopicolide 625 g/L of propamocarb-hydrochloride)

Certificate of Analys

Lot No.

A terrestrial Wild dissipation with Fluopic Mide & Propamocarb-hydrochloride (SC 687.5), a suspension concentrate formulation containing 62.52/L floopico de and 625 g/L propamocarb-hydrochloride, was conducted at three locations in Northern Europe. The three locations were Burscheid (Germany), Great Chishill (United Kingdom) and Lignieres the Toutaine (France). The sites were fully characterised, and the results summarised in Table 1.2.20 - 48 The plot sizes ranged from 400 sqm to 654 sqm. The control plot was prepared at least 5 maway from the treated plots.

Soil from the three test sites have been used in OECD 307 time dependent sorption and OECD 106 Juga har studies. adsorption desorption studies.



Table 7.1.2.2.1-48: Location, site description and climatic data of test sites

	TI *4.:		Sampling of	depth [cm]	
Characteristic	Units	0-30	30-50	50-75	75-100
Soil Designation	-		Burscheid	(Germany)	·
Soil ID	-		VC	i08 奏	
Geographic Location	-		Burscheid		
City					
Country			Gern	nany	
рН	CaCl ₂	5.3	5.6	5.6	~5.6 . <del>~</del>
Organic carbon	[% Carbon]	1.2	0.4	0.1	0.1
CEC	[meq/100 g]	12.8	11.8	12 <i>,4</i> 0	J 11,8
Chalk	[% CaCO ₃ ]	12,8	1468	1254	Q 109
Particle size distribution (USDA)		A	Q' & '		C L
Clay < 0.002 mm	%	21 D	~ 23, <b>©</b>	% ₁₉ √0″	13 W
Total silt 0.002 - 0.050 mm	%	61°	57 7	√ 43 ·	37
Total sand 0.050 - 2 mm	%	Y 188 X			₄ 50
Textural class	USDA₄	silt loam	sin Ploam O	loam 🍣	Joan L
Water Holding Capacity		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	~ 4	S. C.	
MWHC (pF 0.05)	Vol % 。	493	50-6	45 <b>9</b>	39.5
WHC at 0.1 bar (pF2)	₩81%. %	<b>35.2</b>	<b>3</b> 19 ×	300.3	<u> 2</u> 9.9
Soil Designation	0 - V	- G	reat Chishill (U	Inited Kingdon	
Soil ID	~ ~ <del>~</del>	A		G&	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Geographic Location	¥ <u>, ©</u>				7
City			Great Shishill, €	Cambodgeshire	2
Country			United k	Cinedom	
pH 🗞	O CaCo	7.2 °	7.50	~ 7.7°	7.6
Organic carbon	[% Carbon]		1.1		0.5
CEC	[m@a/100 D	<b>2</b> 9 . 0	\$26.1 ₆	· 999	17.4
Chalk	CaCo	\$ 13 \( \)	5.8	\$\int_37.9	43.1
Particle size distribution (USDA)		3 1.5	9.00	0 31.7	73.1
Clay $< 0.002 \text{ mm}$				<b>♥</b> ₹ 53	51
Total silt 0.002 0.050 mm	& % ×	23		23	23
Total sand 0.000 - 2 pm	O % & &	36	34 @	24	26
Textural class	DSDA ?	cla	cláv	clay	clay
Water Holding Capacity		y crug		City	ciuy
Water Holding Capacity  MWHC pF 0.05)  WHC at 0.1 bar (pE2)	Vol %	060.8	, O _{57 2}	52.6	49.5
WHC at 0.1 bar (pE2)	Vol	29.2	27.9	25.3	25.9
Soil Designation	* · · · · · · · · · · · · · · · · · · ·	~	ignieres de To		
Soil ID	W- ~~		FR		~)
Geographic Location	· 0 0				
City		<b>37</b> 130	Lignieres de To	uraine Central	Region
Country		)	Fra	nce	Region
pH Q	CaCl ₂	5.9	6.5	6.8	6.8
	[% Carbon]				
Organic carbon		0.8	0.4	0.3	0.5
CEC Challe	[meq/000 g]*		13.2	14.7	21.8
Chalk	[%CaCO3]	0.2	0.3	0.3	0.0
Particle size distribution (USDA)		1.7	1.7	10	27
Clay < 0.002 0 m	7.00	15	15	19 25	37
Clay < 0.002 mm  Total silt 0.002 - 0.050 mm  Total sand 0.050 2 mm		15	19	25 56	33
	% HGD 4	70	66	56	30
Textural class	USDA	sandy loam	sandy loam	sandy loam	clay loam
Water Holding Capacity MANHC (pt 0.05)	T7 10/	44.4	45.5	50.0	(1.5
MXVHC (pt20.05)	Vol %	44.4	47.7	52.3	61.5
WHC at 1.1 bar (pF2)	Vol %	17.5	20.6	26.1	33.1



# **Experimental Conditions**

Fluopicolide & Propamocarb-hydrochloride SC 687.5 is a suspension concentrate formulation, containing 62.5 g/L fluopicolide and 625 g/L propamocarb-hydrochloride. The product was sprayed onto bare earth once at each site at an application rate of 6.40 L/ha and 600 L/ha water, corresponding to 400 g/ha fluopicolide during May 2015. Subsequently the test item was interpreted by Protary harrow to a target depth of 7 cm followed by rolling the soil surface. Throughout the study no cultivation was carried out and the plots were maintained as bare plots by periodic application of amonselective herbicide to control weeds.

Air temperature, precipitation including irrigation and surshine data were recorded on site duri field tests.

Soil dissipation of fluopicolide was studied for 751 days.

2. Sampling

The treated plot of each trial was divided into three sub-plots. From each sub-plot 10 soil fores were taken and combined together at each sampling interval (30 cores in total).

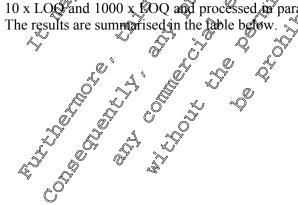
Samples were taken from treated plots on following occasions: 0 (post-application each \$10 cm depth), 7, 14-15, 21-22, 28-29 (each 0-40 cm depth), 56-68, 120-134 (0-60 cm) and 566-194, 252-301, 348-398, 435-468, 519-554, 605-667, 200-751 (each 0-85 cm depth) after treatment. Samples were taken from the control plot on the following occasions: 0 days before application 348 398 and 700-751 days after application.

Soil cores taken from the sites in France and the United Kingdom were deep frozen to -18°C within twenty four hours after sampling, then shipped frozen to the analytical laborated in Germany. Cores taken from the site in German were shipped fres to the analytical laborator, where they were deep frozen to -18°C within twenty four bours ofter sampling.

### Analytica Procedures 3.

The analytical method 01445 usecto determine levels of fluopicolide. Soil samples of 5 g were extracted in a microwave extractor with a mixture of acetonitrile/water (4/1 v/v). The extracts were centrifuged to remove fine particles of the soil. Possible matrice effects of fluopicolide were eliminated by using an internal standard sometion of isotopic labelled reference items. Quantification was carried out by LC-MS/MS. The limit of quantitation (LOQ), for fluopicolide was 5.0 µg/kg in soil. The limit of determination (LOD) for fluor colide was 1.5 µg/kg.

During analysis of the dissipation samples of the current study, concurrent recovery samples were prepared freshly by fortification of control cample with test item fluopicolide at levels of LOQ, 10 x LOG and 1000 x LOQ and processed in parallel to the dissipation samples throughout the study.





Single Values [%]	No of Recoveries	Fortification Level [µg/kg]	Mean [%]	RSD [%]
90, 90, 91, 92, 93, 93, 93, 93, 94, 94, 94, 94, 94,				
95, 95, 95, 95, 95, 96, 96, 96, 96, 96, 96, 96, 97,		8		
97, 97, 97, 97, 97, 98, 98, 98, 98, 98, 98, 98, 98,			) ^y	4.6
98, 99, 99, 99, 99, 99, 99, 99, 99, 99,		o ^y		A 22.
99, 99, 99, 99, 100, 100, 100, 100, 100,		4	Ş	~\$° a
100, 100, 100, 100, 100, 100, 101, 101,	140	5, 5	100%	4.6
101, 101, 101, 101, 101, 101, 101, 102, 102				
102, 102, 102, 102, 102, 102, 102, 102,	***	54	1007	7 4.6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
102, 103, 103, 103, 103, 103, 103, 104, 104, 104, 104, 104, 104, 104, 104	a Y			.0 4
104, 104, 104, 104, 104, 104, 104, 104,	4			
105, 105, 106, 106, 106, 106, 107, 107, 107, 109, 110,	)	, , , , , , , , , , , , , , , , , , ,	\O' (	b Ö
110, 111, 111, 113, 113, 116				
61, 73, 84, 85, 86, 90, 91, 91, 92, 93, 94, 94, 95, 95,			Ğ i	
96, 97, 97, 97, 97, 98, 98, 98, 99, 99, 99, 99, 100, 900, 900, 900, 90				<i>₹</i>
100, 101, 101, 101, 101, 101, 101, 101,				
102, 102, 102, 102, 102, 102, 102, 103, 103, 103, 103, 103, 103, 103, 103				
103, 103, 103, 103, 103, 103, 103, 103,			Ÿ Ş	0~
104, 104, 104, 104, 104, 104, 104, 104,	133	o <b>s</b>	103	්ත 6.9
104, 105, 105, 105, 105, 105, 105, 105, 105				,
105, 105, 105, 105, 105, 106, 106, 106, 106, 106, 106, 106, 107, 107, 107, 107, 107, 107, 107, 107				
100, 100, 100, 107, 107, 107, 107, 107,				
100, 100, 100, 110, 110, 110, 110, 110,	, ,		9	
105, 105, 106, 106, 106, 106, 107, 107, 107, 109, 110, 110, 111, 111, 113, 115, 116  61, 73, 84, 85, 86, 90, 91, 91, 92, 93, 94, 94, 95, 95, 96, 97, 97, 97, 98, 98, 98, 99, 99, 99, 99, 100, 100, 100, 101, 101	"O"		L. S.	
112, 112, 114, 114, 114, 114, 114, 114,		. 500	<b>*</b>	
86, 92	20'	§ 5000° (	<b>8</b> 9	-
Overall recovery	2 <i>7</i> 5 (	5000 C	101	6.1

RSD = Relative standard deviation, LOQ = Limit of quantification

The validation of the extraction was carried out during the study, with samples taken immediately after the application of the test substance.

Additional 10 g soil camples were extracted by shaking with 0.01M calcium chloride at selected timepoints throughout the course of the sody. An aliquot of the resultant extractant was mixed with an internal standard solution and the concentration of fluopicolide in the extract determined by LC-MS/MS using the same conditions described in the method above. To validation procedures were carried out for these samples

# 4. Evaluation of the Data and Kinetic Calculations

For evaluation of degradation kinetics of fluoricolide according to the FOCUS guidance document on degradation kinetics, the total residue of the test item in the soil profile covering all soil horizons was calculated according to the following procedure:

- values between LOD and LOD were set to the measured values.
- values < LOD were set to 0.5 LOD for samples after, before or deeper as a value > LOD or for samples between (> LOD and <LOQ). The curve was cut off after the first non-detect (< LOD), who later value > LOQ followed.
- $\underset{\bullet}{\bullet}$  at day 0, values < LOD in deep horizons were set to 0.

The results in  $[\mu g/kg]$  were converted to [g/ha] considering the actual soil density of the corresponding soil layer.



## II. Results and Discussion

# A. Analytical Methodology:

Full details and acceptable validation data to support this method are presented in Document M-SA 4, Section 4.1.2. The method complies with the EU regulatory requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of fluopicolide in Soil samples by HPLO-MS/MS.

## B. Data:

The results for residues of fluopicolide in different soil depths are presented below (expressed as g/ha) in Table 7.1.2.2.1-49 to Table 7.1.2.2.1-51.

Residues of fluopicolide were detected mainly in the 0-10 cm soil horizon throughout the Burseheid trial (Table 7.1.2.2.1-49). In soil depths below 10 cm so residues of fluopicolide were found above the LOQ except for one timepoint in one of three eplicate subplots. In samples taken 121 to 701 days after application low residues were detected in the 10-20 cm horizon at concentrations ranging from <1.00 to 10.2 g/ha and at two timepoints in the 20-30 cm horizon at concentrations. LOQ. No residues were detected in lower soil depths.

Residues of fluopicolide were detected mainly in the 0-10 cm soil horizon throughout the Great Chishill trial (Table 7.1.2.2.1-50). In samples taken 68 to 751 days after application few residues were detected in the 10-20 cm horizon at concentrations ranging from 3.36 to 16.5 g/ha. In deeper depths no residues of fluopicolide were found above the LOQ in samples taken from 301 days occasional residues were detected at concentrations <LOQ in deeper soil horizons.

Residues of fluopicolide were detected mainly in the 1-10 cm soil horizon throughout the Lignieres de Touraine trial (Table 71.2.2.51). In samples taken 277 to 700 days after application low residues were detected in the 10-20 cm horizon at concentrations below the LOQ, ranging from <LOD to 7.43 g/ha. In deeper details no residues of fluopicolide were found boyes the LOQ.

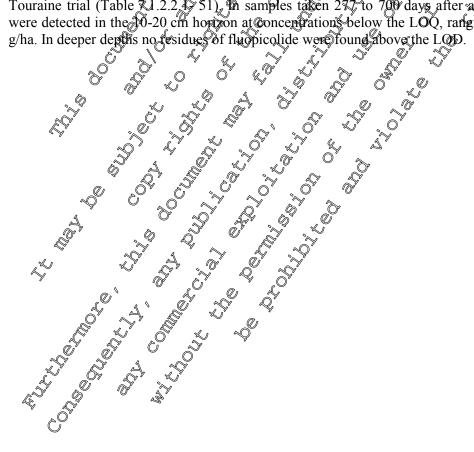




Table 7.1.2.2.1- 49: Residues of fluopicolide in different soil depths at Burscheid trial after an application of 400 gas. ha (expressed as g/ha)

									<u>F</u>	»					,
Depth	Sub	DAT									á				
[cm]	plot	0	7	15	21	28	63	121	172	252	<b>2</b> 395	437	519	605	701
0-10	T1	499	435	393	418	390	363	136	197	164	121	94.9	73 ₂ .\$\disp\(\sigma\)^\(\sigma\)	51.3 73.4	60.1
	T2	488	418	530	463	467	452	136 P	\$231	206	å∘167	<b>643</b>	116	⊙ [©] 73.4	76.4
	T3	366	534	668	502	369	387,∜\$	245	191	206 131°	1365	1100	85.60	997	66.5
	mean	451	462	530	461	409	_OPOT	~ 188	~ <b>2</b> 06	<b>J</b> 66	J41 .	\ O116	&91.7	; <b>7</b> 4.8	67.7
	T1	-	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod_{< li=""></lod_{<></td><td>LODE</td><td>[3.64]</td><td>10.2</td><td>[6.40<b>]</b></td><td>[6.55]</td><td>1 [2.82]\$</td><td><lod®< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod®<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod_{< li=""></lod_{<></td><td>LODE</td><td>[3.64]</td><td>10.2</td><td>[6.40<b>]</b></td><td>[6.55]</td><td>1 [2.82]\$</td><td><lod®< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod®<></td></lod<></td></lod<>	<lod< td=""><td><lod_{< li=""></lod_{<></td><td>LODE</td><td>[3.64]</td><td>10.2</td><td>[6.40<b>]</b></td><td>[6.55]</td><td>1 [2.82]\$</td><td><lod®< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod®<></td></lod<>	<lod_{< li=""></lod_{<>	LODE	[3.64]	10.2	[6.40 <b>]</b>	[6.55]	1 [2.82]\$	<lod®< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod®<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
10.20	T2	-	<lod< td=""><td><lod< td=""><td><lod< td=""><td>&lt; FOD</td><td><pre><pre><pre><pre></pre></pre></pre></pre></td><td>[6@H]</td><td>[5:\$3]</td><td>[5]08]</td><td><lød< td=""><td>[5.22]</td><td>, ABD</td><td>[4.92]</td><td><lod< td=""></lod<></td></lød<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>&lt; FOD</td><td><pre><pre><pre><pre></pre></pre></pre></pre></td><td>[6@H]</td><td>[5:\$3]</td><td>[5]08]</td><td><lød< td=""><td>[5.22]</td><td>, ABD</td><td>[4.92]</td><td><lod< td=""></lod<></td></lød<></td></lod<></td></lod<>	<lod< td=""><td>&lt; FOD</td><td><pre><pre><pre><pre></pre></pre></pre></pre></td><td>[6@H]</td><td>[5:\$3]</td><td>[5]08]</td><td><lød< td=""><td>[5.22]</td><td>, ABD</td><td>[4.92]</td><td><lod< td=""></lod<></td></lød<></td></lod<>	< FOD	<pre><pre><pre><pre></pre></pre></pre></pre>	[6@H]	[5:\$3]	[5]08]	<lød< td=""><td>[5.22]</td><td>, ABD</td><td>[4.92]</td><td><lod< td=""></lod<></td></lød<>	[5.22]	, ABD	[4.92]	<lod< td=""></lod<>
10-20	Т3	-	<lod< td=""><td><lod< td=""><td><lod< td=""><td>LOD</td><td><b>E</b>LOD <i>©</i></td><td>[6.53] 🛚</td><td></td><td>O LOD (</td><td>🤊 [3.89] €</td><td>[4.17]</td><td>[3.04]</td><td><lod< td=""><td>[3.48]</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>LOD</td><td><b>E</b>LOD <i>©</i></td><td>[6.53] 🛚</td><td></td><td>O LOD (</td><td>🤊 [3.89] €</td><td>[4.17]</td><td>[3.04]</td><td><lod< td=""><td>[3.48]</td></lod<></td></lod<></td></lod<>	<lod< td=""><td>LOD</td><td><b>E</b>LOD <i>©</i></td><td>[6.53] 🛚</td><td></td><td>O LOD (</td><td>🤊 [3.89] €</td><td>[4.17]</td><td>[3.04]</td><td><lod< td=""><td>[3.48]</td></lod<></td></lod<>	LOD	<b>E</b> LOD <i>©</i>	[6.53] 🛚		O LOD (	🤊 [3.89] €	[4.17]	[3.04]	<lod< td=""><td>[3.48]</td></lod<>	[3.48]
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Sum	T2	488	438	530		467	<b>33</b> 2	190	241	211	167	148	116	78.3	76.4
Sum	Т3	366	534	A 668	502	369	→ 387	252	195	131	140	114	88.6	99.7	70.0
	mean	455	462	530	465	409	401	194	216	170	145	120	93.7	76.4	68.8

LOD = 1.5 μg/kg equivalent to ca. 2.8 g has depending on soil moisture and density, LOQ = 5 μg/kg equivalent to ca. 9 g/ha depending on soil moisture and density, Values in square brackers are values. LOD has LOQ

Fluopicolide

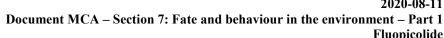




Table 7.1.2.2.1-50: Residues of fluopicolide in different soil depths at Great Chishill trial after an application of 400 g a.s./ha (expressor as g/ha)

	ı								<b>**</b>	G ··	भौ	1000			<u> </u>
Depth	Sub	DAT STATE OF THE PARTY OF THE P													
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0-10	T1	310	319	346	232	269	350	157 🕏	10,	175°C	149	162	1235	105 \$107	81.9
	T2	331	333	266	259	293	325	157 🕏 Q12	§209	156	.155	<b>₹</b> \$48	√¥28 <u> </u>	~~107	87.1
	Т3	296	375	471	324	357	400 K	200 📞		1815	1505	1480	179	167	120
	mean	312	342	361	272	306	<b>388</b>	<u>, N</u> 190	~ @89		₂ Ø₄51	\ <b>○1</b> 53	A943	¢ ⊘126	96.3
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Sum	Т3	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	∝ ₽75	\$ PART OF THE PART	<b>9</b> 24	× 3037	403	211	214	189	164	156	191	180	132
	mean	312	342	361		306	368	203	200	183	170	163	156	138	111

LOD = 1.5 μg/kg equivalent to ca. 2.8 g/h depending on soil more and density, LOQ = 5 μg/kg equivalent to ca. 9 g/ha depending on soil moisture and density Values in square brackets are values. LOD but 1000



Table 7.1.2.2.1- 51: Residues of fluopicolide in different soil depths at Lignieres de Touraine trial after an application of 400 g a.s./ha (expressed as g/ha)

	1											<u> </u>				
Depth	Sub															
[cm]	plot	0	7	14	21	28	56	120	4 966	277	<b>348</b>	435	_റ ്≎530_ ം	<b>%645</b>	700	
0-10	T1	399	323	309	311	326	291	198 ♥ <b>②</b> 05	195	175¢	147	96. <b>%</b>	82. <b>9</b>	87.4	65.7	
	T2	327	318	293	306	307	283	<b>©</b> 05	<u></u> 227	174	.151	96.5°	v ⊗ 80 U	L-≪ 279 Ω	54.6	
	Т3	342	305	310	280	293	259	174	227 200 V	175 C	143	92.10	69,70	70_1	45.1	
	mean	356	315	304	299	309	- J. P. S.	<u></u>	~ <b>2</b> 67	£76	√ ()ET I	N 💖 3.6	<i>≈</i> ,80.5 «	\$ <b>7</b> 9.1	55.1	
	T1	-	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>LODE</td><td><lod<sub>®</lod<sub></td><td><lod< td=""><td>[6.08<del>]</del></td><td>[6.97]</td><td><ra>LOD</ra></td><td><lod®< td=""><td>[4.01]</td><td>[5.47]</td></lod®<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>LODE</td><td><lod<sub>®</lod<sub></td><td><lod< td=""><td>[6.08<del>]</del></td><td>[6.97]</td><td><ra>LOD</ra></td><td><lod®< td=""><td>[4.01]</td><td>[5.47]</td></lod®<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>LODE</td><td><lod<sub>®</lod<sub></td><td><lod< td=""><td>[6.08<del>]</del></td><td>[6.97]</td><td><ra>LOD</ra></td><td><lod®< td=""><td>[4.01]</td><td>[5.47]</td></lod®<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td>LODE</td><td><lod<sub>®</lod<sub></td><td><lod< td=""><td>[6.08<del>]</del></td><td>[6.97]</td><td><ra>LOD</ra></td><td><lod®< td=""><td>[4.01]</td><td>[5.47]</td></lod®<></td></lod<></td></lod<>	LODE	<lod<sub>®</lod<sub>	<lod< td=""><td>[6.08<del>]</del></td><td>[6.97]</td><td><ra>LOD</ra></td><td><lod®< td=""><td>[4.01]</td><td>[5.47]</td></lod®<></td></lod<>	[6.08 <del>]</del>	[6.97]	<ra>LOD</ra>	<lod®< td=""><td>[4.01]</td><td>[5.47]</td></lod®<>	[4.01]	[5.47]	
10.20	T2	-	<lod< td=""><td><lod< td=""><td><lod< td=""><td>~ EOD</td><td>≨LÕĎ</td><td>&lt; <b>₹</b>@%</td><td>*LOOD</td><td><b>4</b>34]</td><td>[5.29]</td><td>ູ <löď< td=""><td>**************************************</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></löď<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>~ EOD</td><td>≨LÕĎ</td><td>&lt; <b>₹</b>@%</td><td>*LOOD</td><td><b>4</b>34]</td><td>[5.29]</td><td>ູ <löď< td=""><td>**************************************</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></löď<></td></lod<></td></lod<>	<lod< td=""><td>~ EOD</td><td>≨LÕĎ</td><td>&lt; <b>₹</b>@%</td><td>*LOOD</td><td><b>4</b>34]</td><td>[5.29]</td><td>ູ <löď< td=""><td>**************************************</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></löď<></td></lod<>	~ EOD	≨LÕĎ	< <b>₹</b> @%	*LOOD	<b>4</b> 34]	[5.29]	ູ <löď< td=""><td>**************************************</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></löď<>	**************************************	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>	
10-20	Т3	-	<lod< td=""><td><lod< td=""><td><lod 2<="" td=""><td><lod td="" ∛<=""><td>şLÔĎ Č<lod, td="" ç<=""><td>&gt; <lqd *<="" td=""><td>LOD</td><td>O [4.71]</td><td>) [7.43] C</td><td>[4.41]</td><td><lod< td=""><td><lod< td=""><td>[4.58]</td></lod<></td></lod<></td></lqd></td></lod,></td></lod></td></lod></td></lod<></td></lod<>	<lod< td=""><td><lod 2<="" td=""><td><lod td="" ∛<=""><td>şLÔĎ Č<lod, td="" ç<=""><td>&gt; <lqd *<="" td=""><td>LOD</td><td>O [4.71]</td><td>) [7.43] C</td><td>[4.41]</td><td><lod< td=""><td><lod< td=""><td>[4.58]</td></lod<></td></lod<></td></lqd></td></lod,></td></lod></td></lod></td></lod<>	<lod 2<="" td=""><td><lod td="" ∛<=""><td>şLÔĎ Č<lod, td="" ç<=""><td>&gt; <lqd *<="" td=""><td>LOD</td><td>O [4.71]</td><td>) [7.43] C</td><td>[4.41]</td><td><lod< td=""><td><lod< td=""><td>[4.58]</td></lod<></td></lod<></td></lqd></td></lod,></td></lod></td></lod>	<lod td="" ∛<=""><td>şLÔĎ Č<lod, td="" ç<=""><td>&gt; <lqd *<="" td=""><td>LOD</td><td>O [4.71]</td><td>) [7.43] C</td><td>[4.41]</td><td><lod< td=""><td><lod< td=""><td>[4.58]</td></lod<></td></lod<></td></lqd></td></lod,></td></lod>	şLÔĎ Č <lod, td="" ç<=""><td>&gt; <lqd *<="" td=""><td>LOD</td><td>O [4.71]</td><td>) [7.43] C</td><td>[4.41]</td><td><lod< td=""><td><lod< td=""><td>[4.58]</td></lod<></td></lod<></td></lqd></td></lod,>	> <lqd *<="" td=""><td>LOD</td><td>O [4.71]</td><td>) [7.43] C</td><td>[4.41]</td><td><lod< td=""><td><lod< td=""><td>[4.58]</td></lod<></td></lod<></td></lqd>	LOD	O [4.71]	) [7.43] C	[4.41]	<lod< td=""><td><lod< td=""><td>[4.58]</td></lod<></td></lod<>	<lod< td=""><td>[4.58]</td></lod<>	[4.58]	
	mean	-	<lod< td=""><td><lod< td=""><td><l<b>ÒD</l<b></td><td>&lt;<b>P</b>OD</td><td>≪bOD</td><td>≤łÇOĐ</td><td>&lt; DOD</td><td>[5,94]</td><td>[6<u>7</u>56]</td><td>[1\$47]</td><td><b>JLOD</b></td><td>[1.34]</td><td>[3.35]</td></lod<></td></lod<>	<lod< td=""><td><l<b>ÒD</l<b></td><td>&lt;<b>P</b>OD</td><td>≪bOD</td><td>≤łÇOĐ</td><td>&lt; DOD</td><td>[5,94]</td><td>[6<u>7</u>56]</td><td>[1\$47]</td><td><b>JLOD</b></td><td>[1.34]</td><td>[3.35]</td></lod<>	<l<b>ÒD</l<b>	< <b>P</b> OD	≪bOD	≤łÇOĐ	< DOD	[5,94]	[6 <u>7</u> 56]	[1\$47]	<b>JLOD</b>	[1.34]	[3.35]	
	T1	-	<lod< td=""><td><lod_3< td=""><td>) LOD</td><td>I /I OD 4</td><td>\$\frac{1}{2}</td><td><i e<="" od="" td=""><td>₽_<lod c<="" td=""><td>_&lt;\rightarrow\documents</td><td>COD C</td><td>&lt; LODA</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod></td></i></td></lod_3<></td></lod<>	<lod_3< td=""><td>) LOD</td><td>I /I OD 4</td><td>\$\frac{1}{2}</td><td><i e<="" od="" td=""><td>₽_<lod c<="" td=""><td>_&lt;\rightarrow\documents</td><td>COD C</td><td>&lt; LODA</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod></td></i></td></lod_3<>	) LOD	I /I OD 4	\$\frac{1}{2}	<i e<="" od="" td=""><td>₽_<lod c<="" td=""><td>_&lt;\rightarrow\documents</td><td>COD C</td><td>&lt; LODA</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod></td></i>	₽_ <lod c<="" td=""><td>_&lt;\rightarrow\documents</td><td>COD C</td><td>&lt; LODA</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod>	_<\rightarrow\documents	COD C	< LODA	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>	
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20-30	Т3	-	<lod td="" 🍃<=""><td>OLOD I</td><td>OLOD (</td><td>LOD</td><td>∠LOD @</td><td>LOD (</td><td><lod.< td=""><td>Î <lod< td=""><td>Ö<töd.≱< td=""><td>LOD</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></töd.≱<></td></lod<></td></lod.<></td></lod>	OLOD I	OLOD (	LOD	∠LOD @	LOD (	<lod.< td=""><td>Î <lod< td=""><td>Ö<töd.≱< td=""><td>LOD</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></töd.≱<></td></lod<></td></lod.<>	Î <lod< td=""><td>Ö<töd.≱< td=""><td>LOD</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></töd.≱<></td></lod<>	Ö <töd.≱< td=""><td>LOD</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></töd.≱<>	LOD	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>	
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30-40	Т3	-	- «		9 - ~	aY - "%	\$ ⁻ }		S -	\$ -	-	-	-	-	-	
	mean	-	-	- 5			OID O	ONTO		ı	<lod< td=""><td>-</td><td>-</td><td>ı</td><td>-</td></lod<>	-	-	ı	-	
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40-50	T2	- 31	_ 0	-601			K_		-	-	-	-	-	=	-	
40-30	T3	I The	-	9-			0 ⁵ -	J L	-	-	-	-	-	-	-	
	mean	<b>–</b>		- 1	-0	2-070	<u> </u>	-	-	-	-	-	-	-	-	
	T1	399	323	309	@11 <u>.</u>	å926 a	<i>'9</i> 91	198	195	181	154	96.9	82.9	91.4	71.2	
Cum	T2	327 €		293	306 D	307	283	205	227	178	156	97.8	89.0	79.8	54.6	
Sum	Т3	327 342	∝\$05	A SIG	£80	307	259	174	200	183	150	96.5	69.7	70.1	49.7	
	mean	³⁵⁶	315	304	²⁹⁹	309	278	192	207	181	153	97.1	80.5	80.4	58.5	

LOD = 1.5 μg/kg equivalent to ca. 2.8 g/tha depending on soil more and density, LOQ = 5 μg/kg equivalent to ca. 9 g/ha depending on soil moisture and density Values in square brackets are values. LOD but SOQ



The dissipation of fluopicolide with time is presented in Table 7.1.2.2.1- 52 to Table 7.1.2.2.1- 54. The values have been pre-processed according to the procedure described in FOCUS kinetics guidance (as described earlier). Actual values are given in brackets.

At Burscheid (Germany), the mean amount of fluopicolide at day 0 was 451 g/ha, representing 13% of the nominal application rate. Fluopicolide declined from 451 g/ha in sail 11 g/ha in sail 12 g/ha in sail 1 701. At Great Chishill (United Kingdom), the mean amount of fluopicolide at day 0 was 312 g/ma, representing 78.0% of the nominal application rate. Fluopicolide declined from 312 g/ha in soil at day 0 to 111 g/ha at day 751. At Lignieres de Touraine (France), the mean appoint of fluopicolide at day & fatt (luopic / within a copicolide in. was 200 g/na, representing 89% of the nominal application rate. Fluopied declined, from 306 g/ha/m soil at day 0 to 58.5 g/na at day 700. The dissipation of fluopied showed biphasic behaviour, 200 grant reatment, fluopicolide dissipated initially very rapidly within a celuple of days followed by a Second slower phase until study termination. Residues of fluopicolide in contress samples were < 1.00 for full samples taken. was 356 g/ha, representing 89% of the nominal application rate. Fluopicolide declined from 376 g/ha/in soil at day 0 to 58.5 g/ha at day 700. The dissipation of fluopicolide slowed biphasse behaviour after of



**Document MCA – Section 7: Fate and behaviour in the environment – Part 1** Fluopicolide

Table 7.1.2.2.1-52: Residues of fluopicolide in soil from the Burscheid trial after an application of 400 g a.s./ha/pre-processed values according to FOCUS, expressed as g/ha) 1

								40)		~~~		^	O	
Burscheid							DA		- (	1P	2		J. D. D.	
(Germany)	0	7	15	21	28	63	121	172	252	395	437	519 S	605	701
T1	499 (499)	438 (435)	396 (393)	421 (418)	393 (390)	366 (363)	943 (140)	\$214 (211)	170 (167)	\$ 130 (128)\$	©¥00 (97.7)*©	<b>3</b> 32.4	(51.3)	63.0 (60.1)
T2	488 (488)	421 (418)	533 (530)	466 (463)	470 (467)	\$5 \$452}, \{	, 193 (190)	<b>244</b> (241)	214 Q (211)	N (N/ 1/2	©\$1 >\(148), <i>€</i>	(116),	©.2 (78.3)	79.4 (76.4)
Т3	366 (366)	537 (534)	671 (668)	505 (502) ×	372 \$(369), 1	390° (387)	25A (252)	198 (195) _{**}	134 0(131)	14 <b>9</b> (140)	117× 0×114)	91 6 (88.6)	103 (99.7)	72.8 (70)
Mean	451 (451)	465 (462)	533 (530)	46 <b>4</b> (461)	412 (409)	404 [©] (401)	190 (194)	219 [©] (216)	173 (¥70)	(45)	123.00 *(120)	97.7 _° (93.7)	80.5 (76.4)	71.7 (68.8)
Min	366 (366)	421 (418)	396 (S)	421(2)	372 \$ (3 <b>6</b> 9)	366 (363)	143 🖇 (1 <b>4</b> 0)	1985) (1 <b>9</b> 5)	134 C	130 C	100 ( <b>9</b> 7.7)	82.4 (76.5)	57.3 (51.3)	63.0 (60.1)
Max	499 (499)	537 <b>3</b> (534)	671 \ (608)	505 (5 <b>62</b> )	470 (46\$)	455 ©	254 (2 <b>50</b> )	244	214 Ĉ (21 <b>%</b> )	170 ( <b>)</b>	151 (148)	119 (116)	103 (99.7)	79.4 (76.4)
n	3	© 3	3 %	[©] 3 €	3 🦿	3 00	∆ [©] 3 (	3 1	2 3 ×	\$ 3	3	3	3	3
% of day 0	100 (100)	103 (102)	14.8 (*118)	103 (XY02)	<b>9</b> 10	90)	440 (43)	49 [©] (48)	~ (38) ~ (38)	33 (32)	27 (27)	22 (21)	18 (17)	16 (15)

DAT = Days after treatment; TX = Treated Subplot X with X = 1 to St.

The actual values are given in brackets (expressed as g/ha)

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**Document MCA – Section 7: Fate and behaviour in the environment – Part 1** Fluopicolide

Table 7.1.2.2.1-53: Residues of fluopicolide in soil from the Great Chishill trial after an application of 400 g a.s./ha@re-processed values according to FOCUS, expressed as g/ha)

		o, capies	scu as gri	· · · · ·					150		. ~		a V D V	
Great Chishill (UK)							<b>D</b> A	4/2	\$			Al		Ś
Great Chishin (UK)	0	7	15	22	29	68	134	194	301	3980	468	554 [©]	667	751
T1	310 (310)	322 (319)	349 (346)	235 (232)	272 (269)	360 (358)	174	169 (1 <b>639</b> ) °	192 (187)	€ 166 (160 ₃ ) •	180 (177) (	(134) (134)	) 195 (112) ₍₂	\$7.4 (94.6)
Т2	331 (331)	336 (333)	269 (266)	262 (259)	296 (293)	345 (342)	(240)	227 (224)©	(172) (172)	) 186) (186) ?	- <b>©6</b> 0 > (157) (	145 (142)	(123) _©	(106)
Т3	296 (296)	378 (375)	474 (471)	327 (324)	360 (357)	9406 (403)	214 (211)	(214)	192 (189)	1 (164)	(156)	19 <b>3</b> *191) _	182° (480)	135 (132)
Mean	312 (312)	345 (342)	364 (361)	275 (272) <i>(</i>	309 (304)	370 (368)	306 (203)	204 (200)	186° × (183)	17 <b>S</b> (170)	16© (163)	158 (Ø56)	141 (138)	114 (111)
Min	296 (296)	322 (319)	269 (266)	235 (232)	272 ⁰ (269)	34\$ \$342)	1740 (1871)	1695) (463)	1750 (172)	1660° (360)	159 % ( <b>3</b> 6)	137 C	115 (112)	97.4 (94.6)
Max	331 (331)	378 (375)	4740 (471)	327 \(\924)	36% Ø357)	406 (403)	229 2( <b>22</b> 6)	227 (224)	192 (1899)	191 Č	180 (17 <b>%</b> )	193 (191)	182 (180)	135 (132)
n	3	3 \$	3	3	3 🖔	3 3	3 3	D 3 2	( ) 3	<b>3</b> (	⊃ [®] 3	3	3	3
% of day 0	100 (100)	(110)	117	**88   (87) &	(97) <b>§</b>	1¥9 ©(118) _~	(65)	64)	60 (59)	\$6 [©] \$\sqrt{54}	53 (52)	51 (50)	45 (44)	37 (36)

DAT = Days after treatment; TX = Treated Subplor X with X 3 Tvo 3.
The actual values are given in brackets (expressed as g/ha): 1 Tvo 3.

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Table 7.1.2.2.1-54: Residues of fluopicolide in soil from the Lignieres de Touraine trial after an application of 100 g a.s./ha (pre-processed values according to FOCUS, expressed as g/ha)

									A					
Lignieres de							DAT	(Days)	C)					
Touraine (France)	0	7	14	21	28	56	120	166	277	348	435	530	645g	700
T1	399 (399)	326 (323)	312 (309)	314 (311)	329 (326)	294 (291)	201 (198)	198 (19 <b>5</b> )	. 184 (181)	157 (154)	99.9 (96.9)	\$6.0 (82.9)	94.3	74.0 2(71.2)
T2	327 (327)	321 (318)	296 (293)	309 (306)	310 (307)	286 (283)	\$208 (2 <b>95</b> )	230 (227)	(178) (178)	156) (156)	10¥ (97.8)	92.0   89.0)	825 (79.8)	57% (54.6)
Т3	342 (342)	308 (305)	313 (310)	283 (280)	296 (293)©	©262 (259)	(174)	263 (200)	(183)	159 (150)	99,3 ()(96.5)	72.5 ~(69.7)	73 <b>4</b> (70.1)	52.5 (49.7)
Mean	356 (356)	318 (315)	307 (304)	302 (299) 📡	312 (309)	281 (278)	195 (192)	210 (207)	184 (181)	156 (453)	100 (97.1)	83.6 (80.5)	83.5 (80.4)	61.4 (58.5)
Min	327 (327)	308 (305)	296 (293)	©(280) (	296 (293) ₆	262 (259)	177 (474)	1980 (195)	1810 (Q78)	153\J\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	<i>"</i>	72.9 (69. <b>9</b> )	73.4 (70.1)	52.5 (49.7)
Max	399 (399)	326 (323)	(310)	36) (311)	330	2940 ( <b>2</b> 91)	208C (005)	230	186	159 C (156)	© 101 \$ (9 <b>%</b> .8)	©92.0 (89.0)	94.3 (91.4)	74.0 (71.2)
n	3	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3 @	,,3 ₀	<b>3</b>	3 1	3,5	3 €	3 ,	3	03	3	3	3
% of day 0	100 (100)	(88)	86 (85)	85 (84)	<b>9</b> 8 (87)	78) ₁₀	(54)	59 (58)	©(51)	(43)	28 (27)	23 (23)	23 (23)	17 (16)

DAT = Days after treatment; TX = Treated Subject & with X of to 3. The actual values are given in brackets (expressed as g/hat.

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The concentration of fluopicolide in the 0.01M calcium chloride extracts are shown in Table 7.1.2.2.1-55 to Table 7.1.2.2.1-57.

Table 7.1.2.2.1- 55: Residues of fluopicolide in the aqueous CaCl₂ extracts from soil from the Burscheid trial after an application of 400 g a.s./ha (expressed as g/ha)

Burscheid			DAT	Q	7
(Germany)	0	63	172	395🖺	701 Č
T1	154	93.1	<b>⊘</b> 41.1	[29(1]	[17.8]
T2	164	106	<b>*</b> 49.7	39.4	[2][2]
Т3	112	99.7	46.3	$\mathcal{L}^{0}[31.2]$	<b>₽</b> 0.3] €
Mean	143.3	69.6	45.7	33,2	\$\frac{19.8}{}
Min	112	930)	41.1	\$9.1	178
Max	164	\$\delta 06  \text{\text{\$ 2}}	4,907	39.4	<b>₽</b> 1.2 [™]
n	3	3 📞			© 3 √

DAT = Days after Treatment, LOQ  $= 15 \mu g / g$ , LOD  $= 5 \mu g / kg$ , [x] = LOD > LOQ

Table 7.1.2.2.1- 56: Residues of Auopicolide in the aqueous CaO₂ extracts from soil from the Great Chishill total after an application of 400 g.a.g./ha (expressed as g/ha)

(	/// · · · · · · · · · · · · · · · · · ·	-U ~ V	W.)		
Great Chishill	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		DA T√(Dayଔ	ř d	
(United Kingdom)	\$0 \$	68	© 194 [~]	<b>398</b>	7,53
T1 😽	85.5 [©]	<b>8</b> 7.4	4159	[33.9]	₹ <b>2</b> 0.7]
	) j@n	0 84.5	<b>№</b> 9.8 %	[34,8]	LOD
<b>7</b> 73	<b>%</b> 1.0 <b>©</b>	854	38.3	[ <b>Q</b> 7.5]	√ [22.1]
Mearo	[∞] 89. <b>2</b> [∞]	84.4	435,3	<b>№ 32.0</b> ©	14.3
Mana 7	84,0	81.4	38.3	[274.5]	<lod< th=""></lod<>
Max V	Y01 ×	8924	<b>49.80</b>	<b>[3</b> 4.8]	[22.1]
n 🔬 🔞	3	<b>3</b>		<b>®</b> 3	3

DAT = Day after Freatment LOQ = 15  $\mu$ g/kg, LOD = 5  $\mu$ g/kg, [x] = LOD >< LOQ

Table 7.1.2.2.1-57: Residues of Hopicolide in the aqueous CaCl₂ extracts from soil from the Lignieres de Toursaine trial after an application of 400 g a.s./ha (expressed as 6/ha)

Lignieres de 🖓			DAT (Days)	)	
Touraine (France)		×56	166	348	700
TI	130%	82.4	62.5	39.2	[22.2]
$T_{2}$	√ <b>9</b> 03 √	79.4	[35.9]	40.5	[19.2]
T3	≈110 _@	74.7	59.6	[38.7]	<lod< td=""></lod<>
Mean	114.9	78.8	52.7	39.5	13.8
Min O	103	74.7	[35.9]	[38.7]	<lod< td=""></lod<>
Max V	130	82.4	62.5	40.5	[22.2]
n 🕉	3	3	3	3	3

DAT = Days after Treatment, LOQ = 15  $\mu$ g/kg, LOD = 5  $\mu$ g/kg, [x] = LOD >< LOQ



### **III. Conclusion**

Under field conditions fluopicolide declined moderately and residues were translocated up to 30 cm (Germany), 50 cm (United Kingdom), and 20 cm (France) depth, respectively. Un-normalised values for the degradation of fluopicolide calculated from the reported data following the recommendations of the FOCUS work group details are provided in Document CA 7.1.2.2.194.

### Assessment and conclusion by applicant:

The study is considered valid to assess fluopicolide soil  $\text{DegT}_{50\text{matrix}}$  values for field studies as defined by EFSA (2014). The endpoints may be too conservative to assess persistence as the design minimized soil surface processes as required by EFSA (2014) and such processes may contribute to dissipation.

Data Point:	KCA 7.1.2.2.1/1/3
Report Author:	
Report Year:	
Report Title:	Terrestrial field dissipation study with thiopiconde & propamocarb-hydrochloride
	SC 687,5 in France (South), Italy and Spain &
Report No:	M-6Q1179-0¥-1
Document No:	M-8511782,01-1. D
Guideline(s) followed in \	Regulation (EC) No. 1197/2009 of the European Parliament and of the Council of
study:	21 October 2009 including Data Regulirements SANOO/11303/2010 Rev. 7 and
4	Test Methods SANCO/11203/2010 Rev. 4 4
	EFSA Gundance Document for Evaluating Laboratory and Field Dissipation
	Studies of obtain DegT50 Valors of Agrive Substances of Plant Protection
	Products and Transformation Products of these Active Substances in Soil, EFSA
	Journal 2014; 12(5) 3662, 2014
Deviations from current	Yes. Report meets the requirement for Sessin test substance soil DegT50matrix
test guideling:	values as required by SA (2014) for field studies. The endpoints may be too
	conservative for comparison to field persistence criteria and ecotoxicological risk
	conservative for comparison to field persistence criteria and ecotoxicological risk assessment as required by £U 283/201. So, not previously submitted &
Previous evaluation:	No, not previously submitted &
GLP/Officially recognised testory	Yes Conducted under GLP Officially recognised testing facilities
recognised test forg	
Tactifics.	
Acceptability/Reliability:	Yes V V

### **Executive Summary**

Soil degradation of fluopicolide under Sonthern European field conditions was investigated after application of the formulation Fluopicolide and Propamocarb-hydrochloride SC 687.5 onto bare soil plots in St. Etienne du Gres (France), Albaro (Italy) and Vilobi d'Onyar (Spain).

Fluopico de and Propamocaro-hydrochloride SC 687.5 was sprayed once onto 400 sqm to 600 sqm plots at a rate of 6.46 has corresponding to nominal 400 g/ha fluopicolide. Subsequently the test item was proported by a rotary harrow to a target depth of 7 cm followed by rolling the soil surface.

Soil cores were taken 0 days before up to 722 days post-application to a maximum depth of 110 cm. The soft cores were cut into 10-cm soil layers, bulked soil layers were homogenised and finally analysed for fluopicolide.



Sub-samples of homogenised soil were extracted in a microwave extractor with organic solvent. Potential matrix effects were eliminated by using an internal standard solution of isotopically labeled reference items added to sample extracts. Following separation of fine particles from soil extracts, by centrifugation the identification and quantitation of the analytes was performed by high performance liquid chromatography using MS/MS detection in the multiple reaction monitoring mode. The arafytical method was validated using three different soils. The limit of quantitation (LOQ) was 5.0 µg/kg and the limit of detection (LOD) was 1.5 µg/kg for fluopicolide.

At St. Etienne du Grès (France South), the mean amount of Fluopicotione at day Q was representing 95% of the nominal application rate. Fluopicolide declined from 381 g/kg/in soil at day to 118 g/ha at day 714.

At Albaro (Italy), the mean amount of Fluopicolide at day 0 was 412 g/ha, representing 103 pof the nominal application rate. Fluopicolide declined from 412 g/ha in soil at day 0 to 71.2 g/ha at day 722

At Vilobi d'Onyar (Spain), the mean amount of Fluopicolide a@day 0 was 39 g/ha epresenting 97.8% of the nominal application rate. Fluopicolide declined from 391 Ma in Sil at Cay 0 to 35 day 714.

### **Materials**

### 1.

Fluopicolide + propamocarti-hydrochloride formulated as a suspension concentrate (62.5g/L fluopicolide + 625 g/L of propamocarb-hydrochloride)

Certificate of Analysis:

01860-00

015-000846-01

# Trial Location & Soil

A terrestrial field dissipation with Fluopicotide & Propamocart hydrochloride (SC 687.5) is a suspension with Fluopicotide & Propamocart hydrochloride (SC 687.5) is a suspension concentrate formulation, containing 62.5 g/L fluopicolide and 625 g/L propamocarba d'Ony, s. The plot sy from the treater in OE addres. hydrockloride was conducted at three locations in Southern Europe. The three locations were St. Etienne du Grès (France), Albaro (Italy) and Vilob d'Onyar (Spain). The sites were fully characterised, and the results summarised in Table 7.1.2.2.1.58. The plot sizes ranged from 400 sqm to 600 sqm. The control plot was prepared at least 5 m way from the treated plots s

Soil from the three test sites have been sed in OECD 307 time dependent sorption and OECD 106



Table 7.1.2.2.1-58: Location, site description and climatic data of test sites

	TT *4		Sampling of	depth [cm]	
Characteristic	Units	0-30	30-50	50-75	75-1000
Soil Designation	-		St. Etienne du	Grès (France)	
Soil ID	-		FR	.08	
Geographic Location	-				
City		13103 St. Et	ienne du Grès, Pr		Côte d'Azar
Country			Fra	nce	
рН	CaCl ₂	7.7	7.7	7.8	7.8
Organic carbon	[% Carbon]	0.8	0.6 <b>©</b> ′	0.6	0.4 V
CEC	[meq/100 g]	11.7	11.7	13.2	J 14,07
Chalk	[% CaCO ₃ ]	4 <b>2</b> /1	42/1	405	¥ 4307 °
Particle size distribution (USDA)					
Clay < 0.002 mm	%	Q 29	31,	¥39 V	43
Total silt 0.002 - 0.050 mm	%	4 <b>5</b> °.	5 42 ,	(° 410°	39
Total sand 0.050 - 2 mm	% (	) 26 %	/ <u>22</u> 0	7 20	18
Textural class	USDA	clay loan	ckay loam	clay loan	Elay L
Water Holding Capacity				O CO	
MWHC (pF 0.05)	Voj. %		435¥ v		513
WHC at 0.1 bar (pF2)	<b>X</b> 001 % (%)	<b>29.5</b>	<u> </u>		25.0
Soil Designation	- 0 ³		Albaro	(Italy)	
Soil ID	Q* -	\$ \\ \tag{\alpha}		<del>20 8</del> –	
Geographic Location					/ _*
City		370\$5	Albaro di Rono		Veneto
Country		<b>7</b> - 0	√ × Ita	ıly 🖏	
pH 👸	O Caco	7.3	7.45	7.5	7.4
Organic carbon	[% Carbon]		1.5	2	0.6
CEC ST	[meq/100 g]	Ø9.7 ×	20.1 (	77.9	17.1
Chalk	CaCO ₃ ]	\$ 10.6	12.00	<b>炒</b> 14.1	11.8
Particle size distribution (USDA)				<b>(</b> )	4.1
Clay < 0.002 mm  Total silt 0.002 0.050 0 mm	\(\varphi\) \(\var	35	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7 35 45	41 39
Total sand 0.050 - 2 mm	0 % K	22	22, 0	20	20
Textural class	USAA	clay foam	, clay joam	clay loam	clay
Water Holding Capacity	CONVA (	y Clay Iballi		Clay Idaili	Clay
MWHC (pF 0.05)	Vol %	0615	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	67.8	65.5
Water Holding Capacity  MWHC (pF 0.05)  WHC at 0.1 bar (pF2)	Vol %	35.5	35.9	41.1	37.6
Soil Designation	W L			yar (Spain)	37.0
Soil ID		A		A1	
Geographic Location	~ O'		51		
City			7185 Vilobi d'	Onyar, Cataloni	a
Country A		þ` <i>«</i>		ain	
pH & Q	CaCl ₂	6.0	6.1	6.6	7.0
Organic carbon	[% Carbon]	0.8	0.3	0.1	0.1
CEG	[meq/Q00 g]*		11.9	13.5	14.2
Chalk	[%CaCO]	0.3	0.2	0.1	0.2
Particle size distribution YUSDA	S Q			-	
Clay < 0.002 mm	***	17	27	29	27
Total silt 0.002 - 0.050 mr0 🛴	~Q~	33	23	15	15
Clay < 0.002 mm  Total silt 0.002 - 0.050 mm  Total sand 0.050 2 mm	%	50	50	56	58
Textural class	USDA	loam	sandy clay	sandy clay	sandy clay
	USDA	104111	loam	loam	loam
Water Holding Capacity					
MWHC@F 0.05)	Vol %	41.4	44.5	47.9	47.3
WHC at 0.1 bar (pF2)	Vol %	21.5	20.7	23.9	22.4



### **Study Design**

### 1. **Experimental Conditions**

Fluopicolide & Propamocarb-hydrochloride SC 687.5 is a suspension concentrate formulation, containing 62.5 g/L fluopicolide and 625 g/L propamocarb-hydrochloride. The product was prayed? onto bare earth once at each site at an application rate of 6.40 L/ha and 600 L/ha water, corresponding to 400 g/ha fluopicolide during May and June 2015. Subsequently the test item was incorporated by a rotary harrow to a target depth of 7 cm followed by rolling the soil surface. Throughout the study now cultivation was carried out and the plots were maintained as bare plots by periodic application of nonselective herbicide to control weeds.

Air temperature, precipitation including irrigation and sunshine data were recorded on site during the field tests.

Soil dissipation of fluopicolide was studied for 722 days.

### 2. Sampling

The treated plot of the trial was divided into three sub-plots. From each sub-plot 10 soil cores were taken and combined together at each sampling interval (30 cores in total)

Samples were taken from treated plots on following occasions (postapplication: §10 cm depth), 6-8, 13-15, 21-22, 27-28 (each 0-40 cm depth), 56-58, 108-128 (each 0-60 cm depth) and 167-175, 279-283, 352-370, 450-489, 519-546, 618-646, 714-725 (each 0-85 cm depth) after treatment. From the control plot samples were taken on the following occasions: 0 days before application, 352-369 and 714-722 days after application.

Soil cores taken from the three sites were deep frozen o-180 within twenty four hours after sampling, then shipped frozen to the analytical aboratory in Germany.

## Analytical Procedures

The analytical method 01445 was used to determine levels of fluopfolide. Soil samples of 5 g were extracted in a microwave extractor with a moture of acetonitrile vater (4/1, v/v). The extracts were centrifueed to remove the particles of the soil. Possible matrix effects of fluoricolide were eliminated by using an internal standard solution of sotopic labelled reference items. Quantification was carried out by LC-MS/MS. The limit of quantitation (LSQ) for fluopicolide was 5.0 μg/kg in soil. The limit of determination (LOD) for fluopicolide was 1.5 µg/kg.

During analysis of the dissipation samples of the current study, concurrent recovery samples were prepared freshly by fortification of control samples with test item fluopicolide at levels of LOQ, the table below. 10 x LOQ and 1000 x LOQ and processed in parallel to the dissipation samples throughout the study.



Single Values [%]	No of	Fortification	Mean	RSD
	Recoveries	level [μg/kg]	[%]	[%]
81, 84, 84, 85, 88, 88, 90, 90, 92, 92, 93, 93, 93, 93,				Qı° -
93, 94, 94, 95, 96, 96, 96, 96, 96, 96, 96, 96, 96, 96				
97, 97, 97, 97, 97, 98, 98, 98, 98, 98, 98, 98, 99, 99,				
99, 99, 99, 99, 99, 99, 99, 99, 99, 100, 100		Į Š	e	
100, 100, 100, 100, 100, 100, 100, 100,		<b>"</b>	~	
100, 101, 101, 101, 101, 101, 101, 101,	125	54	100\$	<b>\$</b> .2
102, 102, 102, 102, 102, 102, 102, 102,			\ \Q^1	. Q ~ J
102, 103, 103, 103, 103, 103, 103, 103, 103	Ö	5	**************************************	
103, 104, 104, 104, 104, 104, 104, 104, 104	V			
105, 105, 105, 105, 105, 106, 106, 106, 106, 107, 108,		, O Y		\$ 4C
109, 109, 109, 109	(4 [©]	Y	) <del>"</del>	
92, 93, 93, 94, 94, 94, 95, 95, 95, 96, 96, 96, 96			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
96, 97, 97, 97, 98, 98, 99, 99, 100, 100, 100, 100,				
100, 100, 100, 100, 100, 100, 101, 101,				&°
101, 101, 101, 101, 101, 101, 102, 103, 103, 103, 903,				
103, 103, 103, 103, 103, 104, 104, 104, 104, 104, 104,	~		0′ "(	
104, 104, 104, 104, 104, 105, 105, 105, 105, 105, 105,	119	500	≪ı 103 [≪]	49
105, 105, 105, 105, 106, 106, 106, 106, 106, 106, 106, 106				
106, 106, 107, 107, 107, 107, 107, 107, 107, 107			Ō,	
108, 108, 108, 108, 108, 108, 109, 109, 109, 109, 109,				
109, 109, 110, 110, 110, 110, 110, 110,				
113, 113, 113, 114			)	
76, 76, 78, 78, 79, 85	6	\$5000 \$5000	99	4.2
Overall recovery	250		<b>(</b> 101	6.4

RSD = Relative standard deviation, LOQ = Limit of quantification

The validation of the extraction was carried out during the study with samples taken immediately after the application of the test substance.

Additional 10 gesoil samples were extracted by shaking with 5.01M calcium chloride at selected timepoints throughout the course of the study. An aliquotof the resultant extractant was mixed with an internal standard solution and the concentration of fluoricolide in the extract determined by LC-MS/MS using the same conditions described in the method above. No validation procedures were carried out for these samples.

# 4. Evaluation of the Data and Kinetic Calculations

For evaluation of degradation kinetics of the test item according to the FOCUS guidance document on degradation kinetics, the total residue of the test item in the soil profile covering all soil horizons was calculated according to the following procedure:

- values between AOD and LOQ were set to the measured values.
- values < LOD were set to 0.5 LOD for samples after, before or deeper as a value > LOD or for samples between (> LOD and < LOQ). The curve was cut off after the first non-detect (< LOD), it no later value > LOQ followed.
- at day 0, values < LOD in deep horizons were set to 0.

The results in Mg/kgt were converted to [g/ha] considering the actual soil density of the corresponding soil laver.



### II. Results and Discussion

### A. Analytical Methodology:

Full details and acceptable validation data to support this method are presented in Document M. A. Section 4.1.2. The method complies with the EU regulatory requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of fluopicolide in soil samples by HPLOS-MS/MS.

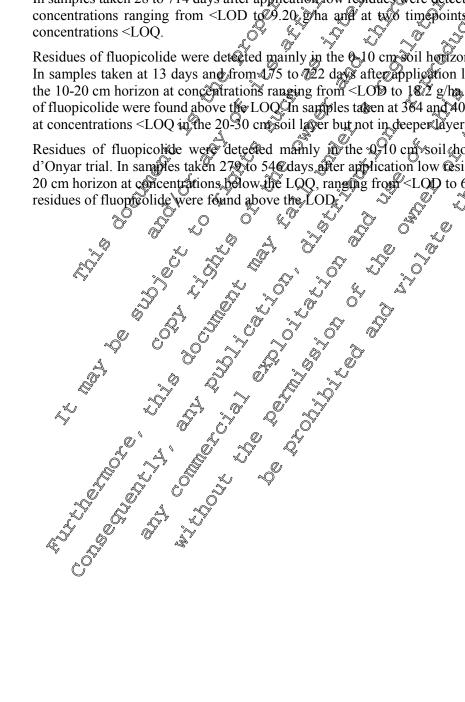
### B. Data:

The results for residues of fluopicolide in different soil depths are presented below expressed as a in Table 7.1.2.2.1-59 to Table 7.1.2.2.1-61.

Residues of fluopicolide were detected largely in the 0-10 cm soil horizon throughout the trial of St. Etienne du Grès. In samples taken 7 to 714 days after application low residues were detected in the 10-20 cm horizon at concentrations ranging from 2.84 to 36.8 g/ha. In soil depths below 20 cm no residues of fluopicolide were found above the LOQ\exceptor one timepoint in one of three replicate subplots. In samples taken 28 to 714 days after application low residues overe detected on the 20-30 cm horizon at concentrations ranging from <LOD to 0.20 g ha and at two times oints in the 0.40 cm horizon at concentrations <LOQ.

Residues of fluopicolide were detected mainly in the 10 cm soil horzon throughout the Albaro trial. In samples taken at 13 days and from 4.75 to 622 days after application low residues were detected in the 10-20 cm horizon at concentrations ranging from <LOD to 1822 g/ha. In deeper depths no residues of fluopicolide were found above the LOQQin samples taken at 364 and 405 days residues were detected at concentrations <LOQ in the 20-30 cm soil lawer but not in deeper vayers

Residues of fluopicolide were detected mainly in the Q10 cm soil horizon throughout the Vilobi d'Onyar trial. In samples taken 279 no 54@ days after application low @sidues/were detected in the 10-20 cm horizon at concentrations below the LQQ, ranging from <LQD to 6.84 g/ha. In deeper depths no



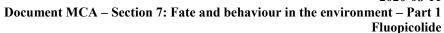




Table 7.1.2.2.1- 59: Residues of fluopicolide in different soil depths from the St. Etienne du Grècorial after an application of 400 g a.s. dia (g/ha)

									AC.		7	1 b	- 1		<i>J</i> *
Depth	Sub							<b>D</b> A	AT JE						
[cm]	plot	0	7	14	21	28	58	118	<b>P67</b>	280	©352	451	ٍ \$519 گرگ	646	714
	T1	380	360	319	321	302	255	21%	207. 209	170	143 ©169	1300	110	100	96.3
0.10	T2	332	359	365	334	313	279	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	<b>E 2</b> 09	, J990 ;	©169	×948 .	~V123 .	· @ 102	95.7
0-10	Т3	432	383	333	340	293	263@°	197 🎾	186°	1670	184	154°S	1230	1405	122
	mean	381	367	339	332	303	~28E	£ \$218	<b>199</b>	<b>%</b> 76	∂@ <del>1</del> 64 _	<b>3</b> 146	\$ 122 <u> </u>	r©116	105
	T1	-	[9.12]	14.2	25.6	10.4	12.5	24,00	18:2%	10,01 P3.8	26.6	9.27	15.0	11.9	11.6
10-20	T2	-	16.1	[8.42]	19.5	[ <b>\$</b> \$0]	12.5 C	6.15]	<b>19.8</b>	8.8°	26.6 ® 98.5	<b>(28</b> .68]	af 14.5	13.4	11.6
10-20	Т3	-	17.6	33.0	21.9	24.2	28.0	10.3()	24.7	17.30	20,10	[2.84][Q	15.0 •	14.7	17.7
	mean	-	14.3	18.5	22.3	<b>1</b> 3.5	235.8	13.6	~ <b>2</b> 0.9	J 5.7	<b></b>	<b>(</b> [6.9]	(1) 4.8	13.3	13.6
	T1	-	<lod< td=""><td><lod< td=""><td>//CLOD</td><td>^N<lod&< td=""><td>[4.15] 9.20</td><td><lod<sub>0</lod<sub></td><td><lod (<="" td=""><td>Section (</td><td>_<föb< td=""><td>$\sim$ CDD $_{\mathbb{C}}$</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></föb<></td></lod></td></lod&<></td></lod<></td></lod<>	<lod< td=""><td>//CLOD</td><td>^N<lod&< td=""><td>[4.15] 9.20</td><td><lod<sub>0</lod<sub></td><td><lod (<="" td=""><td>Section (</td><td>_<föb< td=""><td>$\sim$ CDD $_{\mathbb{C}}$</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></föb<></td></lod></td></lod&<></td></lod<>	//CLOD	^N <lod&< td=""><td>[4.15] 9.20</td><td><lod<sub>0</lod<sub></td><td><lod (<="" td=""><td>Section (</td><td>_<föb< td=""><td>$\sim$ CDD $_{\mathbb{C}}$</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></föb<></td></lod></td></lod&<>	[4.15] 9.20	<lod<sub>0</lod<sub>	<lod (<="" td=""><td>Section (</td><td>_<föb< td=""><td>$\sim$ CDD $_{\mathbb{C}}$</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></föb<></td></lod>	Section (	_ <föb< td=""><td>$\sim$ CDD $_{\mathbb{C}}$</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></föb<>	$\sim$ CDD $_{\mathbb{C}}$	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
20-30	T2	-	<lod< td=""><td>§IØ®</td><td>~ 4IOOD</td><td>SOD.</td><td>9.20</td><td>S DOD</td><td><lod< td=""><td>⁸ <b>⊕</b>OD</td><td><b>₩</b>ØŎD</td><td><b>%</b>LOD</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	§IØ®	~ 4IOOD	SOD.	9.20	S DOD	<lod< td=""><td>⁸ <b>⊕</b>OD</td><td><b>₩</b>ØŎD</td><td><b>%</b>LOD</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	⁸ <b>⊕</b> OD	<b>₩</b> ØŎD	<b>%</b> LOD	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
20-30	Т3	-	<loų td="" ģ<=""><td>  KOD (</td><td>LOD «</td><td>[4.53]</td><td>LOD &amp;</td><td>&lt; LOD</td><td>© [3.20]√X</td><td>[4.11]</td><td><re>LOB</re></td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></loų>	KOD (	LOD «	[4.53]	LOD &	< LOD	© [3.20]√X	[4.11]	<re>LOB</re>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	-	₹₽ØÐ,	< LOD	<f(a)< td=""><td>[[\$]</td><td>[4,38]</td><td>~ MAD</td><td>[ [4,36/]</td><td>(1) 97]</td><td><b>y ∮</b>OD</td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></f(a)<>	[[\$]	[4,38]	~ MAD	[ [4,36/]	(1) 97]	<b>y ∮</b> OD	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	T1	-	-	<lod c<="" td=""><td>V - , ę</td><td>- {</td><td>Ø-<lod<sub>C</lod<sub></td><td>LOD (</td><td><lod \<="" td=""><td><lqd< td=""><td>&lt; LOD</td><td>-</td><td>-</td><td>-</td><td>-</td></lqd<></td></lod></td></lod>	V - , ę	- {	Ø- <lod<sub>C</lod<sub>	LOD (	<lod \<="" td=""><td><lqd< td=""><td>&lt; LOD</td><td>-</td><td>-</td><td>-</td><td>-</td></lqd<></td></lod>	<lqd< td=""><td>&lt; LOD</td><td>-</td><td>-</td><td>-</td><td>-</td></lqd<>	< LOD	-	-	-	-
30-40	T2	-	-				~ IDB	_{SLO}D	SKOD	<bod< td=""><td><lod< td=""><td>-</td><td>-</td><td>-</td><td>-</td></lod<></td></bod<>	<lod< td=""><td>-</td><td>-</td><td>-</td><td>-</td></lod<>	-	-	-	-
30-40	Т3	-	- ,		( ) - ( )	3.38]	O~	LOD	[©] [3.74] <b>℃</b>	Ç <lod< td=""><td><lod< td=""><td>-</td><td>-</td><td>-</td><td>-</td></lod<></td></lod<>	<lod< td=""><td>-</td><td>-</td><td>-</td><td>-</td></lod<>	-	-	-	-
	mean	-	10°	<lod C</lod 	O D	[[43] ¹	< <b>LO</b> D	<pod .<="" td=""><td>[[25]</td><td><lod< td=""><td><lod< td=""><td>-</td><td>-</td><td>-</td><td>-</td></lod<></td></lod<></td></pod>	[[25]	<lod< td=""><td><lod< td=""><td>-</td><td>-</td><td>-</td><td>-</td></lod<></td></lod<>	<lod< td=""><td>-</td><td>-</td><td>-</td><td>-</td></lod<>	-	-	-	-
	T1	-	J -	0-"	DILL -	( ) -	- 1	- 1	Ø∛LOD	<lod< td=""><td><lod< td=""><td>-</td><td>-</td><td>-</td><td>-</td></lod<></td></lod<>	<lod< td=""><td>-</td><td>-</td><td>-</td><td>-</td></lod<>	-	-	-	-
40-50	T2	- 100°	- -	-90			<f@< td=""><td></td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>-</td><td>-</td><td>-  </td><td>-</td></lod<></td></lod<></td></lod<></td></f@<>		<lod< td=""><td><lod< td=""><td><lod< td=""><td>-</td><td>-</td><td>-  </td><td>-</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>-</td><td>-</td><td>-  </td><td>-</td></lod<></td></lod<>	<lod< td=""><td>-</td><td>-</td><td>-  </td><td>-</td></lod<>	-	-	-	-
40-30	Т3	<b>I</b>		\$ -		<u> </u>	D -	<b>.</b> -	<lod< td=""><td><lod< td=""><td><lod< td=""><td></td><td></td><td></td><td></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td></td><td></td><td></td><td></td></lod<></td></lod<>	<lod< td=""><td></td><td></td><td></td><td></td></lod<>				
	mean	-	- K.J.	- Q	-67	, j	<pre><pre><pre></pre></pre></pre>	-	<lod< td=""><td><lod< td=""><td><lod< td=""><td>=</td><td>-</td><td>-</td><td>-</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>=</td><td>-</td><td>-</td><td>-</td></lod<></td></lod<>	<lod< td=""><td>=</td><td>-</td><td>-</td><td>-</td></lod<>	=	-	-	-

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### **Document MCA – Section 7: Fate and behaviour in the environment – Part 1** Fluopicolide

	1														>
Depth	Sub							D.	AT	Ĉ		O. The			â
[cm]	plot	0	7	14	21	28	58	118	167	280	352	451	519	646	714
	T1	380	369	333	347	312	272	243	2250	180	170	145	134	, LAP	108
Cyma	T2	332	375	373	354	319	325	245	<b>₽</b> 229	204	CO188	157	₹\$138 [	116	107
Sum	Т3	432	401	366	362	325	291	208	213。	188	201	1,570°C	138	156	140
	mean	381	382	357	354	319	296	₹32	<b>Z</b> 22	, <b>J</b> P91	<u> </u> €186	×953	ON 37 S	<b>P</b> 130	118

LOD = 1.5 μg/kg equivalent to ca. 2.8 g/ha depending on soil moisture and density LOQ = 5 μg/kg equivalent to ca. 9 g/ha depending on soil moisture and density Values in square brackets are values > LOD but < LOQ

Table 7.1.2.2.1- 60: Residues of fluopicolide in different soil depths from the Albaco trial after an application of 400 g a.s./ha (expressed as g/ha)

Depth	Sub			-4			<b>S</b>	O DA	<b>₹</b> ₽ ~	<del>1</del> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			CATELL STATES		
[cm]	plot	0	6	13000	21%	27	5319	121	175	283	360	. 450	541	618	722
	T1	427	322	392	<u>3.</u> 1248	230 v	© 274	ð 201	© 180 ×	100 P	(C)>1 17 .	102	65.1	53.9	51.4
0.10	T2	385	407	356	329 304	323 [©] 327	236 J	269°>	175	227 227	₁₇₄ 0°	100	93.6	64.7	64.3
0-10	T3	425	362	455	304	QŽ7	<b>2</b> 93 y	<b>23</b> 0	997	, ¥82 ₃ √	<b>\</b> \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	122	92.9	79	73.4
	mean	412	364	401 © C	′ 2 <b>94</b> ℃	293	268	233	184 [©]	203	158	108	83.9	65.9	63.0
	T1	-	<lod< td=""><td>\$20D</td><td>POD LODE</td><td>(CEOD</td><td>S. FOD</td><td><b>®</b>ŁOD</td><td>[7.37]</td><td><b>©</b> 13.5</td><td>12.2</td><td>[4.05]</td><td>[3.99]</td><td>[7.79]</td><td>[8.49]</td></lod<>	\$20D	POD LODE	(CEOD	S. FOD	<b>®</b> ŁOD	[7.37]	<b>©</b> 13.5	12.2	[4.05]	[3.99]	[7.79]	[8.49]
10-20	T2	-	\LU <b>p</b> .	14.∠U	\LU <b>N</b>	$<$ LQD $_{q}$	< LQD	<lomo< td=""><td>[ [4.59<b>]</b></td><td>16.8</td><td>11.1</td><td>[6.90]</td><td>8.9</td><td>10.8</td><td>[9.35]</td></lomo<>	[ [4.59 <b>]</b>	16.8	11.1	[6.90]	8.9	10.8	[9.35]
10-20	Т3	-	_a < LOD	[4.20]	A COD	J SPOD	, √PÖD ,	, DOD	& LOD	11.5	16.4	[5.09]	[6.02]	10.0	[6.60]
	mean	- 100	LOD	[7.47b [©]	<ra>LOD®</ra>	> ~LQD⊘>	<lod< td=""><td>&lt; YÖD</td><td>[3.99]</td><td>13.9</td><td>13.2</td><td>[5.35]</td><td>[6.30]</td><td>9.53</td><td>[8.15]</td></lod<>	< YÖD	[3.99]	13.9	13.2	[5.35]	[6.30]	9.53	[8.15]
	T1		<lod< td=""><td>, §LOĎ</td><td><b>NOD</b></td><td>√ Ø ØĎ</td><td>&lt; LODO</td><td>≪ĹŐD</td><td><lod< td=""><td><lod< td=""><td>[3.07]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	, §LOĎ	<b>NOD</b>	√ Ø ØĎ	< LODO	≪ĹŐD	<lod< td=""><td><lod< td=""><td>[3.07]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td>[3.07]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	[3.07]	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
20-30	T2	-	<lodyc< td=""><td>LOD</td><td><pre>CLOD()</pre></td><td>&lt; LOD</td><td>&lt; LODG</td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>[3.58]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lodyc<>	LOD	<pre>CLOD()</pre>	< LOD	< LODG	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>[3.58]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>[3.58]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>[3.58]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td>[3.58]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	[3.58]	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
20-30	Т3	-	<lod< td=""><td>_<b>≨</b>\$\$\$D</td><td>≪LOD</td><td>~ IOD</td><td>€ OD</td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>[3.61]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	_ <b>≨</b> \$\$\$D	≪LOD	~ IOD	€ OD	<lod< td=""><td><lod< td=""><td><lod< td=""><td>[3.61]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>[3.61]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td>[3.61]</td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	[3.61]	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	- 0	\$\frac{1}{2}\log	CLOD'S	CLOD	<lod *<="" th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th>[2.23]</th><th>[1.19]</th><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<></th></lod<></th></lod<></th></lod<></th></lod>	<lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th>[2.23]</th><th>[1.19]</th><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th><lod< th=""><th>[2.23]</th><th>[1.19]</th><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th>[2.23]</th><th>[1.19]</th><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th>[2.23]</th><th>[1.19]</th><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<>	[2.23]	[1.19]	<lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""></lod<></th></lod<>	<lod< th=""></lod<>
	T1	- OF The			- P		-	-	-	-	<lod< td=""><td>-</td><td>-</td><td>-</td><td>-</td></lod<>	-	-	-	-
30-40	T2	- '46	,	Miles - R	De - 70		-	-	-	-	-	<lod< td=""><td>-</td><td>-</td><td>-</td></lod<>	-	-	-
	<b>#30</b>		_ C	-12 ^E		-	-	-	-	-	<lod< td=""><td>-</td><td>-</td><td>-</td><td>-</td></lod<>	-	-	-	-



### **Document MCA – Section 7: Fate and behaviour in the environment – Part 1** Fluopicolide

Depth	Sub		T	T	·		T	D.	AT	Å		O. T. L.	T		
[cm]	plot	0	6	13	21	27	57	121	175	283	364	<b>450</b>	541	<b>618</b>	722
	mean	-	-	-	=	=	=	=	-10 [%]	ı	<ra>LOD</ra>	<lod< th=""><th></th><th>, 20g</th><th>=</th></lod<>		, 20g	=
	T1	-	-	-	-	-	-	-	Bg-1	-	( OLOD	- 4	<i>e</i>		-
40-50	T2	-	-	-	-	-	-	- o\$	<u>.</u> .	~ P	_	<1.000°			-
40-30	Т3	-	-	-	-	-	-	~ J -	**************************************		& EOD	<u> </u>			-
	mean	-	-	-	-	-	0		, - e ^Ĉ		< LOD	< LOW			-
	T1	427	322	392	248	230	Q9¥	£ \$201	2187	<b>Q</b> 03	à 62 €	\$106 *	\$69.1	e <b>8</b> 1.7	59.9
Sum	T2	385	407	360	329	323	~ 230 @	269 ₀	180 K	2541	185	110 🔊	100	75.5	73.7
Sulli	Т3	425	362	473	304	1829	2 X93	£230°	× 197	\$P)4 *	2 Q74	Ol 27	J 98.9	89.0	80.0
	mean	412	364	408	294 🔪	293	268	233	188	[©] 217 گ	174	′ 114 ₀ 0°	903 .	75.4	71.2

LOD = 1.5 μg/kg equivalent to ca. 2.8 g/ha depending on soil motione and density LOQ = 5 μg/kg equivalent to ca. 9 g/ha depending on soil motione and density Values in square brackets are values > LOD but < LOQ but

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Depth	Sub			i e		2 II		<b>3</b>		4. ³ /9					
[cm]	plot	0	8			<b>28</b>	ð. ⁵ 56	<b>128</b>	<b>67</b>	<b>279</b>	370	489	546	628	714
	T1	388	363	323.1	257,5	303 1	293 🕏	້ 203©ື	160∜	174	111	62.2	58.9	39.3	38.7
0-10	T2	381	367	C 332	302.8	, 29 ⁴	<u></u> 272 ,	% <b>9</b> 76	# 151	153	87.9	67.3	65.1	52.0	32.8
0-10	Т3	403	339	3120	7 3 <u>V</u> 20	318		1820 ~	188	169	116	65.8	59.8	51.3	35.7
	mean	<b>39</b> 1	356	325	<b>\$90</b>	√ Ø92 √	276	<b>4</b> 91	166	165	105	65.1	61.3	47.5	35.7
	T1	-	<lod\(\sigma< td=""><td>LODO</td><td><lodc< td=""><td>LOD LEGOD</td><td>&lt; LODG</td><td><lod< td=""><td><lod< td=""><td>[6.34]</td><td>[6.84]</td><td><lod< td=""><td>[4.23]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lodc<></td></lod\(\sigma<>	LODO	<lodc< td=""><td>LOD LEGOD</td><td>&lt; LODG</td><td><lod< td=""><td><lod< td=""><td>[6.34]</td><td>[6.84]</td><td><lod< td=""><td>[4.23]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lodc<>	LOD LEGOD	< LODG	<lod< td=""><td><lod< td=""><td>[6.34]</td><td>[6.84]</td><td><lod< td=""><td>[4.23]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td>[6.34]</td><td>[6.84]</td><td><lod< td=""><td>[4.23]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	[6.34]	[6.84]	<lod< td=""><td>[4.23]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	[4.23]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
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Fluopicolide



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30-40	Т3	-	-	-	-	- 0,	P - C	- 10 m	- <u>~</u> ~	4	_ 0	- ¹	, <u>~</u> ~	-	-
	mean	-	-	-	-			\$ -	E. D.	NO.	2 O 1/2	0,7	1 -	-	-
	T1	-	-	-	- 3	ð - £	- 30	<u> </u>	1	- <u>-</u> _	- 201	- <u>100</u>	<u>-</u> 40°	-	-
40.50	T2	-	-	-				- O-10	~ 69°					-	-
40-50	Т3	-	-	- 🧘		7 - B	- 40	e - &	- 0,5	- 20		, C	- 210	-	-
	mean	-	-	20 ^C	, 10 ²	, JE	O	~ @,\$		<u> </u>	200		-	-	-
	T1	388	363, @	323	D 257 a	303	293	203	🎤 ¹160 🏋	180 Q	118	62.2	63.1	39.3	38.7
Cum	T2	381	363	332	3 <u>1</u> 0	294	272	176	J\$1	KÎS9 [®]	<b>3</b> 7.9	67.3	68.4	52.0	32.8
Sum	Т3	403	339	319	302	318	گ [©] 263 چ	195	. 188 🤻	169 🔊	116	65.8	59.8	51.3	35.7
	mean	391	356	325	290	305	. 235	191	166	169	107	65.1	63.8	47.5	35.7

LOD = 1.5 µg/kg equivalent to ca. 2.8 g/ha depending on soil moisture and density
LOQ = 5 µg/kg equivalent to ca. 9 g/ha depending on soil moisture and density
Values in square brackets are values > LOQ but < LOQ

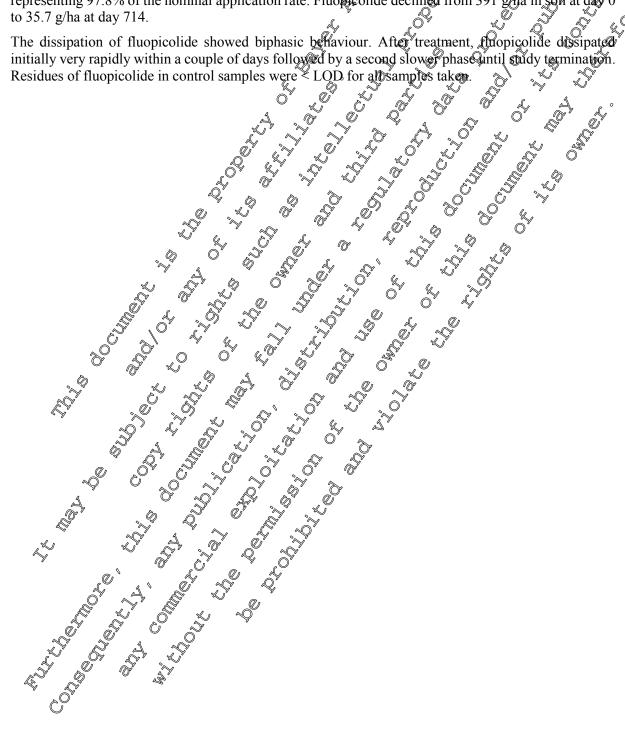
The local description of the loc



The dissipation of fluopicolide with time is presented in Table 7.1.2.2.1-62 to Table 7.1.2.2.1-64. The values have been pre-processed according to the procedure described in FOCUS kinetics guidance (as described earlier). Actual values are given in brackets.

At St. Etienne du Grès (France), the mean amount of fluopicolide at day 0 was 381 g/ha, representing 95.3% of the nominal application rate. Fluopicolide declined from 301 g/ha. at day 714. At Albaro (Italy), the mean amount of fluopicolide at day 0 was 4120g/ha, representing 103% of the nominal application rate. Fluopicolide declined from 412 g/ha in soil at day 0 to 71.2 sona at day 722. At Vilobi d'Onyar (Spain), the mean amount of fluopiconde at day ( was 3/1 g/b) representing 97.8% of the nominal application rate. Fluoricolide declined from 391 g/ha in soil at day 0

The dissipation of fluopicolide showed biphasic behaviour. After treatment, fluopicolide dissipated initially very rapidly within a couple of days followed by a second slower short of the second slower short of



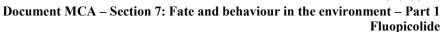




Table 7.1.2.2.1- 62: Residues of fluopicolide in soil from the St. Etienne du Grès trial after an application of 400 g a.s./ha (pre-processed values according ie^s to FOCUS, expressed as g/ha)

										<del>.00</del> .	ő	O. S.		1
St. Etienne du Grès		1				_		AT		)	<b>45</b> 1	\$\frac{1}{5}19		
(France)	0	7	14	21	28	58	138	. 167	289	352	<b>451</b>	519	646	714
T1	380 (380)	372 (369)	336 (333)	349 (347)	315 (312)	274 (272)	[246 (243)	<b>2</b> 28 (225)	P83 (180g	1 \	- ( 20)	- 1 1	120 (117)	110 (108)
T2			376 (373)											
Т3			369 (366)											
Mean	381 (381)	384 (382)	360 (358)	357 (354)	321 (319)	299 (296)	236 (232)	225 (222)	193 (191)	189 (286)	155 (153)	139 (437)	132 (130)	121 (118)
Min	332 (332)	372 (369)	336 (333)	349 (347):	345 (312)	274 (272) _e	213 (208)	Dr5 (213)	Ø83 (180)	Q 72 (170)	148 (145)			
Max	432 (432)	403 (401)	376 (373) 3 94 (94) 376 (373) 94 (94) 376 (373) 377 377 377 377 377 377 377 377 377	365 (362)	325 (325)	328 (325)	248 (🕬 5)	232 (\$29)	206 (204)	204(201)	159(0957)	141 (138)	158 (156)	142 (140)
n	3	3	376 (373) 3 94 (945) 10t With X 1 as g/ha	× 3	J 3	328 (325) 78 (325) 78 (325) 78 (325) 78 (325) 78 (325) 78 (325)	<b>%</b> 3	<b>3</b>	3 3		3	<b>3</b>	3	3
n % of day 0 DAT = Days after treatm The actual values are given the actual values are given to the control of	100 (100)	101 (100)	94 (94)  104 With X  as g/hap	94 (9 <b>%)</b>	84 (84)	78 (7 <b>.8</b> )	62 (61)	59 (58)	51,60	50.	41 (40)	36 (36)	35 (34)	32 (31)
DAT = Days after treatm	nent; $TX = T$	Γreated Subp	lot & with X	₹03.		O. Mar.	»\$	* ·	Ś a					
The actual values are given	ven in brack	ets (express@	as g/ha		), 'W6	, <u>"</u>			,		<b>&gt;</b>			
			O. T.	0	E Pr.					A 0 y				
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			S. Pr											
		j "	J ^E	Ø »										
		, r	) - <u></u>	,										
		40												

Table 7.1.2.2.1- 63: Residues of fluopicolide in soil from the Albaro trial after an application of 400 g a.s./ha (pre-processed values according to FOCUS, expressed as g/ha)

4.77								. TE	, ,		طل و			
Albaro (Italy)			10	21	25			AT 75	202	364	450	541 5 ¹		<b>7</b> 22
	0	6	13	21	27	57	121	<b>175</b>	283	€ 364	450	541 6	618	722
T1	` ′	325 (322)	` ′	250 (248)		277 (274)		190 ([18] 6)	205 (203)	165 (162)	10 (1400)	14(0) (0).1)	Q (01.7)	62.6 (59.9)
T2	385 (385)	410 (407)	` ′	332 (329)	326 (323)	239 (236)	- P V		<b>*</b> \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	. 9	J13 (110)		. ((// ^	
Т3	425 (425)	365 (362)	476 (473)	307 (304)	329 (327)			200 (1958						82.6 (80.0)
Mean		367 (363)		296 (293)	296 (293)	271-(267)	236 (233)	191 (188)	219 (216)	<b>397</b> (173)				74.0 (71.2)
Min	385 (385)	325 (322)	363 (360)	250 (248)	233 (230)	239 (236)	204 (201)	¥82 (1 <b>79</b> \$	196 (194)	165 (162)	109 (106)	71,7009.0)	64.2 (61.7)	62.6 (59.9)
Max	385 (385) 427 (427) 3 100 (100) after treatme alues are give	410 (407)	476 (473)	332 (329)	329 (307)	296 (293)	272(269)	182 (1795) 200 (197) 3 45 (43)	2 <b>56</b> (254)	<b>188</b> (185)	109 (106) 109 (127) 3 (106) 109 (127) 109 (106) 109 (106) 109 (127) 109 (127) 10	105 (103)	91.5 (89.0)	82.6 (80.0)
n	3	3	3	3	<b>3</b> 3	3	3	D 3	3,0	3,0	3 10000	<b>3</b>	3	3
% of day 0 DAT = Days The actual va	100 (100)	87 (86)	98 (97)	70 (70)	70 (70)	64(64)	56 (55)	45@A3)	50(51)	<b>42</b> (41)	<b>28</b> (27)	(21)	19 (18)	18 (17)
DAT = Days	after treatme	nt; TX = Trea	ated Subplot	X with $X = 1$	to Della se	\$ 41		»	5, 9°c		,	,		
The actual va	alues are give	n in brackets	(expressed a	Cetha)			20 ⁵	- 1	, \$	200				
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		A	*											

Fluopicolide



Table 7.1.2.2.1- 64: Residues of fluopicolide in soil from the Vilobi d'Onyar trial after an application of 400 g a.s./ha pre-processed values according to FOCUS, expressed as g/ha)

	T	-											<u> </u>	1
Vilobi		1	1	T	T	1		DAT PAT	, , , , , , , , , , , , , , , , , , ,	970	, T	546 6	628	
d'Onyar (Spain)	0	8	15	22	28	56	128	<b>P67</b>	279	370	489	546 6	628	714
T1	200 (200)	266 (262)	326 (323)	260 (257)	206 (202)	206 (202)	204 (202	. W		121 (2)	(5 10 2 2)	66 2 (63.1)	45 (20 2)	41.0 (29.7)
T2			, ,	, ,	` ′	, ,					103 (02.2)	(03.1)		35.9 (32.8)
T3														38.6 (35.7)
Mean	391 (391)	360 (356)	328 (325)	293 (290)	308 (305)	279 (276)	193 (191)	169 (166)	(169)	140 (107)	<b>68.1 (65%)</b>	¥66.9 (63 <del>38</del> )	50.8 (47.5)	38.8 (35.7)
Min	381 (381)	342 (339)	323 (319)	260 (257)	297 (2940)	265 (2635)	177 (176)	154 (101)	162 (HS)	*90,96 <b>%</b> *.9)	65 (62.2)	63.0 (59.8)	42.7 (39.3)	35.9 (32.8)
Max	403 (403)	371 (367)	335 (332)	313 (310)	326 (318)	296 (293)	20 (203)	<b>19</b> 21 (188)	183 (180)	X21 (118)	70.4 (67.3)	71.4 (68.4)	55.3 (52.0)	41.9 (38.7)
n	3	3	3	3	3 (	D 3 3	3	3	300		N. S.		3	3
% of day 0	100 (100)	92 (91)	84 (83)	75@74)	79°Ç78)	71 (71)	49 (49)	43 (42)	<b>43</b> ) (43)	Q8 (27)	(17) (17)	17 (16)	13 (12)	10 (9)
DAT = Days a The actual valu	fter treatmen	t; TX = Treat	ted Subplot	With $X = 1$	to 3. 🎺 🖔 🦠		-4C		) × ()		, K\$			
The actual value	ies are given	in brackets (	expressed as	g/ha)		N.C	29°.							
		\$6	15	O. C.	) (	R. P.	Jir "j			, O	<b>&gt;</b>			
			. W				" 10 J	0,2	E Pro					
			•		K.\$	E.O.		<u></u>	o ^r	Of the				
								eg						
			SULL	T. L.	The Three	0	all of		.De					
		^○	e (6	1 et			01	) .,	9					
		al.	CO»				E.D.							
		William II	2		O X			) »						
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		TO I	Print		TO TO THE	, K.C.								
	A ^c		1 0	.C ~ Q										
	We in			me "										
				K. R.	O. J.									
E.		» al		100 N	<i>y</i>									
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	Co	ِّلَهِ» الله	<b>D</b>											
		Ť	84 (83) ted Subplot a expressed as  Line Continue and a continue a									63.8 (59.8) 41.4 (68.4) 17 (16)		



The concentration of fluopicolide in the 0.01M calcium chloride extracts are shown in Table 7.1.2.2.1-65 to Table 7.1.2.2.1-67.

Table 7.1.2.2.1- 65: Residues of fluopicolide in the aqueous CaCl₂ extracts from soil from the St_y Etienne du Grès trial after an application of 400 g a.s./ha (expressed as g/ha)

St. Etienne du Grès			DAT (Days)	Q	7
(France)	0	58	167	352	714 6
T1	149	62.2	<b>3</b> 8.7]	[20,1]	[11.4]
T2	130	66.1	<b>%</b> [37.6]	£3.7]	[11,\$]
Т3	166	61.1	[30.4]	$\mathcal{L}^{0}[26.6]$	\$\f\$.8] &
Mean	148.3	63.1	[35.6]	[24]1]	√[12.8] _√
Min	130	6¶¢jĭ	[30.4]	·[20.1]	[11/3]
Max	166	%66.1 ©	[3,8)7]	(26.64)	£\$.8] [₹]
n	3	3 📞	©3 0°		© 3 L

DAT = Days after Treatment, LOQ  $\frac{1}{2}$  15  $\mu$ g/kg, LOD  $\frac{1}{2}$  5  $\mu$ g/kg, [x]  $\frac{1}{2}$ LOD  $\frac{1}{2}$  LOQ

Table 7.1.2.2.1-66: Residues of fluopicolide in the aqueous Ca©2 extracts from soil from the Albaro trial after an application of 400 g as ha (expressed as g/ha)

	(V)	<i>1</i> . ~	.0	W) (	a' U	
A 11	baro (Italy)	, **	Z	DAY (Day®		
All	Daro (Italy)®		<b>6</b> 7	© 175 [~]	364	722
	T1 🤝 🦼	145	\$78.0 \$	50,4	[29.1]	<b>EOD</b>
	<b>TO</b> \$\frac{1}{2}	<b>2 2</b> 3	0 61.2	9.8	[31.4]	10.3]
	<b>©</b> 13	\$\$\tag{\tag{142}}	<b>73</b> .7	44.8	<b>2</b> 8.3]	[11.4]
Ŝ	Mea® 🎽 🏂	140	~√70.6≈	4500	∯ [29 <u>.</u> 6€	[7.2]
	Majiri 👋	4,33	61,2	39.8	[28.3]	<lod< th=""></lod<>
Ö	Max 🗸	145	, <b>78</b> .0	50.40	<b>√</b> Ø1.4]	[11.4]
	n _N «	3	3	Ø .	<b>∞</b> 3	3

Table 7.1.2.2.1-67: Residues of fluorpicolide in the aqueous CaCl₂ extracts from soil from the vilobial Onyar trial after an application of 400 g a.s./ha (expressed as g/ha)

3	Vilobi d'Ooyar «			ĎAT (Days)		
	(Spain)		<b>56</b> %	167	370	714
		~147 <i>\$</i>	" <i>8</i> ₹¶\$	[43.9]	[25.2]	<lod< th=""></lod<>
	T2 \$\forall \forall \f	1580	<b>≈</b> \$0.7	[38.5]	[18.5]	<lod< th=""></lod<>
	T3	<u></u> \$52 °	<b>€</b> 80.9	46.5	[25.8]	<lod< th=""></lod<>
	Mean &	<b>\$\tilde{1}</b> 52.3	<b>83.0</b>	[43]	[23.2]	<lod< th=""></lod<>
000	Min	147	80.7	[38.5]	[18.5]	<lod< th=""></lod<>
	Masi S	158	87.5	46.5	[25.8]	<lod< th=""></lod<>
É	S An S	3	3	3	3	3

DAT Days after Treatment, LOQ = 15  $\mu$ g/kg, LOD = 5  $\mu$ g/kg, [x] = LOD >< LOQ



### **III. Conclusion**

Under field conditions fluopicolide declined moderately and residues were translocated up to 30 cm (France), 20 cm (Italy), and 10 cm (Spain) depth, respectively. Un-normalised DT₅₀ values for the degradation of fluopicolide calculated from the reported data following the recommendations of the FOCUS work group details are provided in Document KCA 7.1.2.2.1/14.

### Assessment and conclusion by applicant:

The study is considered valid to assess test substance soil DegT_{50m} values for field studies defined by EFSA (2014). The endpoints may be too conservative to assess persistence as the design minimized soil surface processes as required by EFSA (2014) and such processes may contribute to dissipation.

Data Point:	KCA 7.1.2.2.1/1/4 2 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Report Author:	2010
Report Year:	
Report Title:	Terrestrial field dissipation study with thiopiconde & propamocarb-hydrochloride
	SC 687,5 in Germany United Kingdow, France (North), France (South), Italy and
	Spain of A of A
Report No:	Ensa-184183 & & & & & & & & & & & & & & & & & & &
Document No:	EnSa-184183
Guideline(s) followed in	Regulation (EC) No. \$107/2609 of the European Parliament and of the Council of
study:	21 October 2009 including Data Requirements SANCO/1 303/2010 Rev. 7 and
	Test Methods SAO(CO/10843/2040 Rev. 4 O V
study:	FFSA Guidance Document for Evaluating Laboratory and Field Dissipation
	Studies to obtain Deg 750 Values of Active Substances of Plant Protection
	Products and Transformation Products of these Active Substances in Soil, EFSA
47/P	
Deviations from current	Yes. Report meets the requirement for assessing test substance soil DegT50matrix
test guideline:	values as required by EFSA (2014) for field studies. The endpoints may be too
test guideline:	conservative for comparison to field persistence criteria and ecotoxicological risk
<b>△</b> (′))	assessment as required by LO 205/2012
Previous evaluation	No, na previously suffinitted O
4	
GLP/Officially	No not conducte Quinder CLP/Officially recognised testing facilities
recognised testing	To not explained self-to-inclarity recognised testing facilities
facilities:	
Acceptability/Reliability?	YesQ S S

## **Executive Summary**

A summary report covering two terrestrial field dissipation studies was conducted to provide an overview of the trials and to calculate the kinetic rate of decline for each trial. Soil dissipation of fluopicolide under European field conditions was investigated after application of Fluopicolide + Propamocarb-hydrochloride & 687.5 on bare soil plots at six sites, three in Northern Europe (see KCA 7.1.2.2.1/12, 651131-01.) at Burscheid (Germany), Great Chishill (United Kingdom), Lignieres de Tourone (France North) and three in Southern Europe (see KCA 7.1.2.2.1/13, M-6511790-01-1) at St. Etienne de Grès (France South), Albaro di Ronco all'Adige (Italy) and Vilobi d'Onyar (Spain).



The experiments were carried out in accordance with the EFSA Guidance Document for Evaluating Laboratory and Field Dissipation Studies to obtain DegT₅₀ Values of Active Substances of Plant Protection Products and Transformation Products of these Active Substances in Soil (EFSA Journal 2014).

Fluopicolide + Propamocarb-hydrochloride SC 687.5 was sprayed once onto 400 to 600 sqm for each treated plot at a rate of 6.4 L/ha, corresponding to nominal 400 g/ha fluopicolide. Subsequently the test item was incorporated by a rotary harrow to a target depth of 7 cm followed by rolling the soil suprace to meet EFSA requirements. The plots received at least 10 mm water between DAT-0 and DAT-3 by irrigation post application. The control plot was at least 5 @ away from the treated plot

Soil cores were taken 0 day before and at several dates up to 751 day post-application to maximum depth of 110 cm. The soil cores were cut into 10-cm soil layers, by ked soil layers were some enized and finally analyzed for fluopicolide.

Sub-samples of homogenized soil (5 g) were extracted in a unicrowave extractor with a mixture of acetonitrile/water (4/1, v/v). Potential matrix effects were eliminated using an integral standard solution of isotopically labeled reference item added to sample expeats. Following separation of fine particles from soil extracts by centrifugation, identification and guantitation of the analyte was performed by high performance liquid chromatography using MS/MS detection in the maltiple reaction mornitoring mode. The analytical method was validated using three different solls. The limit of quartration LOQ) was 5.0 μg/kg and the limit of detection (LQP) was 7.5 μg/kg.

Dissipation of fluopicolide from soll was moderate to Dow with DTs value Pranging from 142 and 403 days for all test sites. An overview of the results is given below:

			ar o	7/			
Location	~ <b>~</b>	Scil Type SUSDA		pH CaCl ₂ A	Best Fit	DT ₅₀	DT ₉₀
		Silk Loam #9-50		@aCl ₂ %	Nametic Moragi	[d]	[d]
Burscheid (Germany)		Doam (SD-100 c	cm)	. <b>5</b> 3	© FOMC	142	980
Great Chishill (United Kingdom)		Clay (0-100 cr	n)	7.25	FOMC	403	> 1000
Lignieres de Tourairo (France North)		Sandy Loam (0-78	5 cm) 5 0 cm)	5.9 7.2 5.9	DFOP	247	> 1000
St.Etiegne du Grès (France South)			1111/	7.7	DFOP	265	> 1000
Albaro di Ronco all'Adige (Italy)		©Yay Loam (0-78 Claw (75-190 c	m) 🔊 📗	<b>©</b> 7.3	DFOP	187	> 1000
T 7'1 1 ' 120 (///	)) \	Loam (090 cr ndy Clay Loam (30	n) (2) 00 cup)	6.0	DFOP	152	747
A pH in 0 50 cm soil depth B FOMC first order multi	h Somparth	Pent; DFOP: double f	irst order in	parallel			
Y J			7				
Vilobi d'Onyal (Spain)  A pH in 0 frem soil depti B FOMC first order multi							



### I. Materials and Methods

### Materials

### 1. **Test Item**

Fluopicolide + propamocarb-hydrochloride formulated as a suspension concentrate (62.5g/L fluopicolide + 625 g/L of propamocarb-hydrochloride)

Certificate of Analysis: 01860-00

2015-000846-01 Lot No:

A terrestrial field dissipation with Fluopicolide & Propamocarb-Indrochloride SC 687.5) a suspension concentrate formulation, containing 687.50 g/L fluoride & Propamocarb-Indrochloride SC 687.5). was conducted at three locations in Northern Europe and at three sites on Southern Europe The six locations were Burscheid (Germany), Great Chispill (United Ringdom) and Lignieres de Tourgine (Northern France), St. Etienne du Grès (Southern France), Albaro (Jeday) and Vilobi d'Onyar (Soain). The sites were fully characterised, and the results summarised in Table 7.1.2.2.1-68 and Table 7.8.2.2.1-69. The plot sizes ranged from 400 spin to 654 sum. The control plot was prepared at least 5 m away from the treated plots. (Northern France), St. Etienne du Grès (Southern France), Albaro (Italy) and Vilobi d'Onyar (Souin). The sites were fully characterised, and the results summarised in Table 7.1.2.2.1-68 and Table 7.2.2.1-



Table 7.1.2.2.1- 68: Location, site description and climatic data of test sites in Northern Europe

	TT **		Sampling	depth [cm]	
Characteristic	Units	0-30	30-50	50-75	75-100°
Soil Designation	-		Burscheid	(Germany)	
Soil ID	-		VC	608 奏	
Geographic Location	-		Burscheid	W 11º	
City					
Country			Gern	nany	
рН	CaCl ₂	5.3	5.6	5.6	×5.6
Organic carbon	[% Carbon]	1.2	0.4	0.1	70.1 ©
CEC	[meq/100 g]	12.8	11.8	12,40	J 11,8
Chalk	[% CaCO ₃ ]	12,8	1458	124	Q 109
Particle size distribution (USDA)			→ 23, ©	\$\tag{\frac{1}{2}}\tag{\frac{1}{2}}	
Clay < 0.002 mm	%	20°21	≥ 23, ©	₩ ₁₉ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	13 <b>©</b>
Total silt 0.002 - 0.050 mm	%	6 <u>1</u> , °	[~~" 5 <b>?</b> ," .	, © 430° ·	32
Total sand 0.050 - 2 mm	%		J 29 7	<b>38</b>	₄ 50
Textural class	USDA∢	sit loam	şil loam 🛇	loam 🍣	Joan L
Water Holding Capacity	, J		~ A		
MWHC (pF 0.05)	Vo#% -2	49,3	50,40° ′ ′ ′ ′ ′ ′ ′ ′ ′ ′ ′ ′ ′ ′ ′ ′ ′ ′ ′	45.9	39.
WHC at 0.1 bar (pF2)	<b>y</b> of % &	35.2	* 25.9 E	<b>30</b> 0.3 S	y 2 <u>\$</u> .9
Soil Designation	0°- ×	G	reat Chishill (		n) 🖔
Soil ID	Ò, -		S'EN	G& ¸Ş	
Geographic Location	* 4 <u>9</u>			C,	//
City	°~ ~~	T O L	Great Chishill,	Cambodgeshire	3
Country	& S'	4 6	《 United k	Kingdom	
pН	O Ca <b>©</b>	© 7.2 °	7.5\$	Z 7.Z?	7.6
Organic carbon	[% Carbon]		1.1	" <b>205</b>	0.5
CEC 👃 🖓	[m@q/100 g]	<b>38.9</b>	<b>2</b> 6.1 €	· PD.9	17.4
Chalk S O	CaCO ₃ ]	\$ 1.3	5.8	&√37.9	43.1
Particle size distribution (USDA)				U	_ ,
Clay < 0.002 mm	\$ % \$			53	51
Total silt 0.002 0.050 mm		23	21	23	23
Total sand 0.000 - 2 mm	, .	© 36,5°	34 0	24	26
Textural class	USIQA	cla@ [*]	, clay	clay	clay
Water Holding Capacity  MWH& pF 0.05)  WHC at 0.1 bar (pE2)		9.00		50.6	40.5
MWHC pf 0.05)	Vol %	\$\infty 060.8 \times  20.20	37.2	52.6	49.5
Wille at 0.1 our (prop)	V QI 🕉	29.2 _y	27.9	25.3	25.9
Soil Designation	\$\frac{1}{2}\tau_{\tau}^{\tau}		ignieres de To		÷)
Soil ID			FR	.09	
Geographic Location		© 130	Lieuiene - 1- T	amain a Cauta 1	Danian
City		19 <b>S</b> Y 130 . H	Lignieres de To		Region
Country		* * * * * * * * * * * * * * * * * * *		nce	( 0
pH Q Q	CaCl ₂	5.9	6.5	6.8	6.8
Organic carbon	[% Carbon]	0.8	0.4	0.3	0.5
CEC S	L 1 87 - 81	W.	13.2	14.7	21.8
Chalk	[%CaCO ₃ ]	0.2	0.3	0.3	0.0
Particle size distribution (USDA)	Q Q	1.5	1.5	10	27
Clay < 0.002 mm	~ % <i>@</i> )	15	15	19	37
Clay < 0.002 mm  Total silt 0.002 - 0.050 mm  Total san 0.050 2 mm	<b>Q</b>	15	19	25 56	33
	% HCD 4	70	66	56	30
Textural class	USDA	sandy loam	sandy loam	sandy loam	clay loam
Water Holding Capacity MNHC (pt0.05)	Val 0/	4.4.4	47.7	52.2	(1.5
MWHC (pt 0.05)	Vol %	44.4	47.7	52.3	61.5
WHC at 3.1 bar (pF2)	Vol %	17.5	20.6	26.1	33.1



Table 7.1.2.2.1- 69: Location, site description and climatic data of test sites in Southern Europe

	TT */		Sampling	depth [cm]	
Characteristic	Units	0-30	30-50	50-75	75-1000
Soil Designation	-		St. Etienne du	Grès (France)	
Soil ID	-		FR	208	
Geographic Location	-				
City		13103 St. Et	ienne du Grès, Pr		Côte d'Azar
Country			· ·	ance .	
рН	CaCl ₂	7.7	7.7	7.8	7.8
Organic carbon	[% Carbon]	0.8	0.6 0"	0.6 උ	₩0.4 W
CEC	[meq/100 g]	11.7	11.5%	13.2	3 14,0
Chalk	[% CaCO ₃ ]	42)Î	42/1	425	\$\ 43\\\7\\ \@
Particle size distribution (USDA)	0./		31.		
Clay < 0.002 mm	%	29 A5 a	31.	739	43
Total said 0.050 - 2.000 mm	%				340
Total sand 0.050 - 2 mm	% C			* 600 -1	18
Textural class	USDA	clay loan	clay loam	clay loam	Caray S
Water Holding Capacity MWHC (pF 0.05)	Valor	163	\$ 12 £	0, 10, 5	515
WHC (pF 0.05) WHC at 0.1 bar (pF2)	V 01 7/0 %	* 400 F	7 40° ×	7 4000 2 1022 2	
Soil Designation			Albaro	(Italy)	1 25.U
Soil ID	<del>- 0</del>	~ *V	AABATO		<u></u>
Geographic Location	<del>***</del>				**
City		37055	Albano∕di Rono	co. all Adige	Veneto
Country		J 103/0		aly 🖄 🛴	Veneto
pH ©	O Cacil	7,3	720	7.5	7.4
Organic carbon	[% Carbon]		7 1 5 %	7 107	0.6
CEC	[meq/100 g	079.7 ×	20.1 %	· 979	17.1
Chalk	$\mathbb{C}^{\infty}$ Ca $\mathbb{C}^{\infty}$ 3]	\$ 10.6	12.00	√ 14.1	11.8
Particle size distribution (USDA)	5 2 S	10. <b>3</b>	Ø	7,	11.0
Clay < 0.002 mm	, % ~	7 35 S	<b>©</b> 3 ×	35	41
Total silt 0 002 00 050 0 0 0 0	× % , ®	√343 ≈	45	45	39
Total sand $0.090 - 2  \text{max}$		. © 22.	○ 22, ©	20	20
Textural class	USA)A	clay loam	, clay Joam	clay loam	clay
Water Holding Capacity  MWHC (pF 0.05)  WHC at 0.1 bar (pF2)		\$ 19	N N		
MWHC(pF 0.05)	Vol %	61.5	°≈ 62.7	67.8	65.5
WHC at 0.1 bar (pFQ)	Vol®*	√y 35.%√	<b>35.9</b>	41.1	37.6
Soil Designation $\approx$				ıyar (Spain)	
Soil ID	Ø - 💸	.5	SP	A1	
Geographic Lecation	~ -~				
City			7185 Vilobi d'		ia
Country				ain	7.0
pH & Q	CaCl ₂	6.0	6.1	6.6	7.0
Organic carbon	[% Carbon]	0.8	0.3	0.1	0.1
CLCy	[meq/Q00 g]	17	11.9	13.5	14.2
Chalk Chatian (USD)	[%CaCOA]	0.3	0.2	0.1	0.2
Particle size distribution (USDA)	\$ n	17	27	20	27
Total silt 00002 0000 mm	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	17 33	27 23	29 15	27 15
Clay < 0.002 mm  Total silt 0.002 - 0.050 mm  Total san 0.050 2 mm	%0 %	50	50	56	58
10tal Sales 0.0507 2 lilli			sandy clay	sandy clay	sandy clay
Textural classon	USDA	loam	loam	loam	loam
Water Holong Capacity			104111	104111	104111
MWHCOFF 0.05)	Vol %	41.4	44.5	47.9	47.3
WHC at 0.1 bar (pF2)	Vol %	21.5	20.7	23.9	22.4
Ψ /					1



### B. Study Design

### 1. Experimental Conditions

Fluopicolide & Propamocarb-hydrochloride SC 687.5 is a suspension concentrate formulation, containing 62.5 g/L fluopicolide and 625 g/L propamocarb-hydrochloride. The product was sprayed onto bare earth once at each site at an application rate of 6.40 L/ha and 600 L/ha water, corresponding to 400 g/ha fluopicolide during May and June 2015. Subsequently the test item was incorporated by a rotary harrow to a target depth of 7 cm followed by rolling the soil surface. Throughout the study no cultivation was carried out and the plots were maintained as bare plots by periodic application of a nonselective herbicide to control weeds.

Air temperature, precipitation including irrigation and sunshine data were recorded on site during the field tests. Unwanted plant growth was controlled.

Soil dissipation of fluopicolide was studied for us 751 days,

### 2. Sampling

The treated plot of each trial was divided into three sub-plot Front each sub-plot 10 soil cores were taken and combined together at each sampling interval (30 cores in total).

Samples were taken on the following occasions: 0 post-application; 0 0 cm depth) 5-8, 12-15, 21-22, 27-29 (each 0-40 cm depth), 56-68, 118-434 (each 0-60 cm depth) and 166-194, 252-301, 348-398, 435-489, 519-554, 605-667, 700-750 (each 0-85 cm depth) after treatment. From the control plot samples were taken on the following occasions: Clays before application, 348-398 and 700-751 days after application. Soil cores were deep frozen to -18°C

## 3. Analytical Procedures

The analytical method 0.0445 was used to determine evels of fluoricolide. Soil samples of 5 g were extracted in a microwave extractor with a mixture of acetonitrite water (4/1, v/v). The extracts were centrifuged to emove fine particles of the soil. Possible natrix effects of fluoricolide were eliminated by using an internal standard solution of isotopic labelled reference items. Quantification was carried out by LC MS/MS. The finit of quantitation (LOQ) for fluoricolide was 5.0  $\mu$ g/kg in soil. The limit of determination (LOD) for fluoricolide was 1.5  $\mu$ g/kg.

During analysis of the dissipation samples, concurrent recovery samples were prepared freshly by fortification of control samples with test item fluopicolide. The mean recovery for fluopicolide was 101% (RSD 6.4%).

## 4. Evaluation of the Data and Kinetic Calculations

For evaluation of degradation kinetics of the test item according to the FOCUS guidance document on degradation kinetics, the otal residue of the test item in the soil profile covering all soil horizons was calculated according to the following procedure:

- values between OD and LOO were set to the measured values.
- Values LOD were set to 0.5 LOD for samples after, before or deeper as a value > LOD or for samples between (> LOD and <LOQ). The curve was cut off after the first non-detect (LOD) if no later value > LOQ followed.
- Sat day 0, values < LOD in deep horizons were set to 0.

The results in  $[\mu g/kg]$  were converted to [g/ha] considering the actual soil density of the corresponding soil layer.



DT₅₀ and DT₉₀ values for the degradation of fluopicolide have been calculated from the reported data using the software KinGUI (version 2.1). To derive trigger endpoints, a comparison was performed for each site between the SFO, FOMC and DFOP fits. For the derivation of trigger endpoints, FOGUS recommends to use the best-fit model. In an initial step, data for the applied compound fitted using the SFO and FOMC models were compared. If the SFO model provided a better fit overall (both sixually) and statistically), this fit was selected. If the FOMC model provided a better fit the FOMC and DFOP fits were compared, and the model that provided the best fit overall was selected. It should be noted that extrapolation beyond the experimental period is not recommended for deriving robust DT values a sing the FOMC model (EFSA, 2009), and this has been considered where relevant in the selection of the most appropriate model.

## II. Results and Discussion

The decline of fluopicolide residues with time for the entire soft profile is presented in Table 70 to Table 7.1.2.2.1-75.

Table 7.1.2.2.1-70: Residues of fluopicolide in soil from the Burscheid total after an application of 400 g a.s./ha/pre-processed values in entire soil profiles (0-110 cm) (expressed as gona) (%

Burscheid				2	O'		DA	AT 🔊		7 (		<del>\$</del>	<b>V</b>	
(Germany)	0	7	15	21	<b>\$28</b>	<b>6</b> 3	<b>2</b> 1	192	252	395	437	519	⁹ 605	701
T1	499	435	393		390	363	140	\$211 _€	€ <b>1</b> 67	₆ 128	99.7	76.5	51.3	60.1
T2	488	418	530	463	467	45	1900	241	211	167	P148 @	116	78.3	76.4
Т3	366	534	668	502	~	<b>\$</b> 87	<b>Q</b> 52	198	131	1210	1,14	88.6	99.7	70
Mean	451	462	530	4640	409Ô	401	7 194 _~	©216	<b>170</b>	145	, 1220	93.7	76.4	68.8

DAT = Days after treatment

Residues of fluopicolide in soil from the Great Chishill trial after an application of 400 g a. Tha, pre-processed values in entire soil profiles (0-110 con) (expressed as g/ha)

				_		- V		, y	,					
Great	, Q		Ç"	$\stackrel{\  \   }{\otimes}$	Ő		& DA	AT 🔊						
Chishill (UK)		74	150	₹ 22 火	[™] 29 🐇	968	P34	₹94	301	398	468	554	667	751
T1	310 331	309 0333	346	235	2697 293	358	171	⁷ 163	187	160	177	134	112	94.6
T2 ≪	331	<u>ڳ333</u> ر	∑266 <i>≥</i>	259	<b>29</b> 3	342	226 2211	224	172	186	157	142	123	106
T3 📣	296	74 200 3333 375	47.	324 272	357	358 342 2403	<b>Ø</b> 11	214	189	164	156	191	180	132
Mean	312	% 3/4 Z	301	272	304	368	203	200	183	170	163	156	138	111
DAT Days after	r treatm	ent .	4		Ű	***								
4				y 6	Q į									
	_@/		4		A S	,								
	S .	4,												
				, «	0									
Ø,	Ş	٥	Š		У									
79° 1	5	1	~(\$)											
		\$ % &	IJ ^v											
	40		Ĭ											



Table 7.1.2.2.1- 72: Residues of fluopicolide in soil from the Lignieres de Touraine trial after an application of 400 g a.s./ha, pre-processed values in entire soil profiles (0-110 cm) (expressed as g/ha)

Lignieres de							DA	ΛT					°,	Y I
Touraine (France)	0	7	14	21	28	56	120	166	277	348	<b>43</b> 5	530	645	700
T1	399	323	309	311	326	291	198	195	181	154	96.9	82.9	≫1.4 _≪	<b>7</b> 1.2
T2	327	318	293	306	307	283	205	227	178	156	97.8	89.0	79,8	[™] 54.6≪
Т3	342	305	310	280	293	259	174	[©] 200	183	Ž¥50	96.5	<b>69</b> .7	70/1	497
Mean	356	315	304	299	309	278	192	207	184	153	97.1	₹80.5	80.4	<b>\$8.</b> 5

DAT = Days after treatment

Table 7.1.2.2.1-73: Residues of fluopicolide in soil from the St. Etionne du Grès trial after an application of 400 g.a.s./ha, pre-processed values in entire soil profiles (0-110 cm) (expressed as g/ha)

St. Etienne du				(Q)		7	·	VI,	<b>V</b> O'		Ñ	Z,	Ô	2,
Grès (France)	0	7	14	2P	28	58	11&	167	©280 _%	<b>352</b> [	<b>%</b> 51	<b>S</b> 19	<b>64</b> 6	714
T1	380	369	333	<b>4</b> 7	₂ 312	2,72	<b>24</b> 3	2 <b>2</b> \$7 @229	180	170°	් 145ල්	[™] 134%	¥117	108
T2	332	375	373W	35,4%	319 ⁴	@3̃25 /	<b>2</b> 45	<b>@</b> 29	204	188	159	13/8	116	107
Т3	432	401	366	362	325	291	208	[¥] 213 _√	©188 _×	<b>2</b> 201	157	98	156	140
Mean	381	382	₂ 358	<b>3</b> 54	319	<b>29</b> 6	232	222	19C	186	153	⊉137	130	118

DAT = Days after treatment

Table 7.1.2.2.1-74: Residues of fluopicolide in soil from the Albaro trial after an application of 400 g a.s./ha/ pre-processed values in entire soil profiles (0-110 cm) (expressed as g/ha)

		(C	<u>//)                                   </u>	\\	<u> </u>	U//\P							
Albara (Fraly)			~ (O	.T.	Ö,	_y D _A							
Albaro (Italy)	0 , @	Ğ . <b>13</b>	21	27, \	570	121	[™] 175√	283	364	450	541	618	722
T1	4270 3		248	<b>9</b> 30	<b>2</b> 74	201	18 🤻	203	162	106	69.1	61.7	59.9
T2	385 4	360° 02 493	⁷ 32 <b>9</b> ≪	″323≼	\$236 236	269 230	<b>©</b> 780	254	185	110	103	75.5	73.7
Т3				32		2300	197	194	174	127	98.9	89.0	80.0
Mean	412 3	63 9408	293	<b>2</b> 93	267	233	188	216	173	115	90.1	75.4	71.2

DAT = Days after treatment

Table 7.1.2.2.1-75: Residue of fluopicolide in soil from the Vilobi d'Onyar trial after an application of 400 ga.s./ha, pre-processed values in entire soil profiles (0-110 cm) expressed as g/ha)

Vilobi d'Onvar			Ž	<del>, ~</del>	*		<b>D</b> A	ΛT						
(Spain)	rr L	»″ , °	<b>7</b> 75	22	28	56	128	167	279	370	489	546	628	714
rôti &	388	363	323	257	303	293	203	160	180	118	62.2	63.1	39.3	38.7
T205	381	367	332	310	294	272	176	151	159	87.9	67.3	68.4	52.0	32.8
13	403	339	319	302	318	263	195	188	169	116	65.8	59.8	51.3	35.7
Mean	391	356	325	290	305	276	191	166	169	107	65.1	63.8	47.5	35.7

DAT = Days after treatment



In Table 7.1.2.2.1- 76 to Table 7.1.2.2.1- 81 the fluopicolide datasets for the entire soil profile preprocessed according to the procedures described in FOCUS kinetics guidance (as described above) are presented.

Table 7.1.2.2.1-76: Residues of fluopicolide in soil from the Burscheid trial after an application of 400 g a.s./ha, pre-processed values in entire soil profiles (0-410 cm) (expressed as g/ha) according to the FOCUS guidance document

Burscheid							<b>D</b> A	<b>A</b> T				, O		
(Germany)	0	7	15	21	28	63	121	<b>172</b>	252	<b>3</b> 395	437	<b>5</b> ¥9	695	70
T1	499	438	396	421	393	366	143	214	1700	130	100,	ية 2.4 <u>ي</u>	<b>3</b> 7.3	<b>6</b> 3.0
T2	488	421	533	466	470	455	<b>®</b> 93	244	244	170	150	119 [©]	81.2C	79.4
Т3	366	537	671	505	372	390	254	198	<b>1</b> 34	<b>2</b> 43	<b>J</b> Y7	<b>2</b> 1/6	103.0	72
Mean	451	465	533	464	412	404	197	21/9	173	148	123	97.7	₹80.5	<b>%</b> 1.7

DAT = Days after treatment

Table 7.1.2.2.1-77: Residues of fluopicolitie in Soil from the Great Chrishill trial after an application of the Great Chrishill trial after an application of 100 gas./ha/pre-processed values in entire soft profiles (0-110 cm) (expressed as gha) according to the FOCUS guidance document

				- 8/	$\mathcal{C}$	((/))	(( ))*	$\triangle$	20	. (( ))		<i>y</i>	"	
Great			w	, «K	j l	M	S DA	\W)	Ø.	8		<b>L</b>		
Chishill (UK)	0	7	413	<b>22</b>	290	68	134	[¥] 194 _√	<b>301</b> [	<b>398</b>	<b>468</b>	<del>\$3</del> 4	667	751
T1	310	322 @	_@ 349	<b>2</b> 35	<b>27</b> 2	<b>36</b> 0	174	169	192		180 g	⊉137	115	97.4
T2	331	336	269	262	296 g	345	<b>2</b> 229	<b>\$</b> 27	, 175	191	1200	145	126	111
Т3	296	<b>3</b> 78	474	32 <b>)</b>	360	406 [©]	214	217	192 🖇	<b>√</b> 167	~ <b>√</b> 39	193	182	135
Mean	312	ຶ້ 345 ູ	364	<b>2</b> 75	309	390	206	204	186	175 ~	¹ 166	158	141	114

DAT = Days after treament

.1- 78: Résidues of fluopicolide in soil from the Lignieres de Touraine trial after an application of 400 g a.s./hapre-processed values in entire soil profiles (0-110 cm) (expressed as wha) according to the FOCUS guidance document

		7	¥ - ¢		$\wedge$		O T							
Lignieres de		4			) _ K		$\cup$ DA	<b>O</b>						
Touraine (France) 👡	<b>V</b> 0	♥			28	56	DA 1200	166	277	348	435	530	645	700
T1 🔏 "	399	326	312	314 3 30 <b>9</b>	<b>3</b> 29	<b>2</b> 94	<b>2</b> 01	198	184	157	99.9	86.0	94.3	74.0
T2,0°	327	°3 <b>⊘</b> 1	312 286	30 <b>©</b>	310	294 286	208	230	181	159	101	92.0	82.9	57.6
T1 T2 T3	342≈	308	«313	L*2×83	<i>2</i> 96	2,63	177	203	186	153	99.4	72.9	73.4	52.5
"Mean	356	318	307	√302 ¢	<b>312</b>	281	195	210	184	156	100	83.6	83.5	61.4
DAT = Days after	er tægåtim S	nent S	307%											



Table 7.1.2.2.1-79: Residues of fluopicolide in soil from the St. Etienne du Grès trial after an application of 400 g a.s./ha, pre-processed values in entire soil profiles (0-110 cm) (expressed as g/ha) according to the FOCUS guidance document

St. Etienne du							DA	ΑT					2/	Y (
Grès (France)	0	7	14	21	28	58	118	167	280	352	451	519	646	714
T1	380	372	336	349	315	274	246	228	183	172	¥48	137	120	041%
T2	332	378	376	356	322	328	248	232	206	190	159	140	<b>~</b> >	\$110 g
Т3	432	403	369	365	325	294	چ 213	_% 215	191	204	159	147	158/	142
Mean	381	384	360	357	321	299	236	225	193	I.	155	<b>439</b>	<b>D32</b>	121

DAT = Days after treatment

Table 7.1.2.2.1-80: Residues of fluopicolide in soil from the Albaro trial after an application of 400 g a.s./ha, pre-processed values in entire soil profiles (0-110 cm) (expressed as g/ha) according to the FOCUS guidance document

Albaro				0	7, ,	**************************************	© DA	\T\	Q,		Q		, 2	
(Italy)	0	6	13	210	27,	~	121	<b>175</b>	<b>283</b>	364	450	54)Y	618	722
T1	427	325	395	<b>25</b> 0	233	277	204		205	, ((	P109 /	<b>7</b> 1.7	<b>√6</b> 4.2	62.6
T2	385	410	363	332 ₄	<b>\$</b> 326	<b>2</b> 239	<b>2</b> 72	1892 (200	256	1880 177	113 ^C	105 ~	⁹ 78.0	76.4
Т3	425	365	476	307	329	[©] 296 ⁴	233 z	Ç200	®96	177	130	102	91.5	82.6
Mean	412	367	411	<b>2</b> 96	206	27\$	236	191	219	177	2117 _@	930	78.0	74.0

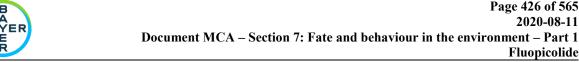
DAT = Days after treatment

Table 7.1.2.2.1-81. Residues of fluoricolide in soil from the Vilor d'Onyar trial after an application of 400 g a s./ha, pre-processe Calues in entire soil profiles (0-110 cm) (expressed as g ma) according to the FOCUS guidance document

Vilobi 🙋 d'Onyay	***************************************	<i>√</i> ,					® DA	\T,						
d'Onyar (Spain)	0	<b>8</b>		22		560	<b>7</b> 128	7167	279	370	489	546	628	714
T1	3880	³ 66 Å	§326 ¸	<b>2</b> 60 ₉	©06	<b>29</b> 6	204	16 <del>3</del> ″	183	121	65.1	66.2	42.7	41.9
T2	38)	371	335 323	⁷ 313	⁷ 29ॄ7≰	[0] 275 _	Ĭ77	<b>©</b> 54	162	90.9	70.4	71.4	55.3	35.9
Т3		<b>3</b> 42	<b>3</b> 23		32)	265	197	191	172	119	68.8	63.0	54.5	38.6
Mean ~	391 🖰	360	9328 g	293	<b>3</b> 08	279	193	169	172	110	68.1	66.9	50.8	38.8

DAT = Days after treatment

The residual amounts of the test item presented above (Table 7.1.2.2.1- 76 to Table 7.1.2.2.1- 81) were used as input data for determination of degradation kinetics using the software KinGUI 2. The measured initial concentration at day (was included in the parameter optimization procedure. Based on criterion for chi2 error to be minipal and visual assessment the best fit kinetic model was chosen for the evaluation of the dissipation time. The calculation considered the quantifiable residues for the whole soil profiles expressed in [gha]. The results are summarized in Table 7.1.2.2.1- 82 with best fits highlighted in bold. The dissipation of fluopicolide could be described using a first order multi compartment (FOMC) model for test sites Burscheid (Germany) and Great Chishill (United Kingdom) and double first order in parallel (DFOP) for the other test sites. The best fit half-lives for fluopicolide were between 142 and 403 days for all test sites. Best fit kinetics are highlighted in bold.



Degradation rate of fluopicolide under field conditions (DT₅₀ values for Table 7.1.2.2.1- 82: trigger endpoints)

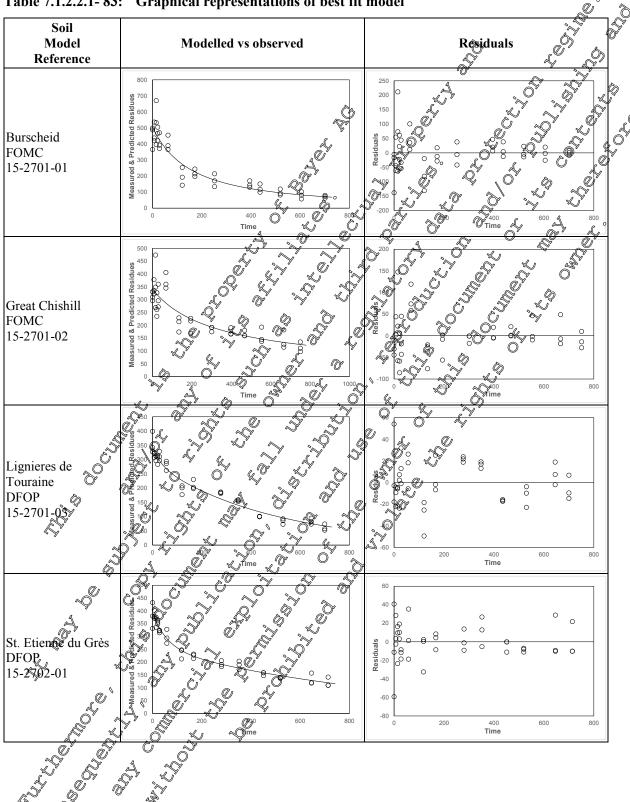
Soil	Kinetic model	Mo	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT50 [days]	DF 60 Jays] 4
	SFO	477.1	k 0.003649	13.1	1.85E-12	0.002917	0004	189.9 🖔	A 39
Burscheid, 15-2701-01	FOMC	504.1	α 1.309 β 204	11.2	n.r. n.r.	0.1224 -86.86	2.496 495	1424	<b>98</b> 0.1
	DFOP	504.2	k1 0.008669 k2 0.001176	11.3	0.2762	-0.002571 -0.002669 -0.1398	0.02 0.005 (	2 135.99	1073
	SFO	327.1	g 0.6472 k 0.001515	11-9,	n.r. 4.86E-11	©,001123°	1.434 0.092	<b>45</b> 7.6	015200
Great Chishill, 15-2701-02	FOMC	340.7	a 0.7268	Ŷ1.4 .	n.r. n.x	-0:2382 -301.6 «	1.692 807.40	403.3	<i>5</i> 7,85
	DFOP	341.1	k1 0.005489 k2 0.000\$33 g 0.4483	10°.7	Q.258	0.01088 0.002667 -0.8855	0.022 0.004 0.782	\$91.6	3205
	SFO	324.5	_ 7/ 0.	6.93 [©]	<2e/16	0,002196	0.00	284.4	<b>3</b> 44.8
Lignieres de Touraine, 15-2701-03	FOMC	332.8	D. B 264.9	6.63	Ön.r. n.r.	0.2044 -97983	3586 © 228 _	\$249.4°	1339
	DFOP	3 <b>4.</b> 8	k1 0 62922 k2 0.002081 g 0.1634	6.12	0.0 <b>793</b> 6 4. <b>48</b> E-13 7 n.r.	-0.908886 0.001692 0.0 <del>5</del> 521	0.06D 0.092 0.272	Ž47.4	1021
	SFQ	355.2	k 0.90187	7.98	<2e-16	0.001635	\$0.00 <b>2</b>	370.6	1231
St. Etienne du Grès,		<b>3</b> \$9.5	Ø 0.4704	305	∭n.r. ©	0.3392 27.66	0.6 <b>6</b> 2 121.1	249.1	9817
15-2702-01	DFO	39172	k1 0.901066 k2 0.01672 \$40.6578	2.73	5.00F207 0.00116 n.r.	0.0007074 9.006684 > 0.5542	0.001 0.027 0.761	264.9	1766
8	SFO	357.7	k 0.002436	<b>2</b> 12.6	9.56E-DA	0.000/998	0.003	284.6	945.3
Albaro di Konco all Adige, 15-2702-02	FONC	395.7	α <b>9-5</b> 744 (70.92)	114	ngy.	10√2616 √-14.66	0.887 156.5	166.2	3836
	DFOP	417.3	k1 0.05908 k2 0.001847 g/0/2943	$\sim$	0.0255 2.77E-08 Qr.	0.001387 0.00131 0.1691	0.099 0.002 0.419	186.6	1058
Vilobi d'Ányar, 15-2702-03	SFO (	<b>3</b> 47.1.	£0.003&28	<b>Ø</b> 04	©2e-16	0.002965	0.004	208.3	691.9
	FOMO	36	α 134 β \$26.9	7.66	n.r. n.r.	0.6895 55.24	1.991 398.5	153.6	1037
	<b>PFOP</b>	390.2 ***	k1 0.04638 k2 0.062705 g 02456 ^	\$.01	0.00246 <2e-16 n.r.	0.01594 0.002317 0.165	0.077 0.003 0.326	152.2	747.1

Best fit model highlighted in bold

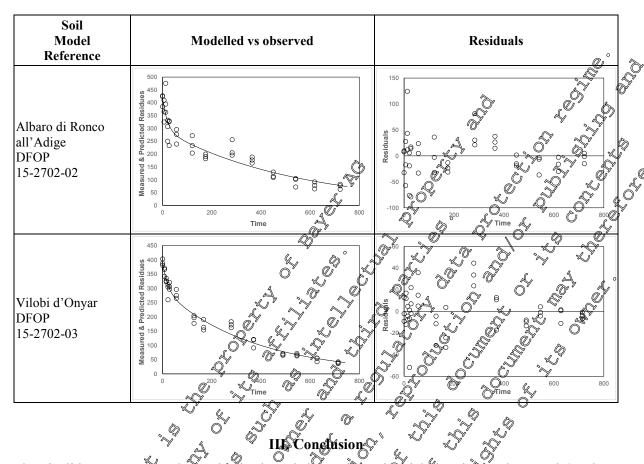


A graphical representation of the final kinetic fit is shown below.

Table 7.1.2.2.1-83: Graphical representations of best fit model



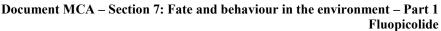




Fluopicolide was moderately to slowly degraded in soil at six trial sites in Northern and Southern Europe. Residue levels were in the range of 35.7 to 118 on a tribe end of the test period. The dissipation of fluopicolide was best described by FOMC or DFOP kinetic moders with best fit DT₅₀ values ranging from 142 and 468 days

# Assessment and conclusion to applicant:

The study is considered valid to assess test substance soil DegT_{50matrix} values for field studies as defined by EFSA (2014). The ordpoints may be too conservative to assess persistence as the design minimized soil surface processes as required by EFSA (2014) and such processes may contribute to dissipation.





Data Point:	KCA 7.1.2.2.1/15
Report Author:	
Report Year:	2017
Report Title:	Fluopicolide (FLC): Ecoregion crosswalk - Representativeness of environmental
	conditions at five North American terrestrial field dissipation trial sites for Europe
Report No:	EnSa-17-0326
Document No:	<u>M-592872-01-1</u>
Guideline(s) followed in	not applicable
study:	
Deviations from current	none & & & &
test guideline:	
Previous evaluation:	No, not previously submitted &
GLP/Officially	No, not conducted under GDP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes O W W W A A

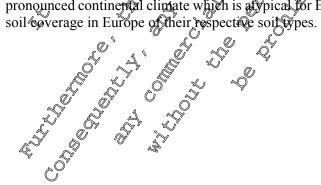
### **Executive Summary**

The environmental conditions at five North American trial sites were compared to European environmental conditions. It was assessed whether the results of North American flyopicolide terrestrial field dissipation trials are representative for Europe and might be used to derive degradation half-live values (DegT₅₀) for European wisk assessments.

The concept of ecoregions was the basis of the comparison. Ecoregions are delineded with respect to similar location, climate, soil, vegetation, hydrology, terrain wildlife, and land use (CEC 2011, PRMA 2015, EEA 2000) and form a classification system that describes environmental conditions which influence degradation of pesticides under field conditions. The ENASSIPS software is recommended by the OECD Guidance Document for Conducting Resticide Terrestrial Field Dissipation Studies for such an assessment (OECD 2016), It uses the concept of ecoregions under the assumption that degradation should be Similar in similar ecoregions.

The similarity model within the LENASCIPS tool merely considers and under mean climate parameters and individual soil parameters. However, Gimate is often characterised by seasonal variations and pesticide degradation cannot solely be attributed to individual soil properties like topsoil texture, organic carbon content, and pH. Therefore a refinement of the corresion comparison was proposed which takes into account more holistic indicators like climate seasonality and soil types.

Trial sites St. George Ontario and Madeo, California Were considered representative for European climate conditions and soil properties. No similar European ecoregions could be identified for trial site Oviedo, Florida, which exhibits a strong subtropical climate. Trial sites at Arkansaw, Wisconsin and Ephrata Washington were considered not representative for European conditions because of their pronounced continental climate which is atypical for European climate conditions, as well as the limited





### I. Materials and Methods

When considering terrestrial field dissipation studies from regions outside Europe, EFSA (2014) requires applicants to determine if these studies were conducted on soils from temperate regions; if their pH, organic matter and clay content are representative for soils in the EU; and if temperature and precipitation are comparable to those regions in the EU where the crops relevant to the application are grown.

For the active substance fluopicolide, terrestrial field dissipation studies were conducted at different locations in North America. Five trial sites have been addressed in the following comparison, four of those in the United States and one in Canada. The Canadian site is located near St. George, Optario (see KCA 7.1.2.2.1/16, M-248833-01-1); the American sites (see KCA 7.2.2.1/17, M-25129-01) are located in Oviedo (Semnipole, Florida), Arkansaw (Pepin, Wisconsin), Madera Madera, California) and Ephrata (Grant, Washington). The locations of the five sites are shown in Figure 7-1.2.2.1-5.

Figure 7.1.2.2.1- 5: Location of the examined fluoricolide field dissipation trial sites



The GIS-based software Europe-North America Soil Geographic Information for Pesticide Studies' (ENASGIPS) 30 was developed by the Pest Management Regulatory Agency – Health Canada and the US Environmental Protection Agency in collaboration with Agriculture and Agri-Food Canada and the EC Joint Research Centro PMRA 2015. The development was part of the OECD project 'Harmonized International Goddance for Pesticide Terrestrial Field Dissipation Studies and Crosswalk of North American and European Econogical (OECD 2012).



The tool includes a database with ecoregion boundaries as defined by WWF and a distribution for five environmental parameters and crop information for each ecoregion. The considered environmental parameters are

- mean annual temperature
- mean annual precipitation
- mean soil pH
- mean soil organic carbon
- soil texture

Their distribution was derived by an overlay of the ecoregions with MARS FOODSE Meteodata (IRC 2011) and the Harmonized World Soil Database (FAO 2012b). It is assumed that these parameters are normally distributed and the distributions are described by mean value and standard deviation on case of soil texture, the textural classes were mapped onto an integer scale from heavy clay (1) to sand (12).

Ecoregions are compared by calculating a similarity score between a root ecoregion and other ecoregions. The score for a parameter in an ecoregion is 100% if the parameter of ecoregion does not differ more than one standard deviation from the mean of the root coregion (PMRA 2015). The ENASGIPS tool can either be used with the so-called Holistic Ecoregion Similarity approach which takes into account all five parameters with conal weights of the Weights of Evidence Ecoregion Similarity' which uses only selected parameters for its comparison.

# II Results and Discussion

### St. George, Ontario

The climate and soil conditions at the trial site are adequately represented by the root ecoregions' properties. Several European ecoregions were identified as similar to the North Apperican ecoregions by ENASGIPS. Although the trial site has a distinct continental climate, similar environmental conditions are present in parts of Eastern Europe which are relevant to European agriculture. Therefore, the trial site St. George is considered representative for European conditions.

### Oviedo, Florida

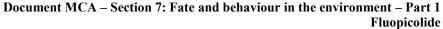
No European ecoregious similar to the root ecoregion were identified by ENASGIPS and the site's subtropical climate conditions are not present within Europe. Therefore, the trial site Oviedo is considered not representative for European conditions

### Arkansaw, Wisconsin

The climate and soil conditions at the trial site are adequately represented by the root ecoregion's properties. Although some European ecoregions were identified as comparable to the root ecoregion by ENASGIPS, no area with a similar pronounced continental climate could be determined in Europe. In addition, the trial site's soil type has a finited coverage of only 1% in Europe. Therefore, the trial site Arkansaw is considered not representative for European conditions.

### Madera, Califordia

The climate conditions at the trial site are adequately represented by the root ecoregions' properties. Several European Ecoregions were identified as similar to the North American ecoregions by ENASGIPS. Although the trial site has a subtropical climate with dry and wet seasons, similar environmental conditions are present in parts of Southern Europe which are relevant to European agriculture. Therefore, the trial site Madera is considered representative for European conditions.



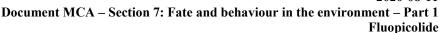


### **Ephrata**, Washington

The climate and soil parameters at the trial site are significantly different from conditions in the root ecoregion and relevant ecoregions in Europe. No area with a similar continental dry climate could be identified in Europe. The site's soil type has only a limited coverage of 1% in Europe which represents. only 2% of European cropping areas. In addition, the soil at the trial site has a very low organic carbon content of about 0.4%. Therefore, the trial site Ephrata is considered not representative for European conditions.

Trial sites St. George, Ontario and Madera, California were considered representative for European climate conditions and soil properties. No similar European ecoregions could be identified for trial site Oviedo, Florida, which exhibits a strong subtropical climate. Trial sites at Arkansaw, Wisconsin and Ephrata, Washington were considered not representative for European conditions because of their Limin pronounced continental climate which is atypical for European climate conditions as well as the limited soil coverage in Europe of their respective soil types.

Assessment and conclusion by applicant: The study is considered valid to identify non-European terrestroal field dissipation trial sites





Data Point:	KCA 7.1.2.2.1/16
Report Author:	
Report Year:	2004
Report Title:	Field dissipation of AE C638206 in Eastern Canadian soil
Report No:	B004929
Document No:	<u>M-248833-01-1</u>
Guideline(s) followed in	PMRA: DACO 8.3.2.1, T-1-255
study:	
Deviations from current	Yes. The trial site in Ontario was considered representative for European climate «
test guideline:	conditions and soil properties. The study meets the requirement for field
	persistence criteria and ecotoxicological risk assessment as required by OU
	283/2013. The study does not inject the requirements for assessing parent and
	metabolite soil DegT50matri@values as required by EFSA (2014) for legacy field @
	studies.
Previous evaluation:	No, not previously submitted
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Supportive only V V V V V V V

#### **Executive Summary**

Soil dissipation of fluopicolide was studied after an application to have soil plots under field conditions for 453 days at St George, Omario (Canada).

The three treated plots received three broadcast applications of fluoricolide using small-plot equipment at a nominal application rate of 133 g.a.i./hacach applied @ 2001./ha of water the applications were made at  $5 \pm 1$  day intervals and reflect the maximum annual application rate of 400 a.i./ha.

The predominant apalyte found in this study was the parent thropicolide which was largely confined to the top 0-15 cm soil segment. Fluopicolide was detected in the \$7.5 cm soil segment after the first application and remained quantifiable throughout the study period to the final sampling date (453 days). Fluopicolide was detected at low levels in only four amples in the 7.5-15 cm segments and in four samples in the 15-30 cm segments. Indeeper depth no residues of fluopicolide were found above the LOQ.

The metabolite M-00 was detected in 0-7.5 cm soil segment prior to the second application and remained to the final sampling date (453 days). M-02 was detected in orree samples in the 7.5-15 cm segments on day 0 but was not detected in only lower segments or at any later sampling times.

M-02 (AE C657188) and M-03 (AE 0608000) were very rapidly degraded in soil. M-02 was detected in the 0-75 cm soil segment prior to the second application until day 55. M-02 was detected in three samples in the 7.5-15 cm segments on day but was not detected in any lower segments or at any later sampling times. No residues of M-03 were found above the LOQ throughout the study.

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2014), resulted in besolut SFO not normalised DT $_{50}$  value of 209.8 days and DT $_{90}$  values of 697 days for fluoricolide.



#### I. Materials and Methods

#### A.Materials

#### 1. Test Item

Fluopicolide formulated as a spendable concentrate (480 g/L fluopicolide)

Certificate of Analysis: AGF2002-0038-01

Lot No: OP220233

## 2. Trial Location & Soil

A single site was selected near the town of St George, Ontario (see Table 7.1.2 1-84). The test site had no significant slope and the top soil was a clay form soil with lower porizons of clay. The total 110 x 34 m trial area consisted of three 30 m x 6 m treated plots each further divided into twent 1.5 m x 6 m subplots, an untreated plot (60 m²) which served as a control was separated from the treated plots by a 77.2 meter buffer.

Table 7.1.2.2.1-84: Location, site description and climatic data of test ofe

				St Georg	e, Ontario	Canada	Ä,	0
Characteristic	Units	Horizon	Horizon	Horizon	Horizon	Hocizon	Horizon	Horizon
	-Ç		<i>₾</i> 2	3 💸		⁰ 5 &	6%	7
Sampling depth	cm Ø	<b>.</b> 04. <b>7</b> .5	Ø.5-15\$	15-30	<b>3</b> 0-45	○45-60 [©]	60-75	75-90
pH (1:2)		7.3	7.1	7.5	,© [*] 8.2 ©	<b>&amp;</b> 3	®.5	8.5
Cation exchange capacity	meq/100 g	15%	\$6.0 \( \)	, 13.8	¥0.7	9.5 J	7.5	8.0
Organic matter		\$3.9 C	3 0	~ <b>3</b> .0	0.7%	0.5	0.4	0.4
Dry (bulk) density	g/cm³		<b>D</b> .1	5 1.2 ₀	1.0	Y.1	1.1	1.1
Field capacity 1/3 bar (pF2.53)	Vol.	26.9 A	31.1	243	<b>2</b> 6.3 <b>3</b>	<b>②</b> ₹ 27.8	28.7	29.7
Field capacity 5 bar (pF4.2)	₩61%	15.6	<b>16.9</b>	\$ 17.0 °	165 C	18.2	19.6	19.9
Particle rize distribution			S					
Clay	~% _ <u> </u>	ر 28چ [©]	27	32	45	54	50	58
Total silt  Total sand	~ % %	<b>J</b> 45	€43 C	41	39	34	28	34
1 otal balla	**************************************	<u>~</u> 27 ~	300		16	12	21	8
Textural class		glay koam	clay Joam,	clay loam	clay	clay	clay	clay

#### B. Study Design

#### 1. Experimental Conditions

The three treated plots received three Groadenst applications of fluopicolide using small-plot equipment at a nominal rate of 133 g as ha each applied in 200 L/ha of water. The first application was on 3 July 2002 with two subsequent applications on the 8 July 2002 and 12 July 2002. Nominal application rates were confirmed by measuring the unused formulation remaining in the spray tank to calibrate the amount applied.

All applications were made to bare soil. Throughout the study the plots were maintained as bare soil by the periodic application of the herbicide glyphosate to control weeds.

Temperature and rainfall data were collected from an onsite weather station located approximately 75 meters from the plot area.



#### 2. Sampling

Soil cores (6.25 cm diameter) were taken immediately after treatment 4 hours, 6, 13, 31, 55, 95, 306 and 453 days after the third application. A total of ten, upper, 0-15 cm cores were collected from each of the three treated replicates at each sampling time. Field samples were frozen within approximately 3 hours of sampling and shipped frozen to Enviro-Test Laboratories for analysis. At the analytical laboratory the soil samples from the same horizon of each plot were blended then stored 10-10 °C until analysis.

#### 3. Analytical Procedures

The analytical method AR 265-01 was used to determine levels of floopicolide and its metholites M-01 (AE C653711), M-02 (AE C657188) and M-05 (AE 0608000, referred to in the report as RPA 427967). Soil samples of 20 g were extracted twice at ambient temperature for 5 minutes by mechanical agitation using acetonitrile/water (7000, v/v) acidified with 0.1% formic acid. After each extraction step, extract and soil were separated by centrifugation and decantation. The soil extracts were combined and diluted with acidified water to result in a final solvent of actionity e-water (30/70) with 0.1% formic acid. Quantification was carried out by LC-MS/MS using external standardisation for the parent compound and its metabolites. The limit of quantification (LOQ) was 0.005 mg/kg for each analyte.

During analysis of the dissipation samples of the current study, concurrent recovery samples were prepared freshly by fortification of control samples with test item duopicolide and reference items M-01, M-02 and M-03 at levels of LQQ, 10% LOQ and 160 x LQQ and processed in parallel to the dissipation samples. The mean recoveries were 96% (SD 9.7% for fluopicolide, 92% (SD 11%) for M-01, and 97% (SD 12%) for M-02 and 98% (SD 12%) for M-03. No residues of fluopicolide or its metabolites were found above the LOQ in the analysed untreated samples.

The validation of the extraction was carried out during the study with samples taken immediately after the application of the rest substance.

# 4. Determination of degradation kinetics

The degradation kinetics determined in the report were not conducted according to FOCUS guidance document on degradation kinetics and are not acceptable for EU submissions. DT₅₀ and DT₉₀ values for the degradation of Raopic olde have been recalculated from the reported data following the recommendations of the FOCUS work group using the software KinGUI (version 2.1). Full details are provided in Document KCA 7.2.2.2.2.4. A prief summary of the approach for trigger endpoints is provided below.

To derive trigger endpoints an initial comparison was performed for each site between the SFO and FOMC fits for fluopicolide. For the Ordanio site, the FOMC fit provided no significant improvement, and the SFO fit was therefore accepted.



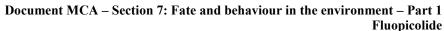
#### **II. Results and Discussion**

#### A. Analytical Methodology

Full details and acceptable validation data to support this method are presented in Document M- 4 Section 4.1.2. The method complies with the EU regulatory requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of fluopicolide in soil samples by HPLO MS/MS.

B. Data:

Residues of fluopicolide and its metabolites M-01 (AM C653711) and M-02 (AF C657188) with time and depth in the Canadian soil are presented in Table 7.1.2.2.1-88 to Table 7.1.2.2.1-87. Notesidue of M-03 (AE 0608000) were detected throughout the trial.





Depth	Sub						tions of 13	DAA3©	-				: D	
[cm]	plot	-9	-5	-4	-1	0	6	_ <b>\}</b>	31	<b>€</b> 055	95	306	362	453
	1	0.11	0.068	0.31	0.23	0.35	0.23	0.21 .	0.18	0.14	0.00	2096	<b>RUS</b> 2	0.029
	1-2	-	-	-	-	0.29		A CO		, CS-	50 - «	)*/ <i>)</i>	- @	-
	2	0.12	0.096	0.25	0.17	0.30	© 0.24 ~	0.25 C	0.22	0.23	048	0.008	B053	0.049
0-7.5	2-2	-	-	-	-	0.200			2 P	9.0°-	101- 15	\$ - x (	<b>)</b> -	-
	3	0.13	0.14	0.19	0.19	© 0.30	®6.22 €	0.26	0.164	0.25	0.16	0.086	0.077	0.092
	3-2	-	-	-	- K.	0.29	Ŝ	E The	KO"			1 -	-	-
	mean	0.120	0.101	0.250	¥ <b>9.₽</b> 97	<b>\$9.300</b>	0.230	0.240	0.187 Ĉ	0.207	0.144	0.093	0.061	0.057
	1	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>&lt; LQQ</td><td><loq<sup>©</loq<sup></td><td>\$<b>100</b></td><td>\$\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}</td><td><b>J</b>OQ</td><td>Z ŁOQ</td><td>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>&lt; LQQ</td><td><loq<sup>©</loq<sup></td><td>\$<b>100</b></td><td>\$\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}</td><td><b>J</b>OQ</td><td>Z ŁOQ</td><td>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>&lt; LQQ</td><td><loq<sup>©</loq<sup></td><td>\$<b>100</b></td><td>\$\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}</td><td><b>J</b>OQ</td><td>Z ŁOQ</td><td>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>&lt; LQQ</td><td><loq<sup>©</loq<sup></td><td>\$<b>100</b></td><td>\$\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}</td><td><b>J</b>OQ</td><td>Z ŁOQ</td><td>LOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	< LQQ	<loq<sup>©</loq<sup>	\$ <b>100</b>	\$\frac{1}{2} \cdot \frac{1}{2}	<b>J</b> OQ	Z ŁOQ	LOQ	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
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LOQ (limit of quantitation) = 0.005 mg/kg, DAAS. days are application three

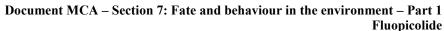




Table 7.1.2.2.1- 86: Residues of M-01 in soil after in soil after three applications of 133 g a.s./ha values expressed as mg/kg

	1										<u> </u>	(a)	<del>0)                                    </del>	
Depth	Sub							DAA3	C		,71	~~	1 - Pr	
[cm]	plot	-9	-5	-4	-1	0	6	134	31	50°	95	. <b>30</b> 6	× 362	453
	1	<loq< td=""><td><loq< td=""><td>0.0064</td><td>0.01</td><td>0.011</td><td>0.025</td><td>0.029</td><td>0.027</td><td>°€ 0.028</td><td>0.02</td><td>0.0266</td><td>0.017</td><td>0.013</td></loq<></td></loq<>	<loq< td=""><td>0.0064</td><td>0.01</td><td>0.011</td><td>0.025</td><td>0.029</td><td>0.027</td><td>°€ 0.028</td><td>0.02</td><td>0.0266</td><td>0.017</td><td>0.013</td></loq<>	0.0064	0.01	0.011	0.025	0.029	0.027	°€ 0.028	0.02	0.0266	0.017	0.013
	1-2	-	-	-	-	0.010	- O	- 6°	<u>-</u>	, _ <u>G</u> °				-
	2	<loq< td=""><td><loq< td=""><td>0.0058</td><td>0.0099</td><td>0.013</td><td><b>€62</b>7 .</td><td>- 6 ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °</td><td>0.033 </td><td>°√©.031 🎺</td><td>5[©] 0.03 ◀</td><td>0.022</td><td>0.019</td><td>0.026</td></loq<></td></loq<>	<loq< td=""><td>0.0058</td><td>0.0099</td><td>0.013</td><td><b>€62</b>7 .</td><td>- 6 ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °</td><td>0.033 </td><td>°√©.031 🎺</td><td>5[©] 0.03 ◀</td><td>0.022</td><td>0.019</td><td>0.026</td></loq<>	0.0058	0.0099	0.013	<b>€62</b> 7 .	- 6 ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °	0.033 	°√©.031 🎺	5 [©] 0.03 ◀	0.022	0.019	0.026
0-7.5	2-2	-	-	-	-	0.011	- 0 0	-034	-25	~ (P				-
	3	<loq< td=""><td>0.006</td><td>0.0058</td><td>0.012</td><td>0.011 0.013</td><td>Ø.024</td><td>034</td><td>0.037</td><td><b>39</b>.029</td><td>0.033</td><td>0.024 g</td><td>0.022</td><td>0.027</td></loq<>	0.006	0.0058	0.012	0.011 0.013	Ø.024	034	0.037	<b>39</b> .029	0.033	0.024 g	0.022	0.027
	3-2	-	-	-	W 1	© 0.013 🙈	- 2	,	- 3	<i>₹</i> 0,	«-	E. D.	-	-
	mean	<l0q< th=""><th>0.002</th><th>0.006</th><th>0.011</th><th>0.042</th><th>0.025</th><th>0.931</th><th>0.032</th><th>0.029</th><th>0.028</th><th>0.024</th><th>0.019</th><th>0.022</th></l0q<>	0.002	0.006	0.011	0.042	0.025	0.931	0.032	0.029	0.028	0.024	0.019	0.022
	1	<loq< td=""><td><loq< td=""><td><loq< td=""><td>``MLOQ</td><td>©[™]LOQ</td><td>&gt; <loq< td=""><td>SCLOQ</td><td><lqq.c< td=""><td><lqq< td=""><td><loq< td=""><td>J-QQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></lqq.c<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>``MLOQ</td><td>©[™]LOQ</td><td>&gt; <loq< td=""><td>SCLOQ</td><td><lqq.c< td=""><td><lqq< td=""><td><loq< td=""><td>J-QQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></lqq.c<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>``MLOQ</td><td>©[™]LOQ</td><td>&gt; <loq< td=""><td>SCLOQ</td><td><lqq.c< td=""><td><lqq< td=""><td><loq< td=""><td>J-QQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></lqq.c<></td></loq<></td></loq<>	``MLOQ	© [™] LOQ	> <loq< td=""><td>SCLOQ</td><td><lqq.c< td=""><td><lqq< td=""><td><loq< td=""><td>J-QQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></lqq.c<></td></loq<>	SCLOQ	<lqq.c< td=""><td><lqq< td=""><td><loq< td=""><td>J-QQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></lqq.c<>	<lqq< td=""><td><loq< td=""><td>J-QQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<>	<loq< td=""><td>J-QQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	J-QQ	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
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LOQ (limit of quantitation) 2005 mg/gs DAA3; days after application this at the limit of the lim

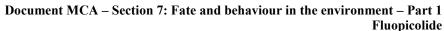




Table 7.1.2.2.1- 87: Residues of M-02 in soil in soil after three applications of 133 g a.s./ha values expressed as mg/kg

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Depth	Sub							DAA3	C	J.K.		~ [©]		
[cm]	plot	-9	-5	-4	-1	0	6	134	31	58°	95	, <b>30</b> 6	% \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	453
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LOQ (limit of quantitation) (0.005 mg/lg) DAA3 days after appreciation three



#### C. Residues

Residues of parent fluopicolide and M-01 (AE C653711) were mainly confined to the upper two layers in the soil profile (0-15 cm) with the majority remaining in the 0-7.5 cm segment. Residues of fluopicolide were detected at low levels in only four samples in the 7.5-15 cm segments and four four samples in the 15-30 cm segments. Fluopicolide was not detected below 30 cm in any samples. Residuos of M-01 were detected in three samples in the 7.5-15 cm segments on Day 0 box was not detected in any lower segments or at any later sampling times. The metabolite M-02 (AE C657188) was detected in the 0-7.5 cm soil segment prior to the second application (-5 days) and remained quantifiable to the 55 days sampling period only. M-02 was detected in three samples in the 7.5-15cm segments on Day 0 but was not detected in any lower segments or at any later sampling times. The metabolite N=03 (A) 060 000) was not detected in any of the samples analysed at any depth.

D. Kinetic Analysis

Fluopicolide degraded at a slow rate in a soil residere trial conducted in Canada. The reported DT 50 and DT₉₀ values of 204 and 677 days were derived by exponential equation. The experimental dota has been re-evaluated according to the FOCUS guidance document on degradation kinetics (FOCUS, 2014) using the software KinGUI (version 2.1). Full details of the evaluation are provided in the summary for KCA 7.1.2.2.1/24. The resulting best-fit DT₅₀ value for trigger endpoints are summarised below in Table 7.1.2.2.1-88. Best fit kinetics are Dighlighted in bold.

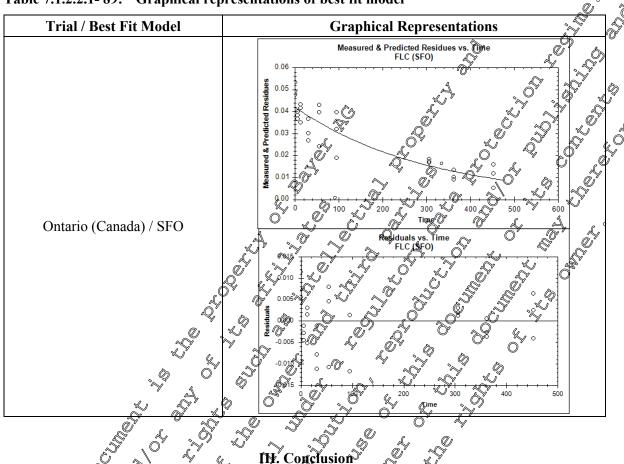
Table 7.1.2.2.1-88: Degradation rate of fluopicolide and rield conditions (DT 50 values for

Soil	Kinetic model	P.	ite of fluop ts) arameter (k, k1, Ω2, g, th, α, β)	error	Prob t	Lower	Upper V CI	DT ₅₀ [days]
Ontario (Canada	SFQ SFQ	0.04992	k 0.003304	<b>100.3</b>	₽8E-07	,0.002361	0.004	209.8
CA 7.1.2.2.1/10 (Cosgrove 200	FOMC	0.04402	α 1.096 \$ 962	10.2	n.r.	-0.3943 -199.5	2.407 523.5	160.6
Ontario (Canada CA 7.1.2.2.1/10 (Cosgrove 200) Best fit model high				5 L		,		
Q					A.			
				<b>V</b>				
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			Ç ,					
		7						
	<i>a</i>							



A graphical representation of the final kinetic fit is shown below.

Table 7.1.2.2.1-89: Graphical representations of best fit model



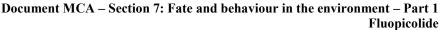
Following three applications of fluopicolide at a total rate of 400 g/havo bare soil in summer 2002, the decline of fluopicolide and the formation and decline of its metabolites M-01, M-02 and M-03 was followed for up to 450 days at a site in eastern Canada. The  $T_{50}$  and  $DT_{90}$  values of 209.8 and 697.0 days, respectively, were estimated for the decline of fluopicolide assuming simple first order kinetics (SFO).

The metabolite M-01 was detected in the 0.7.5 cm horizon throughout the study, however it was only seen in three samples at a single time-point in the 0.7.5 cm soil depths. M-02 was only detected in the 0-7.5 cm soil depth for up to 55 days after application M-02 was also detected in three samples at a single time-point in the 7.5-15 cm soil depths. No residues of M-03 were found above LOQ (0.005 mg/kg) throughout the study.

#### Assessment and conclusion by applicant

The study is considered wand to assess the dissipation of fluopicolide under field conditions in soil. The trial site in ontario was considered representative for European climate conditions and soil properties.

The study meets the requirements to assess field persistence of fluopicolide and its metabolites under EV-283/2013. It is not suitable for assessing soil DegT_{50matrix} values as the test substance was not applied as a single application as required by EFSA (2014) for legacy field studies and the design did not murimise soil surface processes immediately after application.





	7
Data Point:	KCA 7.1.2.2.1/17
Report Author:	
Report Year:	2005
Report Title:	AE C638206: Terrestrial Soil Dissipation Under Agricultural Field Condition
Report No:	B004962
Document No:	<u>M-251292-01-1</u>
Guideline(s) followed in	USEPA (=EPA): 40 CFR 158.240, OPPTS 835.6100
study:	
Deviations from current	Yes. The trial site in California was considered representative for European 🗸
test guideline:	climate conditions and soil properties but the other three sites were not. The trial
	site in California meets the requirement for field persistence criteria and
	ecotoxicological risk assessment as required boEU 283/2013. The study does not
	meet the requirements for assessing parent and metabolite soll DegT50mates
	values as required by EFS (2014) for legacy field studies
Previous evaluation:	No, not previously submitted
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Supportive only w

Executive Summary

A terrestrial field dissipation with fluoricolide, formulated as a suspendable concentrate containing 400 g/L fluopicolide was conducted at four locations throughout the United States. The four locations were Oviedo, Florida; Arkanşan, Wisconsin Madera, California and Ephrata Washington. A nominal application rate of 400 g fluopicolide / ha was applied as a single application between March and June 2001. The trial plots were planted with potatoes 2 to 8 days prior to application. To avoid disturbing the test soils, the crop was not harvested, but was instead allowed to senesee naturally.

Soil samples were collected to a depth of 9 cm in 15 cm increments at predetermined intervals for up to eighteen months after the application of the est substance then walysed for fluopicolide and its major soil metabolites.

The predominate analyte during the dissipation phase in each of the four trials was the parent fungicide, fluopication. The major metabolite found at all foun sites was M.OI (AE C653711). Trace levels of this metabolite (just above the LOO of 0.005 mg/kg to 0.016 mg/kg) were generally seen within 0.25 months after application and continued affevels just above the LOQ for the duration of the experiment (except at the California location where residues of M-01 were not seen after the 6 month sampling interval). Trace levels (just above the COQ of 0.005 mg/kg to 0.010 mg/kg) of the metabolite M-02 were seen in soils from three of the four sites early jo the dissipation phase. Residues of M-02 were not seen after two months after application at any of the sites. Residues of the metabolite M-03 were not detected in any soil analysed for this study.

The trial site in California was considered representative for European climate conditions and soil properties but the other three sites were not. A re-evaluation of the degradation kinetics at the Californian site in accordance with FOCL'S guidance document on degradation kinetics (2014), resulted in best-fit DFOP un-nomalised DT₅₀ value of 325 8 days and DT₉₀ of 28.0 days for fluopicolide.



#### I. Materials and Methods

#### **Materials**

#### **Test Item**

Fluopicolide formulated as a suspendable concentrate (480 g/L fluopicolide)

Certificate of Analysis: AGF2001-0032-01

Lot No: OP210058

#### **Trial Location & Soil** 2.

A terrestrial field dissipation with fluopicolide, formulated as a suspendable concentrate containing 400 g/L fluopicolide, has been conducted at food locations throughout the United States The Jour locations were Oviedo, Seminole county, Florida; Arkansaw, Pepin county, Wiscordin; Madera Madera county, California and Ephrata, Grant county Washington, The six located in Madera is referred to as Fresno, Fresno county, California in the report. This is the tocation of the PI test site not the trial location. The sites were fully characterised including soil texture, uniformity of soils and historical depth to groundwater. The characteristics of the wil are summatised if Table 7.1.2.2, 1-90. The plot sizes ranged from 0.02 to 0.28 acres and were planted with a variety of potatoes typically grown on the area. For sampling purposes, each test plot was divided into four subplots of comparable dimensions.

The crops were sprinkler irrigated in order to maintain at least the historical average rainfall for each site. Usually sufficient irrigation to maintain a viable crop was applied which exceeded the historical average rainfall during the growing season

Table 7.1.2.2.1-90: Location site description and climatic data of test site

			× (, ,		
Character	Agnits	Z'	O Loc	tion	
Characteristic Sampling depth		♥ Floriela	Wisconson	California	Washington
Sampling depth	cmy s	0-45	0-15	0-15	0-15
pH & S S O O		<b>2</b> 7.4 <b>3</b>	<i>∞</i> 6.8	7.7	8.2
Organic magner	1 % %	© 0.8 ₁	<b>%</b> 1.8	1.8	0.9
Organic matter  Soil Density  Particle size distribution (USDA)  Clay < 0.002 mm  Total silt 0.002 - 0063 mm	g/L	<b>1</b> 343	× 1.44	1.39	1.47
D 17 1: 1: / 1.080 1)		4 3			
Clay < 0.002 mm	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	O 3	4	3	4
Total silt 0.002 - 0.063 1000		© 3 96	8	8	16
Particle size distribution (USDA) Clay < 0.002 mm Total silt 0.002 - 0.063 mm Total sand 0.063 - 2 mm Textural class	SSDA	× 1096	88	89	80
		sand	sand	sand	loamy sand
Water Holding Capacity		•			
WHC at 1/3 bar (pF258)	y % %	2.6	8.6	4.9	10.0
WHC at 1/3 bar (pF258) WHC at 15 bar (pF 4.2)	Wol %	2.2	-	2.9	-
WHC at 1/3 bar (pF 4.2)  n.d. = not determined	SSDA VOI				
	W *				
	Ŷ				



#### B. Study Design

#### 1. Experimental Conditions

Fluopicolide was applied once as a suspendable concentrate at a nominal application rate of 400 gra on at each site between March and June 2001. Each application was confirmed by the analysis of filter paper plaques placed in the target area during application then retrieved immediately after application as well as by the analysis of the soil samples taken immediately after each application.

Trial	Florida	Wisconsin 💍	California	Washington
Application date	9 March 2001	25 April 2001	1 June <b>20</b> 01	May 2001 👋
Planting date	2 March 2001	18 April 200	30 May 2001	1 May 2001 0

Rainfall, air temperature and soil temperature were measured continuously on site distorical rainfall and pan evaporation which were compiled from the nearest National Oceanic and Atmospheric Administration (NOAA) Climatological Data recording weather station. The Grops were sprinkler irrigated in order to maintain at least the historical average rainfall for each site. Usually, sufficient irrigation to maintain a viable crop was applied which exceeded the historical average rainfall during the growing season. The potato crop was not harvested, the vines and potatoes were allowed to naturally senesce. Unwanted plant growth was controlled with a nonselective herbigide.

Soil dissipation of fluopicolide was studied for 18 months.

### 2. Sampling

Immediately after application four soil cores were taken to a depth of 0.00 0.15 m. At each additional post-application sampling interval, the soil cores consisted of six increments: 0.00 - 0.15 m, 0.15 - 0.30 m, 0.30 - 0.45 m, 0.45 0.60 m, 0.60 0.75 m and 0.75 - 0.90 m. At each sampling date 4 samples from each plot were taken (16 cores in total).

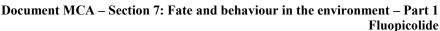
Samples were taken, directly after application day it as 0 0, 0.25, 0.5, 1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16 and 18 ponths after application (MAA).

The soil cores were frozen immediately after sampling then shipped to the analytical laboratory.

#### 3. Analytical Procedures

The analytical method AR 265 of was used to determine levels of fluopicolide and its metabolites M-01 (AE C653741), Med 2 (AE C657088) and M-03 (AE 0608000, referred to as RPA 427967 in the report). Soil samples of 200 were extracted twice at ambient temperature for 5 minutes by mechanical agitation using acetonitrile/water (70/30, v/y) acidified with 0.1% formic acid. After each extraction step, extract and soil were separated by centrifugation and decantation. The soil extracts were combined and diluted with acidated water to result in a final solvent of acetonitrile/water (30/70) with 0.1% formic acid. Quantification was carried out by LC MS/MS using external standardisation for the parent compound and its metabolites. The limit of quantification (LOQ) was 0.005 mg/kg for each analyte.

During analysis of the discipation samples, concurrent recovery samples were prepared freshly by fortification of control samples with territem fluopicolide and reference items M-01, M-02 and M-03 at levels of LOQ and 100 x LQQ and processed in parallel to the dissipation samples.





Compound				% R	ecoveries a	after Forti	fication		
		Flo	rida	Wisc	onsin	Cali	fornia	Wash	ington
				F	ortificatio	n level (mg	/kg)		Ŵ
		0.005	0.5	0.005	0.5	0.005	0.5	0.005	<b>70.</b> 5
Fluopicolide	Mean	91.6	96.2	85.8	101.9	87.4	108.00	84.4	Ø 98.8
	SD	12.1	12.8	8.2	3.6	8.6	110	18.8	12:0
M-01	Mean	105.1	101.8	98.6	103.2	91.9	109.5	96	<b>294</b> .4
	SD	9.1	5.4	10.7	3.5	8.6	9.5	17.2	* 6.9 °
M-02	Mean	98.3	101.1	94.9	96.6	94.5	102.0	<i>©</i> 98.1 <i>\$</i>	102.0
	SD	11.0	5.5	6.5	<b>3</b> 7.1	8.5C	8.9	11.0	<b>2</b> 7.8
M-03	Mean	91.1	105.2	93.6	<b>△</b> 101.4	929	@°113.15√	<b>\$</b> 6.2	9 _{112.0}
	SD	12.1	7.6	5.1	8.9	<b>1</b> 1.3 ∞	13.9	15.3	15.9

SD Standard deviation

The validation of the extraction was carried our during the study, with samples taken immediately after the application of the test substance.

# 4. Determination of degradation kinetics

The degradation kinetics determined in the report were not conducted according to IOCUS guidance document on degradation kinetics and are not acceptable for EU submissions.  $DT_{50}$  and  $DT_{90}$  values for the degradation of fluopicolide have been re-calculated from the reported data for the Californian site following the recommendations of the FOCOS work group using the software KinGUI (version 2.1). The trial site in California was considered representative for European climate conditions and soil properties but the other three sites were not. Full details are provided in Documents KCA 7.1.2.2.1/15 and KCA 7.1.2.2.2.24. A Prief summary of the approach for frigger endpoints is provided below.

To derive trigger endpoints an initial comparison was performed for each site between the SFO and FOMC fits for fluoricolide. The comparison of the SFO and FOMC fits suggested bi-phasic decline, and the DFOP model was therefore also fitted. For the California site, DFOP provided the best fit to the residues with the lowest  $\chi^2$  erg vo value, and was therefore accepted.

# A. Results and Discussion

#### A. Analytical Methodology

Full details and acceptable validation data to support this method are presented in Document M-CA 4, Section 4.1.2. The method complies with the EU regulatory requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of fluopicolide and its metabolites M-01 (AE 653711), M-02 (AE 6537188) and M-03 (AE 0608000) in soil samples by HPLC-MS/MS.

#### B. Data

The results for thropicodide and its metabolites M-01 (AE C653711) and M-02 (AE C657188) as soil residue concentrations (on a ppb basis) for each of the treated plots in Table 7.1.2.2.1- 91 to Table 7.1.2.2.1- 10. No residues of M-02 were detected at the Wisconsin site and no residues of M-03 (AE 0608090) were detected at any of the sites.



Table 7.1.2.2.1- 91: Residues of fluopicolide in soil from the Florida trial after an application of 400 g a.s./ha (expressed as ppb)

													- R.V	/		- >	1	1
Depth	Sub									MAA					· 01/2	170		
[cm]	plot	0	0.1	0.25	0.5	0.75	1	2	3		5	6	8	10	<b>12</b>	<b>614</b>	16	18
	1	72	156	148	241	377	164	107	13 🔘	× 44	。46	24	57	34°C	225	40 <	<b>9</b> 13	5
	2	187	101	153	197	195	251	<loq< td=""><td>× ¶4</td><td>¥ 44</td><td>3600</td><td>16 C</td><td>67</td><td>CO15</td><td>22 230</td><td>40 %</td><td>12</td><td>6</td></loq<>	× ¶4	¥ 44	3600	16 C	67	CO15	22 230	40 %	12	6
0-15	3	83	87	225	557	485	233	8,6	29 🦠	33	Ç40	~(Žť	<b>34</b> \$	168°S	1700	38.	S 17	1
	4	168	66	156	256	216	286	80° 30°	£ 90°	103	<b>5</b> 6 🕏	7 2	າພະ ວດ 🥏	³ 26 €	\$55°	~ <b>66</b>	14	8
	mean	128	103	171	313	318	234	35,1		***	e(C)>	<b>√1</b> 7	690	36	31\%	[©] 35	14	5
	1	n.s.	n.d.	<loq< td=""><td>n.d.</td><td>7</td><td><b>234</b></td><td>% LOQ</td><td>\$8 5</td><td>&lt;<b>L@Q</b></td><td>1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00°</td><td>48 %</td><td>O 43</td><td><b>⊘</b>81</td><td>31</td><td>20</td><td>33</td><td>8</td></loq<>	n.d.	7	<b>234</b>	% LOQ	\$8 5	< <b>L@Q</b>	1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00° × 1.00°	48 %	O 43	<b>⊘</b> 81	31	20	33	8
	2	n.s.	<loq< td=""><td><loq< td=""><td><loq< td=""><td>K S</td><td>345</td><td><lqq< td=""><td>5</td><td>n.d.</td><td>Dr.d.</td><td></td><td>30.15 2570</td><td>n.d:D</td><td>15</td><td>°<loq< td=""><td>7</td><td><loq< td=""></loq<></td></loq<></td></lqq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>K S</td><td>345</td><td><lqq< td=""><td>5</td><td>n.d.</td><td>Dr.d.</td><td></td><td>30.15 2570</td><td>n.d:D</td><td>15</td><td>°<loq< td=""><td>7</td><td><loq< td=""></loq<></td></loq<></td></lqq<></td></loq<></td></loq<>	<loq< td=""><td>K S</td><td>345</td><td><lqq< td=""><td>5</td><td>n.d.</td><td>Dr.d.</td><td></td><td>30.15 2570</td><td>n.d:D</td><td>15</td><td>°<loq< td=""><td>7</td><td><loq< td=""></loq<></td></loq<></td></lqq<></td></loq<>	K S	345	<lqq< td=""><td>5</td><td>n.d.</td><td>Dr.d.</td><td></td><td>30.15 2570</td><td>n.d:D</td><td>15</td><td>°<loq< td=""><td>7</td><td><loq< td=""></loq<></td></loq<></td></lqq<>	5	n.d.	Dr.d.		30.15 2570	n.d:D	15	° <loq< td=""><td>7</td><td><loq< td=""></loq<></td></loq<>	7	<loq< td=""></loq<>
15-30	3	n.s.	<loq< td=""><td>12</td><td><loq< td=""><td></td><td>≰LŎQ</td><td></td><td>m.d.</td><td>n de</td><td>n.d.</td><td><loq.< td=""><td>15 I</td><td>11.d. \$</td><td>no.d.</td><td>n.d.</td><td>8</td><td>20</td></loq.<></td></loq<></td></loq<>	12	<loq< td=""><td></td><td>≰LŎQ</td><td></td><td>m.d.</td><td>n de</td><td>n.d.</td><td><loq.< td=""><td>15 I</td><td>11.d. \$</td><td>no.d.</td><td>n.d.</td><td>8</td><td>20</td></loq.<></td></loq<>		≰LŎQ		m.d.	n de	n.d.	<loq.< td=""><td>15 I</td><td>11.d. \$</td><td>no.d.</td><td>n.d.</td><td>8</td><td>20</td></loq.<>	15 I	11.d. \$	no.d.	n.d.	8	20
	4	n.s.	n.d.	7	~FOO	<loq< td=""><td>n.d</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>Pd.</td><td>20.0°</td><td>2570</td><td>0</td><td><loq< td=""><td>6</td><td>52</td><td>23</td></loq<></td></loq<>	n.d	n.d.	n.d.	n.d.	Pd.	20.0°	2570	0	<loq< td=""><td>6</td><td>52</td><td>23</td></loq<>	6	52	23
	mean	n.s.	<loq< td=""><td>510</td><td>√<loo.< td=""><td>$0^{61}$</td><td>\$\hat{1}</td><td>  &lt; \<b>\Q</b>(()</td><td>2 Fig</td><td><loq< td=""><td>T C</td><td>1 10 6</td><td>©<b>2</b>8</td><td>NI I</td><td>12¹</td><td>71</td><td>25</td><td>13¹</td></loq<></td></loo.<></td></loq<>	510	√ <loo.< td=""><td>$0^{61}$</td><td>\$\hat{1}</td><td>  &lt; \<b>\Q</b>(()</td><td>2 Fig</td><td><loq< td=""><td>T C</td><td>1 10 6</td><td>©<b>2</b>8</td><td>NI I</td><td>12¹</td><td>71</td><td>25</td><td>13¹</td></loq<></td></loo.<>	$0^{61}$	\$\hat{1}	< \ <b>\Q</b> (()	2 Fig	<loq< td=""><td>T C</td><td>1 10 6</td><td>©<b>2</b>8</td><td>NI I</td><td>12¹</td><td>71</td><td>25</td><td>13¹</td></loq<>	T C	1 10 6	© <b>2</b> 8	NI I	12¹	71	25	13 ¹
	1	n.s.	n.d. 、	gn.d.		<l@q< td=""><td>n.d</td><td>n.d.</td><td>n.d.</td><td>OP10</td><td>zn.d.</td><td>23 n.d.</td><td><lqq< td=""><td><loq< td=""><td>13</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></lqq<></td></l@q<>	n.d	n.d.	n.d.	OP10	zn.d.	23 n.d.	<lqq< td=""><td><loq< td=""><td>13</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></lqq<>	<loq< td=""><td>13</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<>	13	n.d.	n.d.	n.d.
	2	n.s.	n d.	n.d.	II.u. 🔻	h.d.	£33	nd.	п.•.	n.d.\$	n.d.⊗ຶ	n.d.	🖒 n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
30-45	3	n.s.	n.ď.	<loq< td=""><td>&lt; LOQ</td><td>n.d</td><td>n.d&amp;@</td><td>n.d.</td><td>n.d.</td><td>en.d.</td><td>oked.</td><td>, people</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<>	< LOQ	n.d	n.d&@	n.d.	n.d.	en.d.	oked.	, people	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	4	n.s.	n.d.	<lqq 3<="" td=""><td>on.d.</td><td>Dn.d.</td><td>્રાવે.d.</td><td>, ncal.</td><td>n.d.V</td><td>n.d.«Ç</td><td></td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></lqq>	on.d.	Dn.d.	્રાવે.d.	, ncal.	n.d.V	n.d.«Ç		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	mean	n.s.	n.d.	< <b>₽</b> 00€	<l@q< td=""><td><loq®< td=""><td>81</td><td>n.d.</td><td>n.d.</td><td>4112ª</td><td>na.</td><td>61</td><td><loq< td=""><td><loq< td=""><td>31</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<></td></loq®<></td></l@q<>	<loq®< td=""><td>81</td><td>n.d.</td><td>n.d.</td><td>4112ª</td><td>na.</td><td>61</td><td><loq< td=""><td><loq< td=""><td>31</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<></td></loq®<>	81	n.d.	n.d.	4112ª	na.	61	<loq< td=""><td><loq< td=""><td>31</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<>	<loq< td=""><td>31</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<>	31	n.d.	n.d.	n.d.
	1	n.s.	n.d _O C	n.d.	$\mathbb{Z}$ nd	o (Gr)d	On Cal.			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	2	n.s.	, in.d.	n.d.	ก.สาใน	l nd⊗	₽ 78 ∞	n.a.	n.d.	n.d. D.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
45-60	3	n.s. ©	n.d.	n.d.	n.d.	₩.d.	nika.	n _c	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	4	n.s.	n.d.	n.6	n.đợ	n.d	n.d.	応 n.a.	an.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	n.s.	n.d. ₹	n.d.	P.d.	ov.d.	ાજીવી.	ૂn.a⊘ી	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	1	n.s.	<b>₽</b> d.	ngi	n.a	n.a	n.d.	e [©] ň.a.	n.d.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.a.	n.a.	n.a.
	2	n.s.	nd a	n.a.	Ĉn.a.	n.a.		n.a.	n.d.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.a.	n.a.	n.a.
60-75	3 «	n.s.C D.S.	N. d	n de la	n.a.©	n.a.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.a.	n.a.	n.a.
	4	n.s.	n.d.	On.a.	n.a.C N.a.	<b>√</b> Qã.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.a.	n.a.	n.a.
	mean	& Bas.	n:₫.	n,a,S	″n.av⊝©		21	n.a.	n.d.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.a.	n.a.	n.a.



Depth	Sub									MAA	Ć	,		9.II.O	,		- A	,
[cm]	plot	0	0.1	0.25	0.5	0.75	1	2	3	4	5	6	8	10	12	~ (C) 4	<b>196</b>	18
	1	n.s.	n.d.	n.a.	n.a.	n.a.	n.d.	n.a.	n.a.	_ <	Ĉĥ.a.	n.a.	pe,d.	n.a.	n.a	n.a.	🖣 n.a.	n.a.
	2	n.s.	n.d.	n.a.	n.a.	n.a.	n.d.	n.a.	n.a.	nga.	n.a.	n.a.	∭n.d.	n.a.	Jan.a.	Ma.	n.a.	n.a.
75-90	3	n.s.	n.d.	n.a.	n.a.	n.a.	n.d.	n.a.	n.a.	🏿 n.a.	on.a.	n.a.	n.d.	n ae	n a 🥄 🧻	n.a. 🖔	₿ n.a.	n.a.
	4	n.s.	n.d.	n.a.	n.a.	n.a.	n.d.	n.a.	nja.	nk.ge.	n,as	n.a, @	n.d.	Ç ^o n.a.	na.	nga."	n.a.	n.a.
	mean	n.s.	n.d.	n.a.	n.a.	n.a.	n.d.	n.a.C	n.a.	yn.a.	eĜi.a.	√ŋ.a.″	nd.	n.a.S	n.a.o	n.a. Ö	√n.a.	n.a.

MAA months after application, n.d. was used to distinguish those values less than the limit of detection (LOD)

n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 pp.b), ¹Replicate value; LOQ

Table 7.1.2.2.1- 92: Residues of M-01 (AE C653711) in soil from the Florida trial after an application of 400 g a.s. ha (expressed as ppb)

Depth	Sub						O'T	Ŝ	AND COM	⊘MÃ́А	1 ~ S.S.	90°		Ġ.	0,			
[cm]	plot	0	0.1	0.25	<b>205</b>	_ Q.Ø\$ ³ >	· P	2	3	4	5 %	\$ 6	3.8	10	12	14	16	18
	1	n.d.	<loq< td=""><td><lo@< td=""><td>6</td><td></td><td>% 5</td><td>#JD8</td><td>\$<b>100</b>Q</td><td></td><td>&lt; LQQ</td><td>n₂d.\$</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>8</td><td>n.d.</td><td><loq< td=""></loq<></td></lo@<></td></loq<>	<lo@< td=""><td>6</td><td></td><td>% 5</td><td>#JD8</td><td>\$<b>100</b>Q</td><td></td><td>&lt; LQQ</td><td>n₂d.\$</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>8</td><td>n.d.</td><td><loq< td=""></loq<></td></lo@<>	6		% 5	#JD8	\$ <b>100</b> Q		< LQQ	n ₂ d.\$	n.d.	n.d.	n.d.	8	n.d.	<loq< td=""></loq<>
	2	n.d.	<loq ,<="" td=""><td><b>P</b>OQ</td><td>6</td><td>&lt; LXQ</td><td>35</td><td>5.7</td><td><lqq< td=""><td>~~~ (</td><td>≸LOQ</td><td>Na.d.</td><td>₩ <b>®</b>d.</td><td>n.d.</td><td>n.d.</td><td>6</td><td>n.d.</td><td><loq< td=""></loq<></td></lqq<></td></loq>	<b>P</b> OQ	6	< LXQ	35	5.7	<lqq< td=""><td>~~~ (</td><td>≸LOQ</td><td>Na.d.</td><td>₩ <b>®</b>d.</td><td>n.d.</td><td>n.d.</td><td>6</td><td>n.d.</td><td><loq< td=""></loq<></td></lqq<>	~~~ (	≸LOQ	Na.d.	₩ <b>®</b> d.	n.d.	n.d.	6	n.d.	<loq< td=""></loq<>
0-15	3	n.d.	<loq< td=""><td>9</td><td>8 0</td><td>× 8</td><td><b>\$</b> 10</td><td>&amp; BOQ</td><td>,≨L'®Q</td><td>V 11</td><td><f6< td=""><td>n d</td><td>LOQ</td><td>n.d.</td><td>n.d.</td><td>7</td><td>n.d.</td><td><loq< td=""></loq<></td></f6<></td></loq<>	9	8 0	× 8	<b>\$</b> 10	& BOQ	,≨L'®Q	V 11	<f6< td=""><td>n d</td><td>LOQ</td><td>n.d.</td><td>n.d.</td><td>7</td><td>n.d.</td><td><loq< td=""></loq<></td></f6<>	n d	LOQ	n.d.	n.d.	7	n.d.	<loq< td=""></loq<>
	4	n.d.	n.d.	<loq< td=""><td>% OQ</td><td></td><td>94</td><td>5 \$</td><td>11.<b>u</b>.%</td><td><b>%</b>11</td><td>%LOQ</td><td>%a.d. ″</td><td><loq< td=""><td>n.d.</td><td><loq< td=""><td>7</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	% OQ		94	5 \$	11. <b>u</b> .%	<b>%</b> 11	%LOQ	%a.d. ″	<loq< td=""><td>n.d.</td><td><loq< td=""><td>7</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<></td></loq<>	n.d.	<loq< td=""><td>7</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<>	7	n.d.	<loq< td=""></loq<>
	mean	n.d.	<loq< th=""><th>2¹ ₡</th><th>51</th><th>√5¹</th><th>, ®</th><th><b>9</b></th><th>љ,Ū.</th><th>201 (C)</th><th><l,oq< th=""><th>n.d.</th><th><loq< th=""><th>n.d.</th><th><loq< th=""><th>7</th><th>n.d.</th><th><loq< th=""></loq<></th></loq<></th></loq<></th></l,oq<></th></loq<>	2¹ ₡	51	√5 ¹	, ®	<b>9</b>	љ,Ū.	201 (C)	<l,oq< th=""><th>n.d.</th><th><loq< th=""><th>n.d.</th><th><loq< th=""><th>7</th><th>n.d.</th><th><loq< th=""></loq<></th></loq<></th></loq<></th></l,oq<>	n.d.	<loq< th=""><th>n.d.</th><th><loq< th=""><th>7</th><th>n.d.</th><th><loq< th=""></loq<></th></loq<></th></loq<>	n.d.	<loq< th=""><th>7</th><th>n.d.</th><th><loq< th=""></loq<></th></loq<>	7	n.d.	<loq< th=""></loq<>
	1	n.s.	<loq< td=""><td><b>√g</b>9€d.</td><td>ng.</td><td>16. D</td><td><foo< td=""><td>, ₁<rod <="" td=""><td>7</td><td>5</td><td><b>&amp;</b>LŎQ</td><td>n.d.</td><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>10</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<></td></rod></td></foo<></td></loq<>	<b>√g</b> 9€d.	ng.	16. D	<foo< td=""><td>, ₁<rod <="" td=""><td>7</td><td>5</td><td><b>&amp;</b>LŎQ</td><td>n.d.</td><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>10</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<></td></rod></td></foo<>	, ₁ <rod <="" td=""><td>7</td><td>5</td><td><b>&amp;</b>LŎQ</td><td>n.d.</td><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>10</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<></td></rod>	7	5	<b>&amp;</b> LŎQ	n.d.	<loq< td=""><td>n.d.</td><td>n.d.</td><td>10</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<>	n.d.	n.d.	10	n.d.	<loq< td=""></loq<>
	2	n.s.	n.d.J.	n.d.	ĈŰŹ	NEOQ	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	n.d.	<fqq< td=""><td>100</td><td>8</td><td>n.d.</td><td><loq< td=""><td>n.d.</td><td><loq< td=""><td>5</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></fqq<>	100	8	n.d.	<loq< td=""><td>n.d.</td><td><loq< td=""><td>5</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<></td></loq<>	n.d.	<loq< td=""><td>5</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<>	5	n.d.	<loq< td=""></loq<>
15-30	3	n.s.	, îĥ.d.	n.d.	<b>15</b>	840	<loq*< td=""><td>n.d. 🤇</td><td>× 6</td><td>\$⁰8</td><td>6</td><td>5</td><td>9</td><td>n.d.</td><td>n.d.</td><td>7</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq*<>	n.d. 🤇	× 6	\$ ⁰ 8	6	5	9	n.d.	n.d.	7	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	4	n.s.	n.d.	n.d. 🗞	\$LOQ	Ĵ₽ <i>5</i>		, mar.	_{ <b>I®</b> Q	16	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>10</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>10</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>10</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>10</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>10</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	10	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	n.s.	n.d.	n.d.	31 🖁	5¹ €	3 ¹	[₹] LOQ	<b>∂</b> 3¹	9	41	1	<b>2</b> ¹	<loq< td=""><td><loq< td=""><td>8</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>8</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	8	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>

The the the confidence of the



		1													<b>a</b>		<i>Q</i> , °	
Depth	Sub									MAA	4	Ĉ		970	<b>,</b>		The 3	<b>&gt;</b>
[cm]	plot	0	0.1	0.25	0.5	0.75	1	2	3	4	5_ *	6	8	<b>10</b>	12		10	18
	1	n.s.	n.d.	n.d.	n.d.	<loq< td=""><td>n.d.</td><td>n.d.</td><td>9</td><td><loq< td=""><td>A B</td><td>7</td><td><lqq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>,<b>∲</b>LOQ</td><td>n.d.</td></lqq<></td></loq<></td></loq<>	n.d.	n.d.	9	<loq< td=""><td>A B</td><td>7</td><td><lqq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>,<b>∲</b>LOQ</td><td>n.d.</td></lqq<></td></loq<>	A B	7	<lqq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>,<b>∲</b>LOQ</td><td>n.d.</td></lqq<>	n.d.	n.d.	n.d.	, <b>∲</b> LOQ	n.d.
	2	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<loq< td=""><td><lo@< td=""><td>©<loq< td=""><td>n.d.</td><td>c on d.</td><td>n.d.</td><td>j. j. d.</td><td></td><td>n.d.</td><td>n.d.</td></loq<></td></lo@<></td></loq<>	<lo@< td=""><td>©<loq< td=""><td>n.d.</td><td>c on d.</td><td>n.d.</td><td>j. j. d.</td><td></td><td>n.d.</td><td>n.d.</td></loq<></td></lo@<>	© <loq< td=""><td>n.d.</td><td>c on d.</td><td>n.d.</td><td>j. j. d.</td><td></td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	c on d.	n.d.	j. j. d.		n.d.	n.d.
30-45	3	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<loq< td=""><td>Md.</td><td>n,d.</td><td>400g</td><td><loq< td=""><td>n.d. €</td><td>n.d</td><td>"nd w</td><td>∮n.d.</td><td>n.d.</td></loq<></td></loq<>	Md.	n,d.	400g	<loq< td=""><td>n.d. €</td><td>n.d</td><td>"nd w</td><td>∮n.d.</td><td>n.d.</td></loq<>	n.d. €	n.d	"nd w	∮n.d.	n.d.
	4	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	5	<loq (<="" td=""><td>n.d.</td><td><b>7</b> 2</td><td>(C) \$ 0°</td><td>op.d.</td><td>n d.</td><td>P. C.</td><td><loq< td=""><td>n.d.</td></loq<></td></loq>	n.d.	<b>7</b> 2	(C) \$ 0°	op.d.	n d.	P. C.	<loq< td=""><td>n.d.</td></loq<>	n.d.
	mean	n.s.	n.d.	n.d.	n.d.	<l0q< th=""><th>n.d.</th><th>n.d.</th><th>@41°</th><th>≪LXOQ</th><th></th><th>45</th><th>11</th><th>n.d</th><th>ب n.d. ر</th><th>n.d.</th><th>%LOQ</th><th>n.d.</th></l0q<>	n.d.	n.d.	@41°	≪LXOQ		45	11	n.d	ب n.d. ر	n.d.	%LOQ	n.d.
	1	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.ac O	n.d.	n.d.	n.d.	Qn.d.	∂n.ď.	n.d.	rod.	<1.00	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	2	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n na.	iØd.	and.	nnd.	n dj On.d.	n.d.	n.d.	n.d.	LOQ	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
45-60	3	n.s.	n.d.	n.d.	n.d.	n.d.	n.at D	n.a.	n.d.	n.d. 🖔	n.d.	Pn.d.	, <b>D</b> .d.	noil.	nd. n.d.	<loq< td=""><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	4	n.s.	n.d.	n.d.	n.d.	n.d. 🖔	₽n.d.	¶n.a.	n.d.	n.Ô.	n.d.	n.ac	n.d.		Y	≰LOQ	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	n.s.	n.d.	n.d.	n.d.	p.d.	n.d.	n.a.s	n.d.	n.d.	en.d.	⊖a.d.	n.d.	n.d.	n.g.	<loq< th=""><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<>	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
	1	n.s.	n.d.	n.a.	n.a.	n.a.	∂તે.d.	n.ă.	n.d.	< IQQ	n a Q	<l@@< td=""><td>n.d.</td><td>n.a.</td><td>$\mathbb{O}_{\mathrm{n.d.}}^{\mathfrak{r}}$</td><td>n.a.</td><td>n.a.</td><td>n.a.</td></l@@<>	n.d.	n.a.	$\mathbb{O}_{\mathrm{n.d.}}^{\mathfrak{r}}$	n.a.	n.a.	n.a.
	2	n.s.	n.d.	n.a.	J. Bar	n.@ 📡	n d	n.a. C	n.d.	n.d.	n.a. 🦠	⊜n.ď.	and.	n.a.	n.d.	n.a.	n.a.	n.a.
60-75	3	n.s.	n.d.	n.a.	n.a.	₩ II.a.	√r.ď.	ina. Oda.	J.M.D.	ng.	n _s a.\\	n.d.s	n.d.	n.a.	n.d.	n.a.	n.a.	n.a.
	4	n.s.	n.d.	Ma.	n.a.	n _e a,O	n.d.	n.a.	n.d.	≫'n.d.	Sn.a.	<b>P</b> OQ	__ < <b>\$</b> OQ	n.a.	n.d.	n.a.	n.a.	n.a.
	mean	n.s.	n.d.	n.a.	n.a.	∜n.a.	్థ n.d.	€ Wa.	m.d.	< <u>L@Q</u>	n.a.s	· O1	LOQ	n.a.	n.d.	n.a.	n.a.	n.a.
	1	n.s.	n.d.	n.a.	n a	n all	n.d.J N.d.	n.a.	n.a.	Vn.a.	n.a.	%j.ã.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.
	2	n.s.	n.d.	n.a. 🧟	Nn.a.	og M.á.	1 .	nQr.	H.W.	n ar D	n.a	n.a.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.
75-90	3	n.s.	n.d.	Ala.	ng. I	n.a.	n.d	n.a.			n.ä.	n.a.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.
	4	n.s.	n.d.	n.a.	C'n.a.	Ma.a.	n.d.	an,a.	n.a.	n a.	n.a.	n.a.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.	j n.d.	n.a.	n.a.O	n.a. C	n.d, K	n.a.	⊁n.a.	Ŋn.á.	n.a.	n.a.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.



Table 7.1.2.2.1-93: Residues of M-02 (AE C657188) in soil from the Florida trial after an application of 400 g a.s./havexpressed as ppb °

Donth	Sub								MAA		<u> </u>		. K.J			r CON	O DO CO	
Depth [cm]	plot	0	0.1	0.25	0.5	0.75	1	2	34	4	5	60°		10 ,	12	14%	16	18
	1	n.d.	n.d.	<loq< td=""><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d</td><td>M.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n d.</td><td></td><td>Sir.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<>	<loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d</td><td>M.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n d.</td><td></td><td>Sir.d.</td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.	n.d	M.d.	n.d.	n.d.	n.d.	n.d.	n d.		Sir.d.	n.d.	n.d.
	2	n.d.	n.d.	<loq< td=""><td>n.d.</td><td>n.d.</td><td><loq< td=""><td>nQl.</td><td>n.d</td><td>n.d.</td><td>n.d \n.d.</td><td>ŋ₄d。</td><td>n.d</td><td>n.đ. Sn.d.</td><td>wod.</td><td>n.d</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<>	n.d.	n.d.	<loq< td=""><td>nQl.</td><td>n.d</td><td>n.d.</td><td>n.d \n.d.</td><td>ŋ₄d。</td><td>n.d</td><td>n.đ. Sn.d.</td><td>wod.</td><td>n.d</td><td>n.d.</td><td>n.d.</td></loq<>	nQl.	n.d	n.d.	n.d \n.d.	ŋ₄d。	n.d	n.đ. Sn.d.	wod.	n.d	n.d.	n.d.
0-15	3	n.d.	<loq< td=""><td>5</td><td><loq< td=""><td>n.d.</td><td>6</td><td>n.d.</td><td>Kn.d.</td><td>p.gD</td><td>n.d. 🖠</td><td>nd. Ph.d.</td><td>Pisa.</td><td>n.d:ℚ</td><td>n.d.</td><td>Kn.d.</td><td>en.d.</td><td>n.d.</td></loq<></td></loq<>	5	<loq< td=""><td>n.d.</td><td>6</td><td>n.d.</td><td>Kn.d.</td><td>p.gD</td><td>n.d. 🖠</td><td>nd. Ph.d.</td><td>Pisa.</td><td>n.d:ℚ</td><td>n.d.</td><td>Kn.d.</td><td>en.d.</td><td>n.d.</td></loq<>	n.d.	6	n.d.	Kn.d.	p.gD	n.d. 🖠	nd. Ph.d.	Pisa.	n.d:ℚ	n.d.	Kn.d.	en.d.	n.d.
	4	n.d.	<loq< td=""><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>of.d.</td><td>, nd.</td><td>n.d. @</td><td>n.d.</td><td>ĵĥ.d.</td><td>n do</td><td>n.d.</td><td>⊙n.d.</td><td>nco[®]</td><td>″n.d. ℂ</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<>	<loq< td=""><td>n.d.</td><td>n.d.</td><td>of.d.</td><td>, nd.</td><td>n.d. @</td><td>n.d.</td><td>ĵĥ.d.</td><td>n do</td><td>n.d.</td><td>⊙n.d.</td><td>nco[®]</td><td>″n.d. ℂ</td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.	of.d.	, nd.	n.d. @	n.d.	ĵĥ.d.	n do	n.d.	⊙n.d.	nco [®]	″n.d. ℂ	n.d.	n.d.
	mean	n.d.	<loq< td=""><td>1¹</td><td><loq< td=""><td>n.d.</td><td>11 6</td><td>n.d.</td><td>⊘n.d.</td><td>n.d.</td><td>n.d. (</td><td>n.d.</td><td>n.d.</td><td>ņ.d. 🖁</td><td>n.d.</td><td>√n.ď.</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<>	1 ¹	<loq< td=""><td>n.d.</td><td>11 6</td><td>n.d.</td><td>⊘n.d.</td><td>n.d.</td><td>n.d. (</td><td>n.d.</td><td>n.d.</td><td>ņ.d. 🖁</td><td>n.d.</td><td>√n.ď.</td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	11 6	n.d.	⊘n.d.	n.d.	n.d. (	n.d.	n.d.	ņ.d. 🖁	n.d.	√n.ď.	n.d.	n.d.
	1	n.s.	<loq< td=""><td>n.d.</td><td>n.d.</td><td>nad.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d</td><td>n.d.</td><td>n.d.</td><td>p.X.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.	nad.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d	n.d.	n.d.	p.X.	n.d.	n.d.	n.d.
	2	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	ĭv.d."	n d	n.d,	≫n.ď.	n.d.	n.d 🍕	n.d.	n.d.	n.d.	n.d.
15-30	3	n.s.	n.d.	n.d.	n.d.\$	nod	n.d.	na¶\s	n.d	n.d.	n.A.	n.d	n.d.	n.d.	nd.	n.d.	n.d.	n.d.
	4	n.s.	n.d.	n.d.	∍% n.d.	¶ n.d. 🤌	n.d.	n.d.	onled.	n d.O	ے n.d.	A.d.	Par	n.d.	n.d.	n.d.	<loq< td=""><td>n.d.</td></loq<>	n.d.
	mean	n.s.	n.d.	n.d.J.T	n,d.	p. <b>©</b>	Mg.	n.đØ	n.d.,	er.d.	rôa.	n.d.v	n.d.	ூn.d.	n.d.	n.d.	n.d.	n.d.
	1	n.s.	n.d.	<b>∌</b> @.ď.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	n.d.	n.d.	n.d.	n.d.	n.d. 🖟	n.d.	ð₽d.	n.d	n.d.	n.d.	n.d.	n.d.	n.d.
	2	n.s.	n.d. S	n.d	SLOOP ?	nxt.	n:dC	n.d.O	n.d.	Cr.d.	n.&	n.d.	∑n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
30-45	3	n.s.	AND THE STATE OF T	n.d.	<b>₩£</b> OQ	o ELOQ ∢	🔊 n.d. 🌎	Ĵ√n.d.	₽Đď.	n.d.≪	n.d.	€£d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	4	n.s.	n.d.	n.d.	n.d.\$	n.d.	n.d.	n.d		on∙d.	41. <b>Q</b>	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	mean	n.s.	n.d.	M.d.	, ODOQ	&LOQ_	₿n.d.	n.d.	p.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	1	n.s.	n.d.	n.d.	n.d	n.d.	n.d	n.a<ฟ	n.d. s	្ <b>វា</b> .d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	2	n.s.	ng.	on.d.		POQ.	OPn.d.	en.a.	n.C	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
45-60	3	n.s.	n.d.	n.d.	n.d.	<loc< td=""><td>n.d.</td><td>n.a.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loc<>	n.d.	n.a.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	4	n.s.	n.d.	n.d.	n.d.	in.d.	⊘n.d. ∠	J Dr.a.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	mean	n.s.	n.d.	⊳ຶ n.d.	n.d.	1 /r\n\(\(\rangle\)\n	n,qo	n.a.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	1	n.s.	n.d.	ma.	nea.	SP.a.	A.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.a.	n.a.	n.a.
	2	n.s.	ǩnl.d.	Duna.	n.a.	n,a,	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.a.	n.a.	n.a.
60-75	3	ACO.	nd 1	na	40a. °	<b>\$</b> \$\ <b>0</b> .a.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.a.	n.a.	n.a.
	4 10	n.s.	n.d.	Man.a.	© n.a.	n.a.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.a.	n.a.	n.a.
	, mean	p.s	n.d	n.a.	n.æ, 🗡	n.a.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.d.	n.a.	n.d.	n.a.	n.a.	n.a.



Depth	Sub								MAA		<b>→</b>			TO O			a de	
[cm]	plot	0	0.1	0.25	0.5	0.75	1	2	3	4	5	6		10	12		36	18
	1	n.s.	n.d.	n.a.	n.a.	n.a.	n.d.	n.a.	n.a.,	n.a.	n.a.	n.a	n.d.	n.a.	na.	n.a.	🥬 n.a.	n.a.
	2	n.s.	n.d.	n.a.	n.a.	n.a.	n.d.	n.a.	Da.a.	n.a.	n.a.	On.a.	n.d.	n.ac	n.a.	Sa.	n.a.	n.a.
75-90	3	n.s.	n.d.	n.a.	n.a.	n.a.	n.d.	nas	n.a.	n.a.	n.a.	n.a.	n.d.	@a.a.	na.	n.a.	🔑 n.a.	n.a.
	4	n.s.	n.d.	n.a.	n.a.	n.a.	n.d.	n.a.	n.a. Vilea.	n.a3	n.a. 💃	en.a.	nd.	n.a.	n.a.	rea."	n.a.	n.a.
	mean	n.s.	n.d.	n.a.	n.a.	n.a.	nad.	ค.ล์	" n.a. _@	Ĝn.a.	n.a.	n.a	n.d.	o‰a. ″	n _x o [®]	n.ą.	🥄 n.a.	n.a.

MAA months after application, n.d. was used to distinguish those values less than the limit of detection (LOD)

n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, LOQ

Table 7.1.2.2.1- 94: Residues of fluopicolide in soil from the Wisconsin trial after an application of 400 grass./ha (expressed in ppb)

Depth	Sub			~12		O. D. L.	2. Ŝ «i	W. O	MAA	2°C		JIR	Ġ			
[cm]	plot	0	0.1	20075	~ 10 ³	2 🐧	3 O'	2015	5	<b>6</b>		10	<b>12</b>	14	16	18
	1	128	1236	48	\\P\20	%16 °	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	77 10	26	55 %	n.s.	√ar.s.	53	36	37	20
	2	101	<b>P2</b>	72	6₹ [©]	16 ₀	38		35	# A)	n\$	n.s.	42	64	27	30
0-15	3	148	157	77	<b>5</b> 45	<b>4</b> 0	<b>\$ 97</b>	C 53 C	81 (	گ 37 م گ	n.s.	n.s.	71	74	32	29
	4	154	139	~HOD	103	30	1 8125°	235 July	A S	33	n.s.	n.s.	57	38	27	18
	mean	133	123 🦃	75	<b>%84</b>	29	59	6 ¹ 54	46 🖔	42	n.s.	n.s.	76	53	31	24
	1	n.s.	M.d.	n:0.1	n de	n.d. C	n.d.O	and.	n@	7	n.s.	n.s.	n.d.	n.d.	n.d.	n.d.
	2	nat	n.d.	on.d.	rand.	ji.d.	ALOQ (	LOQ	n.d.	<loq< td=""><td>n.s.</td><td>n.s.</td><td>n.d.</td><td><loq< td=""><td>5</td><td>12</td></loq<></td></loq<>	n.s.	n.s.	n.d.	<loq< td=""><td>5</td><td>12</td></loq<>	5	12
15-30	3	n.s.	5	n.D	n.d.	n.d.	n.d. O	n.d.	n.d.	n.d.	n.s.	n.s.	n.d.	6	n.d.	10
	4	n.s.	n.d	n.d.	Ŋn.d.	n.et.	3 O. a.	n.d.	n.d.	n.d.	n.s.	n.s.	n.d.	n.d.	<loq< td=""><td>n.d.</td></loq<>	n.d.
	mean	n.s.	i i	n.d.	n.d.©		S <loq< td=""><td>** <l0q< td=""><td>n.d.</td><td>21</td><td>n.s.</td><td>n.s.</td><td>n.d.</td><td>21</td><td>11</td><td>61</td></l0q<></td></loq<>	** <l0q< td=""><td>n.d.</td><td>21</td><td>n.s.</td><td>n.s.</td><td>n.d.</td><td>21</td><td>11</td><td>61</td></l0q<>	n.d.	21	n.s.	n.s.	n.d.	21	11	61

Entry be brown for any commercial be brown by



													<u> </u>			
Depth	Sub								MAA	å			9.D.		I THE S	
[cm]	plot	0	0.1	0.75	1	2	3	4	5	F6	8	10	12	14,00	16	18
	1	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.j@	n.d.	n.s.	n.s.	n.d.	On.d.	n.d.	n.d.
	2	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	Par.d.	n.d.	P.S.	n.s.	n.d.	n.d	n.d.	n.d.
30-45	3	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d. 。	n.d	ns	n.s.	<b>®</b> .d.	Dr.d.	ૂ∜ુખ.d.	n.d.
	4	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	jild.	wird.	\$\n\dagge\nad{\text{n.d.}}	8.5.	n sc	n.d.	n.d.z	n.d.	n.d.
	mean	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.@	n.d.	n.s, @	n.s.	Md.	ું ભારતે.	n.d.	n.d.
	1	n.s.	n.a.	n.a.	n.a.	n.a.	n ac O F n.a.	g ha.	enza.	nQl.	ADS.	nso	n.a. Ç	n.d.	n.a.	n.d.
	2	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.\.	n.d.	n.s.	n.s.	n.a.	NA.	n.a.	n.d.
45-60	3	n.s.	n.a.	n.a.	n.a.	n.a.∿	n.a.	o o o o o o o o o o o o o o o o o o o	wa.		n.s. N.S.	n.s.	n.a. J	n.d.	n.a.	n.d.
	4	n.s.	n.a.	n.a.	n.a.	Sn.a.	∫n.a. √	n.a.	n.a.	n.d.	n.s.	₽ñ.s.	nsa.	n.d.	n.a.	n.d.
	mean	n.s.	n.a.	n.a.	pa	n.a.¶	n.a.v	<b>₄n</b> .a.	rea.	Q Od.		n s		n.d.	n.a.	n.d.
	1	n.s.	n.a.	n.a.	n.a.	Pr.a.	Sn.a.	n.a. 🗞	n.a.	Pn.a. &C	( 'n		n.a.	n.a.	n.a.	n.a.
	2	n.s.	n.a.	Da.	n\aO	n.a	11.54.	2 E.M.	n.a.	nsa.	A.S.	n.s.	n.a.	n.a.	n.a.	n.a.
60-75	3	n.s.	nas	n.a.	n.a.	n.a.	n.a.	n.a. 🐒 O	n.a. 🛚	📞 n.a. 🐒 🕏		Jan.s.	n.a.	n.a.	n.a.	n.a.
	4	n.s. «	Ma.	n.a.	n.ã	n.a _O \$	n.a.		n.a. s	Ka.	n.S.	n.s.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.	n.a.	n.a.	n.a.	Sa.a.	Çır.a.	Ç [⊅] n.a. g€	n.a. (	n.a. s	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.
	1	n.s.	n.a.	ma	n.o	n.a.	n a S	a.a.	<b>19,3</b> .	n.a.	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.
	2	n.s.	n.a. 🦃	n.a.	Sn.a.	n.a.	n.a.	🔊 n.a. 🦠	🎤 n.a. 🤘	n.a.	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.
75-90	3	n.s.	M.a.	T. D. J.	n aci	n.a. O	n.a.O	na.	n@	n.a.	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.
	4	n	n.a.	n.a.	n.a.	Di.a.	wa.	n.a.	n.a.	n.a.	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.
	mean 🦔	n.s.	n.a.	_n.a.	ma.	n.a.	n.a. O	n.ji.	n.a.	n.a.	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.

MAA months after application, n.d. was used to distinguish those values less than the limit of detection (LOD), n.s. not sampled, n.a. not analysed, LOQ Himit of quantitation) \$\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{2



Table 7.1.2.2.1- 95: Residues of M-01 (AE C653711) in soil from the Wisconsin trial after an application of 400 g a sona (expressed as 100)

Table 7.	1.2.2.1- 93.	IXCSIGU	C5 U1 1V1-V	II (AE C	033711)1	11 3011 11 0	in the w	isconsin (	ii iai aitti		ication of	TUU g a	syma (exp	n csscu as	khni	Ö.
Depth	Sub								MAA	A. 150				L. C.	, I Organ	
[cm]	plot	0	0.1	0.75	1	2	3	4	54	6	8	10	12, (	© 14 ×	<u></u> 20°16	18
	1	n.d.	<loq< td=""><td>5</td><td>10</td><td>8</td><td>7</td><td>6</td><td>, <b>₹</b>200</td><td>6</td><td>P.S.</td><td>n.s.</td><td>&lt;1.00</td><td>&lt;<b>T</b></td><td><loq \mathcal{n}.d.</loq </td><td><loq< td=""></loq<></td></loq<>	5	10	8	7	6	, <b>₹</b> 200	6	P.S.	n.s.	<1.00	< <b>T</b>	<loq \mathcal{n}.d.</loq 	<loq< td=""></loq<>
	2	n.d.	n.d.	7	8	<loq< td=""><td><loq< td=""><td><loqo< td=""><td><loq (<="" td=""><td>¹ <luu\< td=""><td>n.s.</td><td>n.s. 🌂</td><td>on.d.</td><td>5</td><td>n.d.</td><td>n.d.</td></luu\<></td></loq></td></loqo<></td></loq<></td></loq<>	<loq< td=""><td><loqo< td=""><td><loq (<="" td=""><td>¹ <luu\< td=""><td>n.s.</td><td>n.s. 🌂</td><td>on.d.</td><td>5</td><td>n.d.</td><td>n.d.</td></luu\<></td></loq></td></loqo<></td></loq<>	<loqo< td=""><td><loq (<="" td=""><td>¹ <luu\< td=""><td>n.s.</td><td>n.s. 🌂</td><td>on.d.</td><td>5</td><td>n.d.</td><td>n.d.</td></luu\<></td></loq></td></loqo<>	<loq (<="" td=""><td>¹ <luu\< td=""><td>n.s.</td><td>n.s. 🌂</td><td>on.d.</td><td>5</td><td>n.d.</td><td>n.d.</td></luu\<></td></loq>	¹ <luu\< td=""><td>n.s.</td><td>n.s. 🌂</td><td>on.d.</td><td>5</td><td>n.d.</td><td>n.d.</td></luu\<>	n.s.	n.s. 🌂	on.d.	5	n.d.	n.d.
0-15	3	n.d.	<loq< td=""><td>6</td><td><loq< td=""><td>7</td><td>6</td><td></td><td></td><td>, DOQ</td><td>n.s.</td><td>n.s.</td><td><pre><pre><pre></pre></pre></pre></td><td>&lt;1.000°</td><td><lqq< td=""><td>n.d.</td></lqq<></td></loq<></td></loq<>	6	<loq< td=""><td>7</td><td>6</td><td></td><td></td><td>, DOQ</td><td>n.s.</td><td>n.s.</td><td><pre><pre><pre></pre></pre></pre></td><td>&lt;1.000°</td><td><lqq< td=""><td>n.d.</td></lqq<></td></loq<>	7	6			, DOQ	n.s.	n.s.	<pre><pre><pre></pre></pre></pre>	<1.000°	<lqq< td=""><td>n.d.</td></lqq<>	n.d.
	4	n.d.	n.d.	9	9	8	6 _€ ©	<\LQQ_?		<loq 2<="" td=""><td>n.s.</td><td>Ď n.s. ₁ (</td><td>D<rp>C</rp></td><td>¢Pľoq (</td><td>On.d.</td><td>n.d.</td></loq>	n.s.	Ď n.s. ₁ (	D <rp>C</rp>	¢Pľoq (	On.d.	n.d.
	mean	n.d.	<loq< td=""><td>7</td><td>7¹</td><td>61</td><td>0°57"</td><td>\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</td><td></td><td>212</td><td>ŵ.</td><td>H.S.</td><td><lqq< td=""><td></td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></lqq<></td></loq<>	7	7 ¹	61	0°57"	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		212	ŵ.	H.S.	<lqq< td=""><td></td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></lqq<>		<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	1	n.s.	n.d.	n.d.	n.d.	n.de	<pre>LOQ *</pre>	<loq\\< td=""><td><lqq'< td=""><td>&lt; LOQ</td><td>n.s.</td><td>0</td><td>* 00</td><td>SLOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></lqq'<></td></loq\\<>	<lqq'< td=""><td>&lt; LOQ</td><td>n.s.</td><td>0</td><td>* 00</td><td>SLOQ</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></lqq'<>	< LOQ	n.s.	0	* 00	SLOQ	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	2	n.s.	n.d.	n.d.	n.d.	`¥r.d.	~	<b>€</b> OQ	_<ĽØQ	\$ STOO!	n.s.	n.s.	<l@0< td=""><td>6</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></l@0<>	6	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
15-30	3	n.s.	n.d.	n.d.	n.d. 🔊	<000 ×	<lo@< td=""><td><loq< td=""><td>LOQ (</td><td>LOQ</td><td>n.s.</td><td>n.s.</td><td><b>®</b>LOQ</td><td>,%L°OQ</td><td>n.d.</td><td>n.d.</td></loq<></td></lo@<>	<loq< td=""><td>LOQ (</td><td>LOQ</td><td>n.s.</td><td>n.s.</td><td><b>®</b>LOQ</td><td>,%L°OQ</td><td>n.d.</td><td>n.d.</td></loq<>	LOQ (	LOQ	n.s.	n.s.	<b>®</b> LOQ	,%L°OQ	n.d.	n.d.
	4	n.s.	n.d.	n.d.	N.d.	<b>J</b> LOQ	<i>∰</i> 00Q	<b>₹</b> OŎ	< <b>Ŀ</b> ĞŎ	<1c00	p. J.	n _s ,C	<lqq< td=""><td><loq< td=""><td>n.d.</td><td>n.d.</td></loq<></td></lqq<>	<loq< td=""><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.
	mean	n.s.	n.d.	n,d	n.d.	<lqq\$< th=""><th><loq< th=""><th>SLOQ @</th><th>&gt;<loq< th=""><th>E¥ĽOQ (</th><th>n.s.</th><th>Nn.s.</th><th>SLOQ</th><th>21</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<></th></loq<></th></lqq\$<>	<loq< th=""><th>SLOQ @</th><th>&gt;<loq< th=""><th>E¥ĽOQ (</th><th>n.s.</th><th>Nn.s.</th><th>SLOQ</th><th>21</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<></th></loq<>	SLOQ @	> <loq< th=""><th>E¥ĽOQ (</th><th>n.s.</th><th>Nn.s.</th><th>SLOQ</th><th>21</th><th><loq< th=""><th><loq< th=""></loq<></th></loq<></th></loq<>	E¥ĽOQ (	n.s.	Nn.s.	SLOQ	21	<loq< th=""><th><loq< th=""></loq<></th></loq<>	<loq< th=""></loq<>
	1	n.s.	n.d.	On.d.	\	Jojed.	<b>ELOQ</b>	ped.	n.d.	n dô	n 🔊 🖰 🖺	n.s.)	n.d.	n.d.	n.d.	n.d.
	2	n.s.	n de	n.d.	n.d. S	n.d. 🍆	پ ^ه <loq< td=""><td>n.d.</td><td>Oⁿ.d.</td><td>C.n.d.</td><td>₿n.s.</td><td>⊕¶n.s.</td><td>n.d.</td><td><loq< td=""><td>n.d.</td><td>n.d.</td></loq<></td></loq<>	n.d.	O ⁿ .d.	C.n.d.	₿n.s.	⊕¶n.s.	n.d.	<loq< td=""><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.
30-45	3	n.s.	Mr.d.	n.d.	₩o.d.	ond.	n d.		ng.	n.ac	ns.\$	n.s.	n.d.	<loq< td=""><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.
	4	n.s.	n.d.	n.d.	n.d. \$		n.d.	n.d.	on.d.	o [%] n.d. 🏃	Øn.s.	n.s.	n.d.	<loq< td=""><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.
	mean	n.s.	n.d.	nd.	, <b>1</b> 3. d.	ŋ.d.	ॅबॉ <b>ફ</b> 0	n.d.	n _o g\$	n.d.	n.s.	n.s.	n.d.	<loq< td=""><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.
	1	n.s.	n.s. 🕏	n.a. 🖇	n.a.	n.a.	n.a.	In.a.	n.a.	(Cn.d.	n.s.	n.s.	n.a.	n.d.	n.a.	n.d.
	2	n.s.	S.s.	©.a.	CA.	Da.	, par	næ,	n æ	n.d.	n.s.	n.s.	n.a.	n.d.	n.a.	n.d.
45-60	3	n.s	n.s.	T II.a. 🥝	n.a.	Un.a.	n.a. n.	n.a.	n.a.	n.d.	n.s.	n.s.	n.a.	n.d.	n.a.	n.d.
	4	n.s.	n.s.	ida.	n)a.	ıñ a. ·	n.D	n a.V	n.a.	n.d.	n.s.	n.s.	n.a.	n.d.	n.a.	n.d.
	mean 🌂	n.s.	n.s.	n.a.	P'n.a.	n.a.	o [®] n.a.	҈⊘n.a.	n.a.	n.d.	n.s.	n.s.	n.a.	n.d.	n.a.	n.d.
	1	n.s.	n.a.	n.a.	n@?		n.a.	n.a.	n.a.	n.a.	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.
	2	n.s.C	[↑] n.a. <i>@</i>	n.a.	n.a.	n.a.	en.a.	n.a.	n.a.	n.a.	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.
60-75	3	Car.	~¶.a!.	Mr. St.	ng.	n.XO	n.a.	n.a.	n.a.	n.a.	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.
	4 206	n.s.	n.a.	n.a.	n.a.	o [©] n.a.	n.a.	n.a.	n.a.	n.a.	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.
	mean	ŵs.	ıca. "	"n.a."	n.a⊋ັ	n.a.	n.a.	n.a.	n.a.	n.a.	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.



Depth	Sub								MAA	Ĉ					2
[cm]	plot	0	0.1	0.75	1	2	3	4	5		8	10	12	140 160	18
	1	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.s.	n.s.	n.a.	n.a. D.a.	n.a.
	2	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	B. 1	n.a.	n.O'Y	n.s.	na,	n.a. n.a.	n.a.
75-90	3	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a. 💍	n.a.	n.a.	Pn.s.	n.s.	©n.a. √	n.a. Ka.	n.a.
	4	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	nja.	an, A.	n na	<b>м</b> .©\$		n.20 ⁰⁾	n.a. n.a.	n.a.
	mean	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Ç ^o n.a. 🎺	n.s.	" n.s.	∫\$n.a.	on.a. on.a.	n.a.

MAA months after application, n.d. was used to distinguish those values less than the limit of detection (LOD)

n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 pp.), ¹Replicate value; LOQ

Table 7.1.2.2.1- 96: Residues of fluopicolide in soil from the California trial after an application of 400 grass./ha (expressed as ppb)

								. 💝					<del>C</del>	W.	O			
Depth	Sub				~1	TOTAL OF	.0 _p .	, \$	« AT LL	⊗MAA	1 SE	<u> </u>		A B				
[cm]	plot	0	0.1	0.25	A 005	Q.750°	, 1 ₀ , 1	2	3 6	4	5	× \$6	\$ P	310	12	14	16	18
	1	160	126	<u>158</u>	93	_D 9i	%83	1080°	~\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		32	22, \$	27 💍	16	12	8	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	2	155	87	105	67	8360	103 🖔	52 🦠	37	28 O	[©] 25	×24"	<b>\$</b>	18	11	6	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
0-15	3	127	121	113	92	& [©] 8	, \$66	€_ <b>\$</b> 6	42	. <b>6</b>	32	23 🐧	20	17	16	10	11	<loq< td=""></loq<>
	4	159	175	89	~56)®	72	72	45	42	³⁴ 34	£ 25	24	13	13	13	7	<loq< td=""><td>6</td></loq<>	6
	mean	150	127	116	77	<b>%65</b>	81	58	<b>A</b> 2	33	29%	23	20	16	13	8	3	2
	1	n.s.	n.d. 🦠	₽n.d.	n.d	n.d	n.d.OS	» _{ <rb></rb> rod </td <td>&gt; 6 @</td> <td>8 , (</td> <td>≥ 6</td> <td>5</td> <td>7</td> <td>6</td> <td><loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td>	> 6 @	8 , (	≥ 6	5	7	6	<loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.	n.d.
	2	n.s.	nd	n.d. (	Pn.ď.	∂ <b>vi</b> ?d.	wad.	, ora.	<eoq< td=""><td>&lt;1,000</td><td>8</td><td>6</td><td>6</td><td>5</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></eoq<>	<1,000	8	6	6	5	n.d.	n.d.	n.d.	n.d.
15-30	3	n.s.	n.d.	n.d.	n.	n.d. 🔊	n.d.	9	6	LOQ	5	<loq< td=""><td><loq< td=""><td>6</td><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>6</td><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<>	6	<loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.	n.d.
	4	n.s.	<loq< td=""><td>n.d</td><td>₿n.d.</td><td>S)QOQ</td><td>nd.</td><td>"&lt;<b>₽</b>ØØ</td><td></td><td>6</td><td>n.d.</td><td><loq< td=""><td>7</td><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<></td></loq<>	n.d	₿n.d.	S)QOQ	nd.	"< <b>₽</b> ØØ		6	n.d.	<loq< td=""><td>7</td><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<>	7	<loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.	n.d.	n.d.
	mean	n.s.	<loq< td=""><td>w.d.</td><td>n.d.</td><td>S<loq< td=""><td>n.d.</td><td>21</td><td>3 51</td><td>4</td><td>5¹</td><td>31</td><td>5¹</td><td>41</td><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<></td></loq<>	w.d.	n.d.	S <loq< td=""><td>n.d.</td><td>21</td><td>3 51</td><td>4</td><td>5¹</td><td>31</td><td>5¹</td><td>41</td><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></loq<>	n.d.	21	3 51	4	5 ¹	31	5 ¹	41	<loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.	n.d.

mean ins. Low wa. in the Reconstitution of 2.



														-	<b>a</b>		<i>Q</i> , °	
Depth	Sub									MAA	<b>\</b>	Ĉ		2D	<i>,</i>		a d	,
[cm]	plot	0	0.1	0.25	0.5	0.75	1	2	3	4	5 _	<b>P</b> 6	8	<b>10</b>	12	<b>34</b>	100 C	18
	1	n.s.	n.d.	n.d.	n.d.	n.d.	<loq< td=""><td>n.d.</td><td>n.d.</td><td><loq< td=""><td>an@i.</td><td>n.d.</td><td>n.de</td><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>🤊 n.d.</td><td>n.d.</td></loq<></td></loq<></td></loq<>	n.d.	n.d.	<loq< td=""><td>an@i.</td><td>n.d.</td><td>n.de</td><td><loq< td=""><td>n.d.</td><td>n.d.</td><td>🤊 n.d.</td><td>n.d.</td></loq<></td></loq<>	an@i.	n.d.	n.de	<loq< td=""><td>n.d.</td><td>n.d.</td><td>🤊 n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.	🤊 n.d.	n.d.
	2	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d:60	n.d.	n.d.	~ (Pi.d.	<loq< td=""><td>jun de la comi</td><td>n Cet.</td><td>n.d.</td><td>n.d.</td></loq<>	jun de la comi	n Cet.	n.d.	n.d.
30-45	3	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	o k.d.	n.d.	n.d.	<loq< td=""><td>n.d. €</td><td></td><td>LOQ</td><td>,\$\text{LOQ}</td><td>n.d.</td></loq<>	n.d. €		LOQ	,\$\text{LOQ}	n.d.
	4	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d	n.d.	, JA.d.	<b></b> & OQ	~6.d.	<b>D.</b>	an G.	n.d.	n.d.
	mean	n.s.	n.d.	n.d.	n.d.	n.d.	<loq< th=""><th>n.d.</th><th>on.d.</th><th>√\$<b>L</b>OQ</th><th>ng Ĉ</th><th>n.d.</th><th><loq.< th=""><th>LOQ 4</th><th>n.d.</th><th>LOQ</th><th>LOQ</th><th>n.d.</th></loq.<></th></loq<>	n.d.	on.d.	√\$ <b>L</b> OQ	ng Ĉ	n.d.	<loq.< th=""><th>LOQ 4</th><th>n.d.</th><th>LOQ</th><th>LOQ</th><th>n.d.</th></loq.<>	LOQ 4	n.d.	LOQ	LOQ	n.d.
	1	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.d.O		n.d	n.d.	P.d.	<b>&amp; @</b> .d.	n.d.	a.	"n@i."	n.a.	n.a.
	2	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.d.	<b>®</b> .d.	nd.	n.dC	n.d.J	n.d.	n.d.	n.a.	©n.a.	n.a.	n.a.
45-60	3	n.s.	n.a.	n.a.	n.a.	n.a.	11.25.	n.d. V	n.d	n.d.	n.d.	20 P.d. (		101	ar.a.	n.a.	n.a.	n.a.
	4	n.s.	n.a.	n.a.	n.a.	n.a.	🦫 🖣 .a.	¶n.d.	n.đ.	giQt.	n.d.	n.d.C	n.d.		n.a.	∘ n.a.	n.a.	n.a.
	mean	n.s.	n.a.	n.a.	n.a.	n,a,V	n.a.	n.d.	n.d.	n.d.	A.d.	ુ જુનતે.	nat.	m.d.	D:9.	n.a.	n.a.	n.a.
	1	n.s.	n.a.	n.a.	n.a.	Ma.	On.a.	, on.a.	n.a.	a.a.	na	n.a.	n.a.	n.a.	(( ))	n.a.	n.a.	n.a.
	2	n.s.	n.a.	n.a.	ADA!	n.ao	n a 🎊	n.a.	n.a.	n.a.	n.a.	s 🏚 a.	NO.	n.a.	n.a.	n.a.	n.a.	n.a.
60-75	3	n.s.	n.a.	na.	n.a.	n a O	√n.a.	n.a.	n.a.	, mar 1	n.æ. 🥄	n.a, 🦃	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	4	n.s.	n.a.	rn.a.	n.a.	11.44	n.a.	n.a.	n.a.	v"n.a.	≸n.a.	in Da.	nga.	n.a.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.	n.a.	n.a.	n.a.	Ĉ¥n.a.	ூn.a.	grica.	n'sa.	næ.	n.a.	n.ą. 🐧	🎾 n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	1	n.s.	n.a.	n.a.	n.a	n.a	n.a.	n.a.	n.a.	پ n.a.	Çn.a.	m(a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2	n.s.	n.a.	n.a§	n.a.	√n.a.	₩.	nQ.	mad	n.a.	n.a.c	🎾 n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
75-90	3	n.s.	n.a. 🦠	©a.a.	na	n.a.	n.a.	⊳¹ n.a.		n.a.	n.ä.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	4	n.s.	næi	n.a. (	Dn.ä.	D.A.	an, a.	ъп.a.	n.a.	19.26°	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.	n.a.	n.a.	n.a.	n.a.	n.a. 🐧	on.a.	🏷 n.a. 🦼	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

MAA months after application, n.d. was used to distinguish those values less than the limit of detection (LOD), n.s. not sampled, n.a. not analysed, LOQ Dant of quantitation) = 1005 mg/kg (3 ppb), Replicate value > LOQ



Table 7.1.2.2.1- 97: Residues of M-01 (AE C653711) in soil from the California trial after an application of 400 g a sona (expressed as 100)

												<b>&gt;</b>		<u> </u>				
Depth	Sub									MAA	-4C		~ K^				9.7.	
[cm]	plot	0	0.1	0.25	0.5	0.75	1	2	3	4	<b>©</b> 5	6	© 88	10	" Bo	14%	16	18
	1	n.d.	9	11	8	9	10	n.d.	n.d.	_ <løq< td=""><td><loq< td=""><td>n.d.</td><td>™n.d.</td><td>n.d.</td><td>Ch.d.</td><td>Sn.d.</td><td>n.d.</td><td>n.d.</td></loq<></td></løq<>	<loq< td=""><td>n.d.</td><td>™n.d.</td><td>n.d.</td><td>Ch.d.</td><td>Sn.d.</td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	™n.d.	n.d.	Ch.d.	Sn.d.	n.d.	n.d.
	2	n.d.	7	12	10	13	12	n.d.	n.d. C	<loq< td=""><td>∘<loq_^< td=""><td>· .</td><td>∌ n.d.</td><td>n.d.</td><td>md)</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq_^<></td></loq<>	∘ <loq_^< td=""><td>· .</td><td>∌ n.d.</td><td>n.d.</td><td>md)</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq_^<>	· .	∌ n.d.	n.d.	md)	n.d.	n.d.	n.d.
0-15	3	n.d.	6	10	10	7	8	n.d.	~ 05.d₁.	₹ <b>©</b> Q	<100	n,a 🎾	n.d 🌎	n.d.	Qn.d.	Jon.d.	en.d.	n.d.
	4	n.d.	9	10	6	10	6	n.do	<lqq\< td=""><td>n.d.</td><td>&amp;LOQ /</td><td></td><td><b>%</b>_160≥d. ັ້</td><td>no.</td><td>n.de.</td><td>n.d. O</td><td></td><td>n.d.</td></lqq\<>	n.d.	&LOQ /		<b>%</b> _160≥d. ັ້	no.	n.de.	n.d. O		n.d.
	mean	n.d.	8	11	9	7	9	De.d.	<b>₹L</b> ØQ	≤I@Q	<1.00	n.d🄊	n.d.	n.d, 🛚	ீn.d.	√n.d.	n.d.	n.d.
	1	n.s.	n.d.	n.d.	n.d.	<loq< td=""><td><lq@< td=""><td>n.d</td><td>n.d. 💥</td><td>n.d.</td><td>LOQ</td><td>€¶.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></lq@<></td></loq<>	<lq@< td=""><td>n.d</td><td>n.d. 💥</td><td>n.d.</td><td>LOQ</td><td>€¶.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></lq@<>	n.d	n.d. 💥	n.d.	LOQ	€¶.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	2	n.s.	n.d.	n.d.	n.d.	<loq_< td=""><td><b>ĕ</b>ŁÖQ_</td><td>n.d NOQ</td><td>græði.</td><td>n.a.</td><td><lqq< td=""><td>n.g.</td><td>n.a.</td><td>On.d.</td><td>√n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></lqq<></td></loq_<>	<b>ĕ</b> ŁÖQ_	n.d NOQ	græði.	n.a.	<lqq< td=""><td>n.g.</td><td>n.a.</td><td>On.d.</td><td>√n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></lqq<>	n.g.	n.a.	On.d.	√n.d.	n.d.	n.d.	n.d.
15-30	3	n.s.	n.d.	n.d.	n.d.	n.d.̈́	n.d _O \$	n.d.	n.d.	n.d.	JALOQ ₂	Ŋĥ.ď.	MA.	n.d.The	n.d.	° n.d.	n.d.	n.d.
	4	n.s.	n.d.	n.d.	n.d.	(SEOQ	<b>J</b> OQ	Andr.	ncd.	n.d.	n.d.O	n.d.	n.d.	n.d.	Mr.d.	n.d.	n.d.	n.d.
	mean	n.s.	n.d.	n.d.	n.d.	<lqq<sup>®</lqq<sup>	~LQQ\$	n.d.	n.d.	⊘n.d. ⊿	<b>E</b> LOQ	ða.d.	الله المراجعة	n.d.	n.d.	n.d.	n.d.	n.d.
	1	n.s.	n.d.	n.d.C	n.d.	\ <b>G</b> .ď.	<b>D</b> OQ	n.d. CLOQ	and.	n.d.	n.el S	n.d. 👌	n.d.	≫n.ď.	n.d.	n.d.	n.d.	n.d.
	2	n.s.		∲n.d.	n C	n.d. 🖇	n.d.	LOQ	n.d.	Oĥ.d.	wir.d.	° fæd.	ncol.	n.d.	n.d.	n.d.	n.d.	n.d.
30-45	3	n.s.	n:QD	n.d.	n.d.	₩n.d.	Jild.	n.d.	nd i	n.d	<fo@< td=""><td>n.d.</td><td>ື້ n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></fo@<>	n.d.	ື້ n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	4	n.s.	n.d.	n.d.	n.đ [©]	n.d 🕏	n.d. 🖔	n.d.	n.d.	§ [©] n.d.	<b>⊘</b> LOQ	2 Od.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	mean	n.s.	n.d.	n.d҈√	n.d.	Ø.d.	<1.00	<1.00	nod.	n.d	<lqq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></lqq<>	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	1	n.s.	n.a.	®ã.	n.a.\$	n.a.	n.a.		n.d.	wir.d.	D.d.	n.d.	n.d.	n.d.	n.a.	n.a.	n.a.	n.a.
	2	n.s.	n.ao	n.a.	gra.	<b>@</b> .a.	, Dar	n d	nd	n.d.©	n.d.	n.d.	n.d.	n.d.	n.a.	n.a.	n.a.	n.a.
45-60	3	n.s.	√n.a.	n.a. n.a.	n.æ	n.a.	n.a.	n.d.	M.d.	ŊŴ.ď.	n.d.	n.d.	n.d.	n.d.	n.a.	n.a.	n.a.	n.a.
	4	p.s. 700	n.a.	n.a.	گn.a.	Ą ĥ.a.	niya.	n.dD	n.dr 🎾	n.d.	n.d.	n.d.	n.d.	n.d.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.	n.a.	'n,a.	n.a.J	n.a.,	n.a. 🦼	⊃ [©] ħ.d. 《	ူီn.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.a.	n.a.	n.a.	n.a.
	1	n.s.	n.a. 🌂	n.a.	n.a.	rea.		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2	n.s.	Ç©n.å.	n@.	n.a.	🥍 n.a. را	n.a. 💃	en.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
60-75	3	n sco	nag	⁰ n.a.	Ç 🛱 a.	POI.	n.ao	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	4 .	O.S.	Nea.	Mall	n.a	n.a.	Ďĥ.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.0	″ n.a. 🖒	o _{n.a.} ₃	"n.a.	n.aQ	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.



Depth	Sub									MAA	Ĉ			allo			<u>e                                     </u>	
[cm]	plot	0	0.1	0.25	0.5	0.75	1	2	3	4	5	6	8	10	12	₄ . 44	<b>36</b>	18
	1	n.s.	n.a.		©n.a.	n.a.	<b>B</b> , 81.	n.a.	n.a	n.a.	n.a.	n.a.						
	2	n.s.	n.a.	nga.	n.a.	n.a.C	⊮n.a.	n.a. 🎉	An.a.	Da.	n.a.	n.a.						
75-90	3	n.s.	n.a.	∜ n.a.	。n.a. 🦽	na.	n.a.	n.æ	n.a\\	n.a.	🧖 n.a.	n.a.						
	4	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	nr.a.	ng.	n,a3,®	n.a. @	n.a.	Cn.a.	On.a.	J.Pa.	n.a.	n.a.
	mean	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a@	n.a. 🦠	n.a.	⊵Ĝn.a.	√n.a.	na.	næ\$	n.a.O	n.ą. 🐧	n.a.	n.a.

MAA months after application, n.d. was used to distinguish those values less than the lam of detection (LOD)

n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Reploate value LOQ

Table 7.1.2.2.1- 98: Residues of M-02 (AE C657188) in soil from the California trial after an application of 400 g as./ha (expressed as ppb)

Donth	Sub				- 100° 1	O. J.	,	<del>\$</del>		∂MÁA	@Q*	200	TITTE	, C	)			
Depth	plot	0	0.1	0.35	C0.5 .	00.75		O WIL		JA 1	ey Fea	()>-			10	1.4	1.0	10
[cm]	piot	0	0.1	0.25	ງິ 0.5 ຼ∖	<b>₩</b> 0.75 §	O P I		20 3 ×	4	5, \$	0	9 8	<b>M</b> 0	12	14	16	18
	1	n.d.	9 🖠	\$8	< T-00	<loq< th=""><th><lqq\q< th=""><th>n.d</th><th>n.d.</th><th>On.d.</th><th>₩.d.</th><th>% A⊋d.</th><th>n-d</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th></lqq\q<></th></loq<>	<lqq\q< th=""><th>n.d</th><th>n.d.</th><th>On.d.</th><th>₩.d.</th><th>% A⊋d.</th><th>n-d</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th></lqq\q<>	n.d	n.d.	On.d.	₩.d.	% A⊋d.	n-d	n.d.	n.d.	n.d.	n.d.	n.d.
	2	n.d.	4,00	13	<loq< th=""><th>&amp; LOQ</th><th>SLOQ .</th><th>nd.</th><th>ngi."</th><th>n.d.</th><th>n.d.₹</th><th>n.d.</th><th>ື່∌ n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th></loq<>	& LOQ	SLOQ .	nd.	ngi."	n.d.	n.d.₹	n.d.	ື່∌ n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
0-15	3	n.d.	6	7	nd	n.d	_ <to&< th=""><th>n.d.</th><th>n.d.</th><th>€n.d.</th><th>on∙d.</th><th>, ga</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th></to&<>	n.d.	n.d.	€n.d.	on∙d.	, ga	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	4	n.d.	8	8	n.d. 🔪	₫ <b>%</b> ŁŎQ	J.d.	» Pod.	an.d.	n.d.C	n.d. $^{\circ}$	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	mean	n.d.	8		<loq<sup>®</loq<sup>	<loq<sup>©</loq<sup>	<loq< th=""><th>n.d. 🛭</th><th>n.d.</th><th>ส์ท.d.</th><th>"Jo.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th><th>n.d.</th></loq<>	n.d. 🛭	n.d.	ส์ท.d.	"Jo.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	1	n.s.	n.do	n.d.	Q a.d.	On.d.	on one of the contract of the	Jagdr.	nd	n.de	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	2	n.s.	∯n.d.	n.Đ	Oh.d. n.d.V	n.d.K	n.d.	n.d.	Ch.d.	Ø.ď.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
15-30	3	n.s. 👊	n.d.	n.d.	M.d. »	Syn.d.	nj.d.	ncd.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	4	n.s.	n.d.	n d	n.d.D	n.d	n.d. o	n.d.	🐎 n.ď.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	mean	n.s.	n.d. ∜	n.d.	₁ nvd.	<b>@.d.</b>	arai.	n.dD	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

ma ma production permitted



															,		<i>Q</i> , °	
Depth	Sub									MAA	Ĉ			3100			<u>.</u>	
[cm]	plot	0	0.1	0.25	0.5	0.75	1	2	3	4	5	6	8	10	12	(C)4	36	18
	1	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	©n.d.	n.d.	@.\e\.	n.d.	n.d	n.d.	n.d.	n.d.
	2	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	ngg.	n.d.	n.d.C	n.d.	n.d.	and.	Sp.d.	n.d.	n.d.
30-45	3	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<b>k</b>	。n.d. 🦽	n d.	n.d.	n.C	n d	n.d.	🔊 n.d.	n.d.
	4	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	Mid.	r.d.	n.d.O	n.d. ⊘	n.d.	n.d.	⊋ìv.d.	wild."	n.d.	n.d.
	mean	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.©	n.d	n.d.	on.d.	∢n∵d.	n,d. [™]	ndS	n.d.O	n.d.	n.d.	n.d.
	1	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	_{√C} P.ď.	g kid.	n d	n.d.Q	n.d	n.d.	∂⊳h.d.	. gn.a.	Pal.	n.a.	n.a.
	2	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.d. C	n.d.	n.d.	Çn.d.	aĥ.d.	n.ď	n.d. 🦫	n.a.	⊳″n.a.	n.a.	n.a.
45-60	3	n.s.	n.a.	n.a.	n.a.	n.a.	Nn.a.	Sp.d.	ad.	n.xd	n.d.O	n.d.s.	D [®] n.d.	⊙n.d.	]_n.a.	n.a.	n.a.	n.a.
	4	n.s.	n.a.	n.a.	n.a.	na S	n.a.s	n.d	II.u.	On.d.	n.d.	ÇĂ.	nd	n.d:	n.a.	∘ n.a.	n.a.	n.a.
	mean	n.s.	n.a.	n.a.	n.a.	∜n.a.	ŋ n.a.	n.d.	a.d.	n,de	n.do [©]	n.d.	n.d.	⊘ĭr.d.	""gya.	n.a.	n.a.	n.a.
	1	n.s.	n.a.	n.a.	nale	n.a.🔊	n.a	n.a.	n.a. a	n.a.	P.a.	and.	n.all	n.a.	n.a.	n.a.	n.a.	n.a.
	2	n.s.	n.a.	n.a	h⊌na ⊾	⊙n.a. ੍	⊿\J¥.a.	n.a.	a pa	n.a.	n.a. S	n.a.	On.a.	n.a. Vr.a.	n.a.	n.a.	n.a.	n.a.
60-75	3	n.s.	n.a.	an.a.	n a	n.a.c	n.a.	n.a.	n.a.	orna.	10.a.	y <b>r</b> ga.	n ak	n.a.	n.a.	n.a.	n.a.	n.a.
	4	n.s.	n a.c.	n.a.	n.a.	√¶.a.	In.a.	n.a.	n.a.C	n.a.\$	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.	n.ä.	n.a.	n,a	n.a	n.ag 🛚	n.a.	n.a.	⊘n.a.	na.	. ва	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	1	n.s.	n.a.	n.a.	Sh.a.	Jon.a.	a.a.	, real.	n.a.V	n.a.(	n.a. 🦠	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2	n.s.	n.a.	mall	n.a.C	n.a. 🔊	n.a.	n.a.	n.a.V	n.a.	NA.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
75-90	3	n.s.	n.a _© @		o∯i.a.	n.a. S		nga.	na.	11.4.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	4	n.s.	₄n.a.	n.©	n.a.J	n.a. 🍆	n.a. 🖔	n.a.	n.a.	Dea.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	mean	n.s. 👊	n.a.	n.a.	∂ <b>P</b> .a.	🌣 🕰 a.	nka.	nas	n.a. C	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.



Table 7.1.2.2.1- 99: Residues of fluopicolide in soil from the California trial after an application of 400 g a.s./ha (expressed as ppb)

											1	<u> G</u>	8					
Depth	Sub									MAA	4C	<i>P</i>	~K			\$ @ J	9	
[cm]	plot	0	0.1	0.25	0.5	0.75	1	2	3	4 4	©″ ₅	6		10	,1200	14	16	18
	1	71	102	54	68	146	120	115	84	£ 43°	52	70 C	[©] ″36	50	× 295	. CAT	45	42
	2	95	78	86	64	166	72	90	82 C	60	∘ 61	<b>3</b> 58	40		180	53	31	6
0-15	3	100	157	71	84	139	103	142	×314	60 E	74%	60 %	8 77 _{(C}	)≽ 82	~\Q32	~ 55°	<u>.</u> 31	21
	4	153	73	91	138	94	56	990E	n.d.	55 1	©69	80		<b>\$20[%]</b>	82 ©	70 ₆ C	34	28
	mean	105	103	76	89	95	88	√\$112	€ 65	, 52 ⁾	64		^{چې} 56 م	<b>62</b>	<b>≈</b> ∫\$9	~60°	8	7
	1	n.s.	n.d.	n.d.	n.d.	n.d.	n de	n.d.	n.d.\	n.d.	an.d.	m.d.	n.d.	n,d.	n.d _k X	n.d.	n.d.	n.d.
	2	n.s.	n.d.	n.d.	n.d.	n.d.	"\ A" →	n.d.	ød. ″	n.ä.	n.d.C	n.d.	n.d.	n.d. P.d.	and.d.	n.d.	n.d.	n.d.
15-30	3	n.s.	n.d.	n.d.	n.d.	n.d. n.d	n.d.	n.d.	n.d.	n.d.	1 %	n d	nal	n.d. 🛝	n.d	° n.d.	n.d.	n.d.
	4	n.s.	n.d.	n.d.	n.d.		√Jn.d.	ું જે તે તે	₩.d.	n d	11.0	n.d.	IIn.d.	Qur.d.	<b>\$1</b> 20.	n.d.	n.d.	n.d.
	mean	n.s.	n.d.	n.d.	"ŋ,d.	ŋ.d.	n.d.\$	n.d.	n.d.	⊘ n.d.	∘ Øaxd.	rôd.	n.d)	n.d	n.d.	n.d.	n.d.	n.d.
	1	n.s.	n.d.	n.d.O	u.d	On.d.	& EOQ	en.d.	aned.	n.d.	n.d	🖣 n.d. 🖟		Ŋn.d.	n.d.	n.d.	n.d.	n.d.
	2	n.s.	n.d. 🐒		n.d.	n.d.S	n.d:🍆	n.d.	n.d. 🐒	n.d. On.d.	wo.d.	n.D	n.d	n.d.	n.d.	n.d.	n.d.	n.d.
30-45	3	n.s.	war.	n.d.	n.d.	∜n.d.	⊕ard.	nd.	n.d.	n.d	n.d. ₹	n.d.	∮\$n.d.	n.d.	n.d.	<loq< td=""><td><loq< td=""><td>n.d.</td></loq<></td></loq<>	<loq< td=""><td>n.d.</td></loq<>	n.d.
	4	n.s.	n.d.	n.d.	nci.	n.d.\$	n.d.	n.d. «		_ĝ ©n.d.	<b>J. d</b> .	n. <b>6</b>	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	mean	n.s.	n.d.	n.do	ື້ n.d. ູ	Øn.d.	<b>SOCT</b>	ૂ ખાડી.	p.d.	n.d.	n.d.	∜n.d.	n.d.	n.d.	n.d.	<loq< th=""><th><loq< th=""><th>n.d.</th></loq<></th></loq<>	<loq< th=""><th>n.d.</th></loq<>	n.d.
	1	n.s.	n.a.	\$a.a.	n.as	n.a.	n.a.		n.d.	ું જોતે.d.	≅nΩt.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2	n.s.	n.xo©	n.a	n.a.		, <b>J</b>	, Da	n.e	n,d.⊘	n.d.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
45-60	3	n.s.	¶n.a.	n.a n.a.	na. na. On.a.	n.a	n.a.	n.d.	♥ĥ.d.	ŊŴ.ď.	n.d.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	4	p.s.	n.a.	n.a.	on.a. ∠	n.a Ju.a.	n.ä.	n.O.	n.d.D	n.d.	n.d.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.	n.a. 🦣	ħ.ä.	na	n.a.	e na. 🥒	n.d.	္တာn.d.	n.d.	n.d.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	1	n.s.	n.a. 🍆	n.a.	ir.a.	n.a.	, pp.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2	n.s.	c©n.a.	nga.	n.a	n.a.	n.a.	©n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
60-75	3	n and	n a j	n.a. 🤻	Çn.a.	~@.G.	niga."	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	4 ,	Ch.s.	©¥r.ä.		n.e.C	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.J.	n.a.💸	[™] n.a.	n.a.	n Q.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

OTE OTE



Depth	Sub									MAA		Ĉ		2D	) <del>&gt;</del>		- J	,
[cm]	plot	0	0.1	0.25	0.5	0.75	1	2	3	4	5 🎚	6	8	<b>10</b>	12	A. PA	196 July	18
	1	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	_ <	en.a.	n.a.	na.	n.a.	n.a.	n.a.	🥬 n.a.	n.a.
	2	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	no.	n.a.	n.a.	Oʻn.a.	n.a.	jî.a.	na.	n.a.	n.a.
75-90	3	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	。n.a.	n.a.	n.a.	n,a.⊘	n.a.	n.a.	₿n.a.	n.a.
	4	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n a.	nk.g.C.	n.a.J	n.a. 🔪	en.a.	√Ωa.	Ji.d.	n.C.	n.a.	n.a.
	mean	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a. Ó	n.a.	n.a.	e Av.a.	nca.	na,	n.a.S	n.a.	n.a.	∜n.a.	n.a.

MAA months after application, n.d. was used to distinguish those values less than the limit of detection (LOD) n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Reploate value LOQ

Table 7.1.2.2.1- 100: Residues of M-01 (AE C653711) in soil from the Washington trial after an application of 400 g.a.s./ha (expressed as ppb)

Depth	Sub			٨	ATONE.	- C - O-1	, \$	The s		⊗MAA	. E. P	90		, o	0 *			
[cm]	plot	0	0.1	9,25 ^C	0,5	<b>0.75</b>		<b>Q</b> "	20 B	4	5 .	<b>6</b>	80	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	12	14	16	18
	1	n.d.	n.d.,	<loq< td=""><td>100°</td><td>145</td><td>12</td><td>15,3</td><td></td><td>011</td><td></td><td>×7\$</td><td><lqq< td=""><td><loq< td=""><td><loq< td=""><td>6</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<></td></loq<>	100°	145	12	15,3		011		×7\$	<lqq< td=""><td><loq< td=""><td><loq< td=""><td>6</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<></td></loq<></td></lqq<>	<loq< td=""><td><loq< td=""><td>6</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<></td></loq<>	<loq< td=""><td>6</td><td>n.d.</td><td><loq< td=""></loq<></td></loq<>	6	n.d.	<loq< td=""></loq<>
	2	n.d.	ALTO THE	<loq< td=""><td>6 №</td><td>$^{\circ}$ 1</td><td>£13 .</td><td>√\$LOQ</td><td></td><td><lq\$< td=""><td>7 🛚</td><td><u> </u></td><td>, \$LOQ</td><td>8</td><td>n.d.</td><td>6</td><td>n.d.</td><td>n.d.</td></lq\$<></td></loq<>	6 №	$^{\circ}$ 1	£13 .	√\$LOQ		<lq\$< td=""><td>7 🛚</td><td><u> </u></td><td>, \$LOQ</td><td>8</td><td>n.d.</td><td>6</td><td>n.d.</td><td>n.d.</td></lq\$<>	7 🛚	<u> </u>	, \$LOQ	8	n.d.	6	n.d.	n.d.
0-15	3	n.d.	<loq< td=""><td><loq< td=""><td>ĈÑ9</td><td>18</td><td>1480</td><td>9</td><td>13</td><td>€13</td><td>01/8</td><td>.1000</td><td>7</td><td>15</td><td>6</td><td><loq< td=""><td>6</td><td>5</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>ĈÑ9</td><td>18</td><td>1480</td><td>9</td><td>13</td><td>€13</td><td>01/8</td><td>.1000</td><td>7</td><td>15</td><td>6</td><td><loq< td=""><td>6</td><td>5</td></loq<></td></loq<>	ĈÑ9	18	1480	9	13	€13	01/8	.1000	7	15	6	<loq< td=""><td>6</td><td>5</td></loq<>	6	5
	4	n.d.	<loq< td=""><td>65°</td><td>11</td><td>10-8</td><td><b>1</b>0</td><td>, <b>B</b>Î</td><td>n.d.</td><td>13%</td><td>13</td><td>S 14</td><td>13</td><td>10</td><td>9</td><td>7</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	65°	11	10-8	<b>1</b> 0	, <b>B</b> Î	n.d.	13%	13	S 14	13	10	9	7	<loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
	mean	n.d.	<loq< th=""><th>\$ 21 T</th><th><b>№</b></th><th>8.</th><th>12</th><th>9¹ @</th><th>91</th><th>(g) (g) 1</th><th></th><th>9</th><th><b>5</b>¹</th><th>81</th><th>41</th><th>5¹</th><th>21</th><th>11</th></loq<>	\$ 21 T	<b>№</b>	8.	12	9 ¹ @	91	(g) (g) 1		9	<b>5</b> ¹	81	41	5 ¹	21	11
	1	n.s.	nd [©]	n.do	n.d.	An.d.	Os.d.	Jagat.	nd	n.d.	5	6	<loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.	n.d.	n.d.	n.d.
	2	n.s.	∯ n.d.	Ĝr.d. ″	w.d.	n.d.C Gr.d.	n.d.	n.d.	Cn.d.	Ø.ď.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
15-30	3	n.s.	n.d.	n.d.		SH.d.	n.d.	nod.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<loq< td=""><td>n.d.</td><td>n.d.</td><td>n.d.</td></loq<>	n.d.	n.d.	n.d.
	4	n.s.	n.d.	₹.d.	n D	n.d	n.d.	n.d.	🔊 n.ď.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	mean	n.s.	n.d.∜ຶ	n.d.	n.d.	Ør.d.	grâd.	n.d	n.d.	n.d.	1 ¹	21	<loq< th=""><th>n.d.</th><th><loq< th=""><th>n.d.</th><th>n.d.</th><th>n.d.</th></loq<></th></loq<>	n.d.	<loq< th=""><th>n.d.</th><th>n.d.</th><th>n.d.</th></loq<>	n.d.	n.d.	n.d.



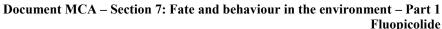
		1															<i>•</i>	
Depth	Sub									MAA		Ĉ		and C	,		- A	
[cm]	plot	0	0.1	0.25	0.5	0.75	1	2	3	4	5	6	8	9 10	12	~(@\P)	100 D	18
	1	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	€n.d.	6	næ	n.d.	n.d	n.d.	🤊 n.d.	n.d.
	2	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	nQd.	n.d.	n.d.	Õ'n.d.	n.d.	i de de	Ma.	n.d.	n.d.
30-45	3	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	🏿 n.d.	。n.d.	n.d.	n.d.	n.d.e	n d 🛝	™nd ⊭	₿n.d.	n.d.
	4	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	nd.	rede S	n.d	LOQ	en.d.	R.ď.	n.d.	n.Q.	n.d.	n.d.
	mean	n.s.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.©	n.d.	n.d.	_⊘ Ĥ.ď.	<b>2</b> **/	n.d.	ո.գ.%	n.d	n.d.	∜n.d.	n.d.
	1	n.s.	n.s.	n.a.	n.a.	n.a.	n.a.	_N P.a.	g ha.	n a	n₊a. ベ	Pn.d. a	ðn.a.	Ön.a.	an.a.	n@.	n.a.	n.a.
	2	n.s.	n.s.	n.a.	n.a.	n.a.	na 🦠	n.a.	n.a.	n.a.	%n.a.	nd. On.d.	n.a. ♥	n.a. 🛭	n.a.	Ø _{n.a.}	n.a.	n.a.
45-60	3	n.s.	n.s.	n.a.	n.a.		∜n.a.	Sp.a.	ansa.	n.x.	n.a.	On.d.	On.a.	Oñ.a.	an.a.	n.a.	n.a.	n.a.
	4	n.s.	n.s.	n.a.	n.a.	na.S	n.a.	11.6	11.4.	On.a.	nva.	n.C	n.a	n.a. 🕼	n.a.	。 n.a.	n.a.	n.a.
	mean	n.s.	n.s.	n.a.	n.a.	√ n.a.	n.ä.	n.G.	p.a.	n,200	n.a.	on.d.	ŊŴn.a.	yū.a.	ança.	n.a.	n.a.	n.a.
	1	n.s.	n.a.	n.a.	_N NA."	n.a	n.ag	n.a.	©n.a.	n.a.	Chai.	m _d O	n.a. TO On.a.	n.a.	O n.a.	n.a.	n.a.	n.a.
	2	n.s.	n.a.	n.a.	n.a.	on.a. ॄ	Dr.a.	nQa."	n ac	n.a.	n.a.	n.d.	On.a.	n.a.	n.a.	n.a.	n.a.	n.a.
60-75	3	n.s.	n.a.	n.a.	nya.	n.aÇ	n.a.	n.a.	n.a.	ora.	n a	n.d	n.a.L	n.a.	n.a.	n.a.	n.a.	n.a.
	4	n.s.	W. O.	n.a.	n.a. 🛚	∫on.a.	n.a.	∿n,a.	n.a.C	n.a.\$	n.a. 🛚	n.d.	¢gn.a. ⊤	n.a.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.	ń.a.	n.a.	"Жа.	n.æ	n.aç C	n.a.	n.a.	⊘n.a.	n.sa.	n.dS	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	1	n.s.	n.a.	n.a.	n.ą.	On.a.	ja.a.	, par	n.a.V	n.a.∢	n.a.	√n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2	n.s.	n.a.	SP.a.	nça.	n.a. 🕅	11.66.	n.a.	n.a.	na.	CINGLE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
75-90	3	n.s.	nae	n.a.	, n.a.	Pr.a.	<b>∂</b>	NGA.	na.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	4	n.s.	¶ n.a.	رثي.a. ه	nation	n.ax	n.a.	n.a.	na. Vii.a.	D.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.The	n.a.	n.a.	on.a.	ŵ.a.	χnκa.	nas	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

MAA months after application, n.d. was used to distinguish those values less than the limit of detection (LOD), n.s. not sampled, n.a. not analysed, LOQ Dant of quantitation) = 10005 mg/kg (3 ppb), 1 Reputate value > LOQ



Table 7.1.2.2.1- 101: Residues of M-02 (AE C6557188) in soil from the Washington trial after an application of 400 gas./ha (expressed as ppb)

		1										•	a f	- OP'	` •	- O.D.	OF THE PERSON	
Depth	Sub			1		T	ı	T		MAA	S.				4	<i>9</i>		
[m]	plot	0	0.1	0.25	0.5	0.75	1	2	3	410	້ 5	6	8	10	, <b>12</b>	1400	16	18
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	1	n.s.	n.d.	n.d.	n.d.	n.d.	<b>₽</b> d. □	n.d. n.d.	nadi.D	n.d.	n.d.	n.d.	n.d.	n.d.	n _d C	n.d.	n.d.	n.d.
	2	n.s.	n.d.	n.d.	n.d.	n.d. 🌂		n.d.	Şn.d.	₩.đ.	n.u.	n.à O	n.d. 🛚			n.d.	n.d.	n.d.
15-30	3	n.s.	n.d.	n.d.	n.d.	ìrd.	J. Et.	ing.	n d	n.d		on.d.	Pa.d.	n.d.	n dC°	n.d.	n.d.	n.d.
	4	n.s.	n.d.	n.d.	n.d	n.d	n.d. 👸	୬n.d.	€ n.d.	n.d.	n.d.	On.d.	n.d	n.d.	A M.d.	n.d.	n.d.	n.d.
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30-45	3	n.s.	ncd D	n.d.	n.d. ≪	n.d.	nd «'	≫n.d. 🍒	n da.d.	n.d. *	n.X	n.d. S	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
	4	n.s.	n.d.	n.d.		⊮n©d.	n-d	n.d.	n.d	,	n.d.	Ør.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
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45-60	3	n.s.	∂\$h.a.	n.a.	n.a. n.a. n.a.	n a	n at	n.a. ∜	n.a. 🔪	on.a.	n.a.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	4	ns.	n.a.	~		n.a.	√n.a.	n.a. On.a.	ania.	n.a.	n.a.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	mean	n.s.	n.a. "	Jua.	II)a	pa	n.an [©]	n.a.o	n.a.	n.a.	n.a.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	1	n.s.	n.a. 🌂	n.a.	n.a.	Cn.a.	Sh.a.	iP.á.	n.a.	n.a.	n.a.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2	n.s.	√Gr.a.	16 A.	na.	n.accide	n.a.	n.a.	n.a.	n.a.	n.a.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
60-75	3	n.sal	n,a.J		Ĉ″n.a. ∢	on.a.	On.a.	n.a.	n.a.	n.a.	n.a.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
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	mean	n.s.O	n.a. 🖒	O _{n.a.}	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.d.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.





																	<b>≥</b> , °	
Depth	Sub								]	MAA	Ĉ			athur.			<u> </u>	
[m]	plot	0	0.1	0.25	0.5	0.75	1	2	3	4		6	84	10	12	€ 14	<b>16</b>	18
	1	n.s.	n.a.	n.a.	n.a.	n.a.	Or.a.	n.a.	na	n.a	n.a.	n.a.						
	2	n.s.	n.a.	Opra.	n.a.	n _a o	n.a.	n.a.	n.a.	A Car.a.	n.a.	n.a.						
75-90	3	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.S	n.a. 。	n.a.	n.a.	n.a.	n@.	na	n.ax	n.a.	n.a.
	4	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	∮n.a.	n.a. SP.a.	1000 P	n ac	n.a.	O _{n.a.}	o [©] n.a.	& B.a.	n.a.	n.a.
	mean	n.s.	n.a.	n.a.	n.a.	n.a.	n.a.	næ,	n.a. 🎾	n.a.	n.a.	c [©] ń.a.	gn.a.	n S.	n,a,O [®]	n,ao\$	n.a.	n.a.

MAA months after application, n.d. was used to distinguish those values less than the limit of detection (LOD)

Ruthernore, this god of tation and the compercial exploitestion and the compercial exploitestion. and no nace this document or the therefore the rights of this document. The therefore the rights of and publication of the owner of this document may the owner of this document may the owner of the o MAA months after application, n.d. was used to distinguish those values less than the flam of detection (LOD) n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not analysed, LOQ (limit of quantitation) = 0.005 mg/kg (5 ppb), ¹Replicate value, ½ loQ n.s. not sampled, n.a. not sampled



#### C. Residues

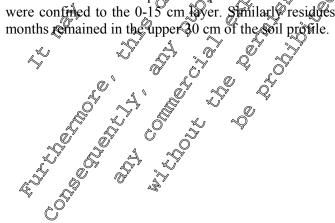
The predominate analyte during the dissipation phase in each of the four trials was the parent fungicide, fluopicolide. The major metabolite found at all four sites was M-01 (AE C653711). Trace levels of this metabolite (just above the LOQ of 0.005 mg/kg to 0.016 mg/kg) were generally seen within 0.25 months after application and continued at levels just above the LOQ for the duration of the experiment (except at the California location where residues of M-01 were not seen after the 6 month sampling interval). Trace levels (just above the LOQ of 0.005 mg/kg to 0.010 mg/kg) of the metabolite M-02 were seen in soils from three of the four sites early in the dissipation phase. Residues of M-02 were not seen after two months after application at any of the sites. Residues of the metabolite M-03 were not seen after two months after application at any of the sites. Residues of the metabolite M-03 were not seen after two months after application at any of the sites. Residues of the metabolite M-03 were not seen after the metabolite M-03 were not seen after two months after application at any of the sites. Residues of the metabolite M-03 were not seen after two months after application at any of the sites.

Residues of fluopicolide and its metabolites with time and depth in the Florida soil are presented in Table 7.1.2.2.1- 91 to Table 7.1.2.2.1- 93. Residues of parent fluopicolide and M-W (AF C6537)1) were mainly confined to the upper two layers in the soil profile (0-30 cm). Residues of fluopicolide were detected in one sub plot down to a depth of 60 to 75 cm one month after application but no residues were detected at the same time in the other three replicate subplots and visidues of fluopicolide on the following two time points were only detected in the top 30 cm of the soil profile. Residues of M-O1 were detected 8 months after treatment at depths of 30.45 cm in three of the four replicate subplots (maximum 0.005 mg/kg) and one of the four subplots it 45-60 m (maximum 0.007 mg/kg). Residues below this level were not detected or were below the LOQ in all subplots.

Residues of fluopicolide and its metabolities with time and depth in the Wisconsin soil are presented in Table 7.1.2.2.1- 94 to Table 7.2.2.2.1- 95. Residues of parent fluopicolide and M-64 were mainly confined to the upper soil layer in the soil profile (0-15 cm) with only trace amounts, generally less than limit of quantitation, detected in the second and third layers on sporadic occasions. No residues of M-02 or M-03 were detected throughout the trial at Wisconsin.

Residues of fluopicolide and its metabolites with time and deptloin the California soil are presented in Table 7.1.2.2.1-96. Table 7.1.2.2.1-98. In this trial trace amounts of M-02 (AE 657188), which is formed at the same time as M-01 through cleavage of the parent, were observed in the first month of the trial. These residues declined to below the limit of detection after 1 month whereas residues of M-01 were detected up to smooths after application. Residues were mainly confined to the upper soil layer in the soil profile (0-15 cm) with only trace arounts, generally less than limit of quantitation, detected in the second and third layers on sportatic occasions.

Residues of fluopicofide and its metabolites with time and depth in the Washington soil are presented in Table 7.1.2.2.1—99 to Table 7.2.2.1—101. Residues of fluopicolide and its metabolites were mainly confined to the upper softhayer in the soil profile (0.15 cm) with only trace amounts, generally less than limit of quantitation. Detected in the second and third layers on sporadic occasions. Residues of M-01 were detected in one subplicat a depth of 45-60 cm after 6 months but residues in the other three subplots were confined to the 0-15 cm layer. Similarly residues of M-01 in cores taken after 5 months and 8 months remained in the upper 30 cm of the soil profile.



W



#### D. Kinetic Analysis

The reported dissipation of fluoricolide and M-01, evaluated with the software ModelMaker, are shown below. The degradation kinetics determined in the report were not conducted according to FQCUS guidance document on degradation kinetics and are not acceptable for EU submissions.

Table 7.1.2.2.1- 102: Reported dissipation rates of fluopicolide and M-01 under field conditions

Trial Location	SFO DT ₅₀ (days)	SFO DT ₅₀ , normal	ised to 25 °C (Pays)
	Fluopicolide	Fluopicolide 🛴	7M-01 →
Florida	107	96 Q ^y	37,0
Wisconsin	231	105 O	
California	72	74.0	
Washington	315		

The trial site in California was considered representative for European climate constituous and soil properties but the other three sites were not DT and DT yalues for the degradation of Miopic wide have been re-calculated from the reported data for the Californian site following the recommendations of the FOCUS work group using the software KinGUI (version 21). Full details of the evaluation are provided in the summary for Document KC  $\times$  7.1.2  $\times$  . The resulting best-fit DT  $_5$  values for trigger endpoints are summarised below in Table 7.1.2.2.1-103. Best 5rt kinesics are highlighted in bold.

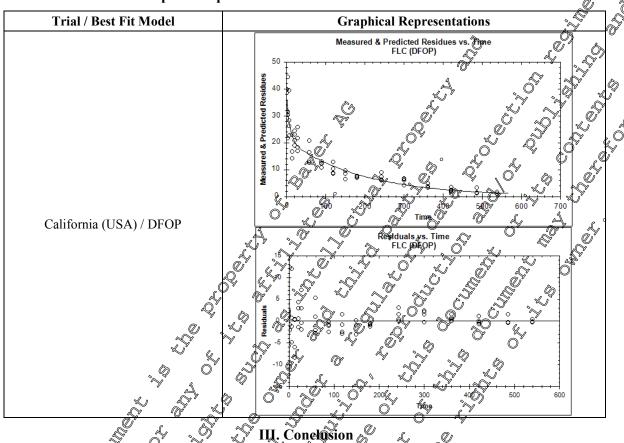
Table 7.1.2.2.1- 103: Re-evaluated degradation rate of Quopientide under field conditions (DT50 values for trigger endpoints)

			A 18 W	7,1 ' ' ' '		~( V	¥ . %	/	
Son	Kinetic model	Ma	Parameter /	error 7	Prob 🕸	Lower 0.007148	Upper	DT ₅₀ [days]	DT ₉ [day
	SFO K	,29.910	k 0:008943	19.3	9.8 <b>©</b> -15 Sn.r.	0.007148	0.011	77.5	257.
California (USA)	FOM	36.13	α 0.6687 β 17. <b>Φ</b> 8	1920 1920	⊅n.r. n.r.	0.4684 4.929	0.869 29.92	31.7	527
CA 7.1.2.2.1%, 2005)  Best fit model highlig	DFOR	37.55	k1 0.1191 k2 0.005296 g 0.4383	8.23	0.00 <del>18</del> 2 7.ØE-10 n.r.	0.04176 0:003827 0.3343	0.196 0.007 0.542	28	325
Best fit model highlig	ghted in bold		<b>35 0.1303</b>		<u> </u>	0.3343	U.J72		
Q Q				5					
4	0								
				,"					
	4								
	, / (								
			~						
			<b>~</b>						
			Q						
			~Q~						
California (USA), CA 7.1.2.2.1767, 2005)  Best fit model highlig			~Q~						



A graphical representation of the final kinetic fit is shown below.

Table 7.1.2.2.1- 104: Graphical representations of best fit model



Following a single application of fluopicolide at a rate of 400 g/kg to base soil planted with potatoes in summer 2001 the decline of fluopicolide and the formation and decline of its metabolites M-01, M-02 and M-03 was followed for up to 28 months at Jour locations throughout the United States.

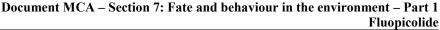
The metabolites M-01 (AE C53711) and M-02 (AE C657188) were detected in all soils. M-01 was detected at low concentrations in 0-15 cm 15-30 cm and at one or two occasions in the 30-45 cm soil depths. M-02 was detected only at early time points in the 0-15 cm depth. No residues of M-03 were detected throughout the study.

A re-evaluation of the degradation kinetics in accordance with FOCUS guidance document on degradation kinetics (2010), resulted in a best-fit DFOP un-normalised  $DT_{50}$  value of 28 days and  $DT_{90}$  value of 25.8 days for fluoricolide at the site in California, which was the only site considered representative for European climate conditions and soil properties.

# Assessment and conclusion by applicant:

The study is considered which in part to assess the dissipation of fluopicolide under field conditions in soil. The trial are in California was considered representative for European climate conditions and soil properties but the other three sites were not.

This trial site ments the requirements to assess field persistence of fluopicolide and its metabolites under EL 283/2013. The study is not suitable for assessing soil DegT_{50matrix} values as defined by EFSA 2014) for legacy field studies as the test plots were cropped and the design did not minimise soil surface processes. Experimental evidence has established plant uptake is significant for fluopicolide and a number of its metabolites including M-01.





Data Point:	KCA 7.1.2.2.1/18
Report Author:	
Report Year:	2019
Report Title:	Amendment no. 2 to final report - Terrestrial field dissipation study with BAMSC
	125 in Germany and the United Kingdom
Report No:	<u>M-647366-03-1</u>
Document No:	<u>M-647366-03-1</u>
Guideline(s) followed in	Regulation (EC) No. 1107/2009 of the European Parliament and of the Council of
study:	21 October 2009 including Data Requirements SANCO/11803/2010 Rev. 70 and
	Test Methods SANCO/11843/2010 Rev. 4
	EFSA Guidance Document for Evaluating Laboratory and Field Dissipation
	Studies to obtain DegT50 Values of Active Substances of Plant Protection
	Products and Transformation Products of these Active Substances in Soil, EPSA
	Journal 2014; 12(5):3662, 2014
Deviations from current	Yes. The trial site at Bursoheid (Germany) meets the requirement for assessing test
test guideline:	substance soil DegT50matrix values as required by EFSA (2004) for yeld studies.
	The endpoints may botoo conservative for comparison to field persistence criteria.
	and ecotoxicological risk assessment as required by EU 283/2012
Previous evaluation:	No, not previously submitted A A A A A A A A A A A A A A A A A A A
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes W S S S S S S S S S S S S S S S S S S

#### **Executive Summary**

Soil degradation of M-01 (AF-653/011) under Northern European field conditions was investigated after application of M-01 onto bate soil plots in Burscheid (Germany) and Great Chishill (United Kingdom).

BAM SC 125 is a suspension concentrate formulation, containing 125 gJr M-01. The formulation was sprayed once onto 450 sqm to 564 sqm plots at a rate of 0.8 L ha, corresponding to nominal 100 g/ha M-01. Subsequently the test item was incorporated by a rotary harrow to a target depth of 7 cm followed by rolling the soil surface.

Soil cores were taken 0 days before up to 744 days post-application to a maximum depth of 110 cm. The soil cores were but into 10-cm soil layers, bulked soil layers were homogenised and finally analysed for M-01.

Sub-samples of homogenised soil were extracted in a microwave extractor with organic solvent. Potential matrix effects were eliminated by using an internal standard solution of isotopically labeled reference terms added to sample extracts. Following separation of fine particles from soil extracts by centrifugation the identification and quantitation of the analytes was performed by high performance liquid chromatography using MS/MS detection in the multiple reaction monitoring mode. The analytical method was validated using three different soils. The limit of quantitation (LOQ) was 1.0  $\mu$ g/kg and the limit of detection (LOQ) was 9.3  $\mu$ g/kg for M-01.

At Burscheid (Germany), the mean amount of M-01 at day 0 was 108 g/ha, representing 108% of the nominal application rate. M-01 declined from 104 g/ha in soil at day 0 to 11.5 g/ha at day 701.

At Great Chisholl (United Kingdom), the mean amount of M-01 at day 0 was 59.8 g/ha, representing 60% of the nominal application rate. M-01 declined from 59.8 g/ha in soil at day 0 to 31.9 g/ha at day 744



Under field conditions M-01 residues were translocated up to 90 cm (Burscheid, Germany) and 110 cm (Great Chishill, United Kingdom) depth, whilst 67-100% (Burscheid, Germany) and 55-100% (Great Chishill) of residues remained in the top 0-30 cm at all timepoints. It is concluded there was some mobility of M-01 to deeper soil layers at the Burscheid trial but >97% of residues were detected in 0-100 cm soil depth. In contrast there was significant mobility of M-01 to deeper soil layers with only >80% of residues retained in 0-100 cm soil depth at the Great Chishill site. Consequently robust Deg Do values can be obtained for the compound from data from the Burscheid trial but according to ELSA (2014) the Great Chishill trial site is not acceptable to determine DegT values due significant leaching out of the sampled soil depths.

## I. Materials and Methods

#### **Materials**

#### **Test Item** 1.

AE C653711 (M-01) formulated as a suspension conc

Certificate of Analysis: 01865-90

Lot No: 2015-000656

2. Trial Location & Soil

A terrestrial field dissipation with M-01 (AE C653711) a suspension concentrate formulation, containing 125 g/L M-01 was conducted by two docations in Northern Europe. The flavo locations were odocations in a Great Chishtyl, assummarised in Tabusta at was prepared at least and the property of the control of the contro containing 125 g/L M-01 was conducted at two docations in Northern Europe. The two locations were , Burscheid (Germany) and Great Chishill, Cambrideshire (United Kingdom). The sites were fully characterised, and the esults Jumnarised in Table 7.1.2.2.1-109. The plot sizes ranged from 450 sqm to 564 sqm. The control plot was prepared at least 5 m ovay from the treated plots.

A terrestrial field dissipation study with fluoricolide was conducted concurrently at the same sites.



Table 7.1.2.2.1- 105: Location, site description and climatic data of test sites

Characteristic	Units		Sampling	depth [cm]	0
Characteristic	Units	0-30	30-50	50-75	75-100
Soil Designation	-			(Germany)	
Soil ID	-			G08 奏	
Geographic Location	-		Burscheid		
City					
Country				nany	
рН	CaCl ₂	5.3	5.6	5.6	× \$.6
Organic carbon	[% Carbon]	1.2	0.4 W	0.1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
CEC	[meq/100 g]	12.8	11.8	12,4	J 11,8
Chalk	[% CaCO ₃ ]	128	1458	124	( 10)
Particle size distribution (USDA)			23, 0		
Clay < 0.002 mm	%	21	23, @	Q ₁₉ \O'	2 13 V
Total silt 0.002 - 0.050 mm	%	61°	52,	Ø 430°	37
Total sand 0.050 - 2 mm	%	* <b>&amp;</b> \$	j <b>2</b> 9 _0	* 38	[*] 50
Textural class	USDA	sih√loam	sin loam O	loam S	Joan L
Water Holding Capacity	<b>*</b>		» A		
MWHC (pF 0.05)	Voly% ~	493	50%	45.9	3937
WHC at 0.1 bar (pF2)	<b>Y</b> 501 % &	<b>35</b> .2	r 25.9	<b>20</b> 0.3	<b>2</b> 9.9
Soil Designation	0'- "	S C	reat Chishilb (l		m) 🖔
Soil ID	Q* -		S'EN	IG®	
Geographic Location	, <del>S</del>				<b>V</b>
City		TO Y	Great Chishill,	Cambodgeshin	€
Country	W S	4 9	United I	Kingdom	
pH	O CaCD	© 7.2 °	7.5\$	₹ 7 <i>.7</i> %	7.6
Organic carbon	[% Carbon]	y 2,4 .	) 1.°Y «	)	0.5
CEC &	[m@q/100 g]	<b>38.9</b>	Ø6.1 €	· 99.9	17.4
Chalk	CaCO3]	\$ 1.3 \$	5.8	√ _y 37.9	43.1
Particle size distribution (USDA)	Pi 257 ~			<b>(2)</b>	
Clay < 0.002 mm	" % ~	/ <b>`4</b> /	<b>4</b> 5 , S	53	51
Total silt 0.002 0.050 mm		23	21	23	23
Total sand 0.000 - 2 pm	9 %	36	<u>34</u> ♥	24	26
Textural class	USIDA ?	Cla@	, clay	clay	clay
Water Holding Capacity					
MWHC pF 0.05)	Vol %	©60.8 [©]	57.2	52.6	49.5
WHC at 0.1 bar (pE2)	Ş৺ VǫlØs″	Z, ¹ 29. <b>2</b> ,	△° 27.9	25.3	25.9

#### B. Study Design

#### 1. Experimental Conditions

BAM SC 125 is a suspension concentrate formulation, containing 125 g/L M-01 (AE C653711). The product was sprayed onto bare soil once at each site at an application rate of 0.8 L/ha and 600 L/ha water, corresponding to 100 g/ha of M-01 during May 2015. Throughout the study no cultivation was carried out and the plots were maintained as bare plots by periodic application of a nonselective herbicide to control weeds.

Air temperature, precipitation including irrigation and sunshine data were recorded on site during the field tests.

Soil dissipation of Mol was studied for up to 744 days.



## 2. Sampling

The treated plot of each trial was divided into three sub-plots. From each sub-plot 10 soil cores were taken and combined together at each sampling interval (30 cores in total).

Samples were taken from treated plots on following occasions: 0 (post-application; each 0-10 cm depth), 7, 15 (each 0-60 cm depth), 21-22, 28-29, 63-68 (each 10-85 cm depth), and 21-135, 171-204, 259-307, 395-400, 436-470, 518-558, 605-670, 701-744 (each 0-110 cm depth) after treatment. Samples were taken from the control plot on the following occasions: 0 days before application 701 and 744 days after application.

Soil cores taken from the sites were deep frozen to -18°C within twenty-four hours after sampling then shipped frozen to the analytical laboratory in Germany.

# 3. Analytical Procedures

The analytical method 01445 was used to determine levels of M-01 (AE C65371). Soil samples of 5 g were extracted in a microwave extractor with a mixture of acconitrile water (4/1, 0v). The extracts were centrifuged to remove fine particles of the soil. Rossible matrix of fects of M-01 were eliminated by using an internal standard solution of isotopic labelled reference items. Quantification was carried out by LC-MS/MS. The limit of quantitation (LOO) for M-01 was 10 µg/kg in soil. The limit of determination (LOD) for M-01 was 0.3 µg/kg.

During analysis of samples, concurrent recovery samples were prepared fresho by fortification of control samples with test item M-01 at levels of LOQ, 16 x LOQ, 500 x LOQ and 1000 x LOQ and processed in parallel to the dissipation samples throughout the study. The results are summarised in the table below.

Single Values [%] Recoverges	For Offication  Level  [µg/kg]	Mean [%]	RSD [%]
82, 83, 84, 85, 85, 86, 86, 87, 87, 87, 87, 88, 88, 88, 88, 88, 88	1.0	99	10.9
114, 114, 115, 145, 116, 116, 116, 117, 117, 110, 117, 118, 118, 119, 119, 119, 120, 120			



Single Values [%]	No of Recoveries	Fortification Level [µg/kg]	Mean [%]	RSD [%]
82, 84, 86, 88, 88, 88, 89, 90, 90, 91, 91, 91, 91, 92, 92, 93, 94, 94, 94, 95, 95, 95, 95, 95, 95, 95, 96, 96, 96, 96, 96, 96, 96, 96, 97, 97, 97, 97, 97, 97, 97, 97, 97, 97	\$\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\frac{\partial}{\partial}\fraceta\frac{\partial}{\partial}\frac{\partial}{\partial}\parti			
114, 114, 114, 114, 115, 115, 115, 116, 116, 117, 117, 117, 117, 117, 119, 119, 120		√ <b>350</b> 00 ~~		Ş <u>-</u>
80, 85  Overall recovery	2 5 41 <b>5</b>	10000	83	9.5

RSD = Relative standard deviation

The validation of the extraction was carried out dueing the study with samples taken immediately after the application of the est substance.

# 4. Evaluation of the Data and Konetic Calculations

For evaluation of degradation kinetics of the test item according to the FOCUS guidance document on degradation kinetics, the total residue of the test item in the soil profile covering all soil horizons was calculated according to the following procedure:

- values between LODand LOQ were set to the measured values.
- values < LOD were set to 0.5 LOD for samples after, before or deeper as a value > LOD or for samples between (LOD and <LOQ). The curve was cut off after the first non-detect (< LOD), if no later value > LOQ followed.
- at day 0, varies < DOD in deep forizon were set to 0.

The results in [µg/kg] were converted to g/har considering the actual soil density of the corresponding soil layer.



### II. Results and Discussion

## A. Analytical Methodology:

Full details and acceptable validation data to support this method are presented in Document M-SA 4, Section 4.1.2. The method complies with the EU regulatory requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of M-01 in soil samples by HPLG-MS/MS.

#### B. Data:

The results for residues of M-01 in different soil depths are presented below (expressed as g/ha) Table 7.1.2.2.1- 106 to Table 7.1.2.2.1- 107.

At the Burscheid trial site, residues of M-01 were detected at concentration > LOC at soil depths down to 70 cm. The metabolite was detected in the 0-10 cm. 10-20 cm, and 20-30 cm soil horizons throughout the Burscheid trial. The maximum residue level in the 10-20 cm and 20-30 cm horizons were observed at DAT 121 at concentrations of 16.4 g/ha and 11.5 g/ha respectively (both Sobplots). In samples taken from DAT 63 to 701 days low residues were detected in the underlying 30-40 cm horizon at concentrations ranging from <LOD to 5.78 g/ha fin 40-50 cm 50-60 cm and 60-70 cm soil layers residues > LOQ were detected at DAT 121 and 1/1 only. In deeper soil layers (70-80, 80-90, 90-100 and 100-110 cm) no residues above the LOQ were detected.

It is concluded there was some mobility of Me 01 to deeper soil layers but \$97% of residues were detected in 0-100 cm soil depth (out of a total measured depth of 110 cm) and consequently robust Deg  $T_{50}$  values can be obtained for the compound from data from the Burschold trial.

At the Great Chishill trial site residues of M-01 were detected at concentrations > LOQ at soil depths down to 110 cm. The metabolite was detected in the 0-00 cm, 10-20 cm, 20-30 cm and 30-40 cm soil horizons throughout the Great Chishill trial. The maximum residue level in the 10-20 cm horizon was 19.3 g/ha at DAT 68 (Subplot 2), 5.43 g/ha at DAT 204 in the 20-30 cm horizon (Subplot 2) and 6.86 g/ha at DAT 470 in the 30-40 cm horizon (Subplot 3). In 40-50 cm, 50-60 cm, 60-70 cm and 70-80 cm soil layers residues LOQ were detected at DAT 135 to DAT 400 only and no residues > LOQ were detected in 80-90 cm soil layer, Towever in the deepest soil layers, 90-100 cm and 100-110 cm, residues at concentrations up to .53 g/ha (Subplot 1) and 6.79 g/ha (Subplot 2) were detected from DAT 135 to DAT 744.

The soil at Great Chishill is a heavy only loan over calcare ous clay. Chromatographic mobility is not expected in this soil however high levels of M-0 at soil depths were observed in two out of three subplots (Subplot 1 and 2) due to be pass flow in the heavy clay foil. It is concluded there was significant mobility of M-01 to deeper soil layers with only >79% of residues retained in 0-100 cm soil depth (out of a total measured depth of \$10 cm. According to EFSA (2014) the Great Chishill trial site is not acceptable to determine Deg0 values due to significant leaching out of the sampled soil depths.

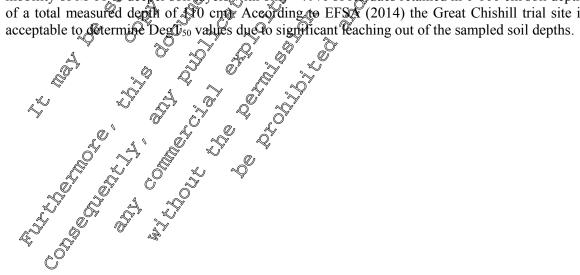




Table 7.1.2.2.1- 106: Residues of M-01 (AE C653711) in different soil depths from the Burscherd trial after an application of 100 g as /ha (copressed as g/ha)

ъ л	G .									Ő	2				
Depth	Sub		_					. 39	ŴT [™]		-0-		v (C)		-0.1
[cm]	plot	0	7	15	21	28	63	J21	1,71	259	395	<b>36</b>	<b>518</b>	<b>₹</b> 605	701
	T1	98.9	86.3	132	114	139	79.3	21.6	P 18.2 3	D~~11.8 €	8.63 C	) 7.71 ₀	5.6	3.36	3.31
0-10	T2	131	121	129	179	107	84,8	23.9	18.2	11.8	8.63 (C) 9.17	N 0 ⁷ C57	\$ 637.0°	\$.75 1.05	3.86
0-10	Т3	94.7	107	107	143	135	©\\$1.2 _€ §	23.1	17.0	2 ⁶ 13.4 ₂ 2	10.5	9.97	0.51	4.86	3.95
	mean	108.2	104.8	122.7	145.3	127.0	818	, 22,5	, 18 P	12.5	9.23	8.42	16,87	3.99	3.71
	T1	-	<lod< td=""><td><lod< td=""><td><lod< td=""><td>LOD</td><td>€⁹3.57 @</td><td>4.73 🐇</td><td>11.4</td><td>0 10.4</td><td>³6.96 €</td><td>5.82</td><td>3.93</td><td>3.53</td><td>3.23</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>LOD</td><td>€⁹3.57 @</td><td>4.73 🐇</td><td>11.4</td><td>0 10.4</td><td>³6.96 €</td><td>5.82</td><td>3.93</td><td>3.53</td><td>3.23</td></lod<></td></lod<>	<lod< td=""><td>LOD</td><td>€⁹3.57 @</td><td>4.73 🐇</td><td>11.4</td><td>0 10.4</td><td>³6.96 €</td><td>5.82</td><td>3.93</td><td>3.53</td><td>3.23</td></lod<>	LOD	€ ⁹ 3.57 @	4.73 🐇	11.4	0 10.4	³ 6.96 €	5.82	3.93	3.53	3.23
10.20	T2	-	<lod< td=""><td><lod< td=""><td>[0%]\$</td><td><lqd< td=""><td>4.00</td><td>8 4 6 8 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8</td><td>6.34</td><td>0 10.4</td><td>6.82</td><td>5.82</td><td>A.74</td><td>3.08</td><td>3.77</td></lqd<></td></lod<></td></lod<>	<lod< td=""><td>[0%]\$</td><td><lqd< td=""><td>4.00</td><td>8 4 6 8 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8</td><td>6.34</td><td>0 10.4</td><td>6.82</td><td>5.82</td><td>A.74</td><td>3.08</td><td>3.77</td></lqd<></td></lod<>	[0%]\$	<lqd< td=""><td>4.00</td><td>8 4 6 8 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8</td><td>6.34</td><td>0 10.4</td><td>6.82</td><td>5.82</td><td>A.74</td><td>3.08</td><td>3.77</td></lqd<>	4.00	8 4 6 8 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8	6.34	0 10.4	6.82	5.82	A.74	3.08	3.77
10-20	Т3	-	<lod< td=""><td><lod "<="" td=""><td><b>K</b>sLŐD <u></u></td><td></td><td>4.00° 4.00° 5.88</td><td>016.4</td><td>914.7</td><td>8.25</td><td>10 1 a</td><td>7.72</td><td>4.74 5.11</td><td>4.99</td><td>3.96</td></lod></td></lod<>	<lod "<="" td=""><td><b>K</b>sLŐD <u></u></td><td></td><td>4.00° 4.00° 5.88</td><td>016.4</td><td>914.7</td><td>8.25</td><td>10 1 a</td><td>7.72</td><td>4.74 5.11</td><td>4.99</td><td>3.96</td></lod>	<b>K</b> sLŐD <u></u>		4.00° 4.00° 5.88	016.4	914.7	8.25	10 1 a	7.72	4.74 5.11	4.99	3.96
	mean	-	<lod< td=""><td>&lt; LQQ</td><td>0.2</td><td><lqd< td=""><td>4 40</td><td>9,86</td><td>10.0</td><td>8.61°</td><td>7.90</td><td>6.19</td><td>4.59</td><td>3.87</td><td>3.65</td></lqd<></td></lod<>	< LQQ	0.2	<lqd< td=""><td>4 40</td><td>9,86</td><td>10.0</td><td>8.61°</td><td>7.90</td><td>6.19</td><td>4.59</td><td>3.87</td><td>3.65</td></lqd<>	4 40	9,86	10.0	8.61°	7.90	6.19	4.59	3.87	3.65
	T1	-	<lod td="" «<=""><td>(\$0.80) ·</td><td>&amp; LOD</td><td>XX LÓD</td><td>©0.841</td><td>3.66</td><td>7.83</td><td>8.16</td><td>[©]4.95 ¾</td><td>€⁹2.71</td><td>3.57</td><td>3.93</td><td>2.28</td></lod>	(\$0.80) ·	& LOD	XX LÓD	©0.841	3.66	7.83	8.16	[©] 4.95 ¾	€ ⁹ 2.71	3.57	3.93	2.28
20.20	T2	-	<rp> √rob g</rp>	<lqq< td=""><td>&lt; LOD</td><td>O CLODE</td><td>[0.98) [1.56]</td><td>6.<b>96</b>0</td><td>7.83</td><td>348</td><td>4.64</td><td>2.67</td><td>3.01</td><td>2.02</td><td>3.05</td></lqq<>	< LOD	O CLODE	[0.98) [1.56]	6. <b>96</b> 0	7.83	348	4.64	2.67	3.01	2.02	3.05
20-30	Т3	-	NO LOO	<lod< td=""><td>QLOD ,</td><td>K<lŏd .<="" td=""><td>[1.56]</td><td>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</td><td>§ 8.8</td><td>3.39</td><td>6.24</td><td>4.37</td><td>2.86</td><td>4.19</td><td>3.88</td></lŏd></td></lod<>	QLOD ,	K <lŏd .<="" td=""><td>[1.56]</td><td>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</td><td>§ 8.8</td><td>3.39</td><td>6.24</td><td>4.37</td><td>2.86</td><td>4.19</td><td>3.88</td></lŏd>	[1.56]	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	§ 8.8	3.39	6.24	4.37	2.86	4.19	3.88
	mean	-	> <lod< td=""><td>[0.27]</td><td><lqd (<="" td=""><td><l@10< td=""><td>[1.13]</td><td>7.07</td><td>6.78</td><td>4.20</td><td>5.08</td><td>3.25</td><td>3.15</td><td>3.38</td><td>3.07</td></l@10<></td></lqd></td></lod<>	[0.27]	<lqd (<="" td=""><td><l@10< td=""><td>[1.13]</td><td>7.07</td><td>6.78</td><td>4.20</td><td>5.08</td><td>3.25</td><td>3.15</td><td>3.38</td><td>3.07</td></l@10<></td></lqd>	<l@10< td=""><td>[1.13]</td><td>7.07</td><td>6.78</td><td>4.20</td><td>5.08</td><td>3.25</td><td>3.15</td><td>3.38</td><td>3.07</td></l@10<>	[1.13]	7.07	6.78	4.20	5.08	3.25	3.15	3.38	3.07
	T1	-	<lod td="" «<=""><td>* LOD</td><td>STOD</td><td>"KLÓD "</td><td>&amp; LOD</td><td>ŶF.08]</td><td><i>∝</i> 3.74</td><td>× 3.23</td><td>2.23</td><td>[1.92]</td><td>2.17</td><td>2.20</td><td>[1.21]</td></lod>	* LOD	STOD	"KLÓD "	& LOD	ŶF.08]	<i>∝</i> 3.74	× 3.23	2.23	[1.92]	2.17	2.20	[1.21]
30-40	T2	-	<lods< td=""><td>LOW.</td><td></td><td>LODÔ.</td><td>&lt; LOID</td><td>2.72</td><td>1.99</td><td>[1.15]</td><td>[1.35]</td><td>[1.20]</td><td>[1.54]</td><td><lod< td=""><td>[0.60]</td></lod<></td></lods<>	LOW.		LODÔ.	< LOID	2.72	1.99	[1.15]	[1.35]	[1.20]	[1.54]	<lod< td=""><td>[0.60]</td></lod<>	[0.60]
30-40	Т3	-	.≪ <b>®</b> OĎ	_ SIOD	A OD	TOD	[0.64]	5.78	2.59	[1.75]	2.40	[1.82]	[1.02]	[1.78]	[1.43]
	mean	- 4	< LOD &	O ELOPO	՝ <luŋ≱ td="" հ<=""><td><lod'></lod'></td><td>[0.21]</td><td>3,190</td><td>2.77</td><td>2.04</td><td>1.99</td><td>[1.65]</td><td>[1.58]</td><td>[1.33]</td><td>[1.08]</td></luŋ≱>	<lod'></lod'>	[0.21]	3,190	2.77	2.04	1.99	[1.65]	[1.58]	[1.33]	[1.08]
	T1	EUG-A	<lod< td=""><td>300</td><td></td><td>, LOD</td><td>&amp; LOD</td><td>[9.73] 2.42</td><td>2.50</td><td>[1.61]</td><td>[1.20]</td><td>[0.87]</td><td>[0.86]</td><td>[0.78]</td><td><lod< td=""></lod<></td></lod<>	300		, LOD	& LOD	[9.73] 2.42	2.50	[1.61]	[1.20]	[0.87]	[0.86]	[0.78]	<lod< td=""></lod<>
40-50	T2 🐧	<u> </u>	<lod @<="" td=""><td>- 30</td><td>D _ a (</td><td>₽ <lodç></lodç></td><td><lu32< td=""><td>2.42</td><td>[1.88]</td><td><lod< td=""><td>[1.29]</td><td>[1.00]</td><td>[0.91]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lu32<></td></lod>	- 30	D _ a (	₽ <lodç></lodç>	<lu32< td=""><td>2.42</td><td>[1.88]</td><td><lod< td=""><td>[1.29]</td><td>[1.00]</td><td>[0.91]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lu32<>	2.42	[1.88]	<lod< td=""><td>[1.29]</td><td>[1.00]</td><td>[0.91]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	[1.29]	[1.00]	[0.91]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
40-30	Т3	-	< <b>₹</b> ØD	- 10 200	e P	A DD	<b>₽</b> DD	3.69	2.62	[1.51]	[1.62]	[1.42]	[0.98]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	0	1 < LOD	<u> </u>	%	<lod<sub>0</lod<sub>	> <lod< td=""><td>2.28</td><td>2.33</td><td>[1.04]</td><td>[1.37]</td><td>[1.10]</td><td>[0.92]</td><td>[0.26]</td><td><lod< td=""></lod<></td></lod<>	2.28	2.33	[1.04]	[1.37]	[1.10]	[0.92]	[0.26]	<lod< td=""></lod<>
	T1	ALCO TE	<1 OD		Selfer	* Apop	<lod< td=""><td>[0.61]</td><td>2.10</td><td>[1.56]</td><td>[1.39]</td><td>[0.78]</td><td>[0.83]</td><td>[0.72]</td><td><lod< td=""></lod<></td></lod<>	[0.61]	2.10	[1.56]	[1.39]	[0.78]	[0.83]	[0.72]	<lod< td=""></lod<>
50-60	T2	K	L≫≪lOD ⊚	e ^y e	, × - ×	LOD	<lod< td=""><td>2.06</td><td>[1.85]</td><td>[0.97]</td><td>[1.52]</td><td>[0.72]</td><td>[0.86]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	2.06	[1.85]	[0.97]	[1.52]	[0.72]	[0.86]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
30-60	T3C	TOIL	< TOD	S		<lod< td=""><td>[0.99]</td><td>[1.88]</td><td>[1.86]</td><td>[1.37]</td><td>[1.57]</td><td>[1.07]</td><td>[0.89]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	[0.99]	[1.88]	[1.86]	[1.37]	[1.57]	[1.07]	[0.89]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	nean a	e	[ <lod_< td=""><td>) - V</td><td>C -</td><td><lod< td=""><td>[0.33]</td><td>[1.52]</td><td>1.94</td><td>[1.30]</td><td>[1.49]</td><td>[0.86]</td><td>[0.86]</td><td>[0.24]</td><td><lod< td=""></lod<></td></lod<></td></lod_<>	) - V	C -	<lod< td=""><td>[0.33]</td><td>[1.52]</td><td>1.94</td><td>[1.30]</td><td>[1.49]</td><td>[0.86]</td><td>[0.86]</td><td>[0.24]</td><td><lod< td=""></lod<></td></lod<>	[0.33]	[1.52]	1.94	[1.30]	[1.49]	[0.86]	[0.86]	[0.24]	<lod< td=""></lod<>



												<u> </u>		- O . °	
Depth	Sub							D	AT	Ĉ		allo			A.
[cm]	plot	0	7	15	21	28	63	121	171	259	3954	436	518©	60 <b>5</b>	701
	T1	-	-	-	-	-	-	<lod< td=""><td><b>√(©3</b>9]</td><td>[1.55]</td><td><b>4</b>[34]</td><td>[0.93]</td><td><b>(</b>10.92) ,</td><td>~ [PD 77]</td><td><lod< td=""></lod<></td></lod<>	<b>√(©3</b> 9]	[1.55]	<b>4</b> [34]	[0.93]	<b>(</b> 10.92) ,	~ [PD 77]	<lod< td=""></lod<>
60-70	T2	-	-	-	-	-	-	2.32		< LOD	[1.13]	<lod,≫< td=""><td>_<fod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></fod<></td></lod,≫<>	_ <fod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></fod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
00-70	Т3	-	-	-	-	-	<lod< td=""><td>[4⁸/₂5]</td><td>[1,52]</td><td>~[1.<b>5</b>8]</td><td>[1.69]</td><td>*[<b>&amp;</b>F7] .</td><td><u>[</u>][.37]</td><td><b>COD</b></td><td><lod< td=""></lod<></td></lod<>	[4 ⁸ / ₂ 5]	[1,52]	~[1. <b>5</b> 8]	[1.69]	*[ <b>&amp;</b> F7] .	<u>[</u> ][.37]	<b>COD</b>	<lod< td=""></lod<>
	mean	-	-	-	-	-	<lod ^<="" td=""><td>[1.42]</td><td>[1.29]</td><td>[®][1.04] €</td><td>[1.39]</td><td>0.70b</td><td>[0.76]</td><td>[0.26]</td><td><lod< td=""></lod<></td></lod>	[1.42]	[1.29]	[®] [1.04] €	[1.39]	0.70b	[0.76]	[0.26]	<lod< td=""></lod<>
	T1	-	-	-	-	-	00°2	, ≪ĽØĎ	~ [J.\$1]	[1,20]	[0.99]	SCOD	<b>[084]</b>	; SLOD	<lod< td=""></lod<>
70.00	T2	-	-	-	-	- ~	0° - 68	1.67	LOD «	O CLOB	< LOD	\ \ <lqd< td=""><td>[0.69]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lqd<>	[0.69]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
70-80	Т3	-	-	-	-	<u>,</u> \$	-0,2	[66 <u>8</u> 2]	< FOD	[132]	[1.97]	[1,09]	40,98]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	-	-	-	_ 8	- 13	C - 0	[0.87] 🛚		0.84]	$\mathbb{D}^{\mathbb{N}}[0.77]$ $\mathbb{C}$	[0.36]	[0.74]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	T1	-	-	-	i S	OF "	.V.	<1 @D		[103]	[0:63]	<1000 P	[0.75]	[1.04]	<lod< td=""></lod<>
00.00	T2	-	-	- 4	, to -	j - "	3 ⁰ - 4	PI.18]	FOLOD	LOD	LOD	<pre>LOD</pre>	0.62	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
80-90	Т3	-	-	1700e	- Oly		[1,019]	- ~~ - ~~~	6,2°		TARREL	_O	-	-	-
	mean	-	- 3		0 ² / ₂ - , (	100°-	Q0.34]	.√[10 391 .√[10 391	[0.37]	§ [0.34] _§	O (0.21) 🐒	Ç₹LOD	[0.46]	[0.35]	<lod< td=""></lod<>
	T1	-	, <u>-</u> 6	<u>-00</u>	- ~ ^ ^ ^	12 JU	JIDO.	<l@d< td=""><td>[0.70]</td><td>[032]</td><td><p@d< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></p@d<></td></l@d<>	[0.70]	[032]	<p@d< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></p@d<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
00 100	T2	- «		- Ora	*O-	£ - ,		ZELOD	LOD »	aa >> -	S <lod< td=""><td><lod< td=""><td>[0.63]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td>[0.63]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	[0.63]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
90-100	Т3	-	-	- _گ اپ	-6	. € @ _}	- 100 - 100	[0.78]	<100	[034]	[1.21]	[0.76]	[0.61]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	-	- «		302-	J	6 ⁶	Ŷ0.26]	<b>√</b> [0.23]	<b>√[0.49]</b>	[0.40]	[0.25]	[0.41]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	T1	-	- 6 ⁰	- 2	- 100	- 0	-0100	<lqd< td=""><td>&lt; LQA</td><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lqd<>	< LQA	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
100-110	T2	-	~ ·				op - ∞	~ <((())	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>[0.57]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>[0.57]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>[0.57]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td>[0.57]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	[0.57]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
100-110	Т3	- 4	- C		- 67		- 10 m	[0. <b>Q3</b> ]	<lod< td=""><td>[0.65]</td><td>[0.86]</td><td>[0.63]</td><td>[0.83]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	[0.65]	[0.86]	[0.63]	[0.83]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	I Was	-	300	N. CO.	1 K.	O\$-	~~[0.31]	<lod< td=""><td>[0.22]</td><td>[0.29]</td><td>[0.21]</td><td>[0.47]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	[0.22]	[0.29]	[0.21]	[0.47]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	T1 🐧	98.9	86.3	133	114	139	83.5	32.4	49.6	41.0	28.3	20.7	[19.5]	[15.6]	[10.0]
Cum	T2	131	1200	1200	114	907 125 - C	<b>89</b> .6	50.6	35.9	24.5	25.1	[18.1]	22.1	[8.85]	[11.3]
Sum	Т3	94.7	107 of	107	143	135	90.6	67.6	49.1	34.8	38.1	29.7	[20.1]	[15.8]	[13.2]
	mean	103	#1Q5	~ £33.	BE	. 127	87.9	50.2	44.9	33.4	30.5	22.8	[20.6]	[13.4]	[11.5]

LOD = 0.3 µg/kg equivalent to ca. no g/ha depending on soil moisture and density LOQ = 1.0 µg/kg equivalent to 1.9 g/ha depending on soil moisture and density Values in square brackets are values > LOD but < LOQ



Table 7.1.2.2.1- 107: Residues of M-01 (AE C653711) in different soil depths from the Great Chishill trial after an application of 100 g as // ha (expressed as g/ha)

		g,,	<u></u>						ar II				~~~~	000	
Depth	Sub							D.	ATO		) (C)	- <u>-                                  </u>	,5530	D9	
[cm]	plot	0	7	15	22	29	68	135 🗞	204	3070	400	470	,5 <b>5</b>	670	744
	T1	46.4	74.5	65.6	81.7	83.7	64	<b>31.4</b>	38.7	36.5	30.9	€26.5 ₃	\$22.7 9.33 ©	<b>23.3</b>	17.2
0-10	T2	62.3	80.5	67.7	75.9	67.3	45.8	16.6%	12.1	12.9	1155	7.2 <b>5</b> 0	9.33	7.7.1	7.72
0-10	Т3	70.8	72.2	64.2	68.2	69.1	58.8	1 23º/	~ & £.9	307.0 36.5 12.9 0 99.4	30.9 11.5 223.5	© 29.1	558 22.7 9.33 23.9 21.6	© 25.5	17.2
	mean	59.8	75.7	65.8	75.3	73.4	054.56 S	27.2	≥ ∠0. <u>4</u>	20.3	22 <b>,4</b> 0°	21.0\$	21,60	18.8	14.0
	T1	-	[0.98]	[0.81]	[1.02]	[b]1]*	11.9	8,48	<u> </u>	<b>4</b> 0.6	19.1		<b>9</b> .95	11.0	11.1
10-20	T2	-	<lod< td=""><td><lod< td=""><td><lod< td=""><td>LOD</td><td>© 19.3 @</td><td>9.8 ×</td><td>10.1</td><td>0_{8.23}</td><td>6.36 O</td><td>6.84</td><td>5.22</td><td>6.00</td><td>5.61</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>LOD</td><td>© 19.3 @</td><td>9.8 ×</td><td>10.1</td><td>0_{8.23}</td><td>6.36 O</td><td>6.84</td><td>5.22</td><td>6.00</td><td>5.61</td></lod<></td></lod<>	<lod< td=""><td>LOD</td><td>© 19.3 @</td><td>9.8 ×</td><td>10.1</td><td>0_{8.23}</td><td>6.36 O</td><td>6.84</td><td>5.22</td><td>6.00</td><td>5.61</td></lod<>	LOD	© 19.3 @	9.8 ×	10.1	0 _{8.23}	6.36 O	6.84	5.22	6.00	5.61
10-20	Т3	-	[0.87]	1.89	[1:46]	[1,62]	\$5.57°	7.98	26.2 13.1 10.1 8.35	8.23 0 8.23 0 8.01 0	19.1 6.36 © 6.85	<b>S</b> . 12	9:76	10.3	6.98
	mean	-	[0.62]	[0.90]	<b>[</b> [0.83]	[0.91]	Ĵ¶2.19 €	8.75	10.30 _e (	0.01.4	8.10		8.31	9.10	7.90
	T1	-	[1.14] <lod< td=""><td>[0.56]</td><td><lod< td=""><td><lod< td=""><td>2,00</td><td>2667</td><td>439</td><td><b>3,97</b></td><td>3.02</td><td>5.33</td><td>3.29</td><td>3.96</td><td>3.66</td></lod<></td></lod<></td></lod<>	[0.56]	<lod< td=""><td><lod< td=""><td>2,00</td><td>2667</td><td>439</td><td><b>3,97</b></td><td>3.02</td><td>5.33</td><td>3.29</td><td>3.96</td><td>3.66</td></lod<></td></lod<>	<lod< td=""><td>2,00</td><td>2667</td><td>439</td><td><b>3,97</b></td><td>3.02</td><td>5.33</td><td>3.29</td><td>3.96</td><td>3.66</td></lod<>	2,00	2667	439	<b>3,97</b>	3.02	5.33	3.29	3.96	3.66
20-30	T2	-	<lod td="" 🎘<=""><td>OFLOD 1</td><td>O LOD</td><td>XX LOD</td><td>04.66</td><td>\$ 2.23 °</td><td>5.43</td><td>5.14 aC</td><td>3.02</td><td>3.07</td><td>2.83</td><td>3.73</td><td>2.91</td></lod>	OFLOD 1	O LOD	XX LOD	04.66	\$ 2.23 °	5.43	5.14 aC	3.02	3.07	2.83	3.73	2.91
20-30	Т3	-	[0.73]	[0,72)	<lo<b>D</lo<b>	[0.73]	24.66 1.80	2000	5.43	4.4	( <del>)</del>	3.03	2.59	2.74	2.12
	mean	- «	<b>№</b> .62]	[0.43]	K\$LOD ॄ	<b></b>	<b>2.86</b>	<u>√</u> 2.60 (	<b>ॐ</b> 3.89 🛚 🛪	J. 3.87, €	3.24	3.81	2.90	3.48	2.90
	T1	-	" <lod< td=""><td><lqd< td=""><td>&lt;[_Q_</td><td><lq10< td=""><td>3,27</td><td>1.92</td><td>2,6\$</td><td>30</td><td>2.66</td><td>6.86</td><td>1.88</td><td>1.89</td><td>1.97</td></lq10<></td></lqd<></td></lod<>	<lqd< td=""><td>&lt;[_Q_</td><td><lq10< td=""><td>3,27</td><td>1.92</td><td>2,6\$</td><td>30</td><td>2.66</td><td>6.86</td><td>1.88</td><td>1.89</td><td>1.97</td></lq10<></td></lqd<>	<[_Q_	<lq10< td=""><td>3,27</td><td>1.92</td><td>2,6\$</td><td>30</td><td>2.66</td><td>6.86</td><td>1.88</td><td>1.89</td><td>1.97</td></lq10<>	3,27	1.92	2,6\$	30	2.66	6.86	1.88	1.89	1.97
30-40	T2	-	[0.64]	0.54]	<b>ÆŁ</b> OD	<b>4</b> 0.531 ⋅		2.15	£ 2.86	<b>2.24</b>	[1.55]	[1.10]	[1.16]	2.00	[1.19]
30-40	Т3	-	<lob< td=""><td><lob()< td=""><td><lod®< td=""><td><loid s<="" td=""><td>[1.10]</td><td>2.03</td><td>[1,39]</td><td>[0.99]</td><td>[0.85]</td><td>[0.56]</td><td>[0.67]</td><td>[0.99]</td><td><lod< td=""></lod<></td></loid></td></lod®<></td></lob()<></td></lob<>	<lob()< td=""><td><lod®< td=""><td><loid s<="" td=""><td>[1.10]</td><td>2.03</td><td>[1,39]</td><td>[0.99]</td><td>[0.85]</td><td>[0.56]</td><td>[0.67]</td><td>[0.99]</td><td><lod< td=""></lod<></td></loid></td></lod®<></td></lob()<>	<lod®< td=""><td><loid s<="" td=""><td>[1.10]</td><td>2.03</td><td>[1,39]</td><td>[0.99]</td><td>[0.85]</td><td>[0.56]</td><td>[0.67]</td><td>[0.99]</td><td><lod< td=""></lod<></td></loid></td></lod®<>	<loid s<="" td=""><td>[1.10]</td><td>2.03</td><td>[1,39]</td><td>[0.99]</td><td>[0.85]</td><td>[0.56]</td><td>[0.67]</td><td>[0.99]</td><td><lod< td=""></lod<></td></loid>	[1.10]	2.03	[1,39]	[0.99]	[0.85]	[0.56]	[0.67]	[0.99]	<lod< td=""></lod<>
	mean	-	.⊿®211	#n 181	~∭ŎD	<b>Q9.18</b> ]	5 × 20	© 2.05 📡	© 2.30	2.11	1.69	2.84	1.24	1.63	1.05
	T1	TOO!	- C	90000	<lon.< td=""><td>&lt; LOD</td><td>[1.16]</td><td>[1.69]</td><td>[1.33]</td><td>2.78</td><td>2.01</td><td>[1.82]</td><td>[1.10]</td><td>[1.50]</td><td>[1.11]</td></lon.<>	< LOD	[1.16]	[1.69]	[1.33]	2.78	2.01	[1.82]	[1.10]	[1.50]	[1.11]
40-50	T2	T. T.	-	90°	<b>SEOD</b>	<b>N</b> MOD	JY.47]	1 98]	[1.01]	[1.41]	[1.00]	[0.80]	[0.78]	[1.44]	[1.00]
40-30	Т3	~	- 1	- 100 21 P	<lod></lod>	¥ <lob®< td=""><td><lqb.< td=""><td>[0.74]</td><td>[1.31]</td><td>[0.74]</td><td>[0.61]</td><td>[0.58]</td><td><lod< td=""><td>[1.00]</td><td><lod< td=""></lod<></td></lod<></td></lqb.<></td></lob®<>	<lqb.< td=""><td>[0.74]</td><td>[1.31]</td><td>[0.74]</td><td>[0.61]</td><td>[0.58]</td><td><lod< td=""><td>[1.00]</td><td><lod< td=""></lod<></td></lod<></td></lqb.<>	[0.74]	[1.31]	[0.74]	[0.61]	[0.58]	<lod< td=""><td>[1.00]</td><td><lod< td=""></lod<></td></lod<>	[1.00]	<lod< td=""></lod<>
	mean	-	C. L.		(%) SUD		<b>[0</b> :88]	[1.14]	[1.22]	[1.64]	[1.21]	[1.07]	[0.63]	[1.31]	[0.70]
	T1	- TEDE	1 - 01		<lod lod="" lod<="" td=""><td>/<rb></rb>rods</td><td>&gt;&gt; <lod< td=""><td>[1.77]</td><td>[1.32]</td><td>[1.76]</td><td>2.55</td><td>[1.58]</td><td>[0.93]</td><td>[1.37]</td><td>[1.25]</td></lod<></td></lod>	/ <rb></rb> rods	>> <lod< td=""><td>[1.77]</td><td>[1.32]</td><td>[1.76]</td><td>2.55</td><td>[1.58]</td><td>[0.93]</td><td>[1.37]</td><td>[1.25]</td></lod<>	[1.77]	[1.32]	[1.76]	2.55	[1.58]	[0.93]	[1.37]	[1.25]
50-60	T2	CONTO IN	~ J +	~ C+ >	OD COD	, JOD	[0.70]	<lod< td=""><td>[0.86]</td><td>[1.21]</td><td>[0.97]</td><td>[0.77]</td><td>[0.97]</td><td>[1.28]</td><td>[0.62]</td></lod<>	[0.86]	[1.21]	[0.97]	[0.77]	[0.97]	[1.28]	[0.62]
	T3	- <u> </u>			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	<lod< td=""><td><lod< td=""><td><lod< td=""><td>[1.12]</td><td><lod< td=""><td>[0.84]</td><td><lod< td=""><td><lod< td=""><td>[0.62]</td><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>[1.12]</td><td><lod< td=""><td>[0.84]</td><td><lod< td=""><td><lod< td=""><td>[0.62]</td><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td>[1.12]</td><td><lod< td=""><td>[0.84]</td><td><lod< td=""><td><lod< td=""><td>[0.62]</td><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	[1.12]	<lod< td=""><td>[0.84]</td><td><lod< td=""><td><lod< td=""><td>[0.62]</td><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	[0.84]	<lod< td=""><td><lod< td=""><td>[0.62]</td><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td>[0.62]</td><td><lod< td=""></lod<></td></lod<>	[0.62]	<lod< td=""></lod<>
	mean			X Z	⊲DÖD	<lod< td=""><td>[0.23]</td><td>[0.59]</td><td>[1.10]</td><td>[0.99]</td><td>[1.45]</td><td>[0.78]</td><td>[0.63]</td><td>[1.09]</td><td>[0.62]</td></lod<>	[0.23]	[0.59]	[1.10]	[0.99]	[1.45]	[0.78]	[0.63]	[1.09]	[0.62]
	F. S.		1 "o	J. C											
	Colde	O. H.													
	<b>\times</b>		ay "												



												-3		·	
Depth	Sub							D	AT	Ĝ	- 4	OLO-	,		<b>&gt;</b>
[cm]	plot	0	7	15	22	29	68	135	204	307	4001	470	5.5 E	670	744
	T1	-	-	-	1	-	-	2.32	[ <b>C</b> 69]	[1.13]	<b>8</b> .14	[1.87]	<b>~</b> [0.89]	<b>P</b> 0.82]	[1.45]
60-70	T2	-	-	-	-	-	[1.55]	- 6	[0.86]	[1.41]0	[1.19]	< LQD	[1.130]	[1.38]	<lod< td=""></lod<>
00-70	Т3	-	-	-	-	-	-	O\$	[0,85]	[0.84]	<lod .<="" td=""><td><b>(20.72</b>] _a</td><td><b>S</b>ŁÓD</td><td><b>%</b>LOD</td><td><lod< td=""></lod<></td></lod>	<b>(20.72</b> ] _a	<b>S</b> ŁÓD	<b>%</b> LOD	<lod< td=""></lod<>
	mean	=	=	=	-	-	[0.52]	[0.77]	[1.13]	[1.13]@	[1.44] ^O	[0.8 <b>6</b> ]	[0.69]	[0.73]	[0.48]
	T1	=	=	-	-	-	OP TO	[86:0]		ALOD .	3.11	Ø.71]	POD C	<b>1</b> 9.58]	[0.79]
70-80	T2	=	-	-	-	- ~	O 2.77] §	,	LOD	P ^O [1.18]	< LODO	[0.64]	[0.90]	[1.08]	<lod< td=""></lod<>
/0-80	T3	-	-	-	1		-0-1		[0.02]	<b>≨</b> ¶OĎ	< <b>190</b> Ď	_ <1≥OD	NO BOD	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	-	-	-	- 3	- 1/2	<b>√</b> [0.92] @	0.33] 🛚	[0.50]	0.39]	[1.04]		[0.30]	[0.55]	[0.26]
	T1	-	-	-	i S	6 T			<1.00°	~ < 100 D	[1.04] [A.69] <lod< td=""><td><b>₫Ø</b>ĎĎ</td><td>LOD</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<b>₫Ø</b> ĎĎ	LOD	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
80-90	T2	=	-	-	,	1 - 6	JC "- ~	- ~ (	<b>2</b> 0.73] (	0.97]	LODO	[0.71]	<lod< td=""><td>[1.13]</td><td>[0.86]</td></lod<>	[1.13]	[0.86]
80-90	Т3	-	-	- 1700° s	- 9 ₇	,, \$			<1.00)	STOR.	~#@D	<l@ď< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></l@ď<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	=	- 3		O [®] (		0 - 40	<b>[</b> 0.48]	0.24]	§ [0.32] ₂ C	0.56 <u>}</u>	[0.24]	<lod< td=""><td>[0.38]</td><td>[0.29]</td></lod<>	[0.38]	[0.29]
	T1	-	- G	<u>-</u>	-22	12 JU	JID DE	3.50	[120]	[0 <b>\$</b> 5]	[[5]7]	[1.64]	[0.73]	[1.05]	[1.27]
90-100	T2	- «			<b>~</b> 0-	E - ~	<b>)</b>	3 ¹ - (	\$[1.41] _k	\(\sigma\) [1.38] \(\phi\)	[1.89]	2.68	[1.27]	2.41	2.41
70-100	T3	-	-	-,×	-\$	€ ® »		<u>.</u> .	<lød< td=""><td><pqqq< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></pqqq<></td></lød<>	<pqqq< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></pqqq<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	-	- «			4 - L	6 ⁶ - 1	Ŷř.17]	<b>%</b> [0.87]	<b>%</b> [0.78]	[1.02]	[1.44]	[0.67]	[1.15]	[1.23]
	T1	-	- ₆ 0	- 2	- 100	- 0	- 9000	5.380		[1.22]	[1.65]	3.02	[1.52]	[1.37]	2.86
100-110	T2	-	~ ·		er		JD -	~ <u>~</u> ~ ~	2.00	2.42	4.58	6.19	2.60	3.73	4.18
100-110	Т3	- 4	* - C		- FJ	- × Ž	- 16 ₇₀		<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>[0.89]</td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>[0.89]</td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>[0.89]</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>[0.89]</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>[0.89]</td></lod<></td></lod<>	<lod< td=""><td>[0.89]</td></lod<>	[0.89]
	mean	TO THE	-	30		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	0 [§] -	P.79]	[1.32]	[1.21]	2.08	3.07	[1.37]	[1.70]	2.64
	T1 🚿	¥46.4	76.6 \$	66.40	82.7	84.85	82. <b>2</b>	61.4	67.0	62.5	64.5	60.0	42.8	46.8	42.7
Sum	T2	62.3	80.1	68\2\cdot_	J\$ 9	71.20	<b>38</b> .7	31.8	37.4	38.2	32.1	30.0	26.3	31.9	25.9
Sum	Т3	70.8	↑ 73.8 🐧	66.8		71.2	62.3	47.2	43.9	38.2	34.8	42.1	45.9	40.5	27.2
	mean	508 T	<i>2</i> 77₀2	G.Y	<b>76</b> .1	. ~74.6	74.4	46.8	49.4	46.3	43.8	44.0	38.3	39.7	31.9

LOD = 0.3 µg/kg equivalent to ca. no g/ha depending on soil moisture and density LOQ = 1.0 µg/kg equivalent to 1.9 g/ha depending on soil moisture and density Values in square brackets are values > LOD but < LOQ



The dissipation of M-01 with time is presented Table 7.1.2.2.1-108 and Table 7.1.2.2.1-109. The values have been pre-processed according to the procedure described in FOCUS kinetics guidance (as described earlier). Actual values are given in brackets.

At Burscheid (Germany), the mean amount of M-01 at day 0 was 108 g/ha, representing 108% of the nominal application rate. M-01 declined from 104 g/ha in soil at day 0 to 11.5 gas at day 701. At Great Chishill (United Kingdom), the mean amount of M-01 at day 0 was 59.8 g/haprepresenting 60% of the nominal application rate. M-01 declined from 59.8 g/ha in soil at day 0 to 34.9 g/ha at day 44.

The dissipation of M-01 showed a biphasic behaviour in both trials. After treatment, M-01 dissipated in a first step faster followed by a second more slowly step until study to mination. Residues of M-D in control samples were < LOD for all samples taken.

Table 7.1.2.2.1-108: Residues of M-01 (AE C653711) in soil from the Burschend trial after an application of 100 g a.s./ha (pre-processed values according to FQCUS, expressed as g/ha)

						•	1 -	$C_{\rm D}$	W.	2	402	d.		. 0
Burscheid					Ą	,	ř D	VT ·	Q" 4		Q.	0"		Ŵ
(Germany)	0	7	15	21	28	63	124/ 35.0	170	259	§ 395	⁾ 436%	J 518 _√	605 ੂ	<b>7</b> 01
T1	98.9 (98.9)	87.5 (86.3)	134 (133)	115	(139)	(85.5 (83.5)	35.0 32.4)	<b>59</b> .9 49.6)	45.6 Ø#1.0)	28.9 (38.3)	22 <b>%</b> ( <b>2</b> 9.7)	20 (J.5)	17.6 (1 <b>&amp;</b> )6)	12.5 (10.0)
T2	131 (131)	122 (121)	130 (129)	<b>13</b> 0 (180),	108 (J-07)	91.5 (89.5)	51.4 (50.6)	37.0 (35.9)		26.0 (25 <del>5)</del>	الم (18.0)	22.8 % (22,1)	37	11.9 (11.3)
Т3	94.7 (94.7)	108 (107)	108 (107)	144 ² (143)	137 (1 <b>3</b> 5)	, 92.5 (90 <b>,6</b> )		\$1.6 (49.1)	, <b>&amp;</b> 4.8 (34.8)	&8.3 ₹38.1)	30.6 <b>(2</b> 9.7)	2©5 (20.1)	18.8 (15.8)	13.8 (13.2)
Mean	108 (108)	106 % (105)	124 (123)		\$\text{28}{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)_{(127)}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	<b>89.8</b> (87.9)	<b>51.3</b> (\$0.2)	46,5 (34.8)	34.1 (33.4)	31.1 (30.5)			16.5 (13.4)	12.7 (11.5)
Min	94.7 (94.7)	80.5 86.3)	1 <b>08</b> (107)	1 (5) (6) (4)	108	85.5 (83.5)	35.0 (32.4)	(350)	025.8 (24,5)	)	(21.4 (18.1)	20.1 (19.5)	13.1 (8.85)	11.9 (11.3)
Max	134 ³ (1 <b>3</b> 1)	123 (120)	134 ( (133)	, ⁹ 180 (18 <b>0</b> )⁄	140 (139%)	(90.6)	%7.6 (67.6)	\$1.6 (49.6)	40/.6 (41.0)	<b>38.3</b> (38.1)	30.6 (29.7)	22.8 (22.1)	18.8 (15.8)	13.8 (13.2)
n	$\mathbb{O}_3$	₹3	<b>&amp;3</b>	3	3	~3 [©]	35	3 🔘	- X	3	3	3	3	3
% of day 0	100 (100)	98 × (9 <b>7</b> 9	115 ×	) 134 (134	719 (118)	<b>®</b> 3	48 (46)	<b>4</b> 3 (41)	30 (31)	29 (28)	23 (21)	20 (19)	15 (12)	12 (11)

DAT = Days after treatment: TX = Treated Sobplot X with X = 1 to The actual values are given in brackets (expressed as g/ha) DAT = Days after treatment; IX = Treated Sopplot X with X = 1 to 3.



Table 7.1.2.2.1- 109: Residues of M-01 (AE C653711) in soil from the Great Chishill trial after an application of 100 g a.s./ha (pre-processed values according to FOCUS, expressed as g/ha)

														<b>O</b>
Great							DA	ΛT					7/	Y 1
Chishill (UK)	0	7	15	22	29	68	135	204	307	400	(A)	558	679	740)
T1	46.6 (46.4)	77.2 (76.6)	67.0 (66.4)	83.8 (82.7)	86.4 (84.8)	82.7 (82.2)	61.6 (61.4)	67.7 (67.0)	63.8 (62.5)	64.5 (64.5)	60.7 (60.0)		47.4 (46.8%	43.3 (42.7 <u>)</u>
T2	62.3 (62.3)	82.2 (81.1)	69.3 (68.2)	76.4 (75.9)	70.7 (67.8)	78.7 (78.7)	32.3 ( (31.8)		38.5 (38.2)	33.3 (32.1)	30.7 (30.0)	26.9 (26.3)	31.9 (\$1.9)	27 <b>%</b> ( <b>25</b> .9)
Т3	70.8 (70.8)	74.3 (73.8)	67.3 (66.8)	70.2 (69.7)	72.0 (71.2)	62.9 (62.3).	47.9 47.2)	44.4 (43.9)	40(3 (3 <b>Q</b> ,2)	35.5 (34.8)	43.5 (42.1)	47.7© (4 <b>5</b> .9)	<i>y</i> & ~	29.6 § (27.2§
Mean	59.8 (59.8)	77.9 (77.1)	67.9 (67.1)	76.6 (74.6)	76.1 (74.6)	74 <b>%</b> (74.4)	47.3 (46,7)			ଅଧି4.4 (43.7%	44.9 (44.0)	39.6 (38.3)	40.5 (39.7).	3 <b>%</b> .6 (31.9)
Min	46.6 (46.4)	74.3 (73.8)	67.0 (66.4)	70.2 (69.7)		©2.9 (62.3%)	\$\var2.3 (31.8)@	\$7.9 \$37.4)	38/5 Q38.2)	3303 (32.1)	30 <b>7</b> (30.0)	26,9 (26.3)	31 <b>.9</b> (3 <b>.</b> 09)	27.8° (25°)
Max	70.8 (70.8)	82.2 (81.1)	69.3 (68.2)	83.8 (82.7)	86.4 <b>(</b> \$4.8)	82.7 (82.2)	61.6 ⁷ (64.4)	67.0° (67.0)	63.8 (620s)	864.5° (64.5°)		~//	47.4 (46.85	(42.7)
n	3	3	3	3 0	3 🖔	y 3	§ 3 °	§ 3	₹3	J.			À	3
% of day 0	100 (100)	130 (129)	114 (112)	138 (127)	127 ( <b>9</b> 25)	125 (24)	79(%)	845 (8 <b>9</b> )	79 (7 <b>1</b> )	74 (78)	75 (740)	\$66 _~ (64)	*68 *(66)	56 (53)

DAT = Days after treatment; TX Treated Subplot X with X = 1 to 3.

The actual values are given in brackets (expressed as sha)

# III. Conclusion

Under field conditions M-01 declined moderately and residues were translocated up to 90 cm (Burscheid, Germany) and 110 cm (Great Chishill, United Kingdom) depth, whilst 67-100% (Burscheid, Germany) and 55-100% (Great Chishill) of residues remained in the top 0-30 cm at all timepoints.

Un-normalised DT₅₀ for the degradation of \$\hat{N}_01\$ calculated from the reported data for the trial at Burscheid Germany following the recommendations of the FOCUS work group details are provided in Document KCA 7.1.20.1/210 According to EFSA02014 the Great Chishill trial site is not acceptable to determine DegT₅₀ values due to agnificant leaching out of the sampled soil depths.

# Assessment and conclusion by applicant

The study is considered valid of assess M-00 soil DegT_{50matrix} values for field studies as defined by EFSA (2014) at the trial site in Burscheid Germany). The trial site at Great Chishill is not suitable to assess soil DegT_{50matrix} values as transport of M-01 residues to deeper soil layers occurred early in the study and residues were not fully contained within the sampled soil layers as required by EFSA (2014). The endpoints may be too conservative to assess persistence as the design minimized soil surface processes as required by EFSA (2014) and such processes may contribute to dissipation.



Data Point:	KCA 7.1.2.2.1/19
Report Author:	
Report Year:	2019
Report Title:	Amendment no. 1 to final report - Terrestrial field dissipation study with BAMSC
	125 in France (North) and France (South)
Report No:	15-2703
Document No:	<u>M-647370-02-1</u>
Guideline(s) followed in	Regulation (EC) No. 1107/2009 of the European Parliament and of the Council of
study:	21 October 2009 including Data Requirements SANCO/11803/2010 Rev. 70 and
	Test Methods SANCO/11843/2010 Rev. 4
	EFSA Guidance Document for Evaluating Laboratory and Field Dissipation
	Studies to obtain DegT50 Values of Active Substances of Plant Protection
	Products and Transformation Products of these Active Substances in Soil, EPSA
	Journal 2014; 12(5):3662, 2014
Deviations from current	Yes. Report meets the requirement for assessing fest substance foil Deg 50matex
test guideline:	values as required by FSA (2014) for field studies. The endrounts may be two
	conservative for comparison to field persistence criteria and ecotoxicological risk
	assessment as required by 283/2013.
Previous evaluation:	No, not previously submitted A
GT D /O OF 1 11	
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes W S S S S S S S S S S S S S S S S S S

# **Executive Summary**

Soil degradation of M-01 (AE-C653711) under both Northern European and Southern European field conditions was investigated after application of M-01 onto bare soil plots in Lignieres-de-Touraine (France) and St Etienne de Gres (Prance)

BAM SC 125 is a suspension conceptrate formulation, containing 125 gd. M-01. The formulation was sprayed once onto 400 sqn plots at a rate of 38 L/ha, corresponding to nominal 100 g/ha M-01. Subsequently the test item was incorporated by a rotany harrow to starget depth of 7 cm followed by rolling the roil surface.

Soil cores were taken 0 days before up to 714 days post-application to a maximum depth of 110 cm. The soil cores were but into 10-cm soil layers, bulked soil layers were homogenised and finally analysed for M-01.

Sub-samples of homogenised soil were extracted in a microwave extractor with organic solvent. Potential matrix effects were eliminated by using an internal standard solution of isotopically labeled reference from added to sample extracts. Following separation of fine particles from soil extracts by centrifugation the identification and quantitation of the analytes was performed by high performance liquid ohromatography using MS/MS detection in the multiple reaction monitoring mode. The analytical method was validated using three different soils. The limit of quantitation (LOQ) was 1.0  $\mu$ g/kg and the limit of detection (LOQ) was 9.3  $\mu$ g/kg for Nt-01.

At Lignieres De Touraine (France North) the mean amount of M-01 at day 0 was 86.2 g/ha, representing 86% of the nominal application rate. M-01 declined from 86.2 g/ha in soil at day 0 to 17.7 g/ha at day 699.

At St. Etienne du Gres (France South), the mean amount of M-01 at day 0 was 87.9 g/ha, representing 88% of the nominal application rate. M-01 declined from 87.9 g/ha in soil at day 0 to 8.09 g/ha at day 714.



Under field conditions M-01 residues were translocated up to 90 cm (Lignieres de Touraine, France North) and 50 cm (St. Etienne du Gres, France South) depth, respectively. It is concluded there was some mobility of M-01 to deeper soil layers in the Lignieres de Touraine trial but 100% of residues were detected in 0-100 cm soil depth (out of a total measured depth of 110 cm). In contrast M-01 was fully retained in topsoil layers at the St Etienne du Gres site. Consequently, robust DegT50 values can be

obtained for the compound from data from both trials.

I. Materials and Methods

A. Materials

1. Test Item

AE C653711 (M-01) formulated as a suspension concentrate (125g/L AE C63711)

Certificate of Analysis: 01865-00

Lot No: 2015-000656

2. Trial Location & Soil

A terrestrial field dissipation with M-00 (AE C653711) a suspension concentrate formulation, containing 125 g/L M-01 was conducted at two locations in Northern and Southern France. The two locations were Lignieres-de-Tolkaine (France Morthern 25 f). locations were Lignieres-de-Tograine (France, North) and Settienes du Gres (France et al.) and the results summarised in Table 7.42.2.12110. The sqm. The control plot was prepared at least 5 m away from the treated plots. locations were Lignieres-de-Todraine (France, North) and St Etienge du Gres (France, South). The sites were fully characterised, and the results submarised in Table 7.9.2.2.10110. The plot sizes were 400



Table 7.1.2.2.1-110: Location, site description and climatic data of test sites

Characteristic	Units		Sampling	depth [cm]	0
		0-30	30-50	50-75	75-1000
Soil Designation	-	I	Lignieres de To	uraine (Franc	e) 🔊
Soil ID	-		FR	109 奏	
Geographic Location	-				
City		37130	Lignieres de To	uralhe, Central	Region 🚿
Country			Fra	nîçe	
рН	CaCl ₂	5.9	6.5	6.8	°6.8
Organic carbon	[% Carbon]	0.8	0.4 W	0.3	0.5 °C
CEC	[meq/100 g]	12,2	13.2	14,70	21.8
Chalk	[% CaCO ₃ ]	902	03	<b>6</b> 5	Q 00°
Particle size distribution (USDA)			Q b	\$\tag{\frac{1}{19}}	
Clay < 0.002 mm	%	20° 15	→ 15, ©	₩ ₁₉ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	, \$\times 37, \$\tilde{\psi}'\$
Total silt 0.002 - 0.050 mm	%	15°	19,7	, © 250°	320
Total sand 0.050 - 2 mm	% c		J 66 .	× 56	30
Textural class	USDA∢	sandy loam	sandy loan	sandy loam	chay loams
Water Holding Capacity		. "Y" . "Y"	A.		
MWHC (pF 0.05)	Vo#‰ ₃	44,4	C 47% '	52.3	613
WHC at 0.1 bar (pF2)	<b>y</b> of % &	* \$\infty \.5 \tag{\chi}	<b>20</b> .6	<b>26</b> 6.1	39.1
Soil Designation	10 ₄ - %		St. Etienne du		Ò
Soil ID	Ó ·	2	S FR		
Geographic Location	**************************************				/
City	***	13003 St. 45t	ienne di Grès, Pr	ovence Alpes	Ĉôte d'Azur
Country	4, S	4 ~	√ % Fra	nce _	
pH 🛴	O Cach	Ø 7.7	, 7 <i>.</i> 7\$	7.88	7.8
Organic carbon	[% Carbon]	D 8 4	) 0.6 «	) <b>30</b> 06	0.4
CEC 🗸 🗸	[m@q/100 g	Ø1.7 ‰	¥1.7 &	×13.2	14.0
Chalk	€% CaŒ03]	42.1	42.10	√y 42.5	43.7
Particle size distribution (USDA)				71	
Clay < 0.002 mm	/ % ~	/ `29 S	ON S	39	43
Total silt 0.002 0.050 0m	% % g	√345 _∞	<u></u> \$\sqrt{47}	41	39
Total said 0.090 - 2 mm	% %	Q 26.	© 22, ©	20	18
Textural çlags	USADA ?	clay loam	, clay cam	clay loam	clay
Water Holding Capacity					
MWHC pF 0.05)	Vol %	Q46.2 [€]	√43.4	48.3	51.4
WHC at 0.1 bar (pF20)	Vol®	<b>₹</b> 25 <b>%</b>	△ 26.8	25.3	25.0

BAM So 125 is a suspension concentrate formulation, containing 125 g/L M-01 (AE C653711). The product was sprayed onto have each once at each site at an application rate of 0.8 L/ha and 600 L/ha water, corresponding to 1000 g/kg of M-01 duong May 2015. Throughout the study no cultivation was carried out and the plots were maintained as bare plots by periodic application of a nonselective herbicide to control weeds.

Air temperature, precipitation including irrigation and sunshine data were recorded on site during the field test.

was studied for up to 714 days.



## 2. Sampling

The treated plot of the trial was divided into three sub-plots. From each sub-plot 10 soil cores were taken and combined together at each sampling interval (30 cores in total).

Samples were taken on the following occasions: 0 (post-application; each 0-10 cm depth), 7, 13 (each 0-60 cm depth), 21, 28, 56-58 (each 0-85 cm depth), and 118-121, 166-167, 27-280, 348-322, 438-450, 519-531, 646-649, 699-714 (each 0-110 cm depth) after treatment. From the control plot samples were taken on the following occasions: 0 days before application, 699 and 314 days after application.

Soil cores taken from the three sites were deep frozen to -18°C within twenty four hours after sampling, then shipped frozen to the analytical laboratory in Germany.

# 3. Analytical Procedures

The analytical method 01445 was used to determine levels of M-01 (AE C653711) Soil samples of 5 g were extracted in a microwave extractor with a mixture of aceton trile water (A1, v/v). The extracts were centrifuged to remove fine particles of the soil. Possible matrix effects of M-01 were climinated by using an internal standard solution of isotopic labelled reference items. Quantification was carried out by LC-MS/MS. The limit of quantitation (LOQ) for M-01 was 1.0 rg/kg/m soil. The limit of determination (LOD) for M-01 was 0.2 µg/kg.

During analysis of the dissipation samples of the current study, concurrent recovery samples were prepared freshly by fortification of control samples with test item M-01 at level of LOQ, 10 x LOQ and 500 x LOQ and processed in parallel to the dissipation samples throughout the study. The results are summarised in the table below.

		<u> </u>	
Single Values [%] Recoveries	Fortification  Levely [µg/kg]	Mean [%]	RSD [%]
83, 83, 83, 83, 85, 86, 87, 87, 88, 88, 88, 88, 89, 89, 90, 90, 90, 90, 90, 91, 91, 91, 91, 91, 92, 92, 92, 93, 93, 93, 93, 94, 94, 94, 94, 94, 95, 55, 95, 95, 95, 96, 96, 96, 96, 96, 96, 97, 97, 98, 98, 98, 98, 98, 98, 99, 99, 99, 99	1.0	100	10.7
105, 105, 105, 405, 108, 108, 109, 109, 109, 110, 110, 100, 110, 110			



71, 81, 88, 88, 90, 90, 90, 91, 91, 92, 92, 92, 92, 94, 94, 94, 94, 95, 96, 97, 97, 97, 97, 97, 97, 97, 98, 98, 98, 99, 99, 99, 99, 99, 100, 100, 100, 100		Õ		D.
104, 104, 104, 104, 104, 105, 105, 105, 105, 105, 105, 105, 105	176	19		V Y
114, 114, 114, 114, 115, 115, 115, 115,				
Overall recovery		<b>50</b> 00 8	903	

RSD = Relative standard deviation

with samples taken immediately after The validation of the extraction was carried the application of the test substance.

# Evaluation of the Data and Kinetic Calculations



#### II. Results and Discussion

## A. Analytical Methodology:

Full details and acceptable validation data to support this method are presented in Document M.— 4 Section 4.1.2. The method complies with the EU regulatory requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of M-01 in soil samples by HPLQMS/MS

#### B. Data:

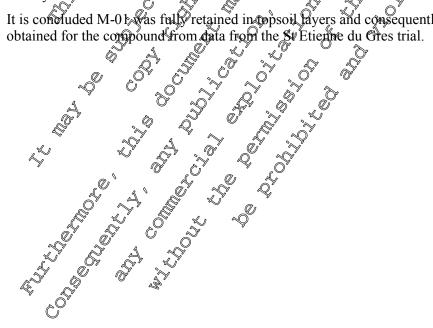
The results for residues of M-01 in different soil depths are presented below (expressed as giba) 7.1.2.2.-111 to Table 7.1.2.2.1-112.

At the Lignieres de Touraine (Northern France) trial site, residues of 100 vere detected at concentration > LOQ at soil depths down to 90 cm. The metabolite was detected in the 0-10 cm throughout the trial and from DAT 21 in the 10-20 cm and 20-30 cm soil horizons. The maximum residue level in the 10-20 cm horizon was observed at DAT, 120 ava concentration of 21.7 g/ha and in the 20-30 cm horizon at DAT 277 at a concentration of 2.4 g/ha. In samples taken from DAT 120 to DAT 699 low residues were detected in the underlying 30-40cm, 40-50 cm, 50-60 cm and 60-80 cm horizons at concentrations ranging from LQD to 9.9# g/ha in 60-90 cm 70-80 cm and 80-90 cm soil layers residues > LOQ were detected at DAT 166 & DAT 438 only. In the next layer (90-190 cm) no residues above the LOQ were detected and in the deepest soil layer (100-1100m) no residues above the LOD were detected 

It is concluded there was some mobility of Mo01 to deeper soil layers but \$600% of residues were detected in 0-100 cm soil depth (out of a total measured depth of 100 cm) and consequently robust DegT₅₀ values can be obtained for the compound from data from the Ligniere's de Kouraine trial

At the St Etienne du Gres (France, South) trial site residues of M-01 were detected at concentrations > LOQ at soil depths down to 30 cm. The metabolite was detected in the 0-10 cm and 10-20 cm soil horizons throughout the St Etienne du Gres trial. The maximum residue level in the 10-20 cm horizon was 10.0 g/ha at OAT 352. Low residues were detected in the 20-30 cm soft layer at concentrations from <LOQ to 3.42 ha and in the 30-40 cm soft layer at concentrations <LOQ from DAT 58. No residues</p> > LOD were detected in deeper soil layers with the exception of one finding < LOQ in the 30-40 cm soil layer at DAT 352.

It is consided M-01 was fully retained in the psoil Payers and consequently robust  $DegT_{50}$  values can be





Document MCA – Section 7: Fate and behaviour in the environment – Part 1 Fluopicolide

Table 7.1.2.2.1- 111: Residues of M-01 (AE C653711) in different soil depths from the Lignier de Touraine (Northern France) trial after an application of 100 g a.s./ha (expressed as g/ha)

	1													
Sub							. 92	<b>©</b> T [™]	, O	¥			»·	
plot	0	7	14	21	28	56		166		348	£38	<b>358</b> 1	<b>6</b> 49	699
T1	87.6	71.9	74.5	74.3	77.0	63.1	23.2	P 19.1 🔊	5.22	5.62	) 4.75 ₀ 0	4.55	2.14	2.15
T2	83.8	73.9	66.7	71.7	63.9	66,9	218	J65	6.44	5.39	<b>5</b> 5/16	584	<b>2.84</b>	1.94
T3	87.2	72.0	64.9	74.6	59.1	0 55.4 _E §	23.9	17.0	₽ [©] 6.45 _≥ @	5.58	5.04	4.46	2.15	2.24
mean	86.2	72.6	68.7	73.5	66.7	618	. 23.6	, 17,9°	6104	5.83	4.98		2.38	2.11
T1	-	<lod< td=""><td><lod< td=""><td>3.56</td><td>3.31</td><td>ر (1.72) و</td><td>21.7 💥</td><td>21.0</td><td>9.84 × (</td><td>³ 10.1 €</td><td>5.57_J</td><td>5.18</td><td>3.74</td><td>4.01</td></lod<></td></lod<>	<lod< td=""><td>3.56</td><td>3.31</td><td>ر (1.72) و</td><td>21.7 💥</td><td>21.0</td><td>9.84 × (</td><td>³ 10.1 €</td><td>5.57_J</td><td>5.18</td><td>3.74</td><td>4.01</td></lod<>	3.56	3.31	ر (1.72) و	21.7 💥	21.0	9.84 × (	³ 10.1 €	5.57 _J	5.18	3.74	4.01
T2	-	<lod< td=""><td><lod< td=""><td>4:06</td><td>2.23</td><td>[1,20]</td><td>140</td><td>1870</td><td>205</td><td>14,0</td><td>5 9 J</td><td>6.42</td><td>4.80</td><td>4.25</td></lod<></td></lod<>	<lod< td=""><td>4:06</td><td>2.23</td><td>[1,20]</td><td>140</td><td>1870</td><td>205</td><td>14,0</td><td>5 9 J</td><td>6.42</td><td>4.80</td><td>4.25</td></lod<>	4:06	2.23	[1,20]	140	1870	205	14,0	5 9 J	6.42	4.80	4.25
T3	-	<lod< td=""><td><lod _<="" td=""><td><b>K</b>LOD _</td><td>¶ [0.99]</td><td>J.\40.98]</td><td>012.3</td><td></td><td>9.05</td><td>£ 8.93</td><td>5.63 5</td><td><b>4</b>.14</td><td>4.14</td><td>3.88</td></lod></td></lod<>	<lod _<="" td=""><td><b>K</b>LOD _</td><td>¶ [0.99]</td><td>J.\40.98]</td><td>012.3</td><td></td><td>9.05</td><td>£ 8.93</td><td>5.63 5</td><td><b>4</b>.14</td><td>4.14</td><td>3.88</td></lod>	<b>K</b> LOD _	¶ [0.99]	J.\40.98]	012.3		9.05	£ 8.93	5.63 5	<b>4</b> .14	4.14	3.88
mean	-	<lod< td=""><td><fo< td=""><td>2.54</td><td>2.34</td><td>[1,30]</td><td>16,1</td><td>180</td><td>8.00°</td><td>100</td><td></td><td>5.25</td><td>4.23</td><td>4.05</td></fo<></td></lod<>	<fo< td=""><td>2.54</td><td>2.34</td><td>[1,30]</td><td>16,1</td><td>180</td><td>8.00°</td><td>100</td><td></td><td>5.25</td><td>4.23</td><td>4.05</td></fo<>	2.54	2.34	[1,30]	16,1	180	8.00°	100		5.25	4.23	4.05
T1	-	<lod td="" 🦠<=""><td>O DO</td><td>&amp; ŁOD</td><td>XX LÓD</td><td>@LOD @</td><td><b>%</b> 7.86</td><td>9.57</td><td>¥2 4</td><td>⊃^C9.74 ¾</td><td>€⁹4.67</td><td>4.24</td><td>3.42</td><td>3.11</td></lod>	O DO	& ŁOD	XX LÓD	@LOD @	<b>%</b> 7.86	9.57	¥2 4	⊃ ^C 9.74 ¾	€ ⁹ 4.67	4.24	3.42	3.11
T2	-	<rp> <rb></rb></rp>	< LQ100 /	[1.63]	[0.74]	< LQHQ	6. <b>96</b> 0 (	8,50	7.82	7.48	4.66	4.29	4.09	4.13
T3	-	OD LOS	<ĽŎD	QLOD ,	& <lod .<="" td=""><td><lod _<="" td=""><td>£6.39</td><td>₹ 7.18 ×</td><td><b>4</b>.93</td><td>å 4.98</td><td>3.53</td><td>2.26</td><td>2.72</td><td>3.13</td></lod></td></lod>	<lod _<="" td=""><td>£6.39</td><td>₹ 7.18 ×</td><td><b>4</b>.93</td><td>å 4.98</td><td>3.53</td><td>2.26</td><td>2.72</td><td>3.13</td></lod>	£6.39	₹ 7.18 ×	<b>4</b> .93	å 4.98	3.53	2.26	2.72	3.13
mean	-	>< LOD	<lode.< td=""><td>[0.54]</td><td>[0.25]</td><td>&lt; LODO</td><td>6.77</td><td>8.44</td><td>8.30</td><td>7.40</td><td>4.29</td><td>3.60</td><td>3.41</td><td>3.46</td></lode.<>	[0.54]	[0.25]	< LODO	6.77	8.44	8.30	7.40	4.29	3.60	3.41	3.46
T1	-	- «			J	6 - a	<b>%</b> .16	4.53	× 9.94	6.98	4.07	2.27	2.24	2.46
T2	-	- ₆ I	) - ₂ )	< LOD	< LODÔ		4.120	4.850	5.00	5.04	3.32	2.86	2.63	2.98
T3	-	~ ·				- ·	5.03		3.59	3.31	2.09	[0.95]	[1.43]	[1.58]
mean	- 4	) - C		SLOD D	<lod'></lod'>	- KJU	4.44	5.67	6.18	5.11	3.16	2.03	2.10	2.34
T1	BUILDE	-					2.80	2.63	7.64	6.42	3.86	2.20	[1.95]	2.26
T2 🚿	<b>~</b> -	- 🐧 🔮	- 10	>< LOD	<pre>CLOD()&gt;</pre>	^	2.66	3.20	4.84	5.15	3.43	2.42	2.06	2.57
T3	-	P. D. I.	Q.			970g	3.80	8.66	4.86	4.57	1.95	[0.90]	[1.08]	[1.24]
mean	0	1 - 3	,	<lod< td=""><td><lod< td=""><td><b>-</b></td><td>3.09</td><td>4.83</td><td>5.78</td><td>5.38</td><td>3.08</td><td>[1.84]</td><td>[1.70]</td><td>2.02</td></lod<></td></lod<>	<lod< td=""><td><b>-</b></td><td>3.09</td><td>4.83</td><td>5.78</td><td>5.38</td><td>3.08</td><td>[1.84]</td><td>[1.70]</td><td>2.02</td></lod<>	<b>-</b>	3.09	4.83	5.78	5.38	3.08	[1.84]	[1.70]	2.02
T1		 . 4 T	30 D			-	<lod< td=""><td>[0.96]</td><td>4.84</td><td>4.25</td><td>2.75</td><td>[1.40]</td><td>2.00</td><td>[1.37]</td></lod<>	[0.96]	4.84	4.25	2.75	[1.40]	2.00	[1.37]
T2	- "A	)	e" - "e	, ₹LOD%	LOD	-	[1.66]	[1.41]	3.77	3.81	3.28	2.40	[1.84]	1.94
				- OT			1.74	6.80	5.41	5.06	2.41	[1.45]	[0.99]	[1.12]
Mean a	e ⁰ ~		) - vo	&<ĽOD	<lod< td=""><td>-</td><td>[1.13]</td><td>3.06</td><td>4.67</td><td>4.37</td><td>2.81</td><td>[1.75]</td><td>[1.61]</td><td>[1.48]</td></lod<>	-	[1.13]	3.06	4.67	4.37	2.81	[1.75]	[1.61]	[1.48]
	## Plot  ## T1  ## T2  ## T3  ## mean  ## T1  ## T2  ## T3  ## T3  ## T1  ## T2  ## T3  ## T3  ## T3  ## T3  ## T4  ## T	plot         0           T1         87.6           T2         83.8           T3         87.2           mean         86.2           T1         -           T2         -           T3         -           mean         -           T1         -           T2         -           T3         -	plot         0         7           T1         87.6         71.9           T2         83.8         73.9           T3         87.2         72.0           mean         86.2         72.6           T1         - <lod< td="">           T2         -         <lod< td="">           T3         -         <lod< td="">           T1         -         <lod< td="">           T2         -         <lod< td="">           T3         -         <lod< td="">           T1         -         -           T2         -         -           T3         -         -           T2         -         -           T3         -         -           mean         -         -           T1         -         -           T3         -         -           mean         -         -           T1         -         -           T2         -         -           T3         -         -           T4         -         -           T3         -         -           T4         -         -</lod<></lod<></lod<></lod<></lod<></lod<>	plot         0         7         14           T1         87.6         71.9         74.5           T2         83.8         73.9         66.7           T3         87.2         72.0         64.9           mean         86.2         72.6         68.7           T1         - <lod< td=""> <lod< td="">           T2         -         <lod< td=""> <lod< td="">           T3         -         <lod< td=""> <lod< td="">           T3         -         <lod< td=""> <lod< td="">           T2         -         <lod< td=""> <lod< td="">           T3         -         <lod< td=""> <lod< td="">           T3         -         <lod< td=""> <lod< td="">           T4         -         <lod< td=""> <lod< td="">           T4         -         -            T3         -         -         -           T3         -         -         -           T4         -         -         -           T3         -         -         -           T4         -         -         -           T5         -         -         -           T4</lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<>	plot         0         7         14         21           T1         87.6         71.9         74.5         74.3           T2         83.8         73.9         66.7         71.7           T3         87.2         72.0         64.9         74.6           mean         86.2         72.6         68.7         73.5           T1         - <lod< td=""> <lod< td="">         3.56           T2         -         <lod< td=""> <lod< td="">         4.06           T3         -         <lod< td=""> <lod< td=""> <lod< td="">           T3         -         <lod< td=""> <lod< td=""> <lod< td="">           T2         -         <lod< td=""> <lod< td=""> <lod< td="">           T3         -         &lt;-</lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<></lod<>	plot         0         7         14         21         28           T1         87.6         71.9         74.5         74.3         77.0           T2         83.8         73.9         66.7         71.7         63.9           T3         87.2         72.0         64.9         74.6         59.1           mean         86.2         72.6         68.7         73.5         66.7           T1         - <lod< td=""> <lod< td="">         3.56         3.31           T2         -         <lod< td=""> <lod< td="">         4.06         2.23           T3         -         <lod< td=""> <lod< td=""> <lod< td="">         10.99           mean         -         <lod< td=""> <lod< td=""> <lod< td=""> <lod< td="">           T2         -         <lod< td=""> <lod< td=""> <lod< td=""> <lod< td="">           T3         - 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        4.0D         4.0D         3.56         33.1         17.2]         21.7         21.0         9.84         60.4           T2         -         4.0D         4.0D         4.0D         16.99         16.98         12.3         16.3         9.55           mean         -         4.0D         4.0D	plot         0         7         14         21         28         56         30         166         27         348           T1         87.6         71.9         74.5         74.3         77.0         63.1         23.2         19.1         5.22         5.62         5.62         72         83.8         73.9         66.7         71.7         63.9         66         24.8         16.6         644         5.39         17.0         6.45         5.58         5.58         5.58         66.7         73.5         66.7         612         23.9         17.0         6.45         5.58         5.58         604         5.33         17.7         21.0         9.84         10.1         6.05         5.58         604         5.33         11.72         21.7         21.0         9.84         10.1         6.04         5.33         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72         11.72	Pilot   0	Not	No



# Document MCA – Section 7: Fate and behaviour in the environment – Part 1 Fluopicolide

												<del></del>			
Depth	Sub		1	1		,	T		AT .	Ĉ-	Γ	O. T. L.		J. J. J. J.	<u> </u>
[cm]	plot	0	7	14	21	28	56	120	166	277	3484	438	53100	649	699
	T1	ı	-	-	-	-	-	ı	J COD	2.63	<b>2</b> :65	[1.66]	SLÓD ,	<b>P</b> 24]	[1.00]
60-70	T2	-	-	-	-	-	-	<lod©< td=""><td>0.93]</td><td>2.58°C</td><td>3.20</td><td>3.73</td><td>2.61</td><td>[1.51]</td><td>[1.98]</td></lod©<>	0.93]	2.58°C	3.20	3.73	2.61	[1.51]	[1.98]
00-70	Т3	-	-	-	-	-	-	[8 ⁹ 1]	2,53	3.50	5.19	<b>8.69</b> .	¥2.04	JP.18]	[1.69]
	mean	-	-	-	-	-	- 💥	[0.30]	[1.15]	[©] 2.90 €	3.68 C	3.03	[1.55]	[1.31]	[1.56]
	T1	-	-	-	-	-			~ Pop	<b>2.20</b>	2.1F	[6[89]	[O.85]	, ∂ <b>L</b> OD	[0.62]
70-80	T2	-	-	-	-	- ~	0¥ - £\$	LOD	LOD 4	[1.25] @		[1.43]	[0.90]	<lod< td=""><td>[0.71]</td></lod<>	[0.71]
/0-80	Т3	-	-	-	-	<u>0</u>	-0-1	[Q735]	[1:09]	2108	2.44	2.36	[ [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [	<lod< td=""><td>[0.80]</td></lod<>	[0.80]
	mean	-	-	-	- 8	- 1	( - ( )	0.25] 🛚	[0.57]	0[1.84]	Ĵ [™] 1.96 €	[1.56]	[1.02]	<lod< th=""><th>[0.71]</th></lod<>	[0.71]
	T1	-	-	-	1 6	6	10 <u>0</u>	LOD	<1.0B	[103]	[1:02]	<1000D	[0.53]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
80-90	T2	-	-		, to -			(LOD)	al OD a	0.79]	$\mathbb{C}^{\mathbb{Q}}[0.89]_{\mathbb{Q}}$	<lod<sub>2C</lod<sub>	LOD	<lod< th=""><th><lod< th=""></lod<></th></lod<>	<lod< th=""></lod<>
80-90	T3	-	-	7.TO	- O.J.	,,		[0,82]	1.79	[4,07]		[80.0]	[0.94]	<lod< td=""><td>[0.56]</td></lod<>	[0.56]
	mean	-	-		o ⁵	100°-	0,-	<b>%</b> [0.27]	[ [0.60] (	§ [1.14]	0[1.02]	©[0.33]	[0.49]	<lod< th=""><th>[0.19]</th></lod<>	[0.19]
	T1	-	, <u>-</u> 6	9100	- L	12 July	JIDOL		< I_OD	Ş <b>LØ</b> D	<p@d< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<></th></p@d<>	<lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""></lod<></th></lod<>	<lod< th=""></lod<>
90-100	T2	-		-	~ -	£ - ~	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	SELOD (	[0.77] 💥	\$\text{\$\delta\$}\delta\$.75]_@	S <lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
90-100	Т3	-	-	- , %	- \$	<b>€</b> ® ¹		[0,97]	[1,18]	[086]	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	ı	-			J	\$\frac{1}{2} \frac{1}{2}	Ŷ0.32]	<b>√</b> [0.65]	√[ð.54]	<lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""></lod<></th></lod<>	<lod< th=""></lod<>
	T1	ı	- _G V	- 2	- 100	- 0	900		< LQT	<lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""></lod<></th></lod<>	<lod< th=""></lod<>
100-110	T2	-	~~					~LOD	<pre>CLOD</pre>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
100-110	T3	- 4	- C		- FJ		- FD	<lqp< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lqp<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	TO THE	-	900		1 C	0\$-	² SPOD	<lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""><th><lod< th=""></lod<></th></lod<></th></lod<>	<lod< th=""><th><lod< th=""></lod<></th></lod<>	<lod< th=""></lod<>
	T1 🚿	87.6	71.9	74.5	77.9	80.3	64.8	59.7	57.8	55.8	48.9	28.2	[20.9]	[16.7]	[17.0]
Sum	T2	83.8	<b>73</b> .9	4 66 P	11.4	\$\frac{1}{2}\tag{7.2}	<b>68</b> .1	50.5	54.9	43.2	43.3	30.5	27.4	[19.8]	[20.5]
Suiii	T3	87.2	, 1 72 🚿	64.9	74.6	60,1	56.4	56.5	70.8	42.1	41.2	27.7	[18.8]	[13.7]	[15.7]
	mean	802 ¹	72,6	<b>₹</b> 8.7	<b>76</b> .6	s. ~69.2	63.1	55.6	61.2	47.0	44.5	28.8	22.4	[16.]7	[17.7]

LOD = 0.3 µg/kg equivalent to ca to g/ha depending on soil moisture and density LOQ = 1.0 µg/kg equivalent to 1.9 g/ha depending on soil moisture and density Values in square brackets are values > LOD but < LOQ

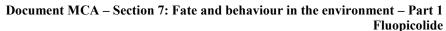




Table 7.1.2.2.1- 112: Residues of M-01 (AE C653711) in different soil depths from the St Etienne du Gres (France, South) trial after an application of 100 g a.s./ha (expressed as g/ha)

		8	(- 1		,				A IF.				~	" OF	
Depth	Sub							D	ATE T	40	O C T			D. S.	
[cm]	plot	0	7	14	21	28	58	118 💖	⁹ ~″167	2800	352	450	.519	646	714
	T1	89.6	78.3	67.8	68.7	69.9	50.9	<b>₫</b> 7.8	<u>2</u> 9.6	24.2	. 18.7	©9.54 _N	6.19	<b>X</b> 3.55	4.25
0-10	T2	78.2	77.9	72.7	70.9	79.6	59.5	38.8	29.6 26.7 V	22.Q &	" 22.7C	14.20	6.70	3.77	4.46
0-10	Т3	95.9	74.1	82.8	79.2	73.0	5 <b>6</b> .7	° 23.1	\$\$.4	280C 24:2 22:0 C 20:0 1:3	352 18.7 22.7 29.4 23.6	©\$\frac{1}{2.6}	C90.39 6	6.13	4.87
	mean	87.9	76.8	74.4	72.9	74.2	JY 55.7¢ 5	35.2	⊭ 3U.໘ \	€ 29.2≥©1	23,000	12.15	0.45	5.15	4.53
	T1	-	2.45	2.30	[1.06]	230 ×	7. <b>79</b>	2083	*3%6			<b>2</b> .78 ,	<b>33.3</b> 1	2.59	[1.30]
10-20	T2	-	2.59	2.36	2.89	♥ J.JU 🦠	5.62	3.08 ×	5.32	O" _{5.09}	7.28	5.211	2.45	[1.34]	2.36
10-20	Т3	-	[1.68]	<lod< td=""><td>[1:87]</td><td>[89]</td><td>5,94</td><td>2.08</td><td>5.32</td><td>\$17 5.09 545</td><td>6.58 7.28 © 7.00.0</td><td><b>4.35</b></td><td>3:04</td><td>[1.34]</td><td>[1.58]</td></lod<>	[1:87]	[89]	5,94	2.08	5.32	\$17 5.09 545	6.58 7.28 © 7.00.0	<b>4.35</b>	3:04	[1.34]	[1.58]
	mean	-	2.24	[1.55]	√1.94 <u> </u>	1 2.23 g			Ø 4.29 € (C	4.57, 3	7.95	4.11	2.93	[1.76]	[1.75]
	T1	-	<lod< td=""><td>&lt; LOD</td><td><lod< td=""><td></td><td>2,09</td><td>[132]</td><td>2.59</td><td>8,941</td><td>3.42</td><td>[1.25]</td><td>[1.67]</td><td>[1.37]</td><td>[0.78]</td></lod<></td></lod<>	< LOD	<lod< td=""><td></td><td>2,09</td><td>[132]</td><td>2.59</td><td>8,941</td><td>3.42</td><td>[1.25]</td><td>[1.67]</td><td>[1.37]</td><td>[0.78]</td></lod<>		2,09	[132]	2.59	8,941	3.42	[1.25]	[1.67]	[1.37]	[0.78]
20-30	T2	-	<lod td="" 🍃<=""><td>OLOD 1</td><td>O LOD (</td><td></td><td></td><td>∑×[1.25]</td><td>2.59</td><td>\$ 2.03 a</td><td>3.42</td><td>2.88</td><td>[1.66]</td><td>[1.20]</td><td>[1.54]</td></lod>	OLOD 1	O LOD (			∑×[1.25]	2.59	\$ 2.03 a	3.42	2.88	[1.66]	[1.20]	[1.54]
20-30	Т3	-	<ra>√rom</ra>	< L(41)>	<lod< td=""><td><i od<="" td=""><td></td><td>[Q.83]</td><td>[1:4]</td><td>[197]</td><td>7.95 (5) 3.42 (5) 471</td><td>1.95</td><td>1.85</td><td>[0.68]</td><td>[1.31]</td></i></td></lod<>	<i od<="" td=""><td></td><td>[Q.83]</td><td>[1:4]</td><td>[197]</td><td>7.95 (5) 3.42 (5) 471</td><td>1.95</td><td>1.85</td><td>[0.68]</td><td>[1.31]</td></i>		[Q.83]	[1:4]	[197]	7.95 (5) 3.42 (5) 471	1.95	1.85	[0.68]	[1.31]
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# Document MCA – Section 7: Fate and behaviour in the environment – Part 1 Fluopicolide

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	T1 🦠	89.6	80.8	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	69.6	72.2	62.0	32.0	35.7	28.5	28.9	13.6	11.9	9.51	[6.33]
Sum	T2	78.2	80)5	7521	73.8°	72.20	<b>3</b> 7.1	43.1	36.1	30.2	35.7	23.2	11.9	[6.31]	[9.36]
Suiii	Т3	95.9	1 75.8 of	82.8	81.1	73.9	64.2	42.0	41.7	48.1	42.8	18.9	12.1	[8.15]	[8.62]
	mean	\$70)°	79.0	75.8	<b>78</b> .8	. ~7 <b>6</b> .4	64.4	39.0	37.8	35.6	35.8	18.6	12.0	[7.99]	[8.10]

LOD = 0.3 µg/kg equivalent to ca. 20 g/ha depending on soil moisture and density LOQ = 1.0 µg/kg equivalent to 21.9 g/ha depending on soil moisture and density Values in square brackets are values > LOD but < LOQ



The dissipation of M-01 with time is presented in Table 7.1.2.2.1- 113 and Table 7.1.2.2.1- 114. The values have been pre-processed according to the procedure described in FOCUS kinetics guidance (as described earlier). Actual values are given in brackets.

At Lignieres de Touraine (France North), the mean amount of M-01 at day 0 was 86.2 g/ha, representing 86% of the nominal application rate. M-01 declined from 86.2 g/ha in soil at 1800 grant 1800 gra e would be the state of the sta 699. At St. Etienne du Gres (France South), the mean amount of M-01 of day 0 was 87.9 g/ha, 699. At St. Etienne du Gres (France South), the mean amount of M-01 ar day 0 was 87.9-gena, representing 88% of the nominal application rate. M-01 declined from 87.9-gena in soil at \$250, vog 8.00-gena at day 714. The dissipation of M-01 showed a biphasic behaviour in both trials. After neatment M-01 dissipated initially very rapidly within a couple of days followed by a second slower rate until study termination. avious followers representing 88% of the nominal application rate. M-01 declined from 87.9 g/ha in soil at day 0 % 8.09 g/ha at day 714. The dissipation of M-01 showed a biphasic behaviour in both trials. After treatment



Table 7.1.2.2.1- 113: Residues of M-01 (AE C653711) in soil from the Lignieres de Touraine (Northern France) trial after an application of 100g a.s./ha (pre-processed values according to FOCUS, expressed as g/ha)

								.0.					~ (O)	
Lignieres de							D	at!	å					
Touraine (N France)	0	7	14	21	28	56	120	166	279	348		\$34	<b>64</b> 9	699
T1	87.6 (87.6)	72.5 (71.9)	75.1 (74.5)	78.4 (77.9)	80.9 (80.3)	65.4 (64.8)	60.3 × 50	59.5 V	56.3 € (55%8)	49.4 °C (48.9)	28.70	21.5	17.3	17.5 (17.0)
T2	83.8 (83.8)	74.5 (73.9)	67.8 (66.7)	77.9 (77.4)	67.9 (67.2%)	© 88.7 (684) €	\$1.6 (50)\$)	56.6 (5 <b>4.0</b> )	43.8 (43.2)	43.8	31.0	28.0	20.3 (19.8)	21.0 (20.5)
Т3	87.2 (87.2)	72.6 (72.0)	65.5 (64.9)	75.2 (74.6)	(60,1) \$	\$6.9 (56.4)	\$7.2 (56.5)	71.3 (70.8)	(42.4)		28.2 (27.7%)	<b>19.3</b> (18.8)	14.8 (13.7)	16.8 (15.7)
Mean	86.2 (86.2)	73.2 (72.6)	69.5 (68.7)	77×2 (76.6)	<b>69.8</b> ∮ (69.2) €	\$3.7 \$(63.1)	56.4 (55.5)	62.5 (61.1), (	37.7 (47.0) S		29.3 (28.8)	\$2°.9 (22.3)	17.5 (16.7)	18.4 (17.7)
Min	83.8 (83.8)	72.5 (71.9)	65,000 (64.9)	75.20 74.6)	6067 (00.1)		546 (50.4)	56.8° (54.9),	<b>A29</b>	41.2) <u>*</u>	28.2 (27.7)	19.3 (18.7)	14.8 (13.7)	16.8 (15.7)
Max	87.6 (87.6)	74.5 (33.9)	75.40 (7 <b>4</b> .5)	78.4°> (37.8)	80.3	(68.1)	603° (39.7)	71.3 \$ (70.7)	.563 ~(35.7)	49k4 (48.8)	31.0 (30.4)	28.0 (27.4)	20.3 (19.7)	21.0 (20.5)
n	3	3	3	3	3 0	3 5 0	3	3.	370	3	3	3	3	3
% of day 0	100 (100)	85 (84)	810.80)	<b>490</b> ((89)	<b>8</b> 1 (80)	74 (73)	<b>65</b> (64)	73 (71)	<i>\$</i> <b>5√</b> ( <b>3</b> 5)	52 (52)	34 (33)	27 (26)	20 (19)	21 (21)

DAT = Days after treatment; TX = Treated Subplier X with X to 3. The actual values are given in brackets (expressed as g/ha)

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St Etienne du Gres							D	ATI		Receipt	۰ (		200	
(S. France)	0	7	14	21	28	58	118 💖	167	280~	352	450€,≥	519	646	714
T1	89.6	81.3	70.6	70.3	72.7	62.6	32.3 (32)	36.4 (35.7)	29.0	29.6	(13.6)	¥2.5 (11.9) ©	<b>LI</b> 0.1	6.85
1 1	(89.6)	(80.8)	(70.1)	(69.6)	(72.2)	(62.0)	32.3 (32)	8 (35.7) S	(28.5)	(28.9) ( [©]	(13.6)	(11.9) ©	(9.51)	(6.33)
T2	78.2	81.0	75.6	74.3	83.6	67.6	~43 <i>,6</i> °	367	30.8	36.3 (35.7)	23.7 (23.2)	C(11.9)	(6.31)	9.9 (9.36
	(78.2)	(80.5)	(75.1)	(73.8)	(83.1)	<b>67.1</b> )	<b>43.1)</b>	36.1)	Q30.2)	(35.7) ∂	(23.2)	(11.9)		`
Т3	95.9 (95.9)	76.3 (75.8)	83.4 (82.8)	81.6 (81.1)	74.4Q	64.2)	42.5	42.® (¥1.7)	48.7	43/4	19.4 ~(18.9)	126	8.71 (8.15)	9.17 (8.62)
		` /	/		76,9		20.5	20.5	2(2)				· /	` /
Mean	87.9 (87.9)	79.5 (79.0)	76.5 (76.0)	75.4 (7 <b>4</b> )8)	(76.4)	664.4)	39.5 (39.0)	38.5 ₀ (37.8)	36.2 ×	36.4 (35.8)	19.4	12.5 (12°.0)	8.56 (7.98)	8.64 (8.09)
	78.2	76.3	70.6	***	1 72.7 a	62.6_4	32.5	36.4			<b>X</b>	12.5	6.87	6.85
Min	(78.2)	(75.7)	(70ab	70.3 (69. <b>6</b> )	72.7	(6208)	(31,9)	(35:0)	(2805)	(2809)	(13.8)	(11.9)	(6.31)	(6.33)
Max	95.9	81.3	(Gr2 4				S 12 C	42.3	\$48.7 (48.1)	O ⁴ 3.4 %	€ ² 23.7	12.6	10.1 (9.5)	0.0 (0.25
Iviax	(95.9)	(80.8) €	(82.8)	(81.0)	(83.1)@	(67,10)	(43 10)	(41.7)	(48,1)	(42.8)	(23.2)	(12.1)	10.1 (9.3)	9.9 (9.33
n	3		Pr.	<b>√</b> 03 ″	£ 3	3		\$ 3			3	3	3	3
% of day 0  OAT = Days after treatn The actual values are given	100 (100)	90 (90)	87 (&Š¥	86 ( <b>8</b> 5)	87 <b>(87</b> )	74.473	454(424)	44/49/)	41 (3)	41 (41)	22 (21)	14 (14)	10	10
	()	1 (1 (1)					J. P - 1)			()	()	()	(9)	(9)
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ne actual values are give	CH III UIACK	a C	u as g/lia		0,1	90°	- Oga.	E Pr						
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#### III. Conclusion

Under field conditions M-01 declined moderately with residues translocated up to 50 cm (St. Etienne du Gres, France South) and 90 cm (Lignieres de Touraine, France North) depth, whilst 89-100% (St. Etienne du Gres, France South) and 47-100% (Lignieres de Touraine, France North) of residues remained in the top 0-30 cm at all timepoints. Un-normalised DT₅₀ for the degradation of Mol calculated from the reported data following the recommendations of the FOCOS work group details are provided in Document KCA 7.1.2.2.1/21.

# Assessment and conclusion by applicant:

The study is considered valid to assess M-01 soil DegT_{50matrix} values for field studies as defined by EFSA (2014). The endpoints may be too conservative to assess persistence as the design minimized soil surface processes as required by EFSA (2014) and such processes may contribute to dissipation.

Report Author:  Report Year:  Report Year:  Report No:  Couldeline(s) followed in study:  Amendment in C. No. 1107 2009 of the European Parliament and of the Council of 2100 ctober 2009 including Data Requirements SANCO(1803/2010 Rev. 7 and Lest Methods SanCO/1843/2010 Rep. 4  EFSA Guidance Document for Evaluating Laborators and Field Dissipation Studies to obtain DegT50 Values of Active Substances of Plant Protection Products and Transformation Products of these Active Substances in Soil, EFSA Journal 2014; 12(5):3662, 2014  Deviations from current test guideline:  Previous evaluation:  OLP/Officially  Previous evaluation:  OLP/Officially  Test, conducted under GLP/Officially recognised testing facilities  Acceptability/Reliability:  Yes		
Report Title:  Report No:  Report No:  Document No:  Guideline(s) followed in study:  Study:  Report No:  Document No:  Regort No:  Document No:  Regord No:  Document No:  Guideline(s) followed in study:  Regord No:  Document No:  Regord No:  Regord No:  Document No:  Regord No:  Document No:  Regord No:  No:  No:  No:  No:  A:  A:  A:  A:  A:  A:  A:  A:  A:	Data Point:	KCA 7.1.20.4/20 \$\infty\$ \$\infty\$ \$\infty\$ \$\infty\$ \$\infty\$ \$\infty\$ \$\infty\$
Report Title:  Report No:  Report No:  Document No:  Guideline(s) followed in study:  Study:  Report No:  Document No:  Regort No:  Document No:  Regord No:  Document No:  Guideline(s) followed in study:  Regord No:  Document No:  Regord No:  Regord No:  Document No:  Regord No:  Document No:  Regord No:  No:  No:  No:  No:  A:  A:  A:  A:  A:  A:  A:  A:  A:	Report Author:	
Report No:  Document No:  Guideline(s) followed in study:  Regulation & C) No 1107 \$909 of the European Parliament and of the Council of 21% ctober 2009 including Data Requirements \$24NCO 11803/2010 Rev. 7 and Test Methods \$24NCO 11803/2010 Rev. 4  EFS A guidance Document for Evaluating Laborators and Field Dissipation Studies to obtain DegT50 Values of Active Substances of Plant Protection Products and Transformation Products of these Active Substances in Soil, EFSA Journal 2014; 12(5):3662, 2014  Deviations from current test guideline:  Yes, Report meets the requirement for assessing test substance soil DegT50 matrix valoes as required by EFSA (2014) for field studies. The endpoints may be too conservative for comparison to field persistence criteria and ecotoxicological risk assessment as required by EU283/2013.  Previous evaluation:  GLP/Officially  Osc., conducted under GLP/Officially recognised testing facilities	Report Year:	
Report No:  Document No:  Guideline(s) followed in study:  Regulation & C) No 1107 \$909 of the European Parliament and of the Council of 21% ctober 2009 including Data Requirements \$24NCO 11803/2010 Rev. 7 and Test Methods \$24NCO 11803/2010 Rev. 4  EFS A guidance Document for Evaluating Laborators and Field Dissipation Studies to obtain DegT50 Values of Active Substances of Plant Protection Products and Transformation Products of these Active Substances in Soil, EFSA Journal 2014; 12(5):3662, 2014  Deviations from current test guideline:  Yes, Report meets the requirement for assessing test substance soil DegT50 matrix valoes as required by EFSA (2014) for field studies. The endpoints may be too conservative for comparison to field persistence criteria and ecotoxicological risk assessment as required by EU283/2013.  Previous evaluation:  GLP/Officially  Osc., conducted under GLP/Officially recognised testing facilities	Report Title:	Amendment no. 1 to final report - Terrestrial field dissipation study with BAM SC
Study:  Regulation (2.C) No. 110/2009 of the European Parliament and of the Council of 210 ctober 2009 including Data Requirements SANCO/1803/2010 Rev. 7 and Test Methods SANCO/1843/2010 Rev. 4  EFSA viuldance Document for Evaluating Laborators and Field Dissipation Studies to obtain De T50 Values of Active Substances of Plant Protection Products and Transformation Products of these Active Substances in Soil, EFSA Journal 2014; 12(5):3662, 2014  Deviations from current test guideline:  Yes, Report meets the requirement for assessing test substance soil DegT50matrix values as required by EFSA (2014) for field studies. The endpoints may be too conservative for comparison to field persistence criteria and ecotoxicological risk assessment as required by EU_383/2013.  Previous evaluation:  OLP/Officially  Yes, conducted under GTP/Officially recognised testing facilities		l 12% in Italy and Shain
Study:  Regulation (2.C) No. 110/2009 of the European Parliament and of the Council of 210 ctober 2009 including Data Requirements SANCO/1803/2010 Rev. 7 and Test Methods SANCO/1843/2010 Rev. 4  EFSA viuldance Document for Evaluating Laborators and Field Dissipation Studies to obtain De T50 Values of Active Substances of Plant Protection Products and Transformation Products of these Active Substances in Soil, EFSA Journal 2014; 12(5):3662, 2014  Deviations from current test guideline:  Yes, Report meets the requirement for assessing test substance soil DegT50matrix values as required by EFSA (2014) for field studies. The endpoints may be too conservative for comparison to field persistence criteria and ecotoxicological risk assessment as required by EU_383/2013.  Previous evaluation:  OLP/Officially  Yes, conducted under GTP/Officially recognised testing facilities		M-647367-02-15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Study:  Regulation (2.C) No. 110/2009 of the European Parliament and of the Council of 210 ctober 2009 including Data Requirements SANCO/1803/2010 Rev. 7 and Test Methods SANCO/1843/2010 Rev. 4  EFSA viuldance Document for Evaluating Laborators and Field Dissipation Studies to obtain De T50 Values of Active Substances of Plant Protection Products and Transformation Products of these Active Substances in Soil, EFSA Journal 2014; 12(5):3662, 2014  Deviations from current test guideline:  Yes, Report meets the requirement for assessing test substance soil DegT50matrix values as required by EFSA (2014) for field studies. The endpoints may be too conservative for comparison to field persistence criteria and ecotoxicological risk assessment as required by EU_383/2013.  Previous evaluation:  OLP/Officially  Yes, conducted under GTP/Officially recognised testing facilities		<u>M-647363-02</u>
Deviations from current test guideline:  Previous evaluation:  Output  Deviation from current test guideline:  Ves. Report meets the requirement for assessing test substance soil DegT50matrix values as required by EFSA (2014) for field studies. The endpoints may be too conservative for comparison to field persistence criteria and ecotoxicological risk assessment as required by EU383/2013.  Previous evaluation:  No. not previously, submitted  OLP/Officially  Oes, conducted under GLP/Officially recognised testing facilities	Guideline(s) followed in	Regulation (LC) N(C)   10/2509 of the European Parliament and of the Council of
Deviations from current test guideline:  Previous evaluation:  Output  Deviation from current test guideline:  Ves. Report meets the requirement for assessing test substance soil DegT50matrix values as required by EFSA (2014) for field studies. The endpoints may be too conservative for comparison to field persistence criteria and ecotoxicological risk assessment as required by EU383/2013.  Previous evaluation:  No. not previously, submitted  OLP/Officially  Oes, conducted under GLP/Officially recognised testing facilities	study:	2100ctober 2009 including Data Requirements SANCO(11803/2010 Rev. 7 and
Deviations from current test guideline:  Previous evaluation:  Output  Deviation from current test guideline:  Ves. Report meets the requirement for assessing test substance soil DegT50matrix values as required by EFSA (2014) for field studies. The endpoints may be too conservative for comparison to field persistence criteria and ecotoxicological risk assessment as required by EU383/2013.  Previous evaluation:  No. not previously, submitted  OLP/Officially  Oes, conducted under GLP/Officially recognised testing facilities		Test Methods SANCO/14843/2010 Rep. 4
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Deviations from current test guideline:  Ves. Report meets the requirement for assessing test substance soil DegT50matrix values as required by EFSA (2014) for field studies. The endpoints may be too conservative for omparison to field persistence criteria and ecotoxicological risk assessment as required by EU 383/2013.  Previous evaluation:  No. not previously, submitted  GLP/Officially  Ves. conducted under GLP/Officially recognised testing facilities	\ \tag{5}	
Assessment as required by EU 83/2013.  Previous evaluation: No, not previously submitted  GLP/Officially Oss, conducted under GLP/Officially recognised testing facilities	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Jöurnal 3014; 12(5):3662, 2014 🛴
Assessment as required by EU 83/2013.  Previous evaluation: No, not previously submitted  GLP/Officially Oss, conducted under GLP/Officially recognised testing facilities	Deviations from current	Yes Report meets the requirement for assessing test substance soil DegT50matrix
Assessment as required by EU 83/2013.  Previous evaluation: No, not previously submitted  GLP/Officially Oss, conducted under GLP/Officially recognised testing facilities	test guideline:	valors as required by EFSA (2014) for field studies. The endpoints may be too
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GLP/Officianty Conducted under GLP/Officially recognised testing facilities		
GLP/Officially Ces, conducted under GLP/Officially recognised testing facilities recognised testing facilities:  Acceptability/Reliability/  Yes	Previous evaluation:	No, not previously, submitted
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Acceptability/Reliability/   Yes V		
	Acceptability/Reliability.	Yes V V

#### **Executive Summary**

Soil degradation of M-01 AE C65371 W under Southern European field conditions was investigated after application of M-01 onto bare soil plots in Albaro (Italy) and Vilobi d'Onyar (Spain).

BAM \$6.125 is a suspension concentrate formulation, containing 125 g/L M-01. The formulation was sprayed once onto \$60 som to 600 sqm plots at a rate of 0.8 L/ha, corresponding to nominal 100 g/ha M-01. Subsequently the test item was incorporated by a rotary harrow to a target depth of 7 cm followed by rolling the soil surface.



Soil cores were taken 0 days before up to 714 days post-application to a maximum depth of 110 cm. The soil cores were cut into 10-cm soil layers, bulked soil layers were homogenised and finally analysed for M-01.

Sub-samples of homogenised soil were extracted in a microwave extractor with organic solvent. Potential matrix effects were eliminated by using an internal standard solution of isotopically labeled reference items added to sample extracts. Following separation of fine particles from soil extracts by centrifugation the identification and quantitation of the analytes was performed by high performance liquid chromatography using MS/MS detection in the multiple reaction monitoring mode. The analytical method was validated using three different soils. The limit of quantitation (LOQ) was 10 µg/kg and the limit of detection (LOD) was 0.3 µg/kg for M-01.

At Albaro (Italy), the mean initial amount of M-01 at day 0 was 100 g/ha, representing 100% of the nominal application rate. M-01 declined from 100 g/ha M-01 in sor at day 0 to 2.03 g/ha at day 541.

At Vilobi d'Onyar (Spain), the mean initial amount of M-01 aceday 0 was 100 g/ha representing 100% of the nominal application rate. M-01 declined from 100 g/ha M-01 in soil at day 0 to 5.28 g/ha at day 714.

Under field conditions M-01 residues were transfecated up to 60 cm (Albaro Italy) and 100 cm (Vilobi d'Onyar, Spain) depth, respectively. It is concluded there was some mobility of M-01 to desper soil layers in the Vilobi d'Onyar trial but 99% of residues were detected in 0-100 cm soil depth (out of a total measured depth of 110 cm). In contrast M-01 was fully retained in topsoil layers at the Albaro site. Consequently, robust DegT₅₀ values can be obtained for the compound from data from both trials.

# I. Materias and Methods

#### A. Materials

# 1. Test Item

AE C653711 (M. 1) formulation as a suspension conventrate (1252/L AF C653711)

Certificate of analysis. 01865-00

Lot No: 2015,000656

# 2. Trial Location & Soil

A terrestrial field dissipation with M-01 (AE (65371)) a suspension concentrate formulation, containing 125 g/L M-01 was sonducted at two locations in Southern Europe. The two locations were Albaro Di Rondo All Adige (Italy) and Vilobi d'Onyar (Spain). The sites were fully characterised, and the results summarised in Table 7.2.2 Q 115. The plot sizes ranged from 456 sqm to 600 sqm. Subsequently the test item was incorporated by a rotary harrow to a target depth of 7 cm followed by rolling the soil surface. The control plot was prepared at least 5 m away from the treated plots.



Table 7.1.2.2.1- 115: Location, site description and climatic data of test sites

Ch and at anistic	T.J., 24.0		Sampling	depth [cm]	
Characteristic	Units	0-30	30-50	50-75	75-100
Soil Designation	-		Albaro	(Italy)	
Soil ID	-		IT	23 🦠 _	
Geographic Location	-				
City		37055	Albaro di Ron	co, all' Adige, V	Veneto
Country			Iţa	ally,	
рН	CaCl ₂	7.3	7.4	7.5	7.4
Organic carbon	[% Carbon]	1.8	1.5 <b>©</b>	0.7	0.6
CEC	[meq/100 g]	19.7	20.4	17,9U	J 17,15
Chalk	[% CaCO ₃ ]	100	1250	1⊕1	¥ 1,08 °
Particle size distribution (USDA)					
Clay < 0.002 mm	%	<b>2</b> 35	33, 0	35	_ © 41
Total silt 0.002 - 0.050 mm	%	4 <b>3</b> ,°	450	(° 450°)	39
Total sand 0.050 - 2 mm	% 6	y <i>O</i> ×	¥ 22 ~ (	~ 29° .	20
Textural class	USDA₄	clay loam	clay loam	clay loam	Etay 🎸
Water Holding Capacity	<b>*</b> ***********************************		> A		
MWHC (pF 0.05)	Vo#% ->	6165	627/	67.8	<b>€</b> 65€
WHC at 0.1 bar (pF2)	<b>y</b> on % , ≪,	<b>35</b> .5	* <b>35</b> .9 &	<b>JQ</b> V.1	39.6
Soil Designation	0'- 😽			ıyar Spain	<u> </u>
Soil ID	Q" -		SP SP	AÛ Ş	22
Geographic Location				<b>(</b> 4	
City		(O) Q	71 <b>85%</b> ilobi d'	Onyar, Catalogii	ľa
Country	L, S	4 9	_ ∜		1
pН	O CaCD	<b>6.0</b>	6.10	6,6	7.0
Organic carbon	[% Carbon]		0.3	y 201	0.1
CEC $\checkmark$ $\checkmark$	[m@q/100 g	9.6	¥1.9 &	· 93.5	14.2
Chalk & Control of the Control of th	<b>(%</b> Ca <b>(®</b> ₃ ]	\$ 0.3	0.2 0	<b>∜</b> ″ 0.1	0.2
Particle size distribution (USDA)				<b>V</b>	
Clay < 0.002 mm	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			29	27
Total silt 0.002 0.050 m		50	23	15	15
Total sand 0.0\$0 - 2 mm	, ,		50 @	56	58
/ A	USDA Ĉ	loam	sandyclay	sandy clay	sandy clay
	i i	\$ 15°	Toam	loam	loam
Water Andling Capacit				47.0	47.2
MWHC (pF 0.05)	Voles	41.4	å 44.5	47.9	47.3
WHC at 0.1 bar (pxx)	Voj2% /	© 2195 °	20.7	23.9	22.4

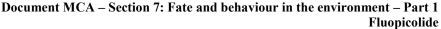
#### B. Study Design

#### 1. Experimental Conditions

BAM/SC 125 is a suspension concentrate formulation, containing 125 g/L M-01 (AE C653711). The product was sprayed onto bare with once at each site at an application rate of 0.8 L/ha and 600 L/ha water, corresponding to 100 g/ha of M-01 during May and June 2015. Throughout the study no cultivation was carried out and the plots were maintained as bare plots by periodic application of a nonselective herbicide to control weeds.

Air temperature precipitation including irrigation and sunshine data were recorded on site during the field tests.

Soil dissipation of M-01 was studied for 714 days.





# 2. Sampling

The treated plot of the trial was divided into three sub-plots. From each sub-plot 10 soil cores were taken and combined together at each sampling interval (30 cores in total).

Samples were taken on the following occasions: 0 (post-application; each 0-10 cm depth), 6-8, 14-150 (each 0-60 cm depth), 21-22, 27-28, 57-56 (each 0-85 cm depth), and 121-128, 67-175, 279-282, 364-369, 450-488, 541-545, 628, 714 (each 0-110 cm depth) after treatment. From the control plot samples were taken on the following occasions: 0 days before application, 364-369 and 714 days after application.

Soil cores taken from the three sites were deep frozen to \$\script{38}\circ\$C within twenty four hours after sampling then shipped frozen to the analytical laboratory in Germany.

# 3. Analytical Procedures

The analytical method 01445 was used to determine levels of M-01 (AE 065374). Soil samples of 5 g were extracted in a microwave extractor with a mixture of acconitrile water (4/1, 0v). The extracts were centrifuged to remove fine particles of the soil. Rossible matrix of fects of M-01 were eliminated by using an internal standard solution of isotopic labelled reference items. Quantification was carried out by LC-MS/MS. The limit of quantitation (LOO) for M-01 was 10 µg/kg in soil. The limit of determination (LOD) for M-01 was 0.3 µg/kg.

During analysis of the dissipation samples of the current study, concurrent recovery samples were prepared freshly by fortification of control samples with test item M-01 at levels of 60Q, 10 x LOQ and 500 x LOQ and processed in parallel to the dissipation samples throughout the study. The results are summarised in the table below.

Single values [70]	No of Cortification Legel	Mean [%]	RSD [%]
84, 85, 85, 85, 85, 86, 86, 86, 87, 88, 88, 88, 88, 88, 88, 90, 90, 90, 90, 91, 91, 92, 92, 92, 92, 92, 92, 92, 92, 92, 92		99	11.0
102, 102, 102, 102, 102, 002, 103, 103, 103, 103, 103, 103, 103, 103			



80, 84, 86, 87, 89, 90, 90, 91, 91, 92, 92, 92, 92, 93			
93, 93, 93, 93, 93, 94, 94, 94, 94, 94, 95, 95, 95			
95, 95, 96, 96, 96, 96, 96, 96, 96, 96, 97, 97, 97			
97, 97, 97, 97, 97, 97, 97, 98, 98, 98, 98, 98			
98, 99, 99, 99, 99, 99, 99, 99, 100, 100,			
101, 101, 101, 101, 101, 101, 101, 101,		) D	
102, 102, 102, 102, 102, 102, 102, 102,			
103, 103, 103, 103, 104, 104, 104, 104, 104, 104, 104	175	10	103
104, 105, 105, 105, 105, 105, 105, 105, 105			
106, 106, 107, 107, 107, 107, 108, 108, 108, 108, 108	Ö	S. Carlotte	
108, 108, 108, 108, 108, 108, 108, 108,	V		
109, 109, 109, 109, 110, 110, 110, 110,	4	, O Y	
110, 110, 111, 111, 111, 111, 111, 111,		, C	
112, 112, 112, 113, 113, 113, 114, 114, 114, 114, 114			
115, 115, 115, 115, 119, 119			
82, 85		500° (	\$ 84\$ \$ -
Overall recovery	343 0		<b>1</b> 01 9.5°

RSD = Relative standard deviation

The validation of the extraction was Carried out during the the application of the test substance.

and FQQUS guidance docume only profile covering all soil horizons set to the measured walves.

Set to the measured walves.

LOD for samples after before or deeper as a value > LOD LOD and \$100\). The curve was cut off after the first non-detection of the corresponding were set to the samples actual soil density of the corresponding yer.



### II. Results and Discussion

## A. Analytical Methodology:

Full details and acceptable validation data to support this method are presented in Document M. 4 Section 4.1.2. The method complies with the EU regulatory requirements outlined within SANCO/3029/99 rev. 4 and is suitable for the determination of M-01 in soil samples by HPLQ MS/MS

#### B. Data:

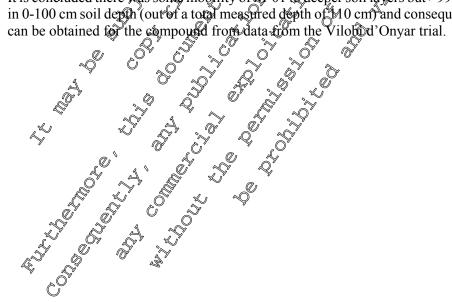
The results for residues of M-01 in different soil depths are presented below (expressed as gara) in Tab 7.1.2.2.1-116 and Table 7.1.2.2.1-117.

At the Albaro trial site, residues of M-01 were detected at concentration LQ6 at sometimes down to 40 cm. The metabolite was detected in the 0-10 cm and 10-20 cm soil horizons throughout Albarocaral. The maximum residue level in the 10-20 cm forizon was 140 g/ha/at DAT 282 Low residues/were detected in the 20-30 cm soil layer at concentrations from LOQ 15 7.66 Tha and in the 30-40 cm soil layer at concentrations <LOQ to 3.72 g/ha/from DAT 121 in both layers. No residues > 200 were detected in deeper soil layers with the exception of one finding < LQQ in the 50-60 cm soil horizon at

It is concluded M-01 was fully retained in possil layers and consequently robust Dest 50 values can be obtained for the compound from data from the Albaro spial.

At the Vilobi d'Onyar trial site residues of M-01 were detected a concentration. Low at soil depths down to 70 cm. The metabolite was detected in the 0-10 cm soil horizon throughout the trial and from DAT 15 in the 10-20 cm and DAT 56 in the 20-50 cm soil horizons. The maximum residue level in the 10-20 cm horizon was observed at DAT 128 and concentration of 15.6 g/ha and in the 20-30 cm horizon at DAT 167 at a concentration of 7.52 g/ha. From DAT \$45 residues in the \$1,20 and 20-30 cm soil horizons were <LOQ Low residues were detected in the underlying 30040 cm, 40-50 cm, 50-60 cm and 60-70 cm horizons at concentrations ranging from SOQ to \$12 g/ha in samples taken from DAT 128 to DAT 546. In the underlying soil layers, 70-80 cm and 80-90 cm, residues < LOQ were detected from DAT 128 to DAT 399 only No residues LOD were detected in deepest soil layers except for three and two single replicates < LOQ in the 90-100 cm and 100-110 cm soil horizons, respectively between DAT 128 and 279. At all other timepoints no residues > LQD were detected below 30 cm.

It is condituded there was some mobility of M-01 to deeper soil layers but >99% of residues were detected in 0-100 cm soil depth (out of a total measured depth of 100 cm) and consequently robust DegT50 values



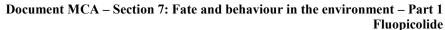




Table 7.1.2.2.1- 116: Residues of M-01 (AE C653711) in different soil depths from the Albaro total after an application of 100 g a.s./har expressed as g/ha)

Depth	Sub						DA	Tie t	_0,				
[cm]	plot	0	6	14	21	27	57 🔊	121	178	282	364	450	541
	T1	94.7	81.5	61.7	70.3	63.8	<b>√8</b> .7	。44 🦠	19.3	10.3	476	25A 25A	[0.96]
0.10	T2	98.3	71.3	61.2	52.3	50.7	98.7 61.50	45.50°	2 1000 P	1 20 C	34525	1.88	[1.01]
0-10	Т3	108	56.8	71.0	70.0	100	47.1	45.50 ⁰	£ 29.8 0	8.590°S	4.590	2018	[1.06]
	mean	100	69.9	64.6	64.2	.eU\$55 28	52.4	46.00	24,0	<b>©</b> 43	\$4.53	≥©"2.19	1.01
	T1	-	6.84	8.24	1.93	4.24	%[4ÇAYQ] 	× 3.84	9.91	14.0	5.29	[1.13]	<lod< td=""></lod<>
10-20	T2	-	9.75	8.41		×2.82 @	3.45	4.18	12.0	10.2	4.52	[0.58]	<lod< td=""></lod<>
10-20	Т3	-	6.85	9.11	4.77	6.85	3.45 K	0.64	\$Ĉ¥1.4 _∢	11.1	4.71	[0.92]	<lod< td=""></lod<>
	mean	-	7.81	8,59	3.22		2.35	<b>1</b> 4.89∩≌	1 1 430.00	1 10×14	4 € 84	[0.88]	<lod< td=""></lod<>
	T1	-	<lod_< td=""><td>COLLOD C</td><td><lod< td=""><td><lqd< td=""><td></td><td>(P95]</td><td>3.580</td><td>7.66</td><td>○ 5.17</td><td>[1.32]</td><td>&lt; LOD</td></lqd<></td></lod<></td></lod_<>	COLLOD C	<lod< td=""><td><lqd< td=""><td></td><td>(P95]</td><td>3.580</td><td>7.66</td><td>○ 5.17</td><td>[1.32]</td><td>&lt; LOD</td></lqd<></td></lod<>	<lqd< td=""><td></td><td>(P95]</td><td>3.580</td><td>7.66</td><td>○ 5.17</td><td>[1.32]</td><td>&lt; LOD</td></lqd<>		(P95]	3.580	7.66	○ 5.17	[1.32]	< LOD
20-30	T2	-	<lod< td=""><td>\delta \left(\frac{1}{2}\)</td><td>a COD</td><td>Q OD</td><td>S<lod< td=""><td>1 59 6</td><td>3.580</td><td>7.66 6,28</td><td>3.84</td><td>[0.67]</td><td><lod< td=""></lod<></td></lod<></td></lod<>	\delta \left(\frac{1}{2}\)	a COD	Q OD	S <lod< td=""><td>1 59 6</td><td>3.580</td><td>7.66 6,28</td><td>3.84</td><td>[0.67]</td><td><lod< td=""></lod<></td></lod<>	1 59 6	3.580	7.66 6,28	3.84	[0.67]	<lod< td=""></lod<>
20-30	Т3	- 0	S_rron "	CALLOD J	LODY	<pre></pre> <pre>&lt;</pre>	ETQD 1	*[j]\Q+7]	\$3.31	\$ 6.57	4.18	[1.19]	<lod< td=""></lod<>
	mean	- 40,00°	<lod td="" ®<=""><td>&lt;150P)</td><td>ZÇOD .</td><td>l°∥≲LOD a</td><td>N.≪LOD 🦳</td><td>[1.34]</td><td>3.45</td><td>6.84</td><td>4.40</td><td>[1.06]</td><td><lod< td=""></lod<></td></lod>	<150P)	ZÇOD .	l°∥≲LOD a	N.≪LOD 🦳	[1.34]	3.45	6.84	4.40	[1.06]	<lod< td=""></lod<>
	T1	-	<lod< td=""><td><lod &<="" td=""><td><lode td="" ®<=""><td><lqd< td=""><td><pre><f@d <="" pre=""></f@d></pre></td><td>SEOD .</td><td><b>A</b>P.25]</td><td>3.02</td><td>2.80</td><td><lod< td=""><td>&lt; LOD</td></lod<></td></lqd<></td></lode></td></lod></td></lod<>	<lod &<="" td=""><td><lode td="" ®<=""><td><lqd< td=""><td><pre><f@d <="" pre=""></f@d></pre></td><td>SEOD .</td><td><b>A</b>P.25]</td><td>3.02</td><td>2.80</td><td><lod< td=""><td>&lt; LOD</td></lod<></td></lqd<></td></lode></td></lod>	<lode td="" ®<=""><td><lqd< td=""><td><pre><f@d <="" pre=""></f@d></pre></td><td>SEOD .</td><td><b>A</b>P.25]</td><td>3.02</td><td>2.80</td><td><lod< td=""><td>&lt; LOD</td></lod<></td></lqd<></td></lode>	<lqd< td=""><td><pre><f@d <="" pre=""></f@d></pre></td><td>SEOD .</td><td><b>A</b>P.25]</td><td>3.02</td><td>2.80</td><td><lod< td=""><td>&lt; LOD</td></lod<></td></lqd<>	<pre><f@d <="" pre=""></f@d></pre>	SEOD .	<b>A</b> P.25]	3.02	2.80	<lod< td=""><td>&lt; LOD</td></lod<>	< LOD
30-40	T2	-	<lqd< td=""><td><lqq< td=""><td><b>F</b>IOD</td><td><pre></pre></td><td>LOD</td><td>[0.76] 🕏</td><td>[1.12]</td><td>2.38</td><td>1.80</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lqq<></td></lqd<>	<lqq< td=""><td><b>F</b>IOD</td><td><pre></pre></td><td>LOD</td><td>[0.76] 🕏</td><td>[1.12]</td><td>2.38</td><td>1.80</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lqq<>	<b>F</b> IOD	<pre></pre>	LOD	[0.76] 🕏	[1.12]	2.38	1.80	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
30-40	Т3	-	& BOD	∜y≪LOD	PR <tod 6<="" td=""><td><lodo< td=""><td><lqq< td=""><td>[10<u>7</u>.64]</td><td>[1.62]</td><td>3.72</td><td>2.15</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lqq<></td></lodo<></td></tod>	<lodo< td=""><td><lqq< td=""><td>[10<u>7</u>.64]</td><td>[1.62]</td><td>3.72</td><td>2.15</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lqq<></td></lodo<>	<lqq< td=""><td>[10<u>7</u>.64]</td><td>[1.62]</td><td>3.72</td><td>2.15</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lqq<>	[10 <u>7</u> .64]	[1.62]	3.72	2.15	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
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# Document MCA – Section 7: Fate and behaviour in the environment – Part 1 Fluopicolide

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[cm]	plot	0	6	14	21	27	57	121	175	282	364	<b>2</b> 450	541
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/0-80	Т3	-	-	-	- , °	- 0,7		120	4 -	OZLOD 🦠	< LOD < LOD	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
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80-90	Т3	-	-	COLL - C	- 6		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	@P		LOD	O < LOD	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
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100-110	Т3		ÇO E	A TITULE 2	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	) - KB		-	-	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
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	T1 🐧	94.7	\$ <b>89</b> .3	3069.9	72.2	\$ 68.0 ₀	49.8	48.8	33.8	36.0	19.9	[4.99]	[0.96]
Cum	T2	98.3 🤘		69.6	553	<b>53</b> .5	65.0	52.0	42.8	30.1	[15.1]	[3.13]	[1.01]
Sum	Т3	108	81.1	<b>\$</b> 0.1	<u>~</u> 274.8 <u>,</u> €	119	49.7	57.3	46.1	30.9	[16.4]	[4.26]	[1.06]
	mean	Q00	1 77.7 C	73.20	.67.1	80.2	54.8	52.7	40.9	32.3	17.1	[4.13]	[1.01]

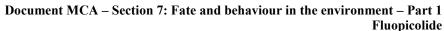
LOD = 0.3 µg/kg equivalent to ca to g/ha depending on soil moisture and density LOQ = 1.0 µg/kg equivalent to 1.9 g/ha depending on soil moisture and density Values in square brackets are values > LOD but < LOQ



Document MCA – Section 7: Fate and behaviour in the environment – Part 1 Fluopicolide

Table 7.1.2.2.1- 117: Residues of M-01 (AE C653711) in different soil depths from the Vilobi d'Onyar trial after an application of 100 g als. ha (expressed

									DATE @							
Depth [cm]	Sub plot	0	8	15	22	28	56	128	DAT	279	369	488	545	546 A	628	714
[cm]	•							21.3	*		7 42			1 2 m	₩.79	
	T1	106	98.1	86.6	75.7	89.3	76.5		21.5	12.2	7.42 5.00	3.44 K	2.83		<b>₩</b>	2.77
0-10	T2	111	98.2	107	81.9	72.2	71.0	<b>19</b> .5		7029 10.0 - 4	3.93		2.83 2.00	3.82	1.88	1.68
	Т3	119	90.6	90.9	72.2	80.1	80.70	× ×	15.2	10.0	4.40			× 02.52	©¥.82	2.06
	mean	112	95.6	94.8	76.6	80.5	78. ř	£ 19.7		9.8	<b>590</b>	3.0	\$ 2.	87	1.83	2.17
	T1	-	<lod< td=""><td>[1.02]</td><td>[0.80]</td><td><rb></rb>LOD</td><td>LOD (************************************</td><td>15.6</td><td>» I4.4 🕍 ຶ</td><td>7.05</td><td>§ 5.02</td><td>©2.94</td><td>[2.03]</td><td>D-</td><td>[1.35]</td><td>[2.02]</td></lod<>	[1.02]	[0.80]	<rb></rb> LOD	LOD (************************************	15.6	» I4.4 🕍 ຶ	7.05	§ 5.02	©2.94	[2.03]	D-	[1.35]	[2.02]
10-20	T2	-	<lod< td=""><td>[0.99]</td><td>[1.34]</td><td><b>₹</b>DD</td><td>¥0.98]</td><td>8.69</td><td>799</td><td>459°</td><td>3,30</td><td>[0.79]</td><td>[1.59]</td><td>2.32</td><td>[1.08]</td><td>[1.09]</td></lod<>	[0.99]	[1.34]	<b>₹</b> DD	¥0.98]	8.69	799	459°	3,30	[0.79]	[1.59]	2.32	[1.08]	[1.09]
10-20	Т3	-	<lod< td=""><td>[0.89]</td><td>1.55%</td><td>SLOP &lt;</td><td>Land M. M.</td><td></td><td>[©] 13.0</td><td>×7.50 3</td><td>\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</td><td>2.94 [0.79] [1.78]</td><td>TO -</td><td>√[Þ.25]</td><td>[1.27]</td><td><lod< td=""></lod<></td></lod<>	[0.89]	1.55%	SLOP <	Land M. M.		[©] 13.0	×7.50 3	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	2.94 [0.79] [1.78]	TO -	√[Þ.25]	[1.27]	<lod< td=""></lod<>
	mean	-	<lod< td=""><td>[0.97]</td><td><b>[</b>][.23]</td><td><b>∡</b>LOĎ</td><td>ไปลาดา</td><td>\$1.9°</td><td>118</td><td>6.40</td><td>2 69</td><td>[1 7/m]♥</td><td></td><td>80</td><td>[1.23]</td><td>[1.04]</td></lod<>	[0.97]	<b>[</b> ][.23]	<b>∡</b> LOĎ	ไปลาดา	\$1.9°	118	6.40	2 69	[1 7/m]♥		80	[1.23]	[1.04]
	T1	-	<lod< td=""><td>&lt; LÕD</td><td>&lt; LOD ©</td><td>LOD\$</td><td>2.00 (C</td><td>&gt; 5.95 €</td><td>» 7.82</td><td>\$\\25.17 \\2</td><td>03.80 250</td><td>√¶.30]</td><td>. [Pš2]</td><td>-</td><td>[1.31]</td><td>1.96</td></lod<>	< LÕD	< LOD ©	LOD\$	2.00 (C	> 5.95 €	» 7.82	\$\\25.17 \\2	03.80 250	√¶.30]	. [Pš2]	-	[1.31]	1.96
20.20	T2	-	<lod< td=""><td>A COD</td><td>KOÔD</td><td>, AOD</td><td><lod"< td=""><td>\$ <b>3</b>\$7</td><td>3.75</td><td>3.63</td><td>250</td><td>[0.60]</td><td>[0.99]</td><td>[1.58]</td><td>[0.83]</td><td><lod< td=""></lod<></td></lod"<></td></lod<>	A COD	KOÔD	, AOD	<lod"< td=""><td>\$ <b>3</b>\$7</td><td>3.75</td><td>3.63</td><td>250</td><td>[0.60]</td><td>[0.99]</td><td>[1.58]</td><td>[0.83]</td><td><lod< td=""></lod<></td></lod"<>	\$ <b>3</b> \$7	3.75	3.63	250	[0.60]	[0.99]	[1.58]	[0.83]	<lod< td=""></lod<>
20-30	Т3	-	<lod< td=""><td><lop()< td=""><td>\\LOD\\( \)</td><td>LOD</td><td>LOD</td><td>5.61</td><td>Ĵ[©]6.98 ≥</td><td><b>3</b>5.01 s</td><td>\$2.01</td><td>√[4.15]</td><td>-</td><td><lod< td=""><td>[0.84]</td><td>[0.61]</td></lod<></td></lop()<></td></lod<>	<lop()< td=""><td>\\LOD\\( \)</td><td>LOD</td><td>LOD</td><td>5.61</td><td>Ĵ[©]6.98 ≥</td><td><b>3</b>5.01 s</td><td>\$2.01</td><td>√[4.15]</td><td>-</td><td><lod< td=""><td>[0.84]</td><td>[0.61]</td></lod<></td></lop()<>	\\LOD\\( \)	LOD	LOD	5.61	Ĵ [©] 6.98 ≥	<b>3</b> 5.01 s	\$2.01	√[4.15]	-	<lod< td=""><td>[0.84]</td><td>[0.61]</td></lod<>	[0.84]	[0.61]
-	mean	-	<b>POD</b>	<lod< td=""><td><b>₫</b>ØD</td><td>&lt; EQD</td><td>[0.67]</td><td>5.64</td><td>648</td><td>4.60</td><td>2.7<b>%</b></td><td>[1.02]</td><td>[1.0</td><td>02]</td><td>[0.99]</td><td>[0.86]</td></lod<>	<b>₫</b> ØD	< EQD	[0.67]	5.64	648	4.60	2.7 <b>%</b>	[1.02]	[1.0	02]	[0.99]	[0.86]
	T1	-	-	- 🦓	/	- &	[0.67] OLOD	5.33	© 6.12	\$3.83	<u> 2.10</u>	<lod< td=""><td><lod< td=""><td>-</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td>-</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	-	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	T2	-	-				· Sti	4.48	3.00	2.72	[1.53]	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
30-40	Т3	-	- Ġ		<u> </u>	J. 1. 1	97.	5.33 4.48 5.33 5.95	19.21 ,	S.60	[1.45]	<lod< td=""><td>-</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	-	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
-	mean	-	10°			, OD 1	<rb></rb> <rb></rb> <pre> </pre> <pre>   <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre>   <pre> </pre> <pre> </pre> <pre> </pre> <pre>  <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> </pre> <pre> <td>5.05</td><td>4,78</td><td>3.38</td><td>[1.69]</td><td><lod< td=""><td><l0< td=""><td>OD</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></l0<></td></lod<></td></pre></pre></pre></pre>	5.05	4,78	3.38	[1.69]	<lod< td=""><td><l0< td=""><td>OD</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></l0<></td></lod<>	<l0< td=""><td>OD</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></l0<>	OD	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
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40.70	T2	TOOT!	-	\$ 00°	**C**	**************************************	OF	3.83	2.88	3.00	1.94	[0.68]	<lod< td=""><td>2.07</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	2.07	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
40-50	T3 \$	<u> </u>	- 4	5 - 3	0″	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	10 -	<b>2.86</b>	5.35	4.33	[1.57]	[0.68]	-	[0.75]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
•	mean	-	A Jan	P			<lod< td=""><td>3.45</td><td>4.52</td><td>3.50</td><td>[1.68]</td><td>[0.46]</td><td>[0.</td><td>71]</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	3.45	4.52	3.50	[1.68]	[0.46]	[0.	71]	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	T1	@	·, 1 - @	- , @	<u> </u>		& LOD	1.98	3.87	2.26	[1.18]	[0.82]	<lod< td=""><td>-</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	-	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
50.60	T2		~ ¶- N				-	2.43	2.62	2.73	[1.54]	[1.16]	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
50-60	T3 ~	} [*] **	, <u> </u>	OP -	© -	302-	-	[1.64]	3.96	3.86	[1.05]	[0.94]	-	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
-	mean		COLL	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	-Q ^T	-	<lod< td=""><td>2.02</td><td>3.48</td><td>2.95</td><td>[1.26]</td><td>[0.97]</td><td><le< td=""><td>OD</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></le<></td></lod<>	2.02	3.48	2.95	[1.26]	[0.97]	<le< td=""><td>OD</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></le<>	OD	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
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Depth	Sub			1		1		1	DAT	- Ĉ		, ô				<b>)</b>
[cm]	plot	0	8	15	22	28	56	128	167	279	369	488	545 ^A	5,400	628	
	T1	-	-	-	-	-	-	[0.63]	2.87	[1.89]	[1.23]	LOD	<lod_< td=""><td>D - %</td><td><b>©</b>\$LOD</td><td><lod< td=""></lod<></td></lod_<>	D - %	<b>©</b> \$LOD	<lod< td=""></lod<>
60-70	T2	-	-	-	-	-	-	[1.68]	\$P7 ¹	2.23		<lod< td=""><td><lod <lod< td=""><td>&lt; LOO</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></lod </td></lod<>	<lod <lod< td=""><td>&lt; LOO</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></lod 	< LOO	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
00-70	Т3	-	-	-	-	-	-	[0.67]	3.44	3.81	<b>₹</b> 0.86]	<lod<sub>⋈</lod<sub>	0, -	f∖∖<∦∩D	~≪®OD	<lod< td=""></lod<>
	mean	=	-	-	-	-	-	[ <b>9</b> [ <b>9</b> ]	£,\$3	2364	[]. <b>62</b> ]	<rp><tob< p=""></tob<></rp>		OD K	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	T1	=	-	-	-	-		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	[1.86]	Ç[1.09] ∢	Y0.85] @	< EOD	%LÓD	OD C	© LOD	<lod< td=""></lod<>
70-80	T2	-	-	-	-	-	COA	[K42]	[1.40]	[1.39]	[0,73]	< L@D .	_ < L@y	L < LC/DB/	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
70-80	Т3	-	-	-	-	- 0,	P 1	&LOD €	[1.83]	(°[0.79], «	[1.05]	@LOD	<b>%</b> -	<b>√</b> S¥ÓD	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	-	-	-	-			[9,47]	[162]		[0.80]	<rb></rb> COOD		ÓD	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	T1	-	-	-	- 3	- &	- 30	[©] LOD _O	[1.32]	LOD	C[V.61]	<b>LOD</b>	- 4000 22		<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
80-90	T2	-	-	-			\$ 1. C.	[].16	[9.89]	[0.69	[1,340]	< LQD	<pre> &lt; LONG</pre>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
80-90	Т3	-	-	- 770	_ @	-,6	- ,,,(()	LOD @	[1.05]	QLOD 2	COD .	SEOD.	<i>v</i>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	-	-		102		Ope	[0,39]	[1.04]	[0.23]	[0. <b>6.5</b> ]	< LQD	<l< td=""><td>OD</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></l<>	OD	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	T1	-	<u>-</u>	- 0	»' - «C	- ** <u>*</u>	<u> </u>	DOD (	j¥1.28] ş	SLOD .	&LOD	&LOD	<lod< td=""><td>-</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	-	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
90-100	T2	-		- 020	<b>₹</b> O	0 E		[0.74]	<100	[0.77]	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
90-100	Т3	-	-	- A		- 8	& - ~	LOD	&LOD	&LOD.	<b>POD</b>	<lod< td=""><td>-</td><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	-	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	mean	-	-				. , 5	[0.24)	[0.43]	[0.26¶	<lod< td=""><td><lod< td=""><td><l< td=""><td>OD</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></l<></td></lod<></td></lod<>	<lod< td=""><td><l< td=""><td>OD</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></l<></td></lod<>	<l< td=""><td>OD</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></l<>	OD	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
	T1	-	- Š	D - 1	,	Willian-	9. h	COD	SEOD .	<b>L</b> OD	<lod< td=""><td><lod< td=""><td><lod< td=""><td>-</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>-</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td>-</td><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	-	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
100-110	T2	-	De í					$[0.65]^{\odot}$	<lqd< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lqd<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""></lod<></td></lod<>	<lod< td=""></lod<>
100-110	Т3	- 4	- (		ATTE	~ ~ ~		K\$#£OD ≈	<b>SLOD</b>	[0.63]	<lod< td=""><td><lod< td=""><td>-</td><td><lod< td=""><td><lod< td=""><td>[0.72]</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td>-</td><td><lod< td=""><td><lod< td=""><td>[0.72]</td></lod<></td></lod<></td></lod<>	-	<lod< td=""><td><lod< td=""><td>[0.72]</td></lod<></td></lod<>	<lod< td=""><td>[0.72]</td></lod<>	[0.72]
	mean	E. B. Conne	-	300	\$-CO		0\$	[0.22]	<lod< td=""><td>[0.21]</td><td><lod< td=""><td><lod< td=""><td><l< td=""><td>OD</td><td><lod< td=""><td>[0.24]</td></lod<></td></l<></td></lod<></td></lod<></td></lod<>	[0.21]	<lod< td=""><td><lod< td=""><td><l< td=""><td>OD</td><td><lod< td=""><td>[0.24]</td></lod<></td></l<></td></lod<></td></lod<>	<lod< td=""><td><l< td=""><td>OD</td><td><lod< td=""><td>[0.24]</td></lod<></td></l<></td></lod<>	<l< td=""><td>OD</td><td><lod< td=""><td>[0.24]</td></lod<></td></l<>	OD	<lod< td=""><td>[0.24]</td></lod<>	[0.24]
	T1 🚿	106	98.1	\$ 87.6 ₃ 3	976.5 j	89.3	<i>∞</i> 078 5	54 4	66.4	36.7	23.7	[8.50]	[6.38]	-	[4.45]	[6.75]
Cum	T2	111	982	108	83-21	72.	72.00	52.7	39.5	28.8	20.2	[7.13]	[5.50]	[9.19]	[3.79]	[2.77]
Sum	Т3	119 🥷	, 190.6 @	D91.8	<b>√</b> 73.8	<b>™</b> 80.1	<b>₽</b> \$1.6	43.1	56.0	39.5	[14.9]	[6.81]	-	[4.52]	[3.93]	[3.39]
	mean	1120	95.6	958	77.8°	805	77.4	50.1	54.0	35.0	19.6	[7.48]	[6.	40]	[4.06]	[4.30]

LOD = 0.3  $\mu$ g/kg equivalent to *ca.* 0.6 g/ha depending on soit moisture and density LOQ = 1.0  $\mu$ g/kg equivalent to 3.1.9 g/ha depending on soil moisture and density Values in square brackets are values > LOD but < LOQ ^A Combined mean value care given for DAT 545 and DAT 546



The dissipation of M-01 with time is presented in Table 7.1.2.2.1- 118 and Table 7.1.2.2.1- 119. The values have been pre-processed according to the procedure described in FOCUS kinetics guidance (as described earlier). Actual values are given in brackets.

At Albaro (Italy), the mean amount of M-01 at day 0 was 100 g/ha, representing 100% of the mominal? application rate. M-01 declined from 100 g/ha in soil at day 0 to 1.01 g/ha at day \$\frac{9}{4}\$1. At Vilob At On far (Spain), the mean amount of M-01 at day 0 was 112 g/ha, representing 112% of the nominal application rate. M-01 declined from 112 g/ha in soil at day 0 to 4.30 g/ha at day 714.

The dissipation of M-01 showed a biphasic behaviour. After treatment M-01 dissipated in a first step very fast within a couple of days followed by a second more slowly step until study remination Residues of M-01 in control samples were < LOD for all samples taken.

Table 7.1.2.2.1-118: Residues of M-01 (AE 653711) in soil from the Albaro trial after an application of 100 g a.s./ha pre-processed values according to FOCUS, expressed as g/ha)

				- <del> </del>	4 .	<u>~</u> /			)*			<u> </u>
Albaro				×		**************************************	KT 🔊	$\sim$				
(Italy)	0	6	14	2	27	, <b>50</b> )*		<b>675</b>	<b>282</b>	<b>3</b> 64	<b>%450</b>	<b>5</b> 41
T1	94.7	88.9	70.5	<b>2</b> 1/2.7	<b>27</b> %68.5 0(68.2)*	<b>₹</b> 0.3 §	<b>4</b> 9.3	34.3 (33%)	36.5	20. <u>5</u> @	6.49	2.00
11	(94.7)	(88.4)	(69.9)	<b>12.0</b> )	(68.2)°	×(49.7)	(49.1)	(33%)	(35.8)	(199)	(4.83)	(0.95
T2	98.3	81.6	70.1	55.	54.0	65 <b>9</b> (63.1)	50% (\$2.3)	#3.J	<b>3</b> 9.6	\$.6 (15.1)	<b>4</b> 7.15	2.04
	(98.0)	(80.7)	(70%)	(52.4)	(53.5)			<b>Q</b> 42.7)				(1.01
T3	108	64.2	₹80.6 ¢	75.3 (79.90)	\$119 (119%)	50.7	(57.8°C)	46:7	31.4	16.9 (1 <b>©</b> .4)	5.26	2.06
	(108)	(63.6)		. (%)			(57.2)	(4600)	(31/4)	X // /	(4.25)	(1.06
Mean	100 (100)	78.2° (\$7.6)	7 <u>3</u> .7	67.9 (68.1)	80.5 (80.2)	55.6 ©54.8)%	53.2 (52.9)	41.4 (40.8)	(32.4)	\$17.7 (17.1)	5.30 (4.07)	2.03 (1.01
	, ,	264.2	70.1%			50,3	<b>(</b> )	34.9	30.6	15.6	4.15	2.00
Min	(94.7)	(63.6)	(69.9)	7 55,5 (52 <b>2</b> )	(53,5)	(4 <b>9</b> 6)	49.3 (49.1)	(33.8)	( <b>3</b> 0.0)	(15.1)	(3.11)	(0.95
	168	88/9	80.6	<i>€</i> 75.3	7/19		37.8	¥46.7 ×		20.5	6.49	2.06
Max	108 (08)	88.9 (88.4)	<b>©</b> 79.7)	Q79.9%	7/19 (119)	(65.10	° (57.2)	(46.0)	(35.8)	(19.9)	(4.85)	(1.06
n &	3	D" 3 "	3 0	31	2	30	3 3 553 (53)		3	3	3	3
0/ 0188	100	78	~ (TW)	208 "	Q 1	\$56 \$(55)	©53 <i>(</i>	√41	33	18	5	2
% of day 0	(100)	<b>(7</b> 8) s	<b>2</b> (73) ,	(68)	(80)	P [®] (55) [≪]	ر (53)	(41)	(32)	(17)	(4)	(1)
% of day 0  DAT = Days at the actual value of							F					
				. 🇳								



Table 7.1.2.2.1-119: Residues of M-01 (AE C653711) in soil from the Vilobi d'Onyar trial after an application of 100 g a.s./ha (pre-processed values according to FOCUS, expressed as g/ha)

Vilobi								DAT						96	<b>X</b>
d'Onyar (Spain)	0	8	15	22	28	56	128	167	279	369	488	<b>A</b> 5	546	628	710
T1	106 (106)	98.8 (98.1)	88.2 (87.6)	77.1 (76.5)	90.4 (89.3)	80.5 (78.5)	56.3 (54.4)	67.0 (66.4)	37.9 (36.7)	23.7 (23.7)	10,9	7.55 (6.38)	- ( ( <u>-</u> )0	\$5.04 (4.450)	7.32 (6.75)
Т2	111 (111)	98.8 (98.2)	109 (108)	83.8 (83.2)	72.8 (72.2)	72.5 (72.0)	52.7 (52.7)		29.4 (28.8)	20.8		7.21 (5.50)	<b>1</b> 0.3 (9.19)	<b>5.00</b> <b>(</b> 9.79)	3 <b>3 3 3 3 3 3 3 3 3 3</b>
Т3	119 (119)	91.3 (90.6)	92.4 (91.8)	74.3 (73.8)	80.6 (80.1)	82.1 (81.6)		\$7.3 (56.0)	40.7 (39.5)	16.1 Q4.9)	8.46 (6:81)		6.20Q (4.52)	, 5.75¢ (3.9 <b>2</b> )	5.15 (3.39)
Mean	112 (112)	96.3 (95.6)	96.5 (95.8)	78.4 (77.8)	81.3 (80.5)	78.4 (77.4)	5001 (50.1)	54.8 (54.0)	36.0% (35.0)	/A /	_	(Ô		\$226 (4.05)	5©28 (A.30)
Min	106 (106)	91.3 (90.6)	88.2 (87.6)	74.3 (73.8)	72.8 (72.2)	72.5© (7 <u>3</u> .0)	8% /	(39. <b>5</b> )	<i>))</i>	(16.1 (14.9)	<b>80</b> 46 (6.81)	&6.2 (4.5	20 20)*	5. <b>00</b> ( <b>30</b> °9)	3.38。 (2.47)
Max	119 (119)	98.8 (98.2)	109 (108)	83.8 (83.2)	90.4		5β.3 <b>(</b> 54.4)	67.0 (66.4)	4 <b>0</b> 7 (39.5)	23.7 (2 <b>3</b> .7)	10.90	<b>6</b> 9/1	9)A	3.75 (4.45)	(6.75)
n	3	3	3	3	3¥	<b>%</b>	3\$	3,5	* 3 _. @	<b>≈</b> 3 .⁴	$\mathbb{Q}_3$	₹ 4°	A Ø"	B	3
% of day	100 (100)	86 (85)	86 (86)	70 <u>(</u> 69)	273 (72)	70 (69)	46 (45) ₄	49 (48)	32 (37)	18 ⁰	9 0			√5 √ (4)	5 (4)

DAT = Days after treatment;  $TX = \Re \alpha$  ated  $\Re \alpha$  with X = 4 to 3.

#### OHIL Conclusion

Under field conditions MO1 declined moderately and residues were transfected up to 60 cm (Albaro, Italy) and 100 cm (Vilobi d'Onyar, Spain) depth, whilst 76-100% (Albaro, Italy) and 53-100% (Vilobi d'Onyar, Spain) of residues remained in the top 0-30 cm at all timepoints. Un-normalised DT₅₀ for the degradation of M-01 calculated from the reported data following the recommendations of the FOCUS work group details are provided in Document KCA 7.1.2.27/21.

### Assessment and conclusion by applicant:

The study is considered varied to a seess MO1 soft Deg Tomatrix values for field studies as defined by EFSA (2014). The endpoints may be to conservative to assess persistence as the design minimized soil surface processes as required by EFSA (2014) and such processes may contribute to dissipation.

The actual values are given in brackets (expressed as g/ha) & A Combined values are given for DAT 545 and DAT 546



Data Point:	KCA 7.1.2.2.1/21
Report Author:	
Report Year:	2020
Report Title:	Amendment no. 01: Terrestrial field dissipation study with BAM SC 125 in
	Germany, United Kingdom, France (North), France (South), Italy and Spain
Report No:	EnSa-18-1177
Document No:	<u>M-650733-02-1</u>
Guideline(s) followed in	Regulation (EC) No. 1107/2009 of the European Parliament and of the Council of
study:	21 October 2009 including Data Requirements SANCO/11803/2010 Rev. 7 and
	Test Methods SANCO/11843/2010 Rev. 4
	EFSA Guidance Document for Evaluating Laboratory and Field Dissiption
	Studies to obtain DegT50 Values of Active Substances of Plant Protection
	Products and Transformation Products of these Active Substances in Soil, FSA
	Journal 2014; 12(5):3662, 2014
Deviations from current	Yes. Report meets the requirement for assessing test substance soil Dep 50matrix
test guideline:	values as required by EFSA (2014) for field studies. The endpoints may be two
	conservative for comparison to field persistence criteria and ecotoxicological risk .
	assessment as required by U 28302013.
Previous evaluation:	No, not previously submitted A A O
GLP/Officially	No, not conducted mader GLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes with the second sec

## **Executive Summary**

A summary report covering three terrestrial field dissipation studies was conducted to provide an overview of the trials and to calculate the kinetic sate of decline for each trial. Soil dissipation of M-01 (AE C653711) under European field conditions was investigated after application of BAM SC 125 on bare soil plots at six sites, three in Northern Europe; Burscheid (Germany), Great Chishill (United Kingdom) and Orgnieres de Touraine (France North) and three in Southern Europe; St. Etienne du Grès (France South), Albaro di Ronco all'Adige (Italy) and Vilobi d'Onyar (Spain). Full summaries of the studies are provided in KCA 7.1.2.2.1/18, M-047366-03-1; KCA 71.2.2.1/19, M-M-647370-02-1 and KCA 7.1.2.21/20, M-647363.3.2-1.

The experiments were carried out in accordance with the EFSA Guidance Document for Evaluating Laboratory and Field Dissipation Studies to obtain Deg To Values of Active Substances of Plant Protection Products and Transformation Products of these Active Substances in Soil (EFSA Journal 2014).

BAM SC 125 was sprayed once onto 400 to 600, cam for each treated plot at a rate of 0.8 L/ha, corresponding to nominal 100 g/ha M-01. Subsequently the test item was incorporated by a rotary harrow to a target depth of 7 cm followed by rolling the soil surface to meet EFSA requirements. The plots received at least 10 mm water between DAT-0 and DAT-3 by irrigation post application. The control plot was at least 5 m away from the treated plot.

Soil cores were taken 0 day before and at several dates up to 744 days post-application to a maximum depth of 110 cm. The soil cores were call into 10-cm soil layers, bulked soil layers were homogenized and finally analyzed for 01-01.

Sub-samples of homogenized soil (5 g) were extracted in a microwave extractor with a mixture of acetoritrile water (1, 1, 1). Potential matrix effects were eliminated using an internal standard solution of notopically labeled reference item added to sample extracts. Following separation of fine particles from soft extracts by centrifugation, identification and quantitation of the analyte was performed by high performance liquid chromatography using MS/MS detection in the multiple reaction monitoring mode. The analytical method was validated using three different soils. The limit of quantitation (LOQ) was 1.0  $\mu$ g/kg and the limit of detection (LOD) was 0.3  $\mu$ g/kg.



The amount of M-01 decreased from DAT-0 to study end (DAT-701) from 108 to 11.5 g/ha at Burscheid (Germany), from DAT-0 to DAT-744 from 59.8 g/ha to 31.9 g/ha at Great Chishill (United Kingdom), from DAT-0 to DAT-699 from 86.2 to 17.7 g/ha at Lignieres-deTouraine (France North), from DAT-0 to DAT-714 from 87.9 g/ha to 8.09 g/ha at St. Etienne du Gres (France South), from DAT-0 to DAT-714 from 100 g/ha to 1.01 g/ha at Albaro di Ronco all'Adige (Italy) and from DAT-0 to DAT-714 from 1120 to 4.30 g/ha at Vilobi d'Onyar (Spain)

United Kingdom with 55-100% of measured residues remained in the top 0-30 cm depending on the timepoint. However, there was significant mobility of BAM to deeper soil layers with Jevels as low as 79% of residues retained in 0-100 cm soil depth (out of a total measured depth of 110 cm). Comparable calculations at the other five sites show >97 to 100% of measured residues are contained within 0-100 cm depth. Consequently, the trials at Burscheid (Germany), Ligniores de Touraine (France North), Soil Etienne du Grès (France South), Albaro di Rongo all'Adige (Italy) and Vilobi d'Onyar (Spain) are acceptable to determine reliable degradation rates but the trial at Great Chishill (United Kingdom) is not.

Dissipation of M-01 from soil was moderate to slow with DT₅₀ values ranging from Q3 an Q344 days for all test sites. An overview of the results is given below:

				(// j	
Location	Soil Type	pH/	Best Dit	DT50	DT90
	(USDA) O	$(Ca)^{C}l_{2})^{A}$	Best Dit Kinctic Modelb	[d/]	[d]
Burscheid (Germany)	Filt Loam (0-50 cm) Loam (50-100 cm)	\$ 5.3 P	FOMC	©*133	651
Lignieres de Touraine (France North)	Sandy Loam (0-75 km) Clay Loam (75-116) cm)	5,9		344	> 1000
St.Etienne du Grès (France South)	Play I Bam (0-95 cm)	7.70	O DFOP	152	788
Albaro di Ronco	Clay Loado (0-75 cm)	\$7.3 V	SFO SFO	156	519
Vilobi d'Onyar (Spain)	O Loam (0-80 cm) Sandy Glay Loam (30-100 cm)	60	© SFO	160	532

A pH in 0-36 cm soil depth

## T. Materials and Method

#### A. Materia@

#### 1. Test Hem

AE C653711 (M-01) formulated as a suspension Concentrate (125g/L AE C653711)

Certificate of Analysis: \$\int \int 0186\sqrt{00}

Lot No: 2015-000656

# 2. Trial Location & Soft

A terrestral field dissipation with M-01 (AE C653711, called BAM in the report) prepared as a suspension concentrate formulation, containing 125 g/L M-01 was conducted at three locations in Northern Europe and at three sites in Southern Europe. The six locations were Burscheid (Germany), Great Chisfull (United Kingdom) and Lignieres de Touraine (Northern France), St. Etienne du Grès (Southern France), Albaro (Italy) and Vilobi d'Onyar (Spain). The sites were fully characterised, and the results summarized Table 7.1.2.2.1- 120 and Table 7.1.2.2.1- 121. The plot sizes ranged from 400 sqm to 600 sqm. The control plot was prepared at least 5 m away from the treated plots.

B FOM First order multicompartment; DFOP: double first order in parallel OFO: Simple first order



Table 7.1.2.2.1- 120: Location, site description and climatic data of test sites in Northern Europe

	TT *4		Sampling	depth [cm]	
Characteristic	Units	0-30	30-50	50-75	75-1000
Soil Designation	ı		Burscheid	(Germany)	
Soil ID	ı		VC	G08 奏 🔃	
Geographic Location	-		Burscheid		
City					
Country		-	Gern	nany	
рН	CaCl ₂	5.3	5.6	5.6	×5.6 ~
Organic carbon	[% Carbon]	1.2	0.4	0.1	70.1 °C
CEC	[meq/100 g]	12.8	11.8	12,40	3 11,8
Chalk	[% CaCO ₃ ]	12/8	1468	124	Q 1,09 S
Particle size distribution (USDA)			Q &	4 4	
Clay < 0.002 mm	%	Q 21	→ 23, ©	~ 19 √°	\$ 13 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Total silt 0.002 - 0.050 mm	%	61.0	57	, © 436°	37
Total sand 0.050 - 2 mm	%	Y 18 4	<b>29</b>		₄ 50
Textural class	USDA₄	sit loam	sin Ploam O	loam 🍼	Joan L
Water Holding Capacity	4 T		~ 4		
MWHC (pF 0.05)	Vod‱ ∘	49.39	5026 ·	45.9	39
WHC at 0.1 bar (pF2)	<b>y</b> ‰%.≪	<b>35</b> .2 %	2 2 9 ×	<b>30</b> .3	29.9
Soil Designation	,0°- ~	~ G	reat Chishill (	Inited Kingdon	m) 🗞
Soil ID	~~ <del>~~</del>	~		G&	, V
Geographic Location	¥ <u>, \$</u>				7
City			Great Chishill,	Camb@dgeshire	3
Country			L United k	Kingadom	
pH 🗞	O CaCo	7.2 °	7.50	779	7.6
Organic carbon	[% Carbon]		1.1	\$ 40.5°	0.5
CEC	[m@q/100 s	<b>2</b> 9 . 0	\$26.1 <i>(</i>	s. \$30 9	17.4
Chalk	CaC ₂ O ₃ ]	. 13%	5.8	\$\int_37.9	43.1
Particle size distribution (USDA)		3 1.5	9.00	~ 37.7	43.1
Clay $< 0.002 \text{ mm}$				<b>♥</b> 53	51
Total silt 0.002 0.050 mm	& % ×	23.		23	23
Total sand 0.000 - 2 mm	O % & W	36	34 @	24	26
Textural class	DSDA ?	cla	clay	clay	clay
Water Holding Capacity		y crug		City	City
Water Holding Capacity  MWHC (pF 0.05)  WHC at 0.1 bar (pE2)	Vol %	060.8	, O ₇₇₂	52.6	49.5
WHC at 0.1 bar (pE2)	Vol	29.2	27.9	25.3	25.9
Soil Designation	V 0100	~	ignieres de To		
Soil ID	<u> </u>			109	~)
Geographic Location			110		
City		<b>37</b> 130	Lignieres de To	uraine Central	Region
Country		)		nce	Region
pH Q	CaCl ₂	5.9	6.5	6.8	6.8
Organic carbon	[% Carbon]	0.8	0.3	0.8	0.8
Challe Challe	[meq/000 g]*	W.*	13.2	14.7	21.8
Chalk	[%CaCO ₃ ]	0.2	0.3	0.3	0.0
Particle size distribution (USDA)		1.7	1.7	10	27
Clay < 0.002 0 m	° 9/60°.	15	15	19	37
Clay < 0.002 mm  Total silt 0.002 - 0.050 mm  Total sand 0.050 2 mm		15	19	25	33
	% HGD 4	70	66	56	30
Textural class	USDA	sandy loam	sandy loam	sandy loam	clay loam
Water Holding Capacity MANHC (pt 0.05)	TT 10/		45.5	50.0	
MXYHC (pt20.05)	Vol %	44.4	47.7	52.3	61.5
WHC at 6.1 bar (pF2)	Vol %	17.5	20.6	26.1	33.1



Table 7.1.2.2.1- 121: Location, site description and climatic data of test sites in Southern Europe

	TT *4		Sampling	depth [cm]	
Characteristic	Units	0-30	30-50	50-75	75-1000
Soil Designation	-		St. Etienne du	Grès (France)	
Soil ID	-		FR	208	
Geographic Location	-				
City		13103 St. Et	ienne du Grès, Pr		Côte d'Azar
Country			Fra	nice	
рН	CaCl ₂	7.7	7.7	7.8	7.8
Organic carbon	[% Carbon]	0.8	0.6 0'	0.6 උ	90.4 <b>U</b>
CEC	[meq/100 g]	11.7	11.5	13,2	3 14.6
Chalk	[% CaCO ₃ ]	42/j	42/1	425	<b>₹</b> 4307 °
Particle size distribution (USDA)	0.4				
Clay < 0.002 mm	%	29	31.	739	43
Total silt 0.002 - 0.050 mm	% %				3 <b>9</b> 0°
Total sand 0.050 - 2 mm		)	clay loam	alay laam	To Selay &
Textural class	USDA	clay loan	cray roam	clay loam	Clay &
Water Holding Capacity	Valor.	163	D 124 .	0" 1959	51.5
MWHC (pF 0.05) WHC at 0.1 bar (pF2)	VOI.7/0 %	400 F	* ************************************	7 4000 1000 2 L	29.0
Soil Designation			Albaro	(Italy)	1 <u>2</u> 3.0
Soil ID	<u> </u>	<b>Y V</b>	Auguro	230	<u> </u>
Geographic Location	<del>\</del>				**
City		370\$5	Albaro di Rono	co all Adige	Veneto
Country		3703/2		alv 🗞 🐪	Veneto
pH ©	O Cació	7,3	720	7.5°	7.4
Organic carbon	[% Carbon]s		7 15	7 207	0.6
CEC	[meq/100 g]	Q 9.7 ×	20.1 %	\$7.9	17.1
Chalk	$\mathbb{C}$ Ca $\mathbb{C}$ 03]	\$ 10.6	12.00	√ 14.1	11.8
Particle size distribution (USDA)	79	~0 /		71	2270
Clay < 0.002 mm	/. % ~	* 35 S	<b>®</b> 3 , S	35	41
Total silt 0.002 0.050 mm		√343 ×	45	45	39
Total sand 0.090 - 2 ppm	/.0	22	○ 22, ©	20	20
Textural çlass	USA)A (	clay loam	, clay/pam	clay loam	clay
Water Holding Capacity  MWHC (pF 0.05)  WHC at 0.1 bar (pF2)		\$ 79			
MWHC(pF 0.05)	Vol %	61.5	62.7	67.8	65.5
WHC at 0.1 bar (pFQ)	Vol®*	√ 35. <b>%</b>	å″ 35.9	41.1	37.6
Soli Designation ~				yar (Spain)	
Soil ID	- 6° - 3	.5	SP	A1	
Geographic Location	* -~		7107 111 1 12		
City	" <u> </u>	n W	.7185 Vilobi d'		a
Country A	O CI			ain	7.0
pH	CaCl ₂ Carbon]	%6.0 0.8	6.1 0.3	6.6	7.0 0.1
CE CEC	J,‰ Car∌on] √[meq/Q00 g]°		11.9	0.1 13.5	14.2
Chalk	[%CaCO.]	0.3	0.2	0.1	0.2
Particle size distribution (USDA)		0.3	0.2	0.1	0.2
Clay < 0.002 mm		17	27	29	27
Total silt 0.0002 - 0.500 mm		33	23	15	15
Clay < 0.002 mm  Total silt 0.002 - 0.050 mm  Total sand 0.050 2 mm	%	50	50	56	58
			sandy clay	sandy clay	sandy clay
Textural classon	USDA	loam	loam	loam	loam
Water Holding Capacity					
MWHC (05 0.05)	Vol %	41.4	44.5	47.9	47.3
WHC at 0.1 bar (pF2)	Vol %	21.5	20.7	23.9	22.4



#### B. Study Design

#### 1. Experimental Conditions

BAM SC 125 is a suspension concentrate formulation, containing 125 g/L M-01 (AE C653711). The product was sprayed onto bare earth once at each site at an application rate of 0.8 L/ha and 600 L/ha water, corresponding to 100 g/ha of M-01 during May and June 2015. Thoughout the study pocultivation was carried out and the plots were maintained as bare plots by periodic application of a nonselective herbicide to control weeds.

Air temperature, precipitation including irrigation and sunshine data we've recorded on site diving the field tests.

Soil dissipation of M-01 was studied for up to 744 days

#### 2. Sampling

The treated plot of the trial was divided into three sub-plots From each sub-plot for soil cores were taken and combined together at each sampling interval 30 cores in total).

Samples were taken on the following occasions: 0 (post-application, each 0-10 on depth), 6-8-14-15 (each 0-60 cm depth), 21-22, 27-29, 56-68 (each 0-85 cm-depth), and 118-135 (each 0-204, 259-307, 348-400, 436-488, 518-558, 605-670, 699-744 (each 0-10 cm depth) days after treatment (DAT). From the control plot samples were taken on the following occasions: 65 ays before application, 364-369 or 699-701 and 714 days after application. Soft cores were deep from to 18°C.

#### 3. Analytical Procedures

The analytical method 01445 was used to determine levels of Mo1. Soil samples of 5 g were extracted in a microwave extractor with a posture of acetonitrile water (4/1, v/v). The extracts were centrifuged to remove fine particles of the soil. Possible matrix effects of M-01 were eliminated by using an internal standard solution of isotopic labelled reference items. Quantification was carried out by LC-MS/MS. The limit of quantitation (LOQ) for M-01 was 1.0  $\mu$ g/kg in soil. The limit of determination (LOQ) for M-01 was 0.3  $\mu$ g/kg.

During malysis of the dissipation samples, concernent recovery samples were prepared freshly by fortification of control samples with test item M-01. The mean recovery for M-01 was 101 and 103% (RSD 9.5.%).

# 4. Evaluation of the Data and Kinetic Calculations

For evaluation of degradation kinetics of the test item according to the FOCUS guidance document on degradation kinetics, the total residue of the test item in the soil profile covering all soil horizons was calculated according to the following procedure.

- values between LOP and LOQ were set to the measured values.
- values < HOD were set to 0.5 LOD for samples after, before or deeper as a value > LOD or for samples between (> LOD and <LOQ). The curve was cut off after the first non-detect (< LOD), if no later value > LOQ followed.
- at at  $\sqrt{2}$  at  $\sqrt{2}$  dues LOD in deep horizons were set to 0.

The results in [µg/kg] were converted to [g/ha] considering the actual soil density of the corresponding soil lave.

DT₅₀ and DT₉₀ values for the degradation of M-01 (AE C653711) have been calculated from the reported data using the software KinGUI (version 2.1). To derive trigger endpoints, a comparison was performed for each site between the SFO, FOMC and DFOP fits. For the derivation of trigger endpoints, FOCUS



recommends to use the best-fit model. In an initial step, data for the applied compound fitted using the SFO and FOMC models were compared. If the SFO model provided a better fit overall (both visually and statistically), this fit was selected. If the FOMC model provided a better fit, the FOMC and DEOP fits were compared, and the model that provided the best fit overall was selected. It should be note that extrapolation beyond the experimental period is not recommended for deriving robust DT₉₀ values using the FOMC model (EFSA, 2009), and this has been considered where relevant in the selection of the most appropriate model.

### II. Results and Discussion

Under field conditions BAM residues were translocated up to 110 cm Tepth in the trial at Great Chishill United Kingdom with 55-100% of measured residues remained in the top 0-30 cm depending on the timepoint. However, there was significant mobility of BAM to deeper will layers (see Table 7.1.2 211-122) with levels as low as 79% of residues retained in 0-100 cn woil depth (one of a total measured septh of 110 cm). Comparable calculations at the other five sites show >90 to 100% of speasured residues are contained within 0-100 cm depth. Consequently the trials at Burschood (Germany), Lighteres de Touraine (France North), St. Etienne du Grès (France South), Albard di Ronco all'Adige Italy) and Vilobi d'Onyar (Spain) are acceptable o determine reliable degradation rates but the trial at Great Chishill (United Kingdom) is not due to significant feaching of residues out of the sampled soil depth.

Table 7.1.2.2.1- 122: Retention of M-01 residues with soil depth

Trial site	Residues of Mall with soil depth	Percent of M-01 residue	Trial acceptable for
		in 0.400 cm depth	DegT ₅₀ evaluation
St Etienne du Gres (France South)	M-Odoretain of in top oil layers	100%	Yes
all'Adige (Italy)	M-01 resained in topsoil layers		Yes
	Some mobility of M-01 to deeper Q Layers \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	, , , , , , , , , , , , , , , , , , ,	Yes
(Spain)	Some Phobility of M 101 to desper layers	>99%	Yes
(France North)		\$\tag{00\%}	Yes
Great Chishill (United Kingdom)	Heavy clay to am over calcuceous clay. Chromatographic mobility of	Only >80%	Unacceptable
	M-01 no expected. High bypass flow ib 2 out of 3 subplots.	Ö	

A Out of a total measured depth of 110 cm

The decline of M-01 residues with time for the entire soil profile of the five acceptable trial sites is presented in Table 7.1.2.2.1-123 to Table 7.1.2.2.1-127.

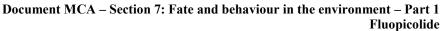




Table 7.1.2.2.1- 123: Residues of M-01 in soil from the Burscheid trial after an application of 100 g a.s./ha, pre-processed values in entire soil profiles (0-110 cm) (expressed as

Burscheid							DAT	(days)					2/	Y I
(Germany)	0	7	15	21	28	63	121	172	259	395	436	518	603	701
T1	98.9	86.3	1333	114	139	83.5	32.4	49.6	41.0	28.3	<b>®</b> 0.7	19.5	13.6	_{0.} 10.0
T2	131	121	129	180	107	89.6	50.6	35.9	24.5	254	18.1	22.16	8.85	
Т3	94.7	107	107	143	135	90.6	67.6	<b>≈</b> 49.1	34.8	38.1	29.7	20.7	1,5.8	13.2
Mean	108	105	123	145	127	87.9	50.2	⁷ 44.8	33.4	30.5	22.8	<b>\$0.5</b>	<b>3</b> .4	<b>1</b> 5.5

DAT = Days after treatment

Table 7.1.2.2.1- 124: Residues of M-01 in soft from the Ligarieres de Touvaine France Northy trial after an application of 100 g a.c. ha, pre-processed values in entire soil profiles (0-110 cm) (expressed as g/ha)

Lignieres de						,***	D ₂ T	(days)	ÓY			, K	, 2	Z
Touraine (N France)	0	7	14	210	28%	56,	<b>》</b> 120~	§166 _~	%277 %	<b>3</b> 48	438	<b>591</b>	) <b>(4)</b> 3	699
T1	87.6	71.9	74.5	<b>₹</b> 2,9	80.3	6 <del>4</del> 8	5957	57,8	55,80	48.9	ال 28.2	L 16	%16.7	17.0
T2	83.8	73.9	66.7	گِ77.4 ٍ <i>ٍ</i>	67.2	<b>©</b> 8.1	<b>\$</b> 0.5	<b>54</b> .9	<b>43</b> .2	4393	30.5	27/4	19.8	20.5
Т3	87.2	72.0	64.9	74.6	60AS		56.5	70.8	,42.1 _%	<b>4</b> 1.2	<i>≩</i> 7.7	18.8	13.7	15.7
Mean	86.2	72.6	<b>%8.7</b>	<b>%</b> .6	69.2	63 ² ,1	55.5	61.1	47.0	44,4	<b>28.8</b> (	22.3	16.7	17.7

DAT = Days after treatment

Table 7.1.2.2.1-125: Residues of M-01 in soil from the St. Etienne do Grès (France South) trial ofter an application of 100 g a.s./ha. pre-processed values in entire soil profiles (0-110 cm) (expressed as g/ha)

<u>Q</u>						<u>~</u>	402	_						
St. Etienne du Grès		Ž			<u>o</u>		DAT	(days)						
du Gres (S France)		. Ø	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	21	36≫	58	118	167	<b>⊘</b> ∕ 280	352	450	519	646	714
T1	89.6	$^{7}80.8_{4}$	70.1	<b>26</b> 9.6 s	<i>J</i> 2.2 ,			25.7	28.5	28.9	13.6	11.9	9.51	6.33
T2	89.6 78.2	80G,	75.0	73.8 [©]	83.j^	67.1 ₆	¥43.1	36.1	30.2	35.7	23.2	11.9	6.31	9.36
T3 *	<b>9</b> 5.9	\$5.8 ¢	<b>8</b> 2.8	73.8 73.8 269.6 s	13.9	64,2	42.0	41.7	48.1	42.8	18.9	12.1	8.15	8.62
T3  Mean  DAT = Days aff	87.9	79.0	<b>76.0</b> ^	74.8 ₀	76.4	<b>8</b> 4.4	<b>39.0</b>	37.8	35.6	35.8	18.6	12.0	7.98	8.09
DAT = Days aft	ter treatr	nen#	<i>A Q</i>			, «Q	y							
4	*	J'			W' Q									
T2 T3 Mean DAT = Days aft						,								



Table 7.1,2.2.1- 126: Residues of M-01 in soil from the Albaro trial after an application of 100 g a.s./ha, pre-processed values in entire soil profiles (0-110 cm) (expressed as

Albaro						DAT	(days)					
(Italy)	0	6	14	21	27	57	121	175	282	<b>364</b>	450 @	, 541
T1	94.7	88.4	69.6	72.0	68.2	49.7	49.1	33.8	35.8	19.9	4.85	0,95
T2	98.0	80.7	70.3	52.4	53.5	65.1	52.3	42.7	<b>310</b> .0	15.1	ð. 1	<b>1.01</b>
Т3	108	63.6	79.7	79.9	119	49.6	≈ ₄ 57.2		<b>3</b> 1.4	16.4		1.06
Mean	100	77.6	73.3	68.1	80.2	54.8	52.9	40,8	32.4	17	4,907	1.01

DAT = Days after treatment

Table 7.1.2.2.1- 127: Residues of M-01 in soil from the Vijobi d'Onyac trial after an application of 100 g a.s./ha, pre-processed values in entire soil profiles (0-110 cm) (expressed as g/ha)

Vilobi					Ø)		D	T (da	<b>(</b> \$\$)	O ^Y			₩		
d'Onyar (Spain)	0	8	15	21	<b>9</b> 27 _[	<b>45</b> 6	. 128	167	279	369	488	((// /)	<b>\$</b> 46	628	714
T1	106	98.1	87.6	76®	89	78. <b>5</b>	54.4%	66.4	<b>3</b> 6.7	23.7	850	6.38	- %	4.45	6.75
T2	111	98.2	108	<b>\$</b> 3.2	<b>. 1</b> 2.2	7290	52	39. <i>5</i> ©	28.8	20.2	P.13	<b>3</b> 30	941,9	3.79	2.77
Т3	119	90.6	91.8	73.8		<b>%</b> 1.6	43.1	56.0	39Ç\$	14,9		- ′	4.52	3.92	3.39
Mean	112	95.6	95.8	7708	80.5	77.4	50.1	54.0	35.0	19.6	7.50	(6,4)	10*	4.05	4.30

DAT = Days after treatment, *combined values of day \$35 & 546 (mean of 4 values)

In Table 7.1.2.2.1-128 to Table 7.1.2.2.1-132. the M-01 datasets for the entire soil profile pre-processed according to the procedures described in FOCUS kinetics guillance (as described above) are presented.

Table 7.1.2.2.1 128: Residues of MV01 in soil from the Burscheid trial after an application of 100 g a.s./ha, pre-processed values in entire soil peofiles (0-110 cm) (expressed as g/ha) according to the OCUS guidance document

		$\sim$				$\triangleleft(\lambda)$	· 📎					
Burscheid			115 14 180 10		ÔDAT*	(days)	0					
(Germany)	0 . 0 4	√( 1 ĕ	21 .2	8 63 40 45.5	<b>124</b> 35.0	174	259	395	436	518	605	701
T1	98.9 87.5	134	115 ¥14	10 \$5.5	35.0	<b>30</b> 7.9	41.6	28.9	22.0	20.1	17.6	12.5
T2	98. <b>9</b> 87.52	130	180	10 \$5.5 08 91.5 37 925	51.4	37.1	25.8	26.0	21.4	22.8	13.1	11.9
T3 *	94.7 108	P08	1,44	37 925	6706	51.6	34.8	38.3	30.6	21.5	18.8	13.8
Mean	108 106	124	146	28 89.8	<b>45</b> 1.3	46.5	34.1	31.1	24.7	21.5	16.5	12.7
DAT = Days af	ter treatment	4			)							
T1 T2 T3 Mean DAT = Days af	Ž'	~ ~										
¥		) (C	/ ¥	"O"								
		a Y		Õ.								
			W a	'n								
		Š .4	, ~	/								
W.			·									
45	2 4											
4												
	, O	<b>}</b>										
G												



Table 7.1.2.2.1- 129: Residues of M-01 in soil from the Lignieres de Touraine (France North) trial after an application of 100 g a.s./ha, pre-processed values in entire soil profiles (0-110 cm) (expressed as g/ha) according to the FOCUS guidance document

Lignieres de							DAT	(days)			ð		Û.	
Touraine (N France)	0	7	14	21	28	56	120	166	277	348	<b>2438</b>	531	649	×699
T1	87.6	72.5	75.1	78.4	80.9	65.4	60.3	59.5	56.3	49.7	28.7	21,5 [©]	17,30	
T2	83.8	74.5	67.8	77.9	67.9	68.7	51.6	<b>3</b> 6.6	43.8	<b>3</b> 3.8	31.0	28.0	20,3	210
Т3	87.2	72.6	65.5	75.2	60.7	56.9	57.2	71.3	42.9	<b>2</b> 41.7	28.2	Ø9.3	<b>3</b> 4.8	16.8
Mean	86.2	73.2	69.5	77.2	69.8	63.7	₄56.4	62.5	47/7	45.0	29.3	22.9	717.5 [©]	18.4

DAT = Days after treatment

Table 7.1.2.2.1- 130: Residues of M-01 in soil from the St. Etenne du Grès (France South) trial after an application of 100 g a.s./ha, pre-processed values in entire soil profiles (0-110 cm) (expressed as g/ha) according to the FOCUS guidance document

St. Etienne				Q,		- Pa	-	days	V .		"		∜ ∀	
du Grès (S France)	0	7	14	² 21 √	<b>28</b>	<b>©</b> 58	<b>A</b> 18	\$67	<b>23</b> 0	352	450	519	646	714
T1	89.6	81.3	70.6	70.3	720	62.	32.5	36.4	₹29.0°	29.6	<b>3</b> 14.1	12.5	10.1	6.85
T2	78.2	81.0%	<b>9</b> 5.6	74.3	<b>\$</b> 3.6	<b>£</b> 7.6	43.6	36.7	30⁄8	36.5	23.7	12.5	6.87	9.90
Т3	95.9	76,3	83.4	81.6⊘	74.4	§64.7 _?	\$\frac{42.5}{2}	<b>2</b> .3	<b>48</b> .7	43.4	.10.7	12.6	8.71	9.17
Mean	87.9	<i>7</i> 9.5	7695	75.A	769	65.0	39.5	⁹ 38.5	$^{\odot}_{36.2}$	36.4	<b>(19.1</b>	12.5	8.56	8.64

DAT = Days after treatment

Table 7.1.2.2 131 Residues of M-01 in soil from the Albaro trial after an application of 100 g a.s./ha, pro-processed values for entire soil profiles (0-110 cm) (expressed as g/ha) according to the FOCUS guidance document

Albaro	26		<del>y</del> «	J Ô		DAT	(days)					
(Italy)	94.7 98.3	6	140	- 100		<b>9</b>	121	175	282	364	450	541
T1	94.7	<b>8®</b> , §	<b>3</b> 0.5	<b>P</b> 2.7	<b>2</b> 70√ 2~68.5	\$30.3	\$49.3	34.3	36.5	20.5	6.49	2.00
T2 *	<b>9</b> 8.3	Ĉ81.6 €	[©] 70.↓°	¥ 55.8∑	54.0	65,2	52.6	43.3	30.6	15.6	4.15	2.04
T3 🚄	108	64.20	8 <b>0.</b> ©	753	_1 <b>0</b> 0	<i>5</i> <b>Ø</b> .7	57.8	46.7	31.4	16.9	5.26	2.06
Mean	100	<i>√</i> 8.2	<b>103.</b> 7	67.9	80.5	<b>₹55.6</b>	53.2	41.4	32.8	17.7	5.30	2.03
T1 T2 T3 Mean DAT Days af												



Table 7.1.2.2.1- 132: Residues of M-01 in soil from the Vilobi d'Onyar trial after an application of 100 g a.s./ha, pre-processed values in entire soil profiles (0-110 cm) (expressed as g/ha) according to the FOCUS guidance document

Vilobi		DAT (days)										°/-	Y (		
d'Onyar (Spain)	0	8	15	21	27	56	128	167	279	369	488	<b>3</b> 45	546	628	713
T1	106	98.8	88.2	77.1	90.4	80.5	56.3	67.0	37.9	23.7	10.9	7.55	- 4	×5.04	<b>3</b> /.32
T2	111	98.8	109.0	83.8	72.8	72.5	52.7	40.1	29.4	20.8	<b>9</b> .33	7.21	1923	5.00	"3.3 <b>%</b>
Т3	119	91.3	92.4	74.3	80.6	82.1	44.3	573	40.7	16.	[₹] 8.46	-	<b>6</b> .20 ]	<b>2</b> 75	503
Mean	112	96.3	96.5	78.4	81.3	78.4	51.1	54.8	36.0	26.2	9.63	7,	32* ×	5.26	5.28

DAT = Days after treatment, *combined values of day 545 & 54 (mean of 4 values)

The residual amounts of the test item presented above (Table 7.1.2.2.1-128 to Table 7.1.2.2.1.132) were used as input data for determination of degradation timetics using the software KinGH, 2. The measured initial concentration at day 0 was included in the parameter optimization procedure. Based on criterion for chi² error to be minimal and visual assessment the best fit kinetic model was chosen for the evaluation of the dissipation time. The calculation considered the quantifiable cosidues for the whole soil profiles expressed in [g/ha]. The results are summarized to Table 7.1.22.1- 183 with best fits highlighted in bold letters. The dissipation of M-01 could be described using a first order multi compartment kinetic model for test sites Burseneid (German), a gouble first order in parallel kinetic model for test site St. Etienne du Gres (France South) and d single first order kinetic model for test sites Lignieres-de-Touraine (France North), Albaro di Ronco, all' Adrige (Italy) and Wilobi d'Onyar (Spain). The best fit half-lives for M-01 were between 433 and 344 days for the test sites. Best fit kinetics are highlighted in bold. compartment kinetic model for test sites Burscheid (Germany), a double first order in parallel kinetic model for test site St. Etienne of Gres France South and a single first order kinetic model for test sites

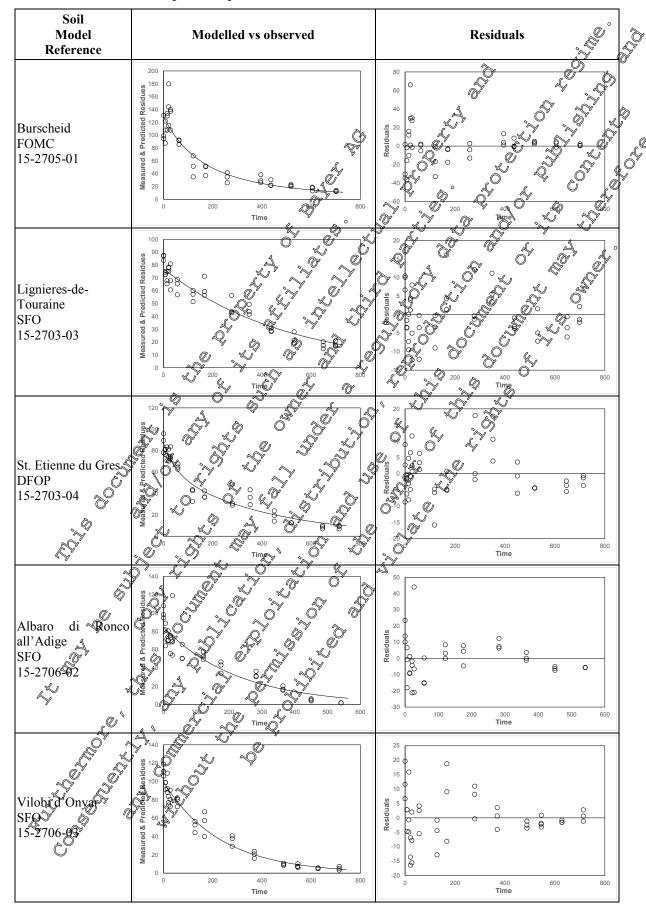


Table 7.1.2.2.1-133: Degradation rate of fluopicolide under field conditions (DT₅₀ values for trigger endpoints)

Soil	Kinetic model	M ₀	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob>t	Lower CI	Upper CI	DT ₅₀ [days]	DO 90
	SFO	125.3	k 0.004468	17.6	1.77E-10	0.003407	<b>99</b> 06	155.1 🖏	
Burscheid	FOMC	129.2	α 2.277 β 372.3	17.2	n.r. n.r.	-1.309 -413.9	5.863 1158	1325	<b>6</b> 81.1
15-2705-01	DFOP	129.6	k1 0.006776 k2 0.0001793 g 0.8658	17.4	0.9466 0.4846 1.r.	-0.0009 <b>36</b> 9 -0.00 <b>\$3</b> 61 0.08081	0.014 0.009 @ 1.65	1253	163/9
Lignieres-de- Touraine 15-2703-03	SFO	77.18	k 0.002015	7.47	<2e-16	<b>6.0</b> 01763°	0,002	<b>4344</b>	©1143¢
	FOMC	77.18	α 5547 β 2.75E+06	7.72	n.r. n.r.	7 485 2.7 <b>%E</b> +06 ₈	6239 275E+06	3,44	J. 13
	DFOP	86.2	k1 2.909 k2 0.001925 g 0.12#6	6.68	<2&16	2.909 0.001698 0.09003	2.9 <b>09</b> 9.002 0.1654	©287.7	1120
	SFO	80.96	k 0.009391 &	710.4°	<2e,16	0,0029134	0.00	204.4	<b>679</b>
St. Etienne du Gres	FOMC	85.05	3 261.5	9:45	n.r.	©0.3865 7 -27 ©7	2578 550.3	\$155.95	
15-2703-04	DFOP	86.90	k1 0.01978 k2 0.002484 (g,0.2927)	8.89	0.069 5.04£-06 n.r.	-0.005905 0.001527 0.05384	0.045 0.093 0.532	<b>351.6</b>	787.7
	SFO %	84.54	R 0.004339	<b>12</b>	1.23E-09	0.003353	<b>0.006</b>	156.2	518.8
Albaro di Ronco all'Adige	FOMC	84.50	ν α 6785 β ₹ 53E+06	120	no. Tr.r.		84 <b>0</b> 0 1. <b>53</b> E+06	156.2	518.8
15-2706-02	FOR	00.3	k2 0.6452 yk2 0.06408 gQ2048		0.427 6.30F-09 n.r.	-6.524 0.0003024 .00000	7.874 0.005 0.339	113.7	508.1
***	SPO	99.34	k 0.004325	<u>\$</u> 264	€2e-16Ô	0.003773	0.005	160.2	532.3
Vilobi donyar	FOMC	/99.68	α 23-7 β 5298	9.94	n.i	-260.9 -37290	208.3 47890	157.2	540.5
15-2766-03	DFOP	112.2	k 0.13 5 k 2 0.003 954	7.5	≪2e-16	7-0.04706 0.003382 0.0856	0.31 0.005 0.263	126.9	533.9
Best fit model high	esentation	n bold of the	Anal Labetic	Jes is sh	wn belo	W.			



Table 7.1.2.2.1- 134: Graphical representations of best fit model





#### **III. Conclusion**

M-01 was moderately to slowly degraded in soil at five trial sites in Northern and Southern Europe. Residue levels were in the range of 1.01 to 17.7 g/ha at study end. The dissipation of M-01 was best described by FOMC or DFOP kinetic models at two sites and SFO at three sites with best fit DT₅₀ values ranging from 133 and 344 days. A six site was not considered acceptable to determine half-live due to significant leaching out of the sampled soil depth.

Assessment and conclusion by applicant: The study is considered valid to assess test substance soft DegT_{50matrix} values for field studies as defined by EFSA (2014). The endpoints may be too conservative to assess persistence as the design minimized soil surface processes as required by EFSA (2014) and such processes may contribute to dissipation.

Data Point:	KCA 7.1.2.2.1/22
Report Author:	
Report Year:	Fluopicode - Killetic evaluation of degradation on soil under field conditions to
Report Title:	Fluopicot de - Kinetic evaluation of degradation soil ander field conditions to
	derive modelling endpoints - You sites on three Luropeon countries (legacy studies)
Report No:	VC/19/041B
Document No:	M-685676-01-1
Guideline(s) followed in	not applicable of the None of
study:	
Deviations from current	None of the second seco
test guideline:	
Previous evaluation:	No, not previously submitted
GLP/Officially	No, not conducted under GAP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes Z O

#### **Executive Summars**

DegT50_{matrix} values for fluopicalide, normalised to 20°C and pF2, were derived for use as modelling endpoints according to FOCUS Kinetics guidance (FOCUS, 2006 and 2014a) and the EFSA Guidance Document for deriving DegT5 walues (EFSA, 2004). The influence of surface processes, e.g. photodegradation and volatilisation, was minimised following EFSA recommendations (EFSA, 2014). The DegUS0_{matrix} values derived in this study represent degradation in the bulk soil matrix.

Fluoricolide was applied to bare soil in fix terrestrial field dissipation trials in Germany, France, and Spain, at an application rate of 400 g/ha (Philippsburg, Rödelsee, Huntlosen, Valencia and Appilly sites) or 500 g/ha (Senas site). No cultivation village or irrigation was carried out at these sites after application.

Kinetic analysis was performed for the transformed data sets using KinGUI v. 2.1. To minimise the influence of surface processes in the first instance data points before 10 mm rainfall and irrigation were eliminated (EPSA, 2014). The selection of the most appropriate kinetic model was based on a detailed analysis, including visual assessment of the fit and residuals, □²error% and t-test significance, following EFSA recommendations (EFSA, 2014) and FOCUS guidance (2006 and 2014a).

Calculated DegT50_{matrix} values for fluopicolide using the Single First Order (SFO) model are summarised in the table below:



Fluopicolide	Aerobic field condition	18						
Soil type	Location (country or USA state)	pH (CaCl ₂ )	Depth (cm)	DT ₅₀ (d) actual	DT90 (d) actual	St. (χ²err) (%)	DegT50 _{matrix} (d; 20°C, pF2)	Method of calculation
Loamy sand	Philippsburg (Germany)	6.4	0-50	-	-	9.477	<b>\$199.6</b>	SFO
Sandy clay loam	Rödelsee (Germany)	7.4	0-30	-	-	21.59	146.4	SFO
Sand	Huntlosen (Germany)	4.9	0-50	-	-	15.45	168.4	, <b>8</b> € 0
Loamy sand	Valencia (Spain)	7.3	0-30	Š	-	13.95	317.4	SFO
Sandy silt	Appilly (France)	7.1	0-30	<u>-</u>	- (	<b>\$</b> 1.16	1424.2	SEO
Sandy silt loam	Senas (France)	7.6	0-45,@	j" -	- 😽	9.864	©36.5 [©]	<b>S</b> PO
Geometric mean	(if not pH dependent)	•				Q Q	Q 177	

In accordance with EFSA guidance (EFSA, 2014), no DegT matrix values were derived for the metabolites of fluopicolide observed in these trials, as kinetic parameters derived for metabolites from legacy studies may not be wholly reflective of balk soft matrix degradation.

### / I. Materials and Methods

The purpose of this study is to evaluate six legacy European field frials conducted at the field sites of Philippsburg, Rödelsee, Hunt sen, located in Germany, Valencia in Spain and Apply and Senas in France to derive DegT50_{matrix} values (normalised to 20°C and pF2) in the bulk soil matrix.

The datasets collected were evaluated following the EFS Guidance Document for deriving  $DegT_{50}$  values (EFSA, 2014), and the recommendations of the FOCUS Kinetics group (FOCUS, 2006 and 2014a). In accordance with EFSA Suidance (EFSA, 2014), no  $DegT_{50}$  matrix values were derived for the metabolites of fluoricolide observed in these trials, askinetic parameters derived for metabolites from legacy studies may not be wholly reflective of bulk-soil matrix degradation.

Details of the terrestrial field dissipation studies used to the kinetic evaluation are summarised in CA 7.1.2.2.1/01/CA 7.1.2.2.1/02, CA 7.1.2.2.1/03 CA 7.1.2.2.1/04, CA 7.1.2.2.1/08 and CA 7.1.2.2.1/09. At all sites, fluopicolide was applied onto bare soil in the spring/early summer. No cultivation or irrigation activities occurred during the trial periods, and no fertilisers were applied during the field phase of the studies A summary of the trials is given in Table 7.1.2.2.1-135.

Table 7.1.2.2.1, 135: Summary of terrestrial field dissipation studies

Document	I /W .	Dayof application	Pate ≪ (g ∀a.s./ha)	Soil Texture	pH (CaCl ₂ )	Duration (days)	Last sampling date
(2005a)		\$0/06/2 <b>0</b> 00	400	Loamy sand	6.4	735	25/06/2002
	Radelse Germany)			Sandy clay loam	7.4	721	29/05/2002
20025	Huntlosen (Germany)	31/05/2000	400	Sand	4.9	722	23/05/2002
(2004)	Valencia S(Spain)	04/07/2001	400	Loamy sand	7.3	708	12/06/2003
KCA 7,10.2.1/08, (2005b)	Appilly (France)	16/06/2000	400	Sandy silt	7.1	735	21/06/2002
KCA 7.1.2.2.1/04, (2003)	Senas (France)	24/06/1999	500	Sandy silt loam	7.6	716	09/06/2001



In accordance with EFSA guidance (EFSA, 2014), data points prior to 10 mm rainfall were discarded from each data set to minimise the influence of soil surface processes such as photo-degradation and volatilisation. A summary of the data points removed from each data set is given in Table 7.1.2.2.1-136.

Table 7.1.2.2.1- 136: Elimination of data points before 10 mm rainfall

Site	Weather station for precipitation	Actual day at which 10 mm rainfall reached	Normalised day at which 10 mm rain reached	Rain before this day (mm)	First experimental sample after 40 mm (normalised day)	
Philippsburg	Site	5	3.0	3.4	12.8	Q d0,d0
Rödelsee	Site	18	18.1	3.8	Ø 27 D	∜ d0,d1,d3,d4√
Huntlosen	Site	4	3.60	00	32	√d0,d1~√
Valencia	Alboraya	86	¥5.3 Q		C \$3.4 C	d0,d1,d3,d4,d5
Appilly	Site	16	11.1	©3.4 ©	$20.6^{\circ}$	60,d1,d3,d4 (d5),a°
Senas	Site	36	56°5 ×	y 5. <b>%</b>	A 900 V	d0,d1,d3,d4,d5

^a Additional analysis was performed for the Appilly data set with the data point at 20.6 days also respoved.

Soil samples were collected to a maximum depth of 45-705m, depending upon the test site. After sampling, the cores were cut into increments according to depth and analysed. These core samples were analysed for fluoricolide, with a limit of quantification LOQ of 0.005 mg/kg (dry weight) for all studies.

Where applicable, residue data from repricate abplots were processed separately. Residue data were checked for consistency and obvious outliers. Experimental data sets and data points were weighted equally in the kinetic apalysis.

The Limit of Detection (LOD) was not reported for any of the data sets analysed; instead only the Limit of Quantification (LOQ) was given, with any residues below this level reported as "<LOQ". It has been assumed that residues perorted as "COQ were also <LOD, and these residues have been adjusted as outlined below, in keeping with the FOCUS Kinetics guidance (FOCUS, 2006 and 2014a) and also accounting for the movement of the test compound down the soil profile:

#### In the top horizon:

- Samples AOQ just after a quantifiable amount were set to ½ LOQ.
- All subsequent samples < LOQ were mitted, unless later samples > LOQ were observed.

#### In lower horizons:

- No adjustments were made in lower horizons antil the first sample >LOQ was observed below the top horizon.
- Thereafter

  - All subsequent samples LOQ were omitted, unless later samples >LOQ were observed.
  - Where a sample >LOO in a deeper layer was reported, samples <LOQ in higher layers at the same time point were set to ½ LOQ.
  - An additional adjustment was made to the shallowest residue-free layer at every time point, which was set to ½ LOQ.

In all cases adjustments were made only to layers where samples had been analysed.



Residue values were given in the original study reports in units of mg/kg (dry weight). Insufficient data were available to convert these residues to units of g/ha, therefore the kinetic analysis was performed using residues averaged across all relevant soil layers, with the contributions from each layer weighted to account for the depth of the layer, expressed in units of mg/kg (dry weight).

Kinetic calculations for the degradation of fluopicolide in field soils were performed using King UI 2.1 with three kinetic models - SFO, FOMC and DFOP. The goodness of fit with each model was evaluated based on visual assessment and chi-square test, and the degradation rate was then also evaluated was the t-test. The degradation rates for persistence trigger and exposure modelling were then determined from an acceptable kinetic fit following FOCUS and EFSA guidance.

## II. Results and Discussion

Following the EFSA decision tree an initial SFO it was performed to each data set after diminating all data points before 10 mm rain. For five of the six trial sites, an acceptable fit was obtained at this step using the SFO model.

For the Appilly site, a further fit was performed using the DFQP model with the complete data set (i.e. no data points eliminated). The parameter g, which defines the fraction of mass applied to the fastdegrading compartment in the DFOP model, exceeded the threshold of 0 3 recommended in the EFSA guidance, and the DFOP fit was therefore not accepted.

Subsequently, the complete data set for the Appilly site was bitted using the HS medel. The optimised breakpoint, tb, occurred at 0.7 days, i.e. before 10 mm rain had occurred, and the HS fit was therefore not accepted. The breakpoint parameter, the was subsequently fixed to the normalised time at which rainfall exceeded 10 mm (1) .1 days), however this resulted in a fit that was visually unacceptable.

eedt accepter.

Appilly side pefore 10 min ra et., fly was gubseque, however this resulted it.

aned for the Appilly site gisii.

emening one additional time poin a robinst description of degradation at later residues is appropriately description. Finally, an acceptable fit was obtained for the Appilly site using the SFO model excluding all data up to and including 20.6 days (i.e. removing one additional time point). It is proposed that the DegT₅₀ value derived from this fit provides a robust description of degradation in the bulk soil matrix at this test site, i.e. the pattern of feeling in later residues is appropriately described. The results are summarised in



Table 7.1.2.2.1- 137: Results for fluopicolide: summary of kinetic analysis

Kinetic model	DT50	Γ50 DT90		χ²err	k ₁ / α	k ₂ / β	t _b / g	t-test k ₁ / k ₂	
		(d)		(%)	(1/d / -)	(1/d / -)	(d / -)	(-)	
Philippsburg									
SFO ^a	199.6	663	+	9.477	0.0034732	ı	- 8	3.00E-08	M
Roedelsee								, O	
SFO ^A	146.4	486.2	0	21.59	0.0047355	<b>Ö</b> -	¥-	7.53£-07 ~	M
Huntlosen					e .	7	Ŗ	W X	
SFO ^A	168.4	559.4	+	15.46	0.0041661	- 🖇	<del>-</del>	_01.64E <del>-06</del>	OM S
Valencia						~ ~ ·	Ç Q		
SFO ^A	317.4	1055	+	13.95	0.0021835		~ - ~	4,83E-07€	
Appilly				(		Z Z			4
SFO ^A	83.04	275.8	-	18,59	0.00 3474	Q	,	3.40E-11	
DFOP ^B	87.4	1.66E+13	+	13.84	~0,01005 _y	2.2 <b>©</b> E-14	0.8550	0.187 / 0.5	
$HS^B$	92.05	329	0,0	©14.6%	Ø.1036 <b>9</b> 37	0.006793	0.69999999	\$\tilde{\pi} 0.38\tilde{\pi} \right	
			Ö			y v		7 1.41942-08	
$HS^{B,C}$	103.5	318.1	Ž	13.94	2.22E-14	0.007501	11.10	30.5 / 3.31E-08	
SFO ^D	144.2	479	δ̈́	11,16,	0.0048073	4 - 8	<u></u> ~ (	2.5409	M
Senas		Ža (	<b>Y</b>		øy o				
SFO ^A	136.5	°≈,453.6,	+	<b>9</b> .864 ₂	<b>9</b> .0050 <b>16</b> 6	Q \- \		2.09E-11	M

A – Data points before 10 nam rainfal eliminaed

A summary is given in Table 7.1.2.2.1-138 of the Dep 750_{matrix} values derived for fluopicolide for use as modelling endpoints. These values are normalised to 200°C and p 2.

Table 7.1.2.2.1- 138; Deg (50_{matrix} values for fluopicolide, normalised to 20°C and pF2, for use as modelling endpoints

Soil W Kineth model	DegT50 _{matrix} (days)
Philippsburg (Germany)	199.6
Rödelsee (Germany)  Huntlosee (Germany)  SFO	146.4
Transfer (Sermany)	168.4
Valentera (Spain) V SFO	317.4
Appilly (France) SFO	144.2
Senas (France) SFO	136.5
Senas (France) SFO  Geometric mean	177
Geometric prean The Control of the C	

B – All data points included

^C – Breakpoint (t_b) fixed to 11.1 days

 $^{^{}C}$  – Breakpoint (t_b) fixed to 11.1 days  D  – Data up to and including 2006 days from all sed times exclude  D 



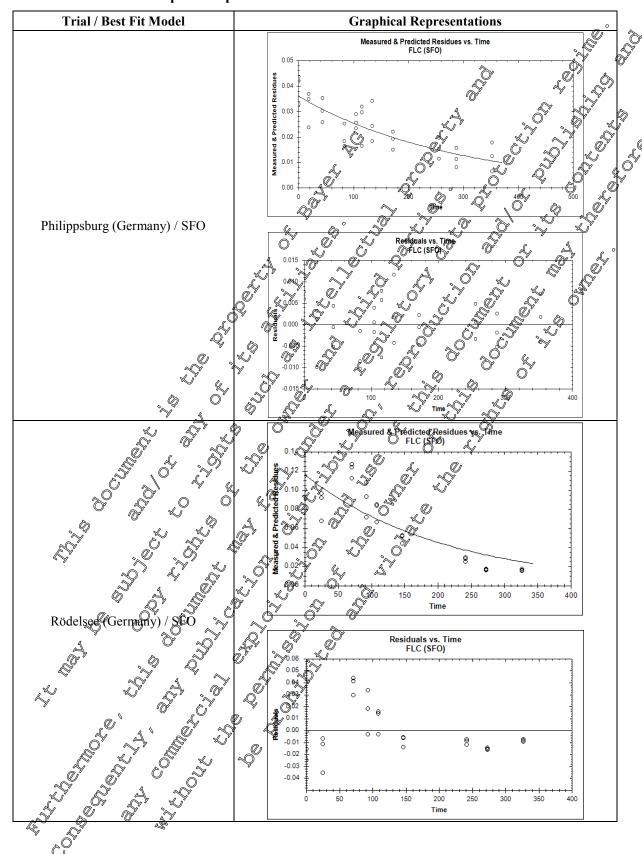
The standard EFSA template can be seen in Table 7.1.2.2.1- 139 and graphical representations in Table 7.1.2.2.1- 140

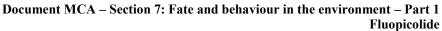
Table 7.1.2.2.1- 139: Standard EFSA template for kinetic fitting

Soil	Kinetic model	$M_0$	Parameter (k, k1, k2, g, tb, a, β)	X ² , %- error	Prob >t	Lower CI	Upper	DT ₅₀ [days]	ODT90 () [days]
Philippsburg	SFO	0.1	k = 0.0034732	9.477	3e-08	0.0319968	Ø.040	199.	<b>6</b> 63
Rödelsee	SFO	0.1	k = 0.0047355	21.59	7.576207	0.099439	0.132	146.4	486.2
Huntlosen	SFO	0.1	k = 0.0041161	15.46	1.64e-6	0.0320969	0.042	Ø 68.45	5594
Valencia	SFO	0.1	k = 0.0021835	13.95	<b>4</b> .83E-07	0.0362463	0.0450	317.4	<b>P</b> 000
	SFO	0.1	k = 0.0083474	18.56	³3.41e-11	0.06837180	0.086	83.704	275.8
	DFOP (all data)	0.1	k 1.005e-02 k2 2.220e-14 g 8.554e-01	\$3.84 0	0,187 Q0.500	7.188e-02 -8.764e-05	089 - 2.55®	87.4	7
	HS (all data)	0.1	k 0.1036037 k2 0.067937 tb 0.6999999 (	14,6	0.388 1.41e-08 - ~	0.0666 <u>\$</u> 07 -4. <b>5</b> 801556	0500 	92.05	
Appilly	HS (all data; tb fixed)	0.1	k 2521e-140 k25.501e-03	13.94	6.5 301e-08	V.646e-02	15987	\$ 03.5 \$	© 318.1
	SFO (data up to and including 20.6 days excluded)		k = 0048073	Ø7.16	\$ 54e-09,	0.0443751	\$0.051\$ \$0.051\$	©* © 144.2	479
Senas	SEO	Ø.A	k 70.0030766	9.864	209e-16	0.0238824	<b>@</b> 0.029	136.5	453.6
			k 2 2 1e-140 k2 501 c 03 k = 004 2073 k = 0.00 20766						

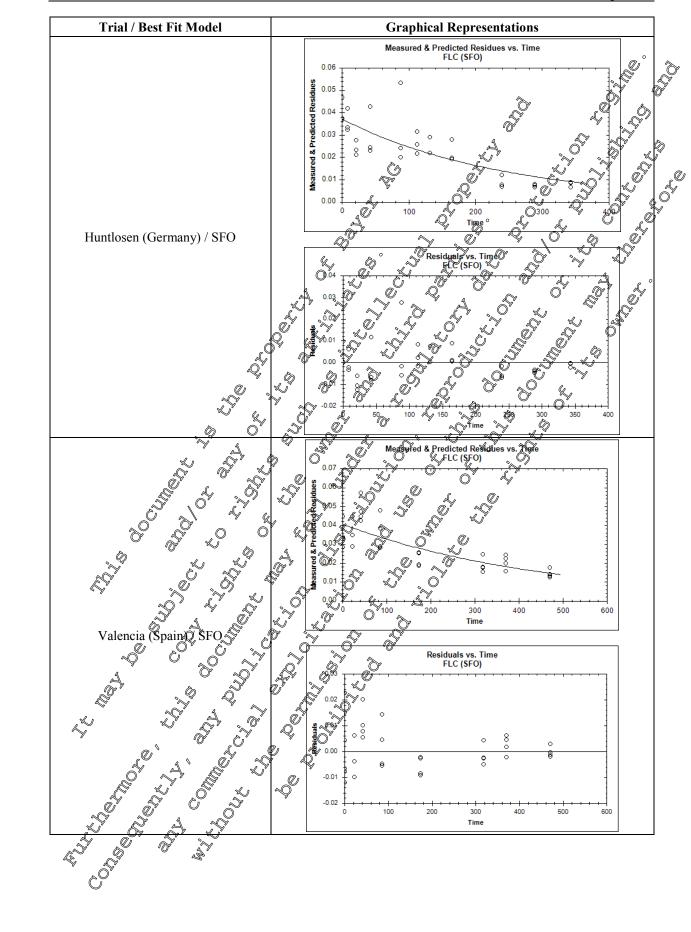


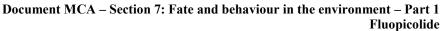
Table 7.1.2.2.1- 140: Graphical representations of best fit models



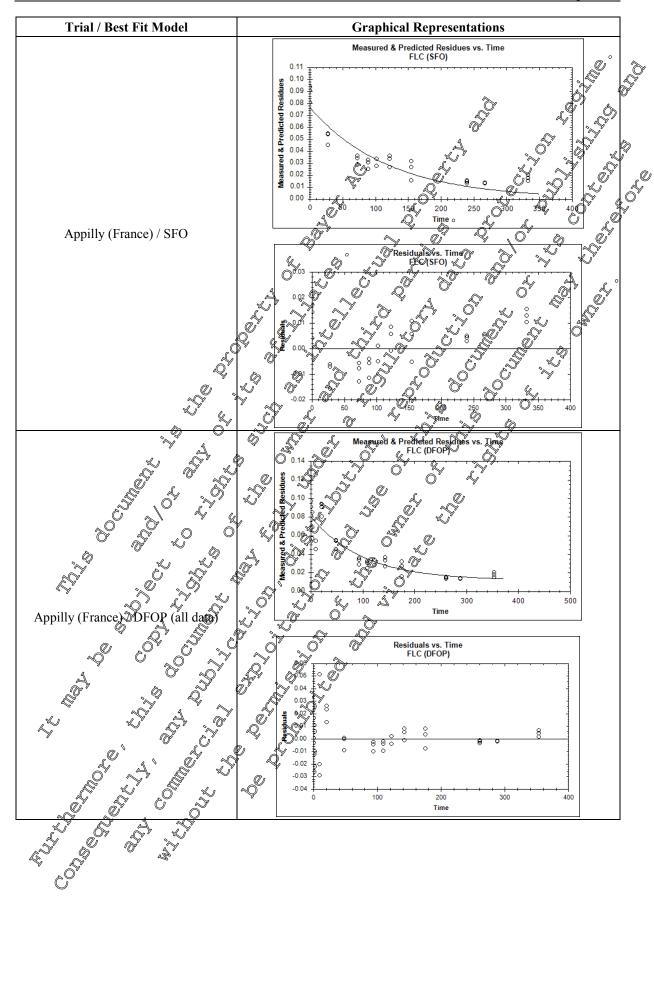


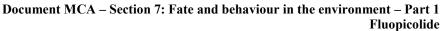




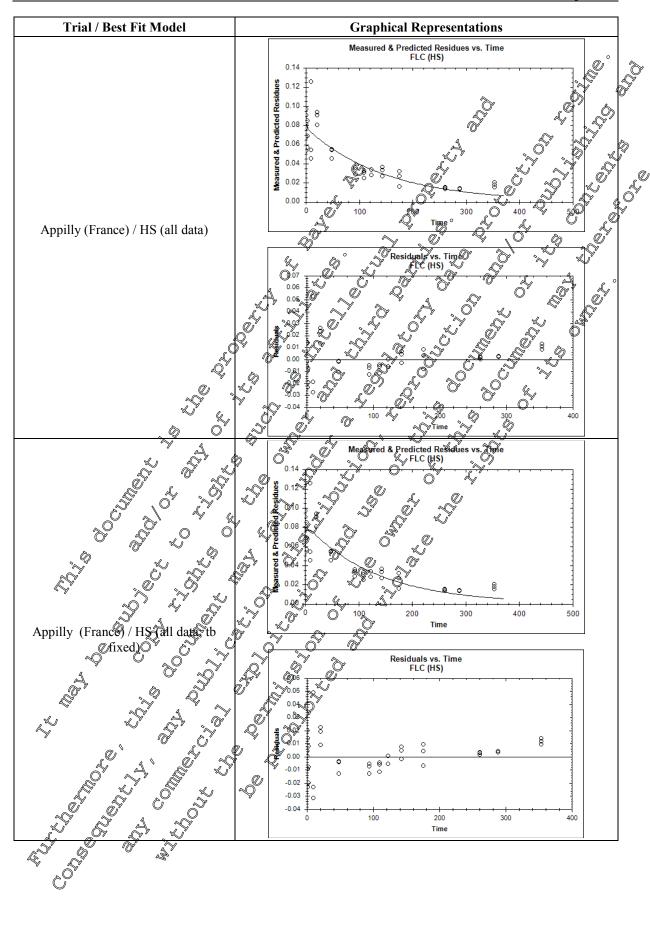


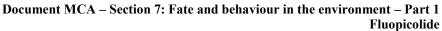




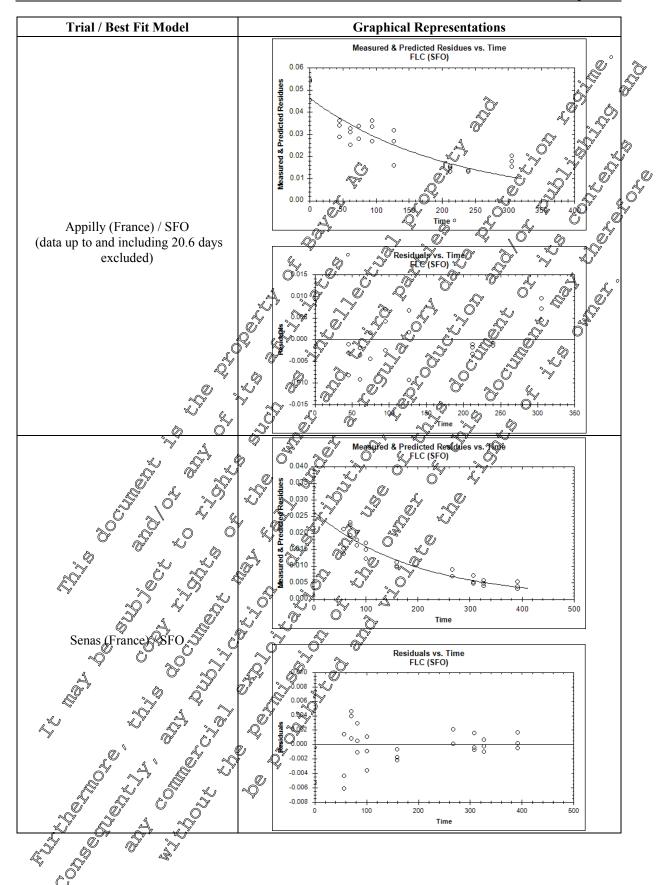














#### **III. Conclusion**

The data from the six 'legacy' field dissipation trials was evaluated to derived modelling endpoints for fluopicolide. Data points before 10 mm rainfall and irrigation were eliminated to minimise any influence from surface processes as advised by EFSA, 2014.

DegT50_{matrix} values for fluopicolide, normalised to 20°C and pF2, were derived for use as modelling endpoints according to FOCUS Kinetics guidance (FOCUS, 2006 and 2014a) and the EFSA Guidance Document for deriving DegT₅₀ values (EFSA, 2014).

A geometric mean value DegT50_{matrix} of 177 days was calculated for use in FOCUS calculations

#### Assessment and conclusion by applicant:

The modelling report was conducted according to FOCUS Degradation Kinetics (2006, 2014) and is considered valid to assess best fit and modelling DT50 values for fluoricolide in field dissipation studies.

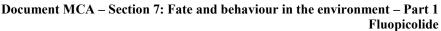
Data Point:	KCA 7.1.20.1/2369 5 5 5 6
Report Author:	
Report Year:	
Report Title:	Fluoricolide and its metabolite M-II - Kinetic evaluation of the degradation in
	soft under field conditions for modelling purposes. Six paids in Five European
	countries 5 0 0 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5
Report No:	WC/19/041A
Document No:	M-65675-62-1
Guideline(s) followed for	not applicable of S S S
study:	
Deviations from corrent	None, not previously submitted
test guideline:	
Previous evaluation:	No, not previously submitted
. B	
GLP/Officially	No not conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes O O

### **Executive Summary**

Normalised (20°C and F2) degradation DT30 matrix values of fluopicolide and its metabolite M-01 (AE C653711) in the soil under European field conditions were derived for modelling purpose according to FOCUS kinetics (FOCUS, 2006; 2004a) and EFSA guidance on field dissipation studies (EFSA, 2014). Processes potentially occurring at the soil surface, e.g. photo-degradation and volatilisation, during the field study were etrininated to resulting in a DT50 matrix representing the degradation in the soil.

Fluopicolide and M-01 (AE 5653711) were applied to bare soil at six trial sites, followed by incorporation to 7 cm, at nominal rates of 400 and 100 g/ha, respectively. The field trials were carried out in 2015 - 2017 in Germany (Burscheid); UK (Great Chishill); France (Lignieres de Touraine and St. Eteinne du Grès); Spain (Vilobi); and Italy (Albaro).

Daily so temperatures and moisture contents, estimated with PEARL, were used to normalise the evaluated parameters to reference conditions according to FOCUS groundwater assumptions (20°C and pF2; Arrhenius activation energy, Ea 65.4 KJ Mol⁻¹; Walker equation, B=0.7) (FOCUS, 2014a, c). The residue data together with the transformed incubation times (transformed time approach, time step





normalisation) were kinetically and statistically evaluated, based on the procedure explained by FOCUS kinetics, using the software tool KinGUI 2.1.

The model fit as well as the statistical evaluation of the results were carried out with the software KinGUI, version 2.1. The selection of the most appropriate kinetic model was based on a detailed statistical analysis including visual assessment,  $\chi$ 2err statistics, randomness of residuals, and t-test significance following the FOCUS guidance (2006; 2014a).

Calculated DT₅₀ and DT₉₀ values for fluopicolide and M-01 using the Single First Order SFO model under normalised conditions are summarised in the table below:

Fluopicolide and M-01 Field matrix degradation endpoints for modelling purpose; normalised to 20°C and pF2

	Aerobic field condition	ıs		~	- Q' - Q'	7 Q	, O.	to Of
Soil type	Location (country)	pH (CaCl ₂ )	Depth (cm)	OT50	DTM (d) Actual	St. Zerr).	DT50 matrix (d) norm	Method of calculation
Silt loam	Burscheid (Germany)	Ø5.9 K	0-120 [©]	~~~	301.8	<b>9</b> .80	§ 111 &	SFO
Clay	Great Chishill (UK)	7.8	0-120	216.9	7200	11.64	<b>2</b> 6.9.*	SFO
Sandy loam	Lignieres de Toucaine (France North)	6.9	0-120	1.5.8.6	\$26.8	4.82	1586	SFO
Clay loam	St.Etienne du Grès (France South)	\$.1	<b>9</b> -120	303.2	> 1000	<b>4</b> ,90	303.2	SFO
Clay loam	Albaro di Ronco all'Adige (Italy)	7.7 Ø1	0-120	237.3 C	₹ 788. <b>\$</b> 0	9.9 <b>9</b> %	237.3	SFO
Sandy clay loam	(Spain)	€6.9 ^	0-120	16628	<b>5</b> 54.0	<b>%</b> .20	166.8	SFO
Fluopicolide 🚱					y O,		189	
Silt loam	Burscheid (Germany)	<b>∌</b> 5.9 €	Ø-120 @	94.0	3 2.3	14.68	94.0	SFO
Sandy loam	Lignicos de Todiraine (France North)	60	0 20	191.1	643.9	7.82	191.1	SFO
Clay loam	Stetienne du Green (France South)	8.1	0-120	179.9	597.5	5.87	179.9	SFO
Clay loam	Albacodi Roseo (*) all'Adige (braly)	Ž!1	20 € 120 €	151.8	504.3	13.93	151.8	SFO
Sandy clawioam	Vilobi & Onyar (Spain)	6.90	0-120	136.2	452.7	10.94	136.3	SFO
M-01 Geometric	e mewn		T.				146	
	Spain Sonyar (Spain) Spain Spa							



#### I. Materials and Methods

The behaviour of fluopicolide and M-01 were investigated in six terrestrial field soil dissipation studies designed to determine the dissipation under representative European field conditions. The modelling analysis was based on residue data from studies conducted at the first Germany, Great Chishill in UK, Lignieres de Touraine and St. Etienne du Grès, both located in France, Table 7 1.2.2.1-1971). analysis was based on residue data from studies conducted at the field sites of Burscheid, located in Pran. Albaro di Ronco all'Adige in Italy, Vilobi d'Onyar in Spain (Table 7.1.2.2.1-201).

Table 7.1.2.2.1- 141: Geographical locations of field trials

	<i> A</i>	1
Site	Latitude	<b>Longitude</b>
Burscheid, Germany ^A	e (	
Great Chishill, United Kingdom		
Lignieres de Touraine, France North		
St. Etienne du Grès, France South		
Albaro, Italy	4	
Vilobi, Spain		3
		a \ ( ) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \

The evaluation was conducted to derive kinetic parameters suitable for modelling purpose according to FOCUS kinetics (FOCUS, 2006, 2014a) and FFSA gordance on field dissipation studies (EFSA, 2014). It includes a time-step normalisation to standard reference conditions for soil temperature (20°C and pF2), as well as a quality check of the results. Process potentially occurring at the soil surface, e.g. photodegradation and volatilisation, during the field study should be eliminated to result finally in a DegT₅₀ representing the degradation in the soft.

In all sites fluopicoline and M-01 were applied onto have soil in late spring (May-June) followed by incorporation to 7.5m in order to minimise surface processes. The plots were not cropped but they received irrigation during the trial periods. No fertilisers were applied to the trials during the field phase of the study. A Summer of the studies can be seen in Table 7.1.2.2.1-142.

Details of the terrestrial field dissipation studies used in the kinetic evaluation are summarised in KCA 7.1.2.2.1/12 and KCA 7.1.2.2.1/23 for Duopicolide and KCA 7.1.2.2.1/18 to KCA 7.1.2.2.1/20 for M-01. In all treated plots of the trial othe samples were taken to a maximum depth of 110 cm for up to 2 years and split into 10 cm dayers for analysis. For the M-01 that at Great Chishill, UK, significant movement of residues to deeper soil layers occurred, resulting in no residue-free layer down to 110 cm. Thus, this trial is not considered suitable for soft matrix DT determination and has been excluded from further evaluation. of residues to deeper soil layers occurred, resulting in no recidue-free layer down to 110 cm. Thus, this



## Table 7.1.2.2.1- 142: Summary of terrestrial field dissipation studies

Document	Location	Day of application	Rate (g a.s./ha)	Soil Texture	pH (CaCl ₂ )	Duration (days)	Last sampling date
Fluopicolide						^	
CA 7.1.2.2.1/12 & CA 7.1.2.2.1/14,	Burscheid (Germany)	11/05/2015	451	Silt loam	5.94	701	\$1/04 <b>2</b> 017
CA 7.1.2.2.1/12 & CA 7.1.2.2.1/14, 2019)	Great Chishill, (United Kingdom)	27/05/2015	312	Clay A	7.8	Ø 551 4	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
CA 7.1.2.2.1/12 & CA 7.1.2.2.1/14,	Lignieres de Touraine (France North)	28/05/2015	3.56 °	Sandy (		\$\frac{5}{700}\$	27/ <u>8</u> 4/2017 .
CA 7.1.2.2.1/13 & CA 7.1.2.2.1/14,	St. Etienne du Grès, (France South)	12/8/2016		Clay		714 F	25/04/2017
CA 7.1.2.2.1/13 & CA 7.1.2.2.1/14,	Albaro (Italy)	20/05/20 <b>\</b> \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	6 6 412 6 412	Clay	/ 5 . <b>3</b> .7 	7220	11/05/2017
CA 7.1.2.2.1/13 & CA 7.1.2.2.1/14,	Vilobi (Spain)	03-06/2015 03-06/2015	391 J	Sandy clay loam	& & & & & & & & & & & & & & & & & & &	714	17/05/2017
M-01		. &			Ü		
CA 7.1.2.2.1	Burscheid (Germany)	911/05 <del>/2</del> 015	108	Silt loam	5.9	701	11/04/2017
CA 7.1.2.2.1/18 & CA 7.1.2.2.1/21	Great Chishill, (United (Qingdom)	27/0 <del>\$/</del> 2015&		©Clay	7.8	744	09/06/2017
CA 7.1.2.2.1/19 & CA 7.1.2.2.1/21,	Lignines de Touraine France North)	28/00/2015	59.8 59.8 69.2 86.2	Sandy loam	6.9	699	26/04/2017
CA-7.1.2.2.1/19 & CA 7.1.2.2.1/21\( \)	St. Firenne du Grès (France South)	12/85/2015 12/85/2015	87.9	Clay loam	8.1	714	25/04/2017
CA 7.1.23.1/20.3 CA 7.4.2.2.1/29.	Albaro (Itaky)	19/05/2015	100	Clay loam	7.7	541	11/11/2016
CA 7.1 22.1/20 & CA 7.9.2.2.1/21, 2019)	Vilobi, (Spain)	03/06/2015	112	Sandy clay loam	6.9	714	17/05/2017



The reported residue data (KCA 7.1.2.2.1/12, KCA 7.1.2.2.1/13, KCA 7.1.2.2.1/18, KCA 7.1.2.2.1/19 and KCA 7.1.2.2.1/20) had previously been processed according to FOCUS (2006; 2014a) and used to derive un-normalised endpoints (KCA 7.1.2.2.1/14 and KCA 7.1.2.2.1/21).

Current kinetic calculations for the degradation of fluopicolide in field soils were performed using KinGUI 2.1 with three kinetic models – SFO, FOMC and DFOP. The goodness of fit with each model was evaluated based on visual assessment and chi-square test, and the degradation rate was then also evaluated via the t-test. The degradation rates for persistence trigger and exposure modelling were then determined from an acceptable kinetic fit following FOCUS and EFSA guidance.

### II. Results and Discussion

Normalised (20°C and pF2) degradation DT_{50 matrix} values of fluopicolite and M-01 in the soil matrix under European field conditions were derived for modelling purpose according to FOCUS kinetics (FOCUS 2006; 2014a) and the EFSA guidance on field dissipation studies (EFSA 2014). Processes potentially occurring at the soil surface, e.g. photo-degradation, colatilisation, during the field study were eliminated to result finally in a DT_{50 matrix} representing the degradation in the soil matrix or bulk.

Simulated (with PEARL) daily soil temperatures and moisture were used to normalise the evaluated parameters to reference conditions according to FOCUS groundwater assumptions (Arrhenius activation energy,  $Ea=65.4~\rm KJ/Mol$ ; Walker equation, B=0.7) (European Commission 2014 FOCUS 2014b). The residue data together with the transformed times (transformed time approach, time step normalisation) were kinetically and statistically evaluated, based on the procedure explained by FOCUS kinetics, using KinGUI 2.1.

According to the FOCUS decision tree (SFO) degradation for the parent compound in soil (Follows) assuming a simple first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the parent compound in soil (Follows) and the first-order (SFO) degradation for the first

Table 7.1.2.2.1- 143. Data for flyopicolide and M-01. kinetic and patistical results of the SFO

Kinetic model	D 50	DT	&VA VA VA	$\chi^2$ err	k) α (1/d /6)	(3/d / -)	t _b / g	t-test k ₁ / k ₂	
Burscheid (Germany)									
FLC SF	111.9	3748	+	9.86	6/194e-07	-	-	3.64e-15	
M-01 SFO	94.0	₹2.3 ×	+0		7.373¢303	-	ı	6.27e-13	
Great Chishi	Great Chishill (UK)								
FLC SFO	216.9	720.4	0 + ^	7 11.64°	396e-03	-	-	2.34e-11	
Lignieres de	Lignieres de Muraine (Franço North)								
FLC SFO	158.8	526		\$4.82\J	4.371e-03	-	-	<2e-16	
M-01 SF®	191.1	6439	+ &	7.82	3.627e-03	=	•	<2e-16	
St.Etienne du	ı Grès (Rranc		"						
FLC ŠFO		©>1000	+	[©] 4.90	2.286e-03	-	ı	<2e-16	
M-01 SFO	J79.9 4	5 <b>97</b> .5	\$\frac{1}{2} + \langle	5.87	3.854e-03	-	-	<2e-16	
Albaro di Ro	Albaro di Rogeo all'Adige (Haly)								
FLC SFO	2307.3	Ĵ 78 <b>8</b> Ĵ	<b>»</b> +	9.99	2.921e-03	-	ı	<2e-16	
M-01 ŞÎ	₹51.8 <u>4</u>	504.3	o	13.93	4.566e-03	-	ı	4.67e-10	
Vilolo d'Onyar (Spage)									
FL® SFO	166.8	554.0	+	6.20	4.156e-03	-	-	<2e-16	
M-01 SŒO	136.2	452.7	+	10.94	5.087e-03	-	-	<2e-16	

VA = visual assessment, + = good fit, o = acceptable fit, - = non accepytable fit



In all the sites matrix degradation of fluopicolide and M-01 is sufficiently well described assuming a simple first-order decay.

A summary is given in Table 7.1.2.2.1- 144 of the geometric mean DT_{50 matrix} values derived for fluopicolide and M-01 for use as modelling endpoints. These values are normalised to 20°C and pF2. The overall geometric mean DT_{50 matrix} of fluopicolide for modelling purpose according to DCUS kinetics and EFSA (2014) based on these six values, can be given as 189 days. The overall geometric mean DT_{50 matrix} of M-01 for modelling purposes according to FOCUS kinetics and EFSA (2014) based on these five values, can be given as 146 days.

Table 7.1.2.2.1- 144: Estimated field matrix degradation of fluopicolide and M of for modelling purposes, normalised to 20°C and pF2

Soil	Kinesic model	
Burscheid (Germany)	SFO SFO	7 T50 maintx (d) 11.9 2 1588
Great Chishill (UK)	SFØ SFØ	
Lignieres de Touraine (France North)	SFO CONTRACTOR STORY	1588 303.2 237.3 1688
St.Etienne du Grès (France South)	SFQ >	
Albarodi Ronco all'Adige (Italy)	SFØ SFØ	237.3
Vilobi d'Onyar (Spain)	SFO SFO	1.5 .5 1000
Ž,	SFO  Geometric mean  SFO  SFO  SFO  SFO  SFO	1588 303.2 237.3 1688 1688 1000 mateix (d)
Soil Burscheid (Germany)	SFO SFO	DOSO matrix (d)
Burscheid (Germany)	SFO V	9400
Lignieres de Touraine (France North	SFO VSFO	<b>Q Q</b> 1.1
St.Etienne du Grès (France South)	SEP S	940
Albarodi Ronco all'Adi∰ (Italy) 🧖 🦼	O SFO S	151.8
Vilobi d'Onyar (Spaig	SFO	136.3
	Geometric mean	146
Soil  Burscheid (Germany)  Lignieres de Touraine (France North)  St. Etienne du Grès (France South)  Albarodi Ronco all'Adigo (Italy  Vilobi d'Onyar (Spain)		



The standard EFSA template can be seen in Table 7.1.2.2.1- 145 for fluopicolide and Table 7.1.2.2.1- 146 for M-01.

Table 7.1.2.2.1- 145: Standard EFSA template for kinetic fitting fluopicolide

Soil  Burscheid (Germany), KCA 7.1.2.2.1/12,  2019)  Great Chishill (UK), KCA 7.1.2.2.1/12,	Kinetic model SFO	<b>M</b> ₀ 484.7	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	Diso  days	DQ 30 Days]
KCA 7.1.2.2.1/12, 2019) Great Chishill (UK),	SFO	484.7	k 0 006194	Ö					
			K 0.000194	9.8	3.64E-15	0.005184	Ø607	271.9 271.9	\$71.8 \$71.8 \$
2019)	SFO	331.5	k 0.063/196	0 0 11.6 0	2.34 L 11	7	0.004	216.9	720.4
Lignieres de Touraine (France North), KCA 7.1.2.2.1/12,	SFO	339 Q	k \$004375	4.82	20e-16	\$0.004 <b>99</b>	0.00	15&6 2	526.8
St.Etienne du Grès (France South), KCA 7.1.2.2.1/13,	ŞFO ŞFO	365.1	k 0.002286	\$ 4,9 \$4.9	~ (2e- <b>16</b>	g:90208	\$\\display \text{50} \\ \display \text{50} \text{.002}	303.2	1007
Albaro di Ronco all'Adige (Itato), KCA 7.1.229/13,	SFO	37 ₀ 3	k (90029g)	989	© 64 C	0.002496	0.003	237.3	788.3
Vilobia Onyar (Spain) KCA 7.1.2.2.1/13	SFO	\$61.5°	k 0.00 1/56	©6.2 ©	2e-16	0.003841	0.004	166.8	554

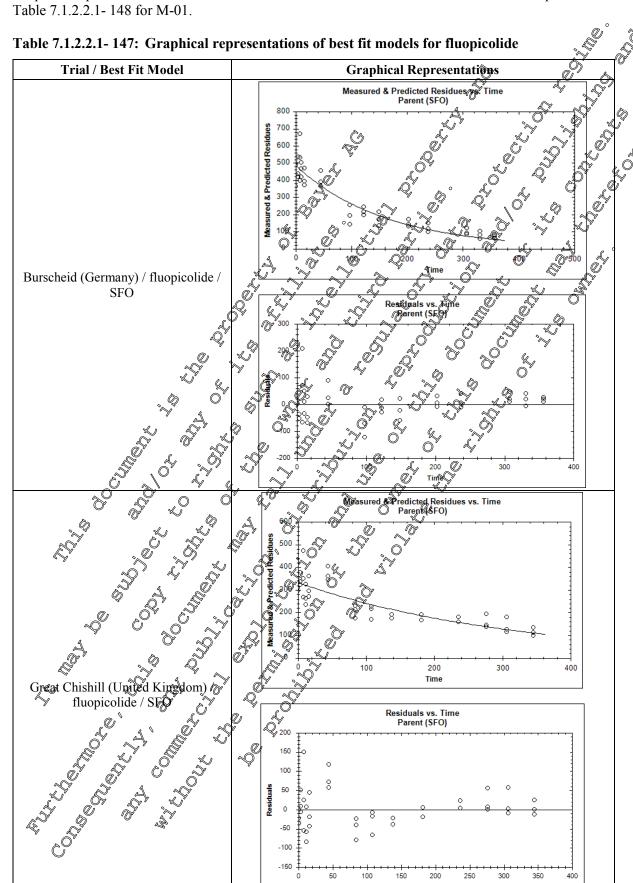


Table 7.1.2.2.1- 146: Standard EFSA template for kinetic fitting M-01

Soil	Kinetic model	$\mathbf{M_0}$	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob>t	Lower CI	Upper CI	[days]	D#90  ays]
Burscheid (Germany), KCA 7.1.2.2.1/18, (	SFO	126.8	k 0.007373	14.7	6.27E-13	0.005949	0.009	\$94 \$\frac{1}{2}	\$12.3 \$12.3
Lignieres de Touraine (France North), KCA 7.1.2.2.1/19,	SFO	79.17	k 0.003627 [△]	7.82	<28.16 g	0.003184	0.004	\$ 191.P	634 <i>1</i> 9
St.Etienne du Grès (France South), KCA 7.1.2.2.1/19,	SFO	83.12	(k0.003854	2	2e-16	0 00348	0:004	179.9	\$ 97.5
Albaro di Ronco all'Adige (Italy), KCA 7.1.2.2.1/20,	SFQ\$	86.06	k 0 004566	13.9		0.003495	0.006	151.8	504.3
Vilobi d'Onyar (Spain) KCA 7.1.2.2.1/20	SFO	302.4 ,	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7 5 30.9 9 8	2e-16	0.004467	0.006	136.3	452.7
all'Adige (Italy), KCA 7.1.2.2.1/20,  2019)  Vilobi d'Onyar (Spain) KCA 7.1.2.2.1/20,  2019)									



Graphical representations of the best fit models are shown in Table 7.1.2.2.1- 147 for fluopicolide and

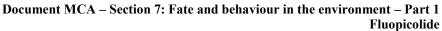


50

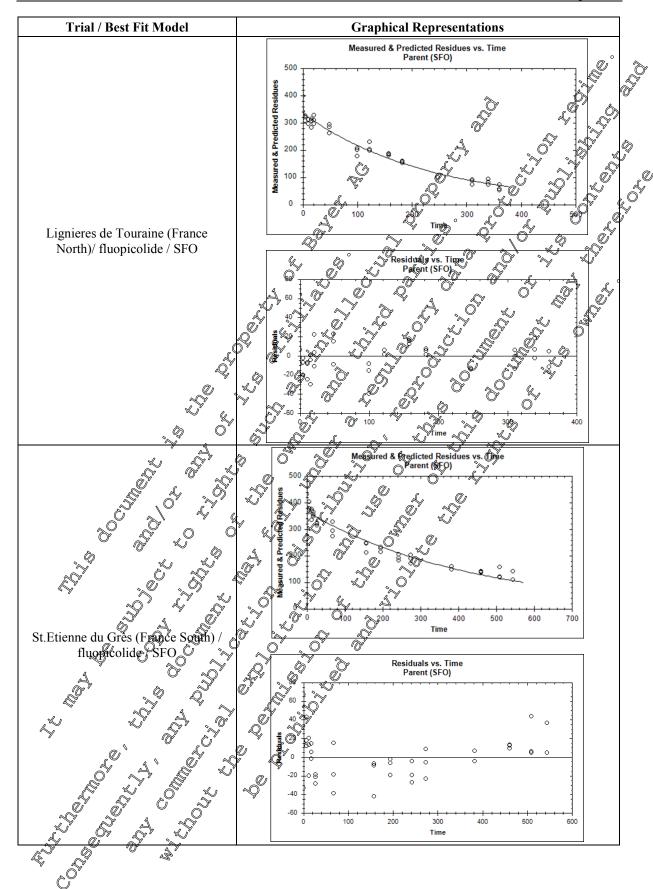
300

Time

400









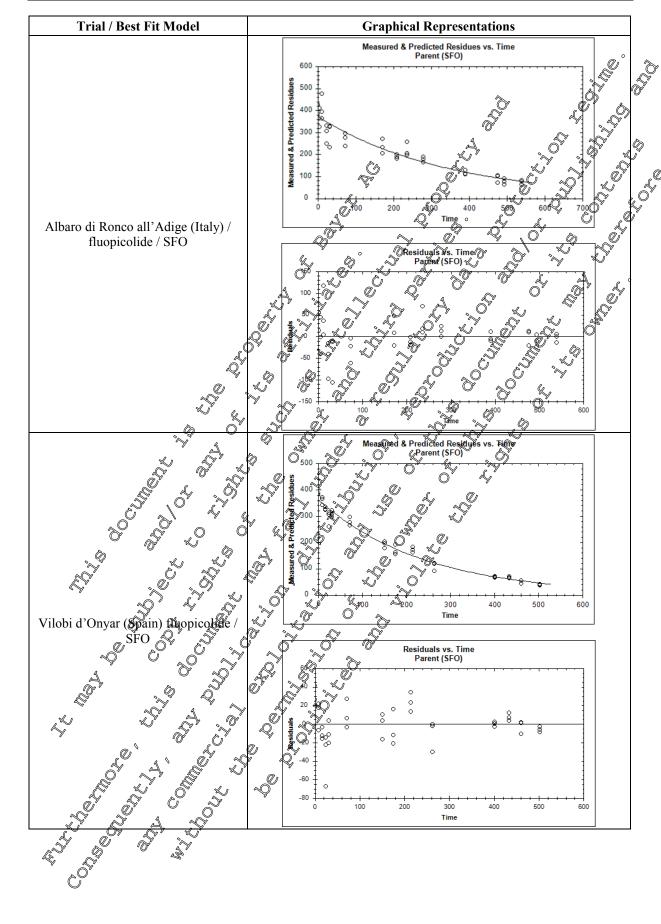
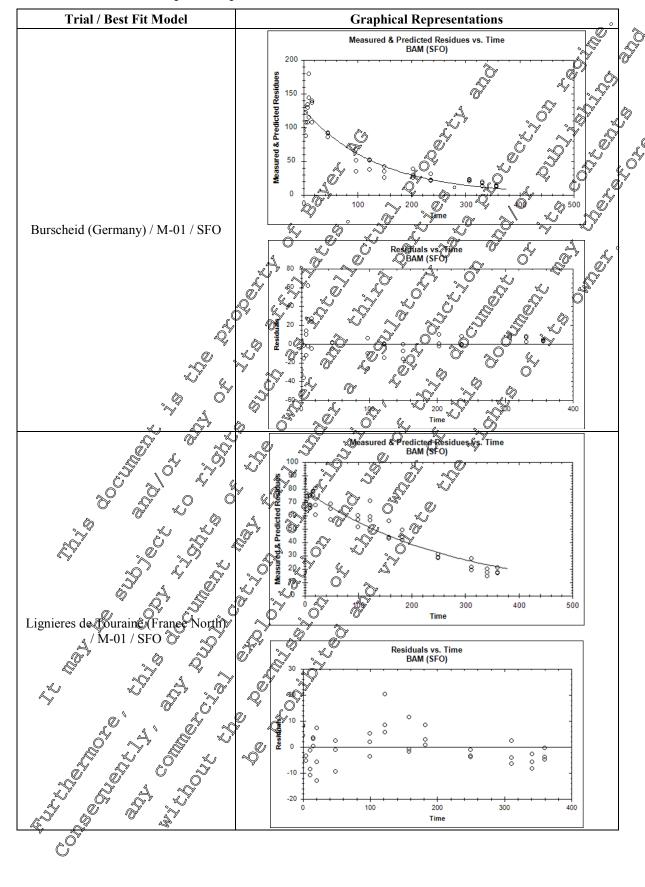
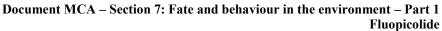


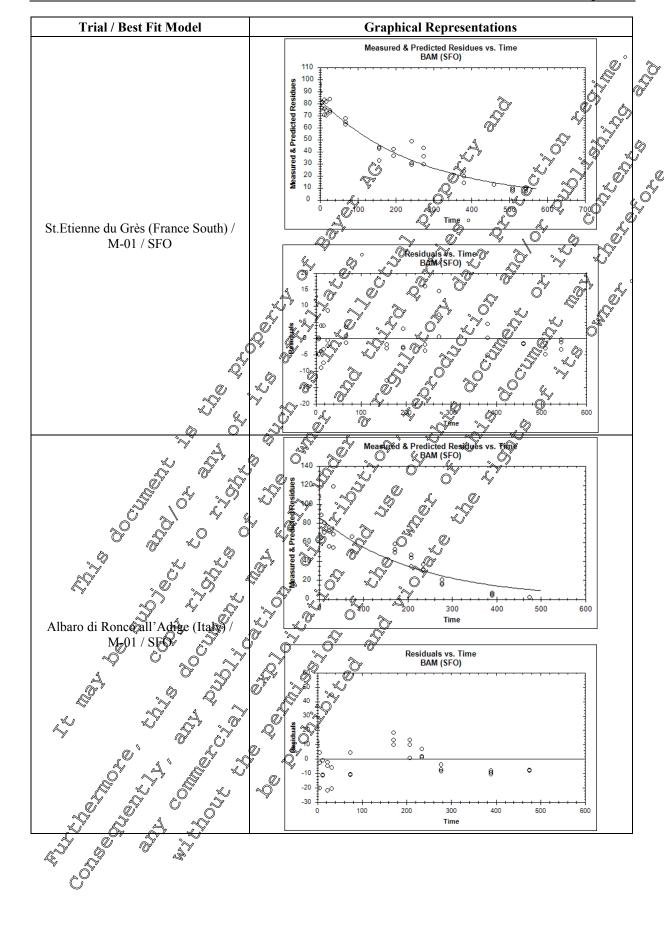


Table 7.1.2.2.1- 148: Graphical representations of best fit models for M-01

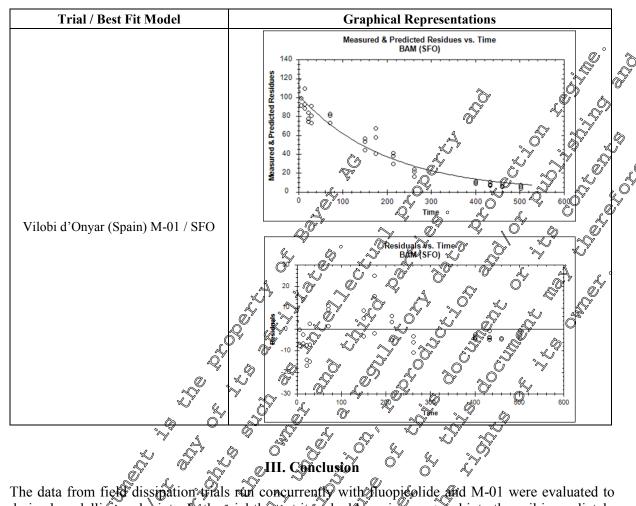












The data from field dissipation wrals run concurrently with fluopicolide and M-01 were evaluated to derived modelling endpoints. In the trial the test item had been incorporated into the soil immediately after application to eliminate processes potentially occurring at the soil surface such as photodegradation or volatilisation.

DegT50 wix values for Tuopic lide and M-01, normalised to 20°C and pF2, were derived for use as modelling endpoints according to FOCUS tinetics guidance (FOCUS, 2006 and 2014a).

The overall geometric mean DT matrix of fluoricolide for modelling purposes according to FOCUS kinetics and EFSA (2004) is \$89 days. The overall geometric mean DT 50 matrix of M-01 for modelling purposes according to FOCUS kinetics and EFSA (2014) is 146 days.

### Assessment and conclusion by applicant

The modelling report was conducted according to FOCUS Degradation Kinetics (2006, 2014) and is considered valid to assess best fit modelling DegT50_{matrix} values for fluopicolide and M-01 in field dissipation studies.



Data Point:	KCA 7.1.2.2.1/24
Report Author:	
Report Year:	2020
Report Title:	Fluopicolide (FLC) - Kinetic evaluation of dissipation in soil under field
	conditions to derive trigger endpoints - Eight sites in Europe and North America
	(legacy studies)
Report No:	VC/19/041F
Document No:	<u>M-685682-01-1</u>
Guideline(s) followed in	not applicable
study:	
Deviations from current	None V Q Q V
test guideline:	
Previous evaluation:	No, not previously submitted of the subm
GLP/Officially	No, not conducted under CLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes A O Q Q O Q

Executive Summary

DT₅₀ and DT₉₀ values were derived for fluopicolide from eight refrestrial field dissipation trials, according to FOCUS Kinetics guidance (FOCUS, 2006 and 2014a). The values derived in this study are suitable for use as trigger endrounts. suitable for use as trigger endpoints.

A single application of fluopicolide was made to bare soil in six trials in Germany, France, and Spain, at an application rate of 400 g/ha was applied at five of the sites Philippsburg Rödelsee, Huntlosen, Valencia and Appilly 500 g ha was applied at the remaining Senas site. No cultivation, tillage or irrigation was carried out at these sites after application.

Two additional trials were also considered: a raial in the USA (California). There a single application of fluopicolide was made at a rate of 400 g/ha to bare soil prior to the emergence of a potato crop; and a trial in Canada Ontago) where three applications of fluoricolide, each at a rate of 133 g/ha, were made  $5 \pm 1$  days apart to bare soil. For the Ontario data set, the kinetic evaluation was performed considering the third application as the beginning of the modelled decline period

Residue data were processed prior to analysis according to FOCOS Kinetics recommendations (FOCUS, 2006 and 2014a). Finetic analysis was performed using KinGUI v. 2.1. The selection of the most appropriate kinetic model was based on a detailed analysis including visual assessment of the fit and residuals,  $\chi^2$  ergor% and t-test significance dollowing FOOUS guidance (FOCUS, 2006 and 2014a).

ues for fluoricol. The calculated  $DT_{50}$  and  $DT_{90}$  values for fluoricolide are shown in the table below. These values are



# DT₅₀ and DT₉₀ values for fluopicolide (un-normalised), for use as trigger endpoints

Fluopicolide	Aerobic field conditions						٥
Soil type	Location (country or USA state)	pН	Depth (cm)	DT ₅₀ (d)	DT ₉₀ (d)	χ² err%	Method of calculation
Loamy sand	Philippsburg (Germany)	6.4	0-50	133.0	1417.00	12.7	ØFOP
Sandy clay loam	Rödelsee (Germany)	7.4	0-30	256.9	8530	18.5	SFQ
Sand	Huntlosen (Germany)	4.9	0-50	290.2	<b>963</b> .9	16.5 💍	y Sto
Sandy loam	Valencia (Spain)	7.3	0=30	53.9	Ç987.5	120	DFOP C
Silt loam	Appilly (France)	7.1	<b>%</b> -30	143.40	1695.0	<b>4</b> S.0	\$ DFQP
Silt loam	Senas (France)	7.3	§ 0-45	1098	627.2	∜7.9 Q	DFØP \$
Sand	California (USA)	7,7	0-60	28.0	§ 325.8√	8.24	<b>D</b> FOP
Clay loam	Ontario (Canada)	<b>P</b>	0-45	¥209:8	697.0	<b>N</b> 0.3	SEQ.

# I. Material and Methods

The purpose of this study was to derive DT₅₀ and DT₉₀ values for fluoricolide from eight terrestrial field dissipation trials in Europe and North America, according to FOCUS Kinetics guidance FOCUS, 2006 and 2014a) to be used as trigger endpoints. All sites are considered representative of European field conditions. The graphical location are shown in Table \$1.2.2 \times 1490

Table 7.1.2.2.1- 149: Geographical locations of field trials

		<u> </u>	(C)°	~√	Ora	~		<u> </u>
	Site , Q	0'		Lat	itude	, I	orgitude	
	Philippsb Rodelsees Funtloser Valencia,	ur <b>g</b> , Germ	any (			y (k	₩,	
	Rodelsee,	Fermany	, Or			O		
Æ	Huntloser	n, Ge <b>on</b> an	y, Ş			<b>(</b>		7
Ĵ	Valencia,	Spain						Ī
)	Appilly, I	gance O		× ×				
	Valencia, Appilly, F Senas, Fra	ance	<u>ئ</u>					
	California Quario, Q	ı ISA		0				
	Offario, C	Çamada 🦠		~ <b>_</b>				
	a ' l.'	/ ~~~	. Oʻ	×2 1	<b>%</b> _/			

Details of the terrestrial field desipation studies used in the kinetic evaluation are summarised in KCA 7.1.2.2.1/01, KCA 7.1.2.2.1/03, KCA 7.1.2.2.1/04, KCA 7.1.2.2.1/08, KCA 7.1.2.2.1/09, KCA 7.1.2.2.1/09, KCA 7.1.2.2.1/09, KCA 7.1.2.2.1/17. At all sites, fluopicolide was applied onto bare soil. For the trial in California potato crop was sown prior to application. To avoid disturbing the test soil, this crop was not harvested, but was instead allowed to senesce naturally. At all other sites, no cultivation or irrigation activities occurre during the trial periods, and no fertilisers were applied during the field phase of the studies.

A single application of fluor olide was made to bare soil in six trials in Germany, France and Spain in either spring or summer, and application rate of 400 g/ha to the Philippsburg, Rödelsee, Huntlosen, Valencia and Applily sites and an application of 500 g/ha to the Senas site.

Two additional trials were also considered: a trial in the USA (California) where a single application of fluorifolide was made at a rate of 400 g/ha to bare soil prior to the emergence of a potato crop (KCA 7.12.2.1/13); and a trial in Canada (Ontario) where three applications of fluoricolide, each at a rate of 133 g/ha were made  $5 \pm 1$  days apart to bare soil (KCA 7.1.2.2.1/16). For the Ontario data set, the kinetic evaluation was performed considering the third application as the beginning of the modelled decline period.



The datasets collected were evaluated following the EFSA Guidance Document for deriving DT₅₀ and DT₉₀ values (EFSA, 2014), and the recommendations of the FOCUS Kinetics group (FOCUS, 2006 and 2014a).

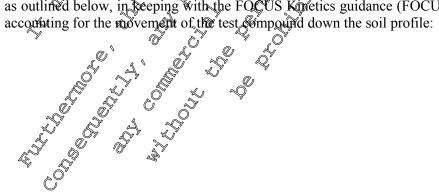
Table 7.1.2.2.1- 150: Summary of terrestrial field dissipation studies

A summary of the trials is given in Table 7.1.2.2.1-150.  Table 7.1.2.2.1-150: Summary of terrestrial field dissipation studies								\$ \$		
Table 7.1.2.2.1- 15										
Document	Location	Day of application	Rate (g a.s./ha)	Soil Texture	pH (CaCl ₂ )	Duration (days)	Last sampling	. W		
KCA 7.1.2.2.1/09, (2005a)	Philippsburg (Germany)	20/06/2000	400%	Loamy sand	.0 ^Q 6.4	735 ,	25/06/2002	)*		
KCA 7.1.2.2.1/01,	Rödelsee (Germany)	07/06/2000	\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac{1}{\infty}\$\frac	Sandy clay boam		72\	29/05/20\$2			
KCA 7.1.2.2.1/02, (2003)	Huntlosen (Germany)	31/05/2000	\$\f\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Sand	409	722	23/03/2002, °			
KCA 7.1.2.2.1/03, (2004)	Valencia (Spain)	04/07/2001		Sandy Joan	7.3	) <b>198</b>	12/06/2003			
KCA 7.1.2.2.1/08, (2005b)	Appilly (France)	16/06/2000 0.	\$\frac{1}{400} \times	Silt foam		\$\frac{735}{2}	2506/2002			
KCA 7.1.2.2.1/04, (2003)	Senas (France)	24/06/1999 (	5,650	Sult loar	r - 🔊	916 &	09/06/2001			
KCA 7.1.2.2.1/17, (2005)	California, (USA)	01/06/2001	© 400 °	Sand	\$7.7 \$	5,39	22/11/2002			
KCA 7.1.2.2.1/16,	Ontario (Canada)	03/07/2002 08/07/2002 12/07/2002	3 133	Clay	\$\tag{9}{2}\tag{3}	453	08/10/2003			

Soil samples were collected to a maximum depth of 45-90 m, depending upon the test site. After sampling, the cores were cut into increments according to depth and malysed.

Experimental data sets and data points were weighted equally in the kinetic analysis. Where applicable, residue data from replicate subplots were processed separately. For the Philippsburg site (Pollman, 2005a), an outlier was removed on day 3 forone of the olots, as the residues for this sample corresponded to approximately times the initial measured residues after application.

For all data sets except for the California trial, the Limit of Detection (LOD) was not reported; instead only the Limit of Quantification OQ 20.005 mg/kg dry weight) was given. For these data sets it has been assumed that residues reported as <LOO were also <LOD, and these residues have been adjusted as outlined below, in Reeping with the FOCUS Koretics guidance (FOCUS, 2006 and 2014a) and also





In the top horizon:

- Samples <LOQ just after a quantifiable amount were set to ½ LOQ.
- All subsequent samples <LOQ were omitted, unless later samples >LOQ were observed.

#### In lower horizons:

- No adjustments were made in lower horizons until the first sample >L@ was observed below the top horizon.
- Thereafter:
  - Samples <LOQ just before or just after a quantifiable arount in the same layer were set to ½ LOQ.
  - All subsequent samples <LOQ were omitted, unless later samples <LOQ were observed.</li>
  - Where a sample >LOQ in a deeper layer was reported, samples LOQ in higher layers at the same time point were set 100 LOQ.
  - An additional adjustment was made to the shallowest residue-free layer at every time point, which was set to ½ LOO.

For the California trial, the LOD was reported as 2 ppls dry weight), with the LOQ reported as 5 ppls (dry weight). The adjustments made to the California data set were analogous to those described above, with residues <LOD adjusted to ½ LOB where required. Residues between LOD and LOQ were set to their measured values.

In all cases, adjustments were made only to layers whose samples hap been analysed.

Residue values were given in the original study reports in unus of packg or ppb (dry weight). Insufficient data were available to convert these residues to units of g/ha, therefore the kinetic analysis was performed using residues averaged across all relevant soil layers, expressed in units of mg/kg or ppb (dry weight), with the contributions from each layer weighted to account for the lepth of the layer.

# H. Results and Discussion

To derive trigger endionits, an initial comparison was performed for each site between the SFO and FOMC fits for fluopicolide. For the Rödelsee, Huntlosen and Ontario cites, the FOMC fits provided no significant improvement, and the SFO fits were therefore accepted.

For the remaining sites, an initial comparison of the SFO and FOMC fits suggested bi-phasic decline, and the DFOP model was therefore also ritted. For the Valencia, California and Senas sites, DFOP provided the best fit to the residues, with the lowest x Derry value, and was therefore accepted.

For the Philippsburg site, confidence in the LY DFOF rate constant was slightly low (p=0.064), however the DFOP fitorovided the best visual description of the residues and was accepted.

The DFOP model was also accepted for the Appilly test site, despite a lack of confidence in the optimised rate constants, as DFOP kinetics provided the best visual description of the decline. The FOMC fit was not accepted, as extrapolation beyond the experimental period is not recommended for deriving robust DT₉₀ values using this model (EDSA, 2009). It is noted that the estimated DT₉₀ exceeded the relevant regulatory triggers for all models.

A summary of the fitted pagameters for all test sites is given in Table 7.1.2.2.1- 151.



Table 7.1.2.2.1- 151: Results for fluopicolide: summary of kinetic analysis

_									
Kinetic model	DT50	DT90	VA	χ²err	k ₁ / α	$k_2 / \beta$	t _b / g	t-test k ₁ / k ₂	MS
Timetic inouci		(d)	,,,,	(%)	(1/d / -)	(1/d / -)	(d / -)	(-)	3,10
Philippsburg		<u>``</u>		1					٨
SFO ^a	288.3	957.8	О	18.81	0.0024039	-	_ (	6.53E-08 %	S
FOMC ^a	117.3	>10000	+	13.45	0.30881	13.90617	- 4	,-0° &	*
DFOPa	133	1417	+	12.68	0.0464214	0.0012519	0.4104171	0.06404 0.00473	TÇ.
Rödelsee			•	•		A.	Q		L)
SFO	256.9	853.5	o	18.5	0.0026978	-	L -	1.10EQ9 _0	T
FOMC	256.9	853.6	О	19.18	785	2.91E+06			Z.
Huntlosen					<i>Q</i>				'42
SFO	290.2	963.9	+	16.53	0.002388		\$ - \$\tilde{\pi}	\$\times 1.13E-07	Т
FOMC	290.2	964.2	+	17.13	244	102E+06			S, °
Valencia							O, A,		44 4
SFO	177.4	589.3	o	2 <b>V</b> .52	0.003907 <del>/</del>		0 - 2	1.925-10	
FOMC	59.81	3490	+ (	DI 2.69	√0.41 <u>6</u> 92	13,9982160			
DFOP	53.86	987.5		11,98	0.0387182	0.0015035	0627061\$	0.04) 24 / 0.00433	T
Appilly			Ų,		o S		Q, 'O	8 4	
SFO	194.4	645	8	16.32	0.0035658	- ~		7.97E-09	
FOMC	150.7	12302		14,20	1ª/16	175.1	~\$"- ~\$	· -	
DFOP	143.4	1695 ₹	+	15.04	Q 07930 0	6.56£-04	0.6959214	0.1236 / 0.3988	Т
Senas			× ×	S) J					
SFO	178.6	593.3		14.31	0.003881	) <u>-</u> @	- 0,	1.18E-14	
FOMC	704.4	M264	yo (	11.84	0.80250V	76.062662	<b>2</b> 200 //	-	
DFOP S	109	62752	+0	7.902	0.3278513	<b>6</b> 00311 <b>6</b>	0.2965286	0.0207 / 4.90E-14	Т
California 💩			, Ö				V.		
SFO 👸	77.51	257.5	0	<b>Ø</b> .32	0.008943		y -	9.86E-15	
FOMC	31	527,9	2	11	1 *≫/ /	17.4256	-	<u>-</u>	
DFOP	2 <del>9</del> 98	325.8		8:234	0 ¥191 C	√0.005296	0.4383	0.00182 / 7.17E-10	Т
Ontario	4	Ĵ [→] "§	»			-	r		
SFO	209,8	690	*	10.31	0.0039037	"O" -	-	1.68E-07	T
FOMC *	160.6	<b>1</b> 35	9 [¥]	10021	\$3006 P	162	-	-	
FOMC  MS: Model reference a – Outlie removed VA: Visual assessn	d (T: for a l on dav nent (* =	rigger exa for plot I good fit, o	fuation 1 =	n@' ceptalog	fit, - Fron ac	ceptable fit)			
. G	~ V .			Q Q					
			Î U		₹/				
			ř						
Ö									



A summary is given in Table 7.1.2.2.1- 152 of the DT₅₀ and DT₉₀ values derived for fluopicolide for use as trigger endpoints.

Table 7.1.2.2.1- 152: DT₅₀ and DT₉₀ values for fluopicolide (un-normalised) for use as trigger endpoints

Soil	nd DT90 values for fluopi nts  Kinetic model	DT ₅₀ (days)	DT90 (days)
Philippsburg (Germany)	DFOP	133.0	1407.0
Rödelsee (Germany)	SFO	256.9	***\$53.5****
Huntlosen (Germany)	SFO	290.2	963
Valencia (Spain)	DFOP	53.90	2 987.5 G
Appilly (France)	DFOP	145.4	1695.00
Senas (France)	DFOP OF	~109.8 €	627 <i>2</i> 3 ©
California (USA)	DFOP &	° 28.907 40	325.8
Ontario (Canada)	SFOQ Q	299/8 0	£697.0 <u>4</u>
Philippsburg (Germany) Rödelsee (Germany) Huntlosen (Germany) Valencia (Spain) Appilly (France) Senas (France) California (USA) Ontario (Canada)  The standard EFSA template of Table 7.1.2.2.1-154.			

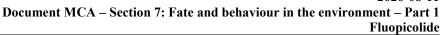


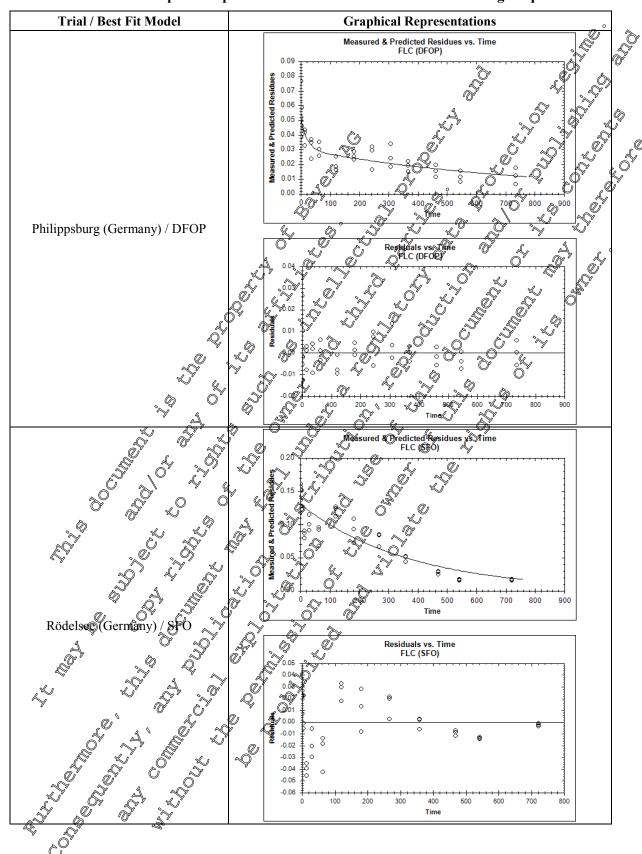


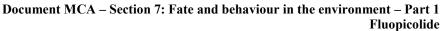
Table 7.1.2.2.1- 153: Standard EFSA template for kinetic fitting

Soil	Kinetic model	$M_0$	Parameter (k, k1, k2, g, tb, α, β)	χ², %- error	Prob >t	Lower CI	Upper CI	DT ₅₀ [days]	DT ₉ ° [days]
	SFO	0.04317	k 0.002404	18.8	6.53E-08	0.001671	<b>6</b> 003	288.3	957.8
Philippsburg (Germany), KCA	FOMC	0.05099	α 0.3088 β 13.91	13.5	n.r. n.r.	0.1372 -10.57	0.48 38.38	117.3	>100000
7.1.2.2.1/09, (2005a)	DFOP	0.05131	k1 0.04642 k2 0.001252 g 0.4104	12.7	0.06404 0.00473 n.r.	-0.01 <b>203</b> 0.00 <b>5</b> 557 02359	0.105 0.002 0.585	133	141
Rödelsee (Germany),	SFO	0.1302	k 0.002698	. <b>18</b> ./5	1.10E-09	0.002024	0.003	<b>23</b> 6.9	\$53.5
KCA 7.1.2.2.1/01, 2003)	FOMC	0.1302	α 7858 β 2.91E+06	19.2	n.r.	7598 2:91E+06	O*	2569	85 <b>%</b> 6
Huntlosen	SFO	0.03948	k 0.002389	<b>26.5</b>	((') ((()	\$0.001 <b>6</b> \$9	Q 003	290.2 ع	963.9
(Germany), KCA 7.1.2.2.1/02, (2003)	FOMC	0.03948	β.1,02E.706	17.17	n.r. nor.		© 2442 [©] 1.02 <b>№</b> 06	296.2 &	964.2
	SFO	0.08862	D V X A	\$21.5 _≈	1,92E-10	0.002905	£005	777.4	[©] 589.3
Valencia (Spain), KCA 7.1.2.2.1/03,	FOMC	0.10	α Ø Ø 169 🖔 💍 β 14 🗞	12.7	n.î./	03407 03.4340	0.593 31. <b>43</b>	5.25 ₇ .8	3490
(2004)	DFOP ≈	0.104	k1 0.03872 k2 0.001574 gG.5271	12	0.01124 0.0043 n.r.	0.006458 0.000443 ~6.35842~	0.003 0.696	53.9	987.5
	SFØ	0.07668	₽0.003 <b>\$</b> 66	<b>₽</b> €.3	7. <b>9</b> 7E-09	0.002575	0005	194.4	645.7
Appilly (France), KCA 7.1.2.2.1/08,	7.V	§.079 <b>92</b>	α 1.P16 βØr75.1	14.8	n.r.	-0@699 -D97.3	≈2.603 √ 547.4	150.7	1202
2005	DEOD	0,0799 <u>(</u>	k1 0.007931 k2 0.0096561 g@ 6959	715 715	0.3988 n.r.	0.0052 <b>94</b> -0.004 <b>3</b> 23 -0.2273	0.021 0.006 1.619	143.4	1695
- C	SFO	0.04926	k 0.00388)	143	1.18E-14	@003203	0.005	178.6	593.3
Senas (France), KCA 7.1.2.2.1/04, 2	FÖMC	9.04364	φα 0.8025 β <b>76</b> .06	\$11.8 <i>2</i>	n.r. n.r.	0.3857 -1.463	1.219 153.6	104.4	1264
2003)			kØ0.3279 k2 0.00341 Ø g 0.2965	% P.9 C' a	0.0 <b>2</b> 07 4 <b>3</b> 0E-14 Ç″n.r.	0.02257 0.002553 0.2113	0.633 0.004 0.382	109.8	627.2
	SFO	29.91	k 0.008943	19.3	9.86E-15	0.007148	0.011	77.5	257.5
California (USA), KCA 2 2.2.1/17,	FOMC	<b>36</b> .13	\$\$\psi_0.66 <b>\begin{array}{c} \beta \\ \beta \\ \beta \end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\end{array}\</b>	LY1	n.r. n.r.	0.4684 4.929	0.869 29.92	31.7	527.7
2005)	DFQ	37.95	k1 0.1191 9 k2 0.005296 g 0.4383	8.23	0.00182 7.17E-10 n.r.	0.04176 0.003827 0.3343	0.196 0.007 0.542	28	325.8
Ontario (Canada),	sfo (	0.04190	k 0.603304	10.3	1.68E-07	0.002361	0.004	209.8	697
KCA 7.1.2.201/16,	FOOC	0.64402	β 1.006 β 162	10.2	n.r. n.r.	-0.3943 -199.5	2.407 523.5	160.6	1435
KCA 7.1.2.20 1/16, (1)		7							

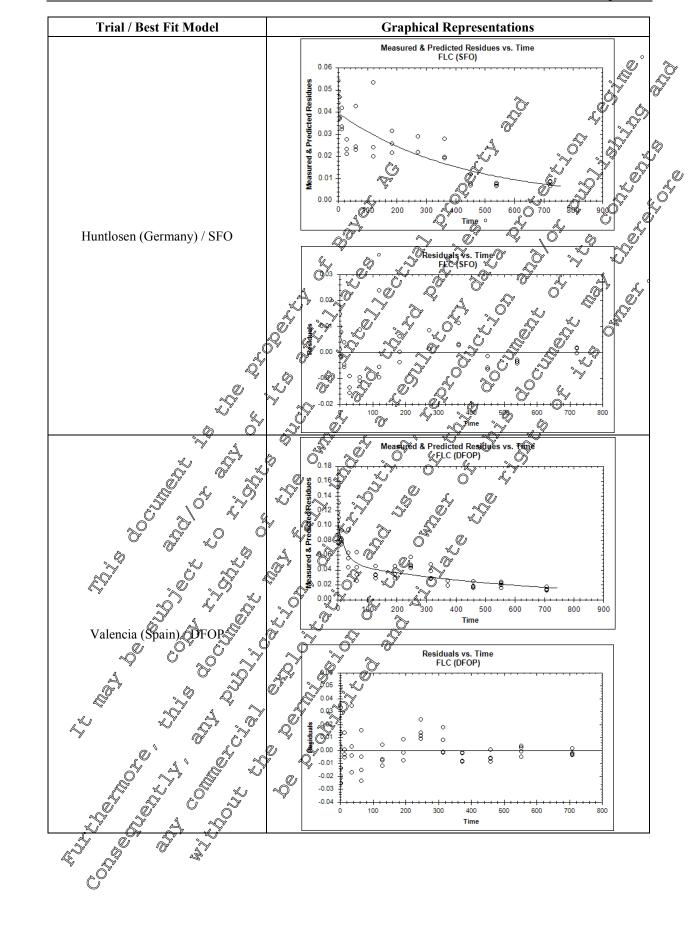


Table 7.1.2.2.1-154: Graphical representations of best fit models for modelling endpoints

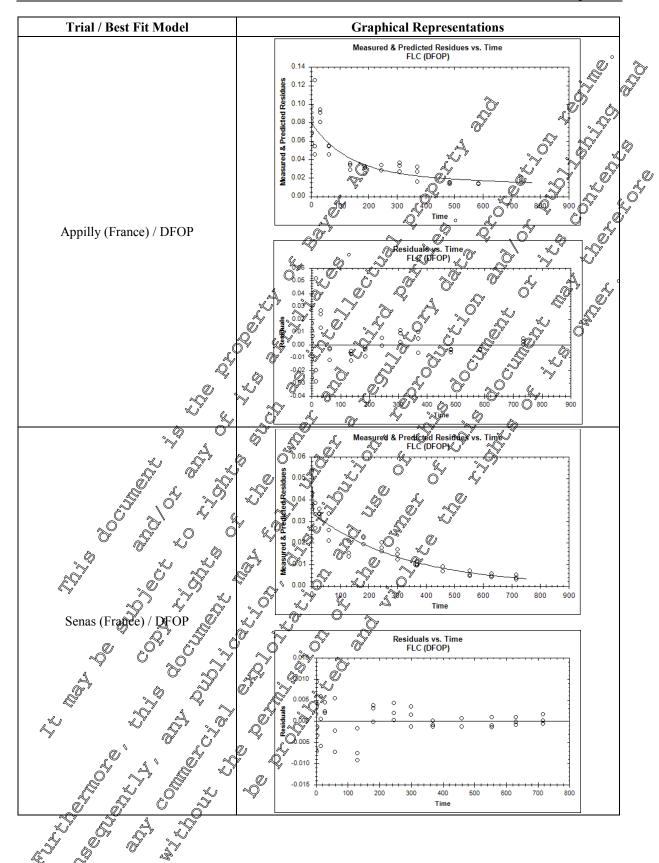




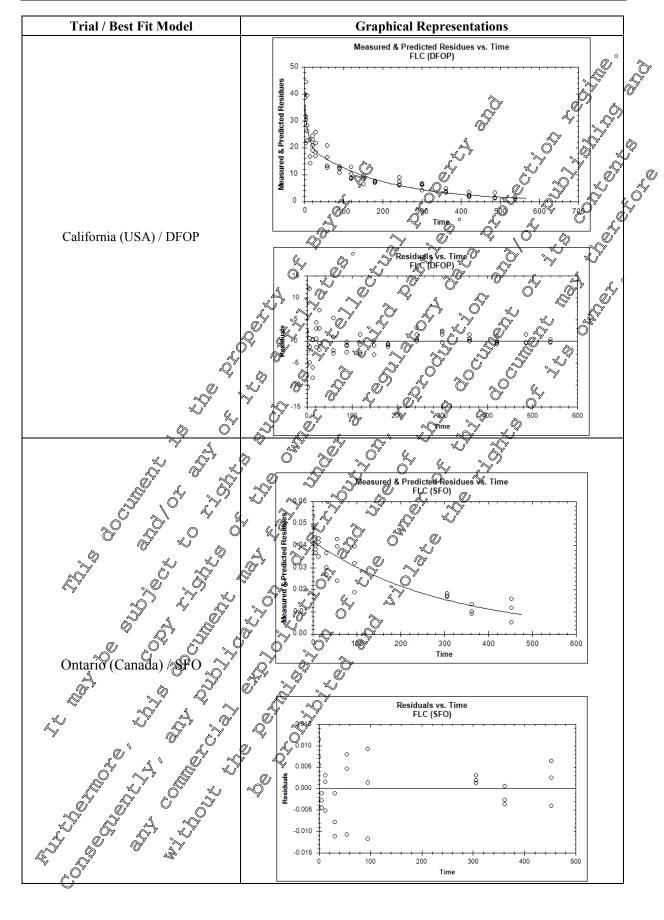


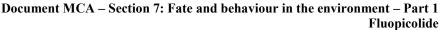














#### **III. Conclusion**

The data from the eight 'legacy' field dissipation trials was evaluated to derived trigger endpoints for fluopicolide according to FOCUS Kinetics guidance (FOCUS, 2006 and 2014a). Best-fit un-normalised DT₅₀ values from eight legacy terrestrial field dissipation trials ranged from 53.9 to 290.2 days, Corresponding DT₉₀ values ranged from 325.8 to 1995 days.

# Assessment and conclusion by applicant:

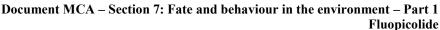
The modelling report was conducted according to FOCUS Degradation Kinetics (2006, 2014) and considered valid to assess best fit and modelling DT₅₀ values for Quopicolide in field dissipation studies.

# CA 7.1.2.2.2 Soil accumulation studies

Soil accumulation studies with fluopicolide were evaluated during the previous EU review. We new soil accumulation studies are submitted.

KCA 7.1.2.2.2/01 was a continuation of a field discipation trial (BCA 7.1.2.2.004) conducted at the same site in previous years. Two additional soil accumulation studies (KCA 7.1.2.2.1/08 and KCA 7.1.2.2.1/09) were evaluated during the previous EU review. As these studies combined separate dissipation and accumulation trials in the same report both are summarised in full under Point KCA 7.1.2.2.1.

In the Addendum to the DAR (2007) it was concluded fluopicolide residues had reached a plateau concentration in two of the studies (KCA 7.1.2.2.1/05 and KCA 7.1.2.2.201) but was inconclusive in the third study (KCA 7.1.2.2.208), while MOI (AC C653711) residues had reached a plateau only in KCA 7.1.2.2.2/01. The metabolites M-02 (AE C657488) and M-03 (AE 0608000) were rapidly degraded in soil and were either not detected or disappeared simpletely within one month. The studies are considered as acceptable supportive information to assess the possibility of accumulation of fluopicolide and M-09 in soil. Definitive assessment of the accumulation of fluopicolide and its metabolites in soil is addressed in Document MCP 9 by Calculation.





Data Point:	KCA 7.1.2.2.2/01
Report Author:	
Report Year:	2004
Report Title:	Field soil accumulation of AE C638206 following a single application to bare will
	plots at 1 location in France, 2000
Report No:	C037581
Document No:	<u>M-223186-01-1</u>
Guideline(s) followed in study:	BBA: Part IV, 4-1; IVA: (1993); SETAC: (1995)
Deviations from current	Yes. & & & &
test guideline:	Report meets the requirement for field persistence criteria and ecotoxic Orgical
	risk assessment as required by EU 283/2013.
	Report does not meet the requirement for assessing soil Deg \$\tilde{Q}\$50matrix values as
	required by EFSA (2014) for field studies.
Previous evaluation:	yes, evaluated and accepted
	Accumulation phase not originally accepted in the DAR (2005) but subsequently
	accepted in Addendum 1 to BAR (2007).
GLP/Officially	Yes, conducted under GLP Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Reliability:	Yes Q V V V V V V V V V V V V V V V V V V

# **Executive Summary**

A three year terrestrial field dissipation and accumulation study with fluoricolide, formulated as a suspoemulsion containing 97.9 c/L fluoricolide (AE 638206 00 SE10 AS), has been conducted at a site at Senas in Southern France. The top soil at the test site was a loamy silt soil. The formulated material was applied once a year, at the rate required to achieve an annual application of 500 g/ha of fluoricolide using a calibrated boom sprayer. Nomina application rates were confirmed by measuring the unused formulation remaining in the spray tank to calibrate the amount applied. The initial application in the current study was on 21 June 2000 (to Plots T) and T3) and on 4 August 2000 (to Plot T2n). Subsequent applications were made to all three plots on 19 June 2000 and 22 June 2002. Samples of soil have been taken at intervals over a three year period and analyses by an LC/MS/MS method to determine levels of fluoricolide and its metabolites M-07 (AE 653711), M-02 (AE 657188) and M-03 (AE 0608000) present in the samples.

The initial dissipation of floopicobide was relatively rapid followed by a slower dissipation phase during the winter months due to the cold chinate and possibly reduced availability of fluopicolide due to increased adsorption to soil with agents. Residues of fluopicolide were detected mainly in the 0-10 cm soil horizon throughout the trial. Low residues were detected in the 10-20 cm horizon at concentrations ranging from 0.005 to 0.077 mg/kg (mean values). Residue levels of parent declined to 129 g/ha one year after the first treatment which represented approximately 20 % of the initial concentration. Throughout the dissipation phase no residues of Quopicolide were detected above the LOQ below 20 cm depth.

The concentration of M-01 (AE CG53711) in the soil profile varied with the degradation rate of fluopicolide. During the summer months when the degradation rate of the parent compound is relatively rapid, M-01 concentration were relatively high and declined during the winter as the degradation rate of fluopicolide slowed residues levels of M-01 reached a maximum one to two months after first application at a mean concentration equivalent to 109.5 g/ha in summer 2000 (mean of Plots T1 and T3, 126 g/ha). After one year residue levels of M-01 had declined to 81.0 g/ha (June 2001). The maximum residue level in the 0-10 cm horizon was observed 59 days after application at 0.084 mg/kg (mean of Plots T1 and T3) and 31 days after application at 0.059 mg/kg (Plot T2n). The peak concentration in the underlying 10-20 cm was slightly later, after 121 days at 0.019 mg/kg and 136 days at 0.021 mg/kg in Plots T1/T3 and T2n, respectively. In the lower soil horizons residue levels were generally at or below



the LOQ until the winter months where the maximum concentration observed was 0.016 mg/kg and 0.010 mg/kg at 20-30 cm and 30-50 cm soil depths, respectively.

M-02 (AE C657188) and M-03 (AE 0608000) were rapidly degraded in the trial. Residues of M-02 was only detected at early time-points in the 0-10 cm soil depth up to 59 days after application in Plots T1 and T3 (31 days in Plot T2n) at a maximum concentration of 0.046 mg/kg, equivalent to 69 h. No residues of M-02 were detected above the LOQ below 10 cm depth. No residues of M-03 were found above the LOQ throughout the study. The degradation of M-03 is known to be pH dependent and is very rapidly degraded in neutral to alkaline soils such as the soil at the Senas trial site.

The reported DT₅₀ and DT₉₀ values of 58 and 679 days were evaluated using a biphasic hockey sack model (HS). The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered value. The data is no longer considered suitable to derive degradation rates as the experimental plots had previously been treated with fluopicolide (in 1999).

The plateau concentrations of fluopicolide and M-01 ofter four years are summarised below

Plateau concentration		👸   0-100 cm   0-20 cm
High ¹	Day 0 3rd Application  Day 0  0.180  Day 71	9 0 0.047 0.030 oligation
Low ²	Day 35% On	0.014

¹ maximum of the high values of the saw tooth" curve

In the Addendum to the DAR (2007) it was concluded fluoricolide and W-01 residues had reached a plateau concentration in the Senas trial.

Residues of fluopicodide were detected mainly in the 0-00 cm soil horizon throughout the accumulation phase. Low residues were detected in the 10-20 cm soil depth at concentrations ranging from 0.006 to 0.033 mg/kg (mean values) throughout the accumulation phase. In the 20-30 cm soil depth fluopicolide was detected in October 2001 at a mean concentration of 0.003 mg/kg. Residues of the test item detected in 20-30 cm and 30-50 cm soil depths immediately after second and third applications were concluded to be a result of sample contamination during sampling.

The metabolite M-0 was defected in 0-10 cm soil depth at a maximum concentration of 0.047 mg/kg (mean value). Levels in the 10-20 cm soil were lower with a maximum of 0.013 mg/kg (mean value). In the 20-20 cm layer residues reached a maximum of 0.009 mg/kg (mean value) and did not exceed 0.007 mg/kg (mean value) in 30-50 cm depth.

M-02 was detected only at early time-points after the initial application during the dissipation phase of the trial. Residues of M-02 were only detected once throughout the accumulation phase at a concentration of 0.007 mg/kg. No residues of M-03 were detected throughout the dissipation or accumulation phase of the trial.

² maximum of the low values of the "saw teeth" curve



### I. Materials and Methods

#### A. Materials

#### 1. Test Item

Fluopicolide formulated as liquid suspo-emulsion

		9	
Year of application:	2000 and 2001	2002	
Content of a.s.:	97.9 g/L	97.5g	· · · · · · · · · · · · · · · · · · ·
Certificate of Analysis:	AGF2000-0106-01	AGF2067-0	0227901
Lot No:	OP2002/1	Ø 210	914
	<i>I</i> ,	. 0 & 6	

### 2. Trial Location & Soil

A three year terrestrial field accumulation study with flyepicolde, foonulated as a susport mulsion containing 97.9 g/L fluopicolide (AE C638206 00 SETO A3), has been conducted at a site at Serias, Bouche du Rhône, France. The top soft was a low organic carbon silfy sand (DIN classification) overlying sandy silt subsoil. The characteristics of the soil are surmarised in Table 7.12.2.2- P. Three experimental plots, each measuring 25 meters by 14 meters (105 m² in total), were treated with the test substance. A fourth plot measuring 2 meters by 12 meters was left untreated to provide control samples.

Table 7.1.2.2.2-1: Location, site description and climatic data of test site

Characteristic	O O Units	Sénas	ouche du Rhôn	e, France
Characteristic		Norizon 1	Florizen 2	Horizon 3
Sampling depth	' _Q Qn > _	0 \$20 6	20,-90	50 - 90
pH 🔊 🗸	CaCl ₂ S	7.3 O	& <b>J</b> .5	7.6
Cation exchange capacity	(a) Saval/100 g	©17.5 _s	@, 14.1	23.4
Total organic carbon (TOC)		J 1.60	0.88	0.90
Soil Density	Y OL Y	1280	^y 1300	1250
Particle size distribution (DIN)		0,0		
Clay < 0@02 mm		10.8	3.2	3.6
Total silt 0.002 - 0.062 mm		€ 5 <b>7.</b> 6	61.1	61.4
Total sand 0.063 - 2 mm		31.6	35.7	35.0
Textural class		lớa my silt	sandy silt	sandy silt
Water Holding Capacity	Vol& at 1/10 bar (pF2)	<b>∂</b> 30.4	30.0	27.3
water Holding capacity	Vo¶% at № bar (🗚 4.2)	<b>§</b> 8.7	11.5	13.5

Biomass,		Control	T1	T2n	Т3
	2000 mg \$\infty\$100 gr	70.3	22.1	32.5	26.9
	2001 mg/C/100g	n.a.	n.a.	n.a.	n.a.
	\$2002 \$\tag{000} \tag{000} 000	32.8	27.5	26.7	27.5
ľ	2003 mg C+00 g	31.8	31.4	24.8	35.8

n.a. = not applicable

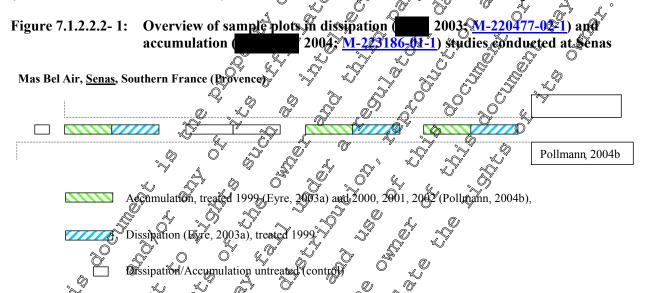


# B. Study Design

# 1. Experimental Conditions

The formulated material was applied once a year, at the rate required to achieve an annual application of 500 g/ha of fluopicolide using a calibrated boom sprayer. Nominal application rates were confirmed by measuring the unused formulation remaining in the spray tank to determine the actual amount applied. This study was a continuation of a field dissipation trial conducted in 1999 to 2001 (KCA 7.1.2.2.1/04, M-220477-02-1). The accumulation plots T1, T2n and T3 had already been treated in 1999 at a nominal application rate of 500 g/ha. The original control plot, Plot was treated in error instead of Plot T2 on the first application on 20 June 2000. Consequently Plot T2n was treated on 4 August 2000 and a new control plot, Plot Cn set up.

The initial application in the current study was on 2 June 2000 to Plots T1 and T3 and on August 2000 to Plot T2n. Subsequent applications were grade to all three plots on 19 June 2001 and 27 June 2002. Further details of the relationship between the experimental plots in the dissipation phase at Senas (KCA 7.1.2.2.1/04, M-220477-02-1) and the accumulation phase are provided in the figure below.



All applications were wade to are soil. Throughou the study the plots were maintained as bare soil by the periodic application of the herbicide Dyphosare to control weeds.

Wind speed, global radiation, rainfall air temperature, relative air humidity was taken from the nearest relevant weather station of the regional official weather service (Eyguieres, 6 km away or Avignon, 24 km away).

# 2. Sampling

Samples were taken immediately after treatment and at selected timepoints up to 12 months after the first application. Additional samples were taken immediately after each subsequent application and approximately 4 (or 3 months after the third application) and 12 months after each application. Soil cores were taken to a depth of 30 cm until 59 days after first application for Plots T1 and T3 and 76 days for Plot T2. Soil cores were taken to a depth of 50 cm at time-points up to one year. Soil cores for the accumulation phase were taken to a depth of 50 cm following the second and up to 83 days after the third application. At the funal timepoint soil cores were taken to a depth of 90 cm. At each sampling date 7 samples from each plot were taken (21 cores in total). Field samples were frozen immediately after sampling and shipped frozen to GAB Biotechnologie GmbH, Germany. The soil samples from the same horizon of each plot were blended in Germany and a subsample dispatched frozen to the Bayer CropScience analytical laboratory in France. The samples were then stored at -18 °C until required for analysis.



# 3. Analytical Procedures

The analytical method AR 265-01 was used to determine levels of fluopicolide and its metabolites M-01 (AE C653711), M-02 (AE C657188) and M-03 (AE 060800). Soil samples of 20 g were extracted twice at ambient temperature for 5 minutes by mechanical agitation using acetonitrile/water (70/30 v/v) acidified with 0.1% formic acid. After each extraction step, extract and soil were separated by centrifugation and decantation. The soil extracts were combined and diluted with acidified water to result in a final solvent of acetonitrile/water (30/70) with 0.1% formic acid. Quantification was carried out by LC-MS/MS using external standardisation for the parent compound and its metabolites. The limit of quantification (LOQ) was 0.005 mg/kg for each analyte.

During analysis of the dissipation samples of the current study, concurrent recovery samples were prepared freshly by fortification of control samples with test item fluopicolid and reference items M-01, M-02 and M-03 at 1 x LOQ and processed in parallel to the dissipation samples. The mean recoveries of were 104% (RSD 8.7%) for fluopicolide, 100% (RSD 6.9%) for M-01, 90% (RSD 10.9%) for M-02 and 95% (RSD 13.9%) for M-03. No residues of thiopicolide or its metabolites were found above the LOQ in the analysed untreated samples.

The validation of the extraction was carried out during the study, with samples taken immediately after the application of the test substance.

# 4. Determination of degradation kinetics

The reported DT₅₀ and DT₉₀ values were evaluated using a orphasic hockey stick model (HS) using the programme Model Maker. The degradation functions determined in the report were conducted prior to the issuing of the FOCUS guidance document on degradation kinetics and are no longer considered valid. The data is no longer considered suitable to derive degradation rates as the experimental plots had previously been treated with floropic dade (in 1999)

#### II. Results and Discussion

#### A. Analytical Methodology

Full details and acceptable validation data to support this method are presented in Document M-CA 4, Section 3.1.2. The method comples with the EU regulatory requirements outlined within SANCO/3029/99 rev. 4 and as suitable for the determination of fluopicolide and its metabolites M-01 (AE C653711), M-O2 (AE C657188) and M-03 (AE C6508000) in soil samples by HPLC-MS/MS.

#### B. Data

The results for fluopicolide and its metabolites Mol (AE C653711) and M-02 (AE C657188) are presented below as sort residue concentrations (on a mg/kg dry weight basis) for each of the treated plots in Table 7.1.2.2.2-2 to Table 7.1.2.2.2-7 No residues of M-03 (AE 0608000) were detected throughout the trial. The dissipation and accumulation of diopicolide (mean values and individual plots) and M-01 (mean values) at Senas are presented in Figure 7.1.2.2.2-2 and Figure 7.1.2.2.2-3.

In order to calculate mean values for this summary, concentrations <LOQ (0.005 mg/kg) were assumed to be 0 mg/kg. Where individual replicate values exceeded the LOQ the calculated mean concentration has been reported, including mean values that are below the LOQ. For the conversion of mg/kg into g/ha a soil density of 1.5 g/cm³ was used.



Residues of fluopicolide in soil after annual applications of 500 g a.s./ha Table 7.1.2.2.2- 2: DISSIPATION phase 2000-2002 values expressed as mg/kg

# Plots T1 and T3

Depth	Sub						DAA1			<u> </u>	(	
[cm]	plot	0	1	3	14	28	59	121	181	[©] 244	302 [®]	3630
	T1	0.389	0.583	0.604	0.386	0.404	0.311	0.149	0.164	0.145	0,097	0.967
0-10	Т3	0.344	0.317	0.544	0.291	0.272	0.292	0.143	Ø. <del>1</del> 69	0.176 %	9.093	Ø.070∠
	mean	0.367	0.450	0.574	0.339	0.338	<b>9</b> .302	0.146	0.167	0.16	0.095	0.069
	T1	ns	<loq< td=""><td><loq< td=""><td><loq< td=""><td>0.009</td><td>*<loq< td=""><td>0.01%</td><td>0.012</td><td>0,048</td><td>0.012</td><td>0.010</td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>0.009</td><td>*<loq< td=""><td>0.01%</td><td>0.012</td><td>0,048</td><td>0.012</td><td>0.010</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.009</td><td>*<loq< td=""><td>0.01%</td><td>0.012</td><td>0,048</td><td>0.012</td><td>0.010</td></loq<></td></loq<>	0.009	* <loq< td=""><td>0.01%</td><td>0.012</td><td>0,048</td><td>0.012</td><td>0.010</td></loq<>	0.01%	0.012	0,048	0.012	0.010
10-20	Т3	ns	<loq< td=""><td><loq< td=""><td><loq< td=""><td><l@q< td=""><td><loq< td=""><td>&lt;<b>₽</b>ØQ</td><td>0.013</td><td><b>©</b>015</td><td>₹OQ</td><td></td></loq<></td></l@q<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><l@q< td=""><td><loq< td=""><td>&lt;<b>₽</b>ØQ</td><td>0.013</td><td><b>©</b>015</td><td>₹OQ</td><td></td></loq<></td></l@q<></td></loq<></td></loq<>	<loq< td=""><td><l@q< td=""><td><loq< td=""><td>&lt;<b>₽</b>ØQ</td><td>0.013</td><td><b>©</b>015</td><td>₹OQ</td><td></td></loq<></td></l@q<></td></loq<>	<l@q< td=""><td><loq< td=""><td>&lt;<b>₽</b>ØQ</td><td>0.013</td><td><b>©</b>015</td><td>₹OQ</td><td></td></loq<></td></l@q<>	<loq< td=""><td>&lt;<b>₽</b>ØQ</td><td>0.013</td><td><b>©</b>015</td><td>₹OQ</td><td></td></loq<>	< <b>₽</b> ØQ	0.013	<b>©</b> 015	₹OQ	
	mean	ns	<loq< td=""><td><loq< td=""><td><loq< td=""><td><b>®</b> 005</td><td><loq< td=""><td>· (//</td><td><b>0.013</b>0</td><td>0.015</td><td>′ 0.0<u>0</u>6</td><td>0.003</td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><b>®</b> 005</td><td><loq< td=""><td>· (//</td><td><b>0.013</b>0</td><td>0.015</td><td>′ 0.0<u>0</u>6</td><td>0.003</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><b>®</b> 005</td><td><loq< td=""><td>· (//</td><td><b>0.013</b>0</td><td>0.015</td><td>′ 0.0<u>0</u>6</td><td>0.003</td></loq<></td></loq<>	<b>®</b> 005	<loq< td=""><td>· (//</td><td><b>0.013</b>0</td><td>0.015</td><td>′ 0.0<u>0</u>6</td><td>0.003</td></loq<>	· (//	<b>0.013</b> 0	0.015	′ 0.0 <u>0</u> 6	0.003
	T1	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>[≪]LOQ ∘</td><td></td><td><lôq< td=""><td><l@q< td=""><td>&lt;<b>L</b>QQ</td><td>&lt;<b>Ľ</b>ØQ</td><td>ŞÇÖQ</td></l@q<></td></lôq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>[≪]LOQ ∘</td><td></td><td><lôq< td=""><td><l@q< td=""><td>&lt;<b>L</b>QQ</td><td>&lt;<b>Ľ</b>ØQ</td><td>ŞÇÖQ</td></l@q<></td></lôq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>[≪]LOQ ∘</td><td></td><td><lôq< td=""><td><l@q< td=""><td>&lt;<b>L</b>QQ</td><td>&lt;<b>Ľ</b>ØQ</td><td>ŞÇÖQ</td></l@q<></td></lôq<></td></loq<></td></loq<>	<loq< td=""><td>[≪]LOQ ∘</td><td></td><td><lôq< td=""><td><l@q< td=""><td>&lt;<b>L</b>QQ</td><td>&lt;<b>Ľ</b>ØQ</td><td>ŞÇÖQ</td></l@q<></td></lôq<></td></loq<>	[≪] LOQ ∘		<lôq< td=""><td><l@q< td=""><td>&lt;<b>L</b>QQ</td><td>&lt;<b>Ľ</b>ØQ</td><td>ŞÇÖQ</td></l@q<></td></lôq<>	<l@q< td=""><td>&lt;<b>L</b>QQ</td><td>&lt;<b>Ľ</b>ØQ</td><td>ŞÇÖQ</td></l@q<>	< <b>L</b> QQ	< <b>Ľ</b> ØQ	ŞÇÖQ
20-30	Т3	<loq< td=""><td><loq< td=""><td><loq< td=""><td><l@0< td=""><td><løq< td=""><td>&lt;<b>KO</b>Q</td><td>&lt;<b>Ł</b>OQ</td><td><b>A</b>OQ</td><td><b>X</b>OQ</td><td><loq<sub>₹</loq<sub></td><td>&lt; LOQ</td></løq<></td></l@0<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><l@0< td=""><td><løq< td=""><td>&lt;<b>KO</b>Q</td><td>&lt;<b>Ł</b>OQ</td><td><b>A</b>OQ</td><td><b>X</b>OQ</td><td><loq<sub>₹</loq<sub></td><td>&lt; LOQ</td></løq<></td></l@0<></td></loq<></td></loq<>	<loq< td=""><td><l@0< td=""><td><løq< td=""><td>&lt;<b>KO</b>Q</td><td>&lt;<b>Ł</b>OQ</td><td><b>A</b>OQ</td><td><b>X</b>OQ</td><td><loq<sub>₹</loq<sub></td><td>&lt; LOQ</td></løq<></td></l@0<></td></loq<>	<l@0< td=""><td><løq< td=""><td>&lt;<b>KO</b>Q</td><td>&lt;<b>Ł</b>OQ</td><td><b>A</b>OQ</td><td><b>X</b>OQ</td><td><loq<sub>₹</loq<sub></td><td>&lt; LOQ</td></løq<></td></l@0<>	<løq< td=""><td>&lt;<b>KO</b>Q</td><td>&lt;<b>Ł</b>OQ</td><td><b>A</b>OQ</td><td><b>X</b>OQ</td><td><loq<sub>₹</loq<sub></td><td>&lt; LOQ</td></løq<>	< <b>KO</b> Q	< <b>Ł</b> OQ	<b>A</b> OQ	<b>X</b> OQ	<loq<sub>₹</loq<sub>	< LOQ
	mean	<loq< th=""><th><loq< th=""><th><loq< th=""><th>≰LOQ</th><th><b>€LOQ</b></th><th>&amp;LOQ,</th><th><b>©LOQ</b></th><th>$\mathbb{Q}_{\mathrm{Lo}\mathbf{Q}_{x}}$</th><th><loq< th=""><th><lqq< th=""><th><b>~LØ</b>Ø</th></lqq<></th></loq<></th></loq<></th></loq<></th></loq<>	<loq< th=""><th><loq< th=""><th>≰LOQ</th><th><b>€LOQ</b></th><th>&amp;LOQ,</th><th><b>©LOQ</b></th><th>$\mathbb{Q}_{\mathrm{Lo}\mathbf{Q}_{x}}$</th><th><loq< th=""><th><lqq< th=""><th><b>~LØ</b>Ø</th></lqq<></th></loq<></th></loq<></th></loq<>	<loq< th=""><th>≰LOQ</th><th><b>€LOQ</b></th><th>&amp;LOQ,</th><th><b>©LOQ</b></th><th>$\mathbb{Q}_{\mathrm{Lo}\mathbf{Q}_{x}}$</th><th><loq< th=""><th><lqq< th=""><th><b>~LØ</b>Ø</th></lqq<></th></loq<></th></loq<>	≰LOQ	<b>€LOQ</b>	&LOQ,	<b>©LOQ</b>	$\mathbb{Q}_{\mathrm{Lo}\mathbf{Q}_{x}}$	<loq< th=""><th><lqq< th=""><th><b>~LØ</b>Ø</th></lqq<></th></loq<>	<lqq< th=""><th><b>~LØ</b>Ø</th></lqq<>	<b>~LØ</b> Ø
	T1	ns	ns	ns (	, IIS 🦱	, ns	ns 🔊	<lqq< td=""><td><l@q< td=""><td>&lt;<u>LQQ</u></td><td><löq< td=""><td><b>⊈Ç</b>ÖQ</td></löq<></td></l@q<></td></lqq<>	<l@q< td=""><td>&lt;<u>LQQ</u></td><td><löq< td=""><td><b>⊈Ç</b>ÖQ</td></löq<></td></l@q<>	< <u>LQQ</u>	<löq< td=""><td><b>⊈Ç</b>ÖQ</td></löq<>	<b>⊈Ç</b> ÖQ
30-50	Т3	ns	ns	ns	106	#S	*ANS	≨I <b>P</b> ÓQ	≰LÖQ	ØŁOQ.	<b>Š</b> LOQ@	LOQ
	mean	ns	ns	N PS	<b>X</b>	, sins	Öns 🧸	@LOQ	×LO@	<loq< td=""><td><l000< td=""><td><loq< td=""></loq<></td></l000<></td></loq<>	<l000< td=""><td><loq< td=""></loq<></td></l000<>	<loq< td=""></loq<>
	T1	ns	ns ·	Qns	ns 🔊	ns	ns S	ng	n D	pîş"	'ns	ns
50-90	Т3	ns	ns @	ņsŲ	ns®	nS.	. Bs	ors	Ŷ'ns ·	ons (	ns	ns
	mean	ns	as	w ns	<b>As</b>	e ns	ns (	ns	V 113 6	ns O	ns	ns
Plots T	2n	%	Ö Y		Sins Sins				ns o			

### Plots T2n

Depth	Sub	K)		, Ø	0 7	**************************************	A1 🖇				
[cm]	plot	<b>5</b> 0.4170	1 \$	0.362	145	<b>3</b> 1 9:232	A1 76 76 76 76 76 76 76 76 76 76 76 76 76	0136	199	257	318
0-10	T2n	50.417€	0.440	0.362	<b>0.</b> 277	232	0.102	0.14	0.123	0.100	0.06
10-20	T2n	ng	<loq< td=""><td>&amp;LOQ_</td><td>&amp;LOQ*</td><td>/<lqq< td=""><td><l_000< td=""><td>&lt;<b>É</b>ØQ</td><td>0.013</td><td>0.015</td><td><lc< td=""></lc<></td></l_000<></td></lqq<></td></loq<>	&LOQ_	&LOQ*	/ <lqq< td=""><td><l_000< td=""><td>&lt;<b>É</b>ØQ</td><td>0.013</td><td>0.015</td><td><lc< td=""></lc<></td></l_000<></td></lqq<>	<l_000< td=""><td>&lt;<b>É</b>ØQ</td><td>0.013</td><td>0.015</td><td><lc< td=""></lc<></td></l_000<>	< <b>É</b> ØQ	0.013	0.015	<lc< td=""></lc<>
20-30	T2n	ng Sas	≪JLOQ _E	<loq< td=""><td><f0< td=""><td>0.005</td><td>₽OQ_×</td><td><b>G</b>0.008</td><td>0.013</td><td>0.017</td><td>0.00</td></f0<></td></loq<>	<f0< td=""><td>0.005</td><td>₽OQ_×</td><td><b>G</b>0.008</td><td>0.013</td><td>0.017</td><td>0.00</td></f0<>	0.005	₽OQ _×	<b>G</b> 0.008	0.013	0.017	0.00
30-50	°√T2n	<loq< td=""><td>&lt; LQQ</td><td>&lt;<b>LOO</b>Q</td><td><póq< td=""><td>,<loq< td=""><td>QOQ &amp;</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><lc< td=""></lc<></td></loq<></td></loq<></td></loq<></td></loq<></td></póq<></td></loq<>	< LQQ	< <b>LOO</b> Q	<póq< td=""><td>,<loq< td=""><td>QOQ &amp;</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><lc< td=""></lc<></td></loq<></td></loq<></td></loq<></td></loq<></td></póq<>	, <loq< td=""><td>QOQ &amp;</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><lc< td=""></lc<></td></loq<></td></loq<></td></loq<></td></loq<>	QOQ &	<loq< td=""><td><loq< td=""><td><loq< td=""><td><lc< td=""></lc<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><lc< td=""></lc<></td></loq<></td></loq<>	<loq< td=""><td><lc< td=""></lc<></td></loq<>	<lc< td=""></lc<>
50-90&	T2n	<løq< td=""><td><u>≪</u>200Q</td><td>, ŠĽOQ_(</td><td>*Fro</td><td></td><td>4 60</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><lc< td=""></lc<></td></loq<></td></loq<></td></loq<></td></løq<>	<u>≪</u> 200Q	, ŠĽOQ_(	*Fro		4 60	<loq< td=""><td><loq< td=""><td><loq< td=""><td><lc< td=""></lc<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><lc< td=""></lc<></td></loq<></td></loq<>	<loq< td=""><td><lc< td=""></lc<></td></loq<>	<lc< td=""></lc<>
	T2n T2n T2n T2n T2n T2n T2n T2n		1 0.448 - LOQ - LO								

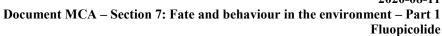




Table 7.1.2.2.2-3: Residues of fluopicolide in soil after annual applications of 500 g a.s./ha ACCUMULATION phase values expressed as mg/kg

Depth	Sub		DAA2			DAA3	<u>"</u>	8
[cm]	plot	0	119	372	0	83	355	
	T1	0.295	0.224	0.095	0.369	0.248	<b>©</b> .039	
0.10	T2n	0.366	0.197	0.066	0.354	© 0.224	0.084	
0-10	Т3	0.344	0.281	0.090	0.355	0.209	0.00000	
	mean	0.351	0.253	0,082	0.354	0.214	Ø.061	(C
	T1	0.069	0.014	0.007	0.507	0.089	J 0.0 <b>63</b>	. O
10-20	T2n	0.031	0.032	°0.005	Ø.040 。	©.023 °	Q:019 0	<b>Y</b>
10-20	Т3	<loq< td=""><td>0.015</td><td>[™] 0.005 ~</td><td>0.005</td><td>~_\&lt;\LQ<b>@</b>\</td><td>0.010</td><td></td></loq<>	0.015	[™] 0.005 ~	0.005	~_\<\LQ <b>@</b> \	0.010	
	mean	0.033	0.020	Ø.006 S	<b>10.0</b> 17 J	0. <b>01</b> 1 %	0.031	
	T1	0.061	<loq ,<="" td=""><td>( / <lqq< td=""><td>%LOQ®</td><td>TOQL,</td><td>ALOQ</td><td></td></lqq<></td></loq>	( / <lqq< td=""><td>%LOQ®</td><td>TOQL,</td><td>ALOQ</td><td></td></lqq<>	%LOQ®	TOQL,	ALOQ	
20-30	T2n	<loq< td=""><td>Ø.008 ×</td><td>&lt;\$\sqrt{Q}Q</td><td><lqq< td=""><td>\$ <loq< td=""><td>&lt; LOQU</td><td></td></loq<></td></lqq<></td></loq<>	Ø.008 ×	<\$\sqrt{Q}Q	<lqq< td=""><td>\$ <loq< td=""><td>&lt; LOQU</td><td></td></loq<></td></lqq<>	\$ <loq< td=""><td>&lt; LOQU</td><td></td></loq<>	< LOQU	
20-30	Т3	<loq< td=""><td>~LQQ</td><td>&amp; LOQ</td><td>SKOQ &gt;</td><td>≪ÇOQ ≾</td><td>/ <i2oq< td=""><td></td></i2oq<></td></loq<>	~LQQ	& LOQ	SKOQ >	≪ÇOQ ≾	/ <i2oq< td=""><td></td></i2oq<>	
	mean	0.020	\$ 0£030 _ A	> <l@q< th=""><th>%<lo@< th=""><th></th><th>¿<loq< th=""><th></th></loq<></th></lo@<></th></l@q<>	% <lo@< th=""><th></th><th>¿<loq< th=""><th></th></loq<></th></lo@<>		¿ <loq< th=""><th></th></loq<>	
	T1	0.008	LOQ	. <i .∾<="" td="" ŏo=""><td>0.042</td><td></td><td><loq< td=""><td></td></loq<></td></i>	0.042		<loq< td=""><td></td></loq<>	
30-50	T2n	0.036	<_` <lo@*< td=""><td><loq <<="" td=""><td>Ø.029 D</td><td>2012 (L</td><td><loq< td=""><td></td></loq<></td></loq></td></lo@*<>	<loq <<="" td=""><td>Ø.029 D</td><td>2012 (L</td><td><loq< td=""><td></td></loq<></td></loq>	Ø.029 D	2012 (L	<loq< td=""><td></td></loq<>	
30-30	Т3	© 0.0210	\$QOQ	<lôq ,<="" td=""><td></td><td>&lt; LOQ[©]</td><td><loq< td=""><td></td></loq<></td></lôq>		< LOQ [©]	<loq< td=""><td></td></loq<>	
	mean		*LOQ	<loo< td=""><td><b>9</b>9024</td><td>0.004</td><td><loq< td=""><td></td></loq<></td></loo<>	<b>9</b> 9024	0.004	<loq< td=""><td></td></loq<>	
	T1	ons V	ns	Ø ns	ns W	ns	ns	
50-90	T2n	Ons S	ons S		D ps	ns	ns	
30-90	T3\$	ns ns	ns ns	ns ns	₹ ns Ø	ns	ns	
	mean	ns &	ns/	( ns ns	ns	ns	ns	

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Residues of M-01 in soil after annual applications of 500 g a.s./ha Table 7.1.2.2.2- 4: DISSIPATION phase 2000-2002 values expressed as mg/kg

# Plots T1 and T3

Depth	Sub						DAA1		4	<b>&gt;</b> .	(	
[cm]	plot	0	1	3	14	28	59	121	181	244	302°	3630
	T1	0.023	0.024	0.041	0.067	0.082	0.089	0.022	0.019	0.013	0,016	Q:926
0-10	Т3	0.016	0.021	0.034	0.046	0.063	0.079	0.035	Ø.7018	0.016 %	<b>9</b> .017	Ø.021∠
•	mean	0.020	0.023	0.038	0.057	0.073	<b>©</b> .084	0.029	0.018	0.015	0.017	0.02
	T1	ns	0.007	0.009	0.007	0.006	<loq< td=""><td>0.01%</td><td>0.013</td><td>0,008</td><td>0.009</td><td>0.010</td></loq<>	0.01%	0.013	0,008	0.009	0.010
10-20	Т3	ns	0.009	0.006	0.007	0.006	<loq< td=""><td>03621</td><td>0.019</td><td><b>©</b>013</td><td>0.010</td><td>9.009</td></loq<>	03621	0.019	<b>©</b> 013	0.010	9.009
	mean	ns	0.08	0.008	0.007	<b>\$</b> 006	<loq< th=""><th>0.019</th><th><b>₽0.016</b>©</th><th>0.011</th><th>0.010</th><th>0.010</th></loq<>	0.019	<b>₽0.016</b> ©	0.011	0.010	0.010
	T1	ns	0.006	0.006	0.006	[♥] LOQ。	<lq@< td=""><td>0.010</td><td>0.0</td><td>0-208</td><td>0:009</td><td>0.007</td></lq@<>	0.010	0.0	0-208	0:009	0.007
20-30	Т3	ns	0.006	<loq< td=""><td>0.0€6</td><td><l@q< td=""><td>&lt;<b>k</b>QQ</td><td>0.007</td><td><b>6</b>016</td><td><b>0</b>.011</td><td>0.009</td><td>0.009</td></l@q<></td></loq<>	0.0€6	<l@q< td=""><td>&lt;<b>k</b>QQ</td><td>0.007</td><td><b>6</b>016</td><td><b>0</b>.011</td><td>0.009</td><td>0.009</td></l@q<>	< <b>k</b> QQ	0.007	<b>6</b> 016	<b>0</b> .011	0.009	0.009
	mean	ns	0.006	0.003	<b>B</b> .006	≰LOQ	<b>SLOQ</b>	Q0.009	$^{\circ}_{0.014}$	0.010	0.009	0.068
	T1	ns	ns	ns (	ns 🦠	, ns	ns 🔊	0.000	0,00	0,009	0.007	<b>Q</b> 007
30-50	Т3	ns	ns	ns	ns.	AS	°ans	_≨ I∳OQ	<b>©</b> .011			<b>5</b> 0.006
	mean	ns	ns	J. O.	<b>X</b>	, ns	Ins ~	Ø.003.	0.010	0.010		0.007
	T1	ns	ns	Q ns	ns 🔊	ns	ns S	no	) PS	ns	°ans	ns
50-90	Т3	ns	ns @	ŋś	ns©	ns i	J BES	ons	Ĝis (	ns	ns	ns
	mean	ns	as	ω ns	<b>Ans</b>	a ns	ns (	ns	ns 🖔	ns ©	ns	ns

### Plots T2n

	mean	115	20		*,*** H.			3 7 115		115	
Plots T2		%	× 1			31 30059			199		
Depth	Sub	<b>%</b> 1		Ö	0 7	DA	A1 S	On		T	1
[cm]	plot	<b>Ø</b>	_ 1	3	145	31	<b>76</b>	0136	[™] 199	257	31
0-10	T2n	\$0.025€	0.027	0.048	0.956	0.059	0.044	0.01	0.017	0.015	0.0
10-20	T2n	n	0.006	<b>₽</b> OQ	~LoQ	/ <lqq< td=""><td>0.0474</td><td>0.021</td><td>0.015</td><td>0.011</td><td>0.00</td></lqq<>	0.0474	0.021	0.015	0.011	0.00
20-30	T2fP	∂ <b>a</b> rs	«\$LOQ	< LOQ	<l.oq< td=""><td>&lt; LOO Q</td><td><b>©</b>0008</td><td><b>2</b>0.016</td><td>0.015</td><td>0.011</td><td>0.00</td></l.oq<>	< LOO Q	<b>©</b> 0008	<b>2</b> 0.016	0.015	0.011	0.00
30-50	∘ ¶2n	ns 🔏	ns	ps	©s	ns	🕼 ns 🕖	0.007	0.007	<loq< td=""><td><l0< td=""></l0<></td></loq<>	<l0< td=""></l0<>
50-90	Ş [®] T2n	n		Šns	ns Ć	ns	ns	ns	ns	ns	ns
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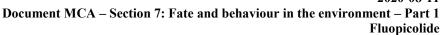
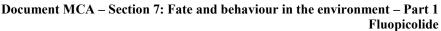




Table 7.1.2.2.2- 5: Residues of M-01 in soil after annual applications of 500 g a.s./ha ACCUMULATION phase values expressed as mg/kg

D :	~ .		DAAA			DAA2	, v
Depth [cm]	Sub plot	0	DAA2	272	0	DAA3	200
[CIII]	_		119	372	0 020	83	335 8001 A A
	T1	0.018	0.041	0.030	0.020	0.042	0.014 0
0-10	T2n	0.020	0.045	0.036	0.019		0.01
	Т3	0.020	0.055	0.029	0.018	0.034	0.075
	mean	0.019	0.047	0.032	0.019	0.036	0.015
	T1	0.011	0.013	0.015	0.015	0.065	\$\frac{10.015}{2}
10-20	T2n	0.008	0.016	0.011	0.012	6017 C	0.009
	Т3	0.009	0.011	0.013	©0.0125°	0.006	0.010
	mean	0.009	0.013	0.013		0,013	0.010
	T1	0.012	0.00	©0.011	Ø.010 ×	<b>1</b> 1009	0.006
20-30	T2n	0.007	0,008	Ç 0.007	0.010	0.009	<b>50</b> 006 <u>C</u>
20 30	Т3	0.009	*Too >	0.009	0.008	S <lqq< td=""><td>0.00</td></lqq<>	0.00
	mean	0.009	Ø 0.005/	<b>₽</b> 0.009₹	Ø.009 ₂	<b>#</b> \$\$06 \$	0.006
	T1	0.007 💍	₹QQ į́́́́́́́́́́́́	© 0. <b>007</b>	© 0.008°	LOQU'	0.008
30.50	T2n	0.007	ZOQ N	<löq< td=""><td>0,006</td><td>J <loo< td=""><td>∜√<loq< td=""></loq<></td></loo<></td></löq<>	0,006	J <loo< td=""><td>∜√<loq< td=""></loq<></td></loo<>	∜√ <loq< td=""></loq<>
30-30	Т3	0.008	J [®] <lo< td=""><td>\$0.006</td><td><b>9</b>.007</td><td><b>₽</b>OQ_{&amp;}</td><td>0.007</td></lo<>	\$0.006	<b>9</b> .007	<b>₽</b> OQ _{&amp;}	0.007
	mean	0,007	√ < <b>t</b> oQQ ੂ	['] ♥ 0.004	,© [*] 0.00 <b>%</b>	\( \langle \text{LOQ} \) \( \langle \text{LOQ} \)	0.005
50-90	T1	ns o	ns &	©ńs	This 's	ns	ns
	T2n 🖔	y ns	nş 🖓	s ns s	ns S	ns	ns
	T3 👟	Sins V	ns (	ins,	n&	ns	ns
	mean	ns	ns S	Sns a	B.	ns	ns
	T2n T3 mean T1 T2n T3 mean T1 T2n T3 mean T1 T2n T3 T3 T3 T3 T4 T5						





Residues of M-02 in soil after annual applications of 500 g a.s./ha **Table 7.1.2.2.2-6:** DISSIPATION phase 2000-2002 values expressed as mg/kg

# Plots T1 and T3

Depth	Sub						DAA1		4		(	
[cm]	plot	0	1	3	14	28	59	121	181	[©] 244	302°	363
	T1	<loq< td=""><td><loq< td=""><td>0.010</td><td>0.031</td><td>0.048</td><td>0.045</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>&lt;<u>L</u>QQ</td><td><b>₹</b>DOQ</td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.010</td><td>0.031</td><td>0.048</td><td>0.045</td><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>&lt;<u>L</u>QQ</td><td><b>₹</b>DOQ</td></loq<></td></loq<></td></loq<></td></loq<>	0.010	0.031	0.048	0.045	<loq< td=""><td><loq< td=""><td><loq< td=""><td>&lt;<u>L</u>QQ</td><td><b>₹</b>DOQ</td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>&lt;<u>L</u>QQ</td><td><b>₹</b>DOQ</td></loq<></td></loq<>	<loq< td=""><td>&lt;<u>L</u>QQ</td><td><b>₹</b>DOQ</td></loq<>	< <u>L</u> QQ	<b>₹</b> DOQ
0-10	Т3	<loq< td=""><td><loq< td=""><td>0.011</td><td>0.025</td><td>0.038</td><td>0.047</td><td><loq< td=""><td><b>€</b>LOQ</td><td><loq<sub>2</loq<sub></td><td>\$LOQ</td><td>LOQ</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.011</td><td>0.025</td><td>0.038</td><td>0.047</td><td><loq< td=""><td><b>€</b>LOQ</td><td><loq<sub>2</loq<sub></td><td>\$LOQ</td><td>LOQ</td></loq<></td></loq<>	0.011	0.025	0.038	0.047	<loq< td=""><td><b>€</b>LOQ</td><td><loq<sub>2</loq<sub></td><td>\$LOQ</td><td>LOQ</td></loq<>	<b>€</b> LOQ	<loq<sub>2</loq<sub>	\$LOQ	LOQ
•	mean	<loq< td=""><td><loq< td=""><td>0.011</td><td>0.028</td><td>0.043</td><td><b>©</b>.046</td><td><loq< td=""><td><b>LOQ</b></td><td><loø< td=""><td><løq< td=""><td><l@@< td=""></l@@<></td></løq<></td></loø<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>0.011</td><td>0.028</td><td>0.043</td><td><b>©</b>.046</td><td><loq< td=""><td><b>LOQ</b></td><td><loø< td=""><td><løq< td=""><td><l@@< td=""></l@@<></td></løq<></td></loø<></td></loq<></td></loq<>	0.011	0.028	0.043	<b>©</b> .046	<loq< td=""><td><b>LOQ</b></td><td><loø< td=""><td><løq< td=""><td><l@@< td=""></l@@<></td></løq<></td></loø<></td></loq<>	<b>LOQ</b>	<loø< td=""><td><løq< td=""><td><l@@< td=""></l@@<></td></løq<></td></loø<>	<løq< td=""><td><l@@< td=""></l@@<></td></løq<>	<l@@< td=""></l@@<>
	T1	ns	<loq< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><lqq< td=""><td><loq< td=""><td>&lt;<u>L</u>ØQ</td><td>&lt;1390Q</td><td><b>Ş</b>Ç<b>O</b>Q</td></loq<></td></lqq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><lqq< td=""><td><loq< td=""><td>&lt;<u>L</u>ØQ</td><td>&lt;1390Q</td><td><b>Ş</b>Ç<b>O</b>Q</td></loq<></td></lqq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>LOQ</td><td><lqq< td=""><td><loq< td=""><td>&lt;<u>L</u>ØQ</td><td>&lt;1390Q</td><td><b>Ş</b>Ç<b>O</b>Q</td></loq<></td></lqq<></td></loq<></td></loq<>	<loq< td=""><td>LOQ</td><td><lqq< td=""><td><loq< td=""><td>&lt;<u>L</u>ØQ</td><td>&lt;1390Q</td><td><b>Ş</b>Ç<b>O</b>Q</td></loq<></td></lqq<></td></loq<>	LOQ	<lqq< td=""><td><loq< td=""><td>&lt;<u>L</u>ØQ</td><td>&lt;1390Q</td><td><b>Ş</b>Ç<b>O</b>Q</td></loq<></td></lqq<>	<loq< td=""><td>&lt;<u>L</u>ØQ</td><td>&lt;1390Q</td><td><b>Ş</b>Ç<b>O</b>Q</td></loq<>	< <u>L</u> ØQ	<1390Q	<b>Ş</b> Ç <b>O</b> Q
10-20	Т3	ns	<loq< td=""><td><loq< td=""><td><loq< td=""><td><l@q< td=""><td><loq< td=""><td>&lt;<b>₽</b>OQ</td><td><loq< td=""><td><b>©</b>OQ</td><td>&amp; OQ</td><td>ÇLOQ.</td></loq<></td></loq<></td></l@q<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><l@q< td=""><td><loq< td=""><td>&lt;<b>₽</b>OQ</td><td><loq< td=""><td><b>©</b>OQ</td><td>&amp; OQ</td><td>ÇLOQ.</td></loq<></td></loq<></td></l@q<></td></loq<></td></loq<>	<loq< td=""><td><l@q< td=""><td><loq< td=""><td>&lt;<b>₽</b>OQ</td><td><loq< td=""><td><b>©</b>OQ</td><td>&amp; OQ</td><td>ÇLOQ.</td></loq<></td></loq<></td></l@q<></td></loq<>	<l@q< td=""><td><loq< td=""><td>&lt;<b>₽</b>OQ</td><td><loq< td=""><td><b>©</b>OQ</td><td>&amp; OQ</td><td>ÇLOQ.</td></loq<></td></loq<></td></l@q<>	<loq< td=""><td>&lt;<b>₽</b>OQ</td><td><loq< td=""><td><b>©</b>OQ</td><td>&amp; OQ</td><td>ÇLOQ.</td></loq<></td></loq<>	< <b>₽</b> OQ	<loq< td=""><td><b>©</b>OQ</td><td>&amp; OQ</td><td>ÇLOQ.</td></loq<>	<b>©</b> OQ	& OQ	ÇLOQ.
	mean	ns	<loq< td=""><td><loq< td=""><td><loq< td=""><td><b>₫</b>ÔQ</td><td><loq< td=""><td><loq< td=""><td><b>≉LOQ</b></td><td><rb></rb>FOO</td><td><lqq< td=""><td><l<b>90</l<b></td></lqq<></td></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><b>₫</b>ÔQ</td><td><loq< td=""><td><loq< td=""><td><b>≉LOQ</b></td><td><rb></rb>FOO</td><td><lqq< td=""><td><l<b>90</l<b></td></lqq<></td></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><b>₫</b>ÔQ</td><td><loq< td=""><td><loq< td=""><td><b>≉LOQ</b></td><td><rb></rb>FOO</td><td><lqq< td=""><td><l<b>90</l<b></td></lqq<></td></loq<></td></loq<></td></loq<>	<b>₫</b> ÔQ	<loq< td=""><td><loq< td=""><td><b>≉LOQ</b></td><td><rb></rb>FOO</td><td><lqq< td=""><td><l<b>90</l<b></td></lqq<></td></loq<></td></loq<>	<loq< td=""><td><b>≉LOQ</b></td><td><rb></rb>FOO</td><td><lqq< td=""><td><l<b>90</l<b></td></lqq<></td></loq<>	<b>≉LOQ</b>	<rb></rb> FOO	<lqq< td=""><td><l<b>90</l<b></td></lqq<>	<l<b>90</l<b>
	T1	ns	<loq< td=""><td><loq< td=""><td><loq< td=""><td><b>♥</b>LOQ ₀</td><td><lq@< td=""><td><loq< td=""><td><l@q< td=""><td>&lt;<b>b</b>QQ</td><td>&lt;<b>K</b>ØQ</td><td><i>Ş</i>¶<b>Ö</b>Q</td></l@q<></td></loq<></td></lq@<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><b>♥</b>LOQ ₀</td><td><lq@< td=""><td><loq< td=""><td><l@q< td=""><td>&lt;<b>b</b>QQ</td><td>&lt;<b>K</b>ØQ</td><td><i>Ş</i>¶<b>Ö</b>Q</td></l@q<></td></loq<></td></lq@<></td></loq<></td></loq<>	<loq< td=""><td><b>♥</b>LOQ ₀</td><td><lq@< td=""><td><loq< td=""><td><l@q< td=""><td>&lt;<b>b</b>QQ</td><td>&lt;<b>K</b>ØQ</td><td><i>Ş</i>¶<b>Ö</b>Q</td></l@q<></td></loq<></td></lq@<></td></loq<>	<b>♥</b> LOQ ₀	<lq@< td=""><td><loq< td=""><td><l@q< td=""><td>&lt;<b>b</b>QQ</td><td>&lt;<b>K</b>ØQ</td><td><i>Ş</i>¶<b>Ö</b>Q</td></l@q<></td></loq<></td></lq@<>	<loq< td=""><td><l@q< td=""><td>&lt;<b>b</b>QQ</td><td>&lt;<b>K</b>ØQ</td><td><i>Ş</i>¶<b>Ö</b>Q</td></l@q<></td></loq<>	<l@q< td=""><td>&lt;<b>b</b>QQ</td><td>&lt;<b>K</b>ØQ</td><td><i>Ş</i>¶<b>Ö</b>Q</td></l@q<>	< <b>b</b> QQ	< <b>K</b> ØQ	<i>Ş</i> ¶ <b>Ö</b> Q
20-30	Т3	ns	<loq< td=""><td><loq< td=""><td><l@q< td=""><td><løq< td=""><td>&lt;<b>k</b>QQ</td><td>&lt;<b>L</b>OQ</td><td><b>₽</b>OQ</td><td><b>E</b>OQ</td><td><loq4< td=""><td><loq< td=""></loq<></td></loq4<></td></løq<></td></l@q<></td></loq<></td></loq<>	<loq< td=""><td><l@q< td=""><td><løq< td=""><td>&lt;<b>k</b>QQ</td><td>&lt;<b>L</b>OQ</td><td><b>₽</b>OQ</td><td><b>E</b>OQ</td><td><loq4< td=""><td><loq< td=""></loq<></td></loq4<></td></løq<></td></l@q<></td></loq<>	<l@q< td=""><td><løq< td=""><td>&lt;<b>k</b>QQ</td><td>&lt;<b>L</b>OQ</td><td><b>₽</b>OQ</td><td><b>E</b>OQ</td><td><loq4< td=""><td><loq< td=""></loq<></td></loq4<></td></løq<></td></l@q<>	<løq< td=""><td>&lt;<b>k</b>QQ</td><td>&lt;<b>L</b>OQ</td><td><b>₽</b>OQ</td><td><b>E</b>OQ</td><td><loq4< td=""><td><loq< td=""></loq<></td></loq4<></td></løq<>	< <b>k</b> QQ	< <b>L</b> OQ	<b>₽</b> OQ	<b>E</b> OQ	<loq4< td=""><td><loq< td=""></loq<></td></loq4<>	<loq< td=""></loq<>
	mean	ns	<loq< th=""><th><loq< th=""><th><b>≰LOQ</b></th><th>≰LOQ</th><th><b>®</b>LOQ₄</th><th><b>&amp;LOQ</b></th><th>$\mathbb{Q}_{LOQ}$</th><th><loq< th=""><th><lq@< th=""><th><lø@< th=""></lø@<></th></lq@<></th></loq<></th></loq<></th></loq<>	<loq< th=""><th><b>≰LOQ</b></th><th>≰LOQ</th><th><b>®</b>LOQ₄</th><th><b>&amp;LOQ</b></th><th>$\mathbb{Q}_{LOQ}$</th><th><loq< th=""><th><lq@< th=""><th><lø@< th=""></lø@<></th></lq@<></th></loq<></th></loq<>	<b>≰LOQ</b>	≰LOQ	<b>®</b> LOQ₄	<b>&amp;LOQ</b>	$\mathbb{Q}_{LOQ}$	<loq< th=""><th><lq@< th=""><th><lø@< th=""></lø@<></th></lq@<></th></loq<>	<lq@< th=""><th><lø@< th=""></lø@<></th></lq@<>	<lø@< th=""></lø@<>
	T1	ns	ns	ns (	115	y ns	nş 🖰	<lqq< td=""><td><rb></rb>f</td><td>&lt;<u>L</u>QQ</td><td><lööq< td=""><td><b>₽</b>ÇÖQ</td></lööq<></td></lqq<>	<rb></rb> f	< <u>L</u> QQ	<lööq< td=""><td><b>₽</b>ÇÖQ</td></lööq<>	<b>₽</b> ÇÖQ
30-50	Т3	ns	ns	ns	196	as T	ms	_≨ I\$OQ	<b>⊈</b> LÖQ	ØŁOQ.	<b>%</b> LOQ@	LOQ
	mean	ns	ns	AS.	<b>%</b> 2-	.0	Ons ~	<b>©LOQ</b>	×L00	<loq< th=""><th></th><th><loq< th=""></loq<></th></loq<>		<loq< th=""></loq<>
	T1	ns	ns -	Q ns	ns 🔊	ns	ns	no	, pS	ns	%ns	ns
50-90	Т3	ns	ns @	ŋśŲ	ns®	HS.	. 188	ons	Ĝis .	ons (	ns	ns
	mean	ns	*is	_(j) ns	<b>Ans</b>	e ns	ns "	ns .	ns 🖔		ns	ns
Plots T	2n	°,	Ö 3		ns T		g \	. S	ns o		_	

### Plots T2n

Depth	Sub	<b>%</b> 1		Ö	0 3		A1 &				
[cm]	plot	Ø.	1 2	\$\\ 3\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	145	31	76	□°136 ″	<b>∀ 199</b>	257	318
0-10	T2n	SLOQC	0.009	0.016	0.034	Ø.026 ×	76 2 <lo< td=""><td>&lt; LOO</td><td><loq< td=""><td><loq< td=""><td><lo0< td=""></lo0<></td></loq<></td></loq<></td></lo<>	< LOO	<loq< td=""><td><loq< td=""><td><lo0< td=""></lo0<></td></loq<></td></loq<>	<loq< td=""><td><lo0< td=""></lo0<></td></loq<>	<lo0< td=""></lo0<>
10-20	T2	403	_√ QOQ	0.016 QLOOK	CLOQ	<l00< td=""><td>Soo Contraction of the contr</td><td>&amp;LOQ</td><td><loq< td=""><td><loq< td=""><td><lo0< td=""></lo0<></td></loq<></td></loq<></td></l00<>	Soo Contraction of the contr	&LOQ	<loq< td=""><td><loq< td=""><td><lo0< td=""></lo0<></td></loq<></td></loq<>	<loq< td=""><td><lo0< td=""></lo0<></td></loq<>	<lo0< td=""></lo0<>
20-30	<i>©</i> >	***	<1 00°	<1.00	2000	l Pion	Z/ <lqq0< td=""><td><loq< td=""><td><loq< td=""><td><loq< td=""><td><lo0< td=""></lo0<></td></loq<></td></loq<></td></loq<></td></lqq0<>	<loq< td=""><td><loq< td=""><td><loq< td=""><td><lo0< td=""></lo0<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><lo0< td=""></lo0<></td></loq<></td></loq<>	<loq< td=""><td><lo0< td=""></lo0<></td></loq<>	<lo0< td=""></lo0<>
30-50	T2n	ns z		ns	» ns	ns Ons	ins 1	<loq< td=""><td><loq< td=""><td><loq< td=""><td><lo0< td=""></lo0<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td><lo0< td=""></lo0<></td></loq<></td></loq<>	<loq< td=""><td><lo0< td=""></lo0<></td></loq<>	<lo0< td=""></lo0<>
50-90	T2n	ns A	ns 🖉	) (32) (4)	OK S	Ons T	ns	ns	ns	ns	ns
						<b>y</b>					



Table 7.1.2.2.2-7: Residues of M-02 in soil after annual applications of 500 g a.s./ha ACCUMULATION phase values expressed as mg/kg

Depth	Sub		DAA2			DAA3	, Q
[cm]	plot	0	119	372	0	83	358
	T1	<loq< td=""><td>0.007</td><td><loq< td=""><td><loq< td=""><td>LOQ</td><td><b>LOO</b>O</td></loq<></td></loq<></td></loq<>	0.007	<loq< td=""><td><loq< td=""><td>LOQ</td><td><b>LOO</b>O</td></loq<></td></loq<>	<loq< td=""><td>LOQ</td><td><b>LOO</b>O</td></loq<>	LOQ	<b>LOO</b> O
0-10	T2n	<loq< td=""><td>0.006</td><td><loq< td=""><td><loq< td=""><td>® <loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<></td></loq<>	0.006	<loq< td=""><td><loq< td=""><td>® <loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td>® <loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<>	® <loq< td=""><td><loq< td=""></loq<></td></loq<>	<loq< td=""></loq<>
0-10	Т3	<loq< td=""><td>0.008</td><td><loq< td=""><td><loq,a< td=""><td><loq ,="" c<="" td=""><td>) &lt;1500 /</td></loq></td></loq,a<></td></loq<></td></loq<>	0.008	<loq< td=""><td><loq,a< td=""><td><loq ,="" c<="" td=""><td>) &lt;1500 /</td></loq></td></loq,a<></td></loq<>	<loq,a< td=""><td><loq ,="" c<="" td=""><td>) &lt;1500 /</td></loq></td></loq,a<>	<loq ,="" c<="" td=""><td>) &lt;1500 /</td></loq>	) <1500 /
	mean	<l0q< th=""><th>0.007</th><th><l@q< th=""><th><lo@< th=""><th>&lt;000°</th><th>ZLOQ.S</th></lo@<></th></l@q<></th></l0q<>	0.007	<l@q< th=""><th><lo@< th=""><th>&lt;000°</th><th>ZLOQ.S</th></lo@<></th></l@q<>	<lo@< th=""><th>&lt;000°</th><th>ZLOQ.S</th></lo@<>	<000°	ZLOQ.S
	T1	<loq< td=""><td><loq< td=""><td><loq< td=""><td>&lt;<b>LO</b>Q</td><td><l@7< td=""><td>\$\frac{1}{2}\text{COO}</td></l@7<></td></loq<></td></loq<></td></loq<>	<loq< td=""><td><loq< td=""><td>&lt;<b>LO</b>Q</td><td><l@7< td=""><td>\$\frac{1}{2}\text{COO}</td></l@7<></td></loq<></td></loq<>	<loq< td=""><td>&lt;<b>LO</b>Q</td><td><l@7< td=""><td>\$\frac{1}{2}\text{COO}</td></l@7<></td></loq<>	< <b>LO</b> Q	<l@7< td=""><td>\$\frac{1}{2}\text{COO}</td></l@7<>	\$\frac{1}{2}\text{COO}
10-20	T2n	<loq< td=""><td><loq< td=""><td><i>®</i>≭LOQ</td><td>COQ</td><td>€OQ «</td><td>ZIOOQ S</td></loq<></td></loq<>	<loq< td=""><td><i>®</i>≭LOQ</td><td>COQ</td><td>€OQ «</td><td>ZIOOQ S</td></loq<>	<i>®</i> ≭LOQ	COQ	€OQ «	ZIOOQ S
10-20	Т3	<loq< td=""><td><loq< td=""><td>⇒ <loq< td=""><td>~LO<b>©</b>°</td><td>© KLOQ∜</td><td>~Too &amp;</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>⇒ <loq< td=""><td>~LO<b>©</b>°</td><td>© KLOQ∜</td><td>~Too &amp;</td></loq<></td></loq<>	⇒ <loq< td=""><td>~LO<b>©</b>°</td><td>© KLOQ∜</td><td>~Too &amp;</td></loq<>	~LO <b>©</b> °	© KLOQ∜	~Too &
	mean	<loq< th=""><th><loq th="" ♥<=""><th></th><th>y <fqg< th=""><th>,</th><th>()<l<b>QQ</l<b></th></fqg<></th></loq></th></loq<>	<loq th="" ♥<=""><th></th><th>y <fqg< th=""><th>,</th><th>()<l<b>QQ</l<b></th></fqg<></th></loq>		y <fqg< th=""><th>,</th><th>()<l<b>QQ</l<b></th></fqg<>	,	() <l<b>QQ</l<b>
	T1	<loq< td=""><td><lo<b>Ø/</lo<b></td><td>&amp;LOQ</td><td>ZLOQ 😂</td><td><b>⊈</b>\$OQ</td><td>₹ &lt;ľod</td></loq<>	<lo<b>Ø/</lo<b>	&LOQ	ZLOQ 😂	<b>⊈</b> \$OQ	₹ <ľod
20-30	T2n	<loq< td=""><td><loq< td=""><td>Ų <l<b>9(Q</l<b></td><td>Ö'<loq< td=""><td>LOO</td><td>\$\text{LOQ_(\scripts}\)</td></loq<></td></loq<></td></loq<>	<loq< td=""><td>Ų <l<b>9(Q</l<b></td><td>Ö'<loq< td=""><td>LOO</td><td>\$\text{LOQ_(\scripts}\)</td></loq<></td></loq<>	Ų <l<b>9(Q</l<b>	Ö' <loq< td=""><td>LOO</td><td>\$\text{LOQ_(\scripts}\)</td></loq<>	LOO	\$\text{LOQ_(\scripts}\)
20-30	Т3	<loq< td=""><td>*Too Y</td><td>ŽŽOQ 🇞</td><td>SPQQ (</td><td><lqq< td=""><td>&lt;\$\LQQ</td></lqq<></td></loq<>	*Too Y	ŽŽOQ 🇞	SPQQ (	<lqq< td=""><td>&lt;\$\LQQ</td></lqq<>	<\$\LQQ
	mean	<loq< th=""><th><b>©</b>/<l<b>QQ</l<b></th><th>J&amp;TOO</th><th>_ &amp;LOQ</th><th><b>≸</b>LÖQ Å</th><th>√ &lt;⊩®Q</th></loq<>	<b>©</b> / <l<b>QQ</l<b>	J&TOO	_ &LOQ	<b>≸</b> LÖQ Å	√ <⊩®Q
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30-30	Т3	<lqq<sup>*</lqq<sup>	√ <lo@*< td=""><td>&amp; LOQ</td><td>JALOQ &amp;</td><td><b>⊉</b>OQ_{&amp;}</td><td>" <loq< td=""></loq<></td></lo@*<>	& LOQ	JALOQ &	<b>⊉</b> OQ _{&amp;}	" <loq< td=""></loq<>
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# C. Residues

# Dissipation phase (2000-2001)

The measured initial concentration of fluopicolide was 6383 mg/kg (mean value) immediately after application and 0.563 mg/kg (mean value) three days later, equivalent to 574.5 g/ha and 758.5 g/ha, respectively assuming a soil density of 7.5 g/cm³. These deviations to the nominal application rate of 500 g/ha appear to be acceptable taking into account the uncertainties (e.g. soil density, homogenisation, application) related to the samples collected soon after treatment and considering the residues remaining in soil from the previous application in 2999 conducted as part of a separate study (KCA 7.1.2.2.1/04, M-2204777)2-1).

The initial dissipation of fluopicolide was relatively rapid followed by a slower dissipation phase during the winter months due to the cold climate. Dissipation continued the following summer at a slower rate than the initial rapid phase possibly due to the reduced availability of fluopicolide due to increased adsorption to soft with ageing Residues of Phopicolide were detected mainly in the 0-10 cm soil horizon throughout the triat Low esidues were detected in the 10-20 cm horizon in the dissipation phase at concentrations ranging from 0.005 to 0.017 mg/kg (mean values). Residue levels of parent declined to 129 g/ha the year after the first treatment which represented approximately 20 % of the measured (758.5 g/ha) initial concentration. Throughout the dissipation phase no residues of fluopicolide were detected above the LOQ below 20 cm depth.

The concentration of M-01 (AE C653711) in the soil profile varied with the degradation rate of fluopicolide. During the summer months when the degradation rate of the parent compound is relatively rapid, M-01 concentrations were relatively high and declined during the winter as the degradation rate of fluopicolide slowed. Residues levels of M-01 reached a maximum one to two months after first



application at a mean concentration equivalent to 109.5 g/ha in summer 2000 (mean of Plots T1 and T3, 126 g/ha). After one year residue levels of M-01 had declined to 81.0 g/ha (June 2001). The maximum residue level in the 0-10 cm horizon was observed 59 days after application at 0.084 mg/kg (mean of Plots T1 and T3) and 31 days after application at 0.059 mg/kg (Plot T2n). The peak concentration of the underlying 10-20 cm was slightly later, after 121 days at 0.019 mg/kg and 136 days at 0.021 mg/kg in Plots T1/T3 and T2n, respectively. In the lower soil horizons residue levels were generally at or below the LOQ until the winter months where the maximum concentration observed was 0.016 mg/kg and 0.010 mg/kg at 20-30 cm and 30-50 cm soil depths, respectively.

M-02 and M-03 were rapidly degraded in the trial. No estidues of M-03 (AE 0608000) were found above the LOQ throughout the study. M-02 was only detected at early time-points in the 0.0 cm soil depth up to 59 days after application in Plots T1 and T3 (31 days in Plot 72n) at a maximum concentration of 0.046 mg/kg, equivalent to 69 g/ha. No residues of M-02 were detected above the LOQ below 10 cm depth. The degradation of M-03 is known to be pH dependant and a very apidly degraded in neutral to alkaline soils such as the soil at the Senas trial site.

#### **Accumulation:**

For the assessment of the plateau concentrations, the residue level Cafter the first application were not considered appropriate as the soil concentrations of fluoricolide measured after the first application indicated the rate applied had signifficantly exceeded the intended application rate of 500 g/ha/Therefore only the second and third year were considered for the evaluation of the plateau concentrations.

The average concentration of Mopiconde in soil immediately after the second application in 2001 was 0.354 mg/kg in 0 to 10 cm soil doubt which declined to 0.082 mg/kg by 372 days after the second treatment (DAA2). A mean concentration of 0.354 mg/kg was detected immediately after the third application in 2002 which declined to 0.061 mg/kg is support to cm soil depth by 355 days after the third application (DAA3).

Residues of fluopicolide were detected mainly in the 0010 cm soil horizon throughout the accumulation phase. Low residues were detected in the 10 20 cm soil depth at concentrations ranging from 0.006 to 0.033 mg/kg (mean values) throughout the accumulation phase on the 20-30 cm soil depth fluopicolide was detected in October 2001 at a mean concentration of 0.003 mg/kg. Residues of the test item detected in 20-30 cm and 30-50 cm soil depths immediately after second and third applications were concluded to be a result of sample contamination during sampling.

The metabolite M-01 was detected in 0-10 cm soil depth at a maximum concentration of 0.047 mg/kg (mean value). Levels in the 10-20 cm soil were lower with maximum of 0.013 mg/kg (mean value). In the 20-30 cm layer residues reached a maximum of 0.009 mg/kg (mean value) and did not exceed 0.007 mg/kg (mean value) in 30-50 cm depth.

Residues of M-02 were detected only once throughout the accumulation phase at a concentration of 0.007 mg/kg. No residues of M-03 were detected throughout the trial.

The plateau concentrations after three wars are summarised below. As the accumulation trial was conducted with bare soil plots and the fungicide fluopicolide would only be applied to growing crops, soil plateau concentrations for wing formal agricultural use would be significantly lower.

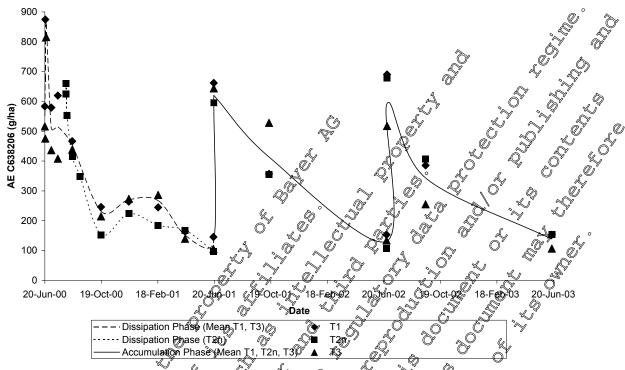
		a n				
Plateau		Fluop	icolide		AE C653711	
~ · · · · · · · · · · · · · · · · · · ·	Taleagy   Time noint		/kg)	Time-point	(mg/kg)	
		0-10 cm	0-20 cm		0-10 cm	0-20 cm
#Mgh ¹	Dayo G rd Application	0.354	0.186	Day 119 after 2nd Application	0.047	0.030
Low	Day 355 after 3rd Application	0.061	0.046	Day 355 after 3rd Application	0.015	0.014

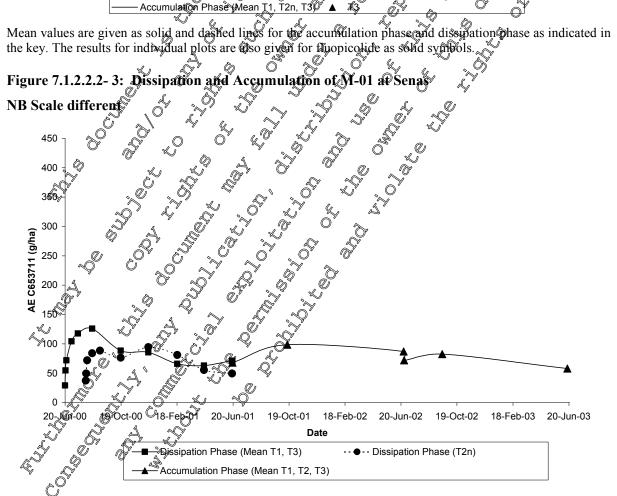
¹ maximum of the high values of the "saw teeth" curve

² maximum of the low values of the "saw teeth" curve



Figure 7.1.2.2.2- 2: Dissipation and Accumulation of Fluopicolide at Senas







# D. Kinetic Analysis

The half-life of fluopicolide included in the report was calculated using a biphasic hockey stick kinetic model (HS) as 58 days. The DT₉₀ was 679 days (tb 69.8 days) and the r² was 0.928. The degradation kinetics determined in the report were conducted prior to the issuing of the FOCUS guidance downent on degradation kinetics and are no longer considered valid. Moreover, the data is no longer considered suitable to derive degradation rates as the experimental plots had previously been treated with fluopicolide (in 1999, see KCA 7.1.2.2.1/04).

# III. Conclusion

The accumulation potential of fluopicolide and its metabolites M-01, M-02 and M-03 was assessed for up to three years after application to bare soil at a site in Senas, France. Fluopicolide and M-01 degraded at a moderately fast rate in soil. The reported DT and DT values were 58 and 679 days, respectively, assuming biphasic hockey stick kinetics. The metabolites M-01 and M-02 were rapidly degraded in soil and were either not detected or disappeared completely within one month.

It was concluded during the previous evaluation that fluoricolide and M-01 residues had reached plateau concentrations in the Senas trial. Accumulation measured in the field did not indicate a significantly higher plateau than that observed following single annual application.

In this submission the definitive assessment of the accumulation of the picolide and its metabolites in soil is addressed in Document MCP-9 by calculation.

# Assessment and conclusion by applicant

The study is considered validate assess the accumulation of fluoricolide and Moyl in soil under field conditions. Definitive assessment of the accumulation of fluoricolide and its metabolites in soil is addressed in Document MCP-9 by calculation.

Data Point.	KC 7.1.2. 2.702 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Report Author:	
Report Year:	2006
Report Title:	An evaluation of the potential accumulation of fluopicolide in the field
Report No:	CX706/00.50 0 0 0 0
Document No C	<u>10</u> -267722 -01-€ >
Guideline(s) followed in	not specified
study:	
Deviations from current	not specified 💸 🔊
test gwideline:	
Previous evaluation:	yes, evaluated and accepted
	Addendum to the DAR (2007)
GLP/Officially A	No, not conducted under GLP/Officially recognised testing facilities
recognised testing	
facilities:	
Acceptability/Renability:	Yes

For procedural reasons the previously submitted statement is included under Point KCA 7.1.2.2.2 in the current dossier (KCA 7.1.2.2.2/02). However the report has been fully superseded by PEC_{soil} accumulation calculations provided in Document MCP-9. Consequently no summary of the statement has been included in this dossier.