

Document Title

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Version history

Date	Data points containing amendments or additions ¹ and brief description	Document identifier and version number				
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		. 4 - 0				

1 It is suggested that applicants adopt a similar approach to showing revisions and resion history as outlined of SANCO/10180/2013 Chapter 4 How to revise an Assessment Report

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CP9 FATE AND BEHAVIOUR IN THE ENVIRONMENT

This document presents updated calculations for the predicted environmental concentrations of amidosulfuron and its metabolites in soil and water. The reports submitted for the first European approval, and the associated post-Annex I procedure, are only listed for formal completeness but are not discussed in this document as they are fully superseded by updated simulations and considered no longer relevant.

Use pattern considered in the environmental exposure and risk assessment

Table CP 9-1: Intended application pattern

Стор	Timing of application (range)	Number of applications	Application interval [days]	Maximum fabél Srate pér treatment Jkg product/ha	Opplication rate per treatment [ga.s./ha] Anddosulfneon
Winter careala	BBCH 21-49 ¹⁾²⁾	1	, , , , , , , , , , , , , , , , , , ,	© 0.04 ©	30
Winter cereals	BBCH 13-49 ¹⁾²⁾	1		J 0.02 S	© 15
Spring cereals	BBCH 12-49 ¹⁾³⁾	1		0.02-0.0	15-30
Flax	Before flower buds are visible			0.02-0.04	15-30
Grass/pasture (permanent grass)	Spring/autumn			0.06	45

All EU except France/Italy (up to BBCH 22)

Definition of the residue for risk assessment.

Justification for the residue definition for risk assessment is provided in MCA Sec.7, Point 7.4.1.

End of winter, beginning of spring vegetation period

Table CP 9-2: Definition of the residue for risk assessment*

Compartment	Residue Definition	Major Metabolite in
	Amidosulfuron	(parent substance)
	ADesmethyl (AE F101630)	Aerobic soil, anaerobic soil
Soil	ADesmethyl-chloropyrimidine (BCS-CO41838)	Aerobic soil
5011	AGuanidine (BCS-CO41839)	Aerobic soil
	ABiuret (BCS-CQ51287)	Agrobic soil &
	AADMP (AE F092944)	Aerobic soil
	Amidosulfuron 😞 º 🎺	^parent substance
	ADesmethyl (AE F101630)	Aerobic soil, anaerobic soil
	ADesmethyl-chloropyrimidine (BCS CO41830)	Aerobic soil
Cusundwater	AGuanidine (BCS-CO41899)	Aerobic soil 🗸
Groundwater	ABiuret (BCS-CQ51@87)	Aerobic soil
	AADMP (AE F0%)944) 🦤 🛴	Aerobic son
	AADHP (AEÆ094206)	Lasimeter Cachate, anaerosic soil
	Amidovalfuron	(parent substance)
	ADesmethyl (AE F101620)	Aerobić water/sediment Aerobić soil, anaerobić soil
	ADesmethyl-coropyr@ndine (CS-CQQ1838)	Aerobic soil
Surface Water	A Guanidine (BCS-CO41839)	Aerobic water/sediment, Aerobic soil
	APouret (BCS-CQ51287)	Aerobic water/sediment, Aerobic soil
	Ø Ø Ø AADMP (AE 10092944)	Aerobic water/sediment,
		Aerobic soil
	6- (Guanidinocarbonyl)suktamic acid (BCS-3149539)	Aerobic water/sediment
Air	Amide sulfured	(parent substance)

^{*}Justification for the residue definition for rist assessment see provided in MCA Sec.7, Point CA 7.4..

CP 9.1 Fate and behaviour in soil

Fate and behaviour of midosulfuron to soil were assessed in the MCA document (Section 7) of the current renewal dosser based on the application of the active substance in laboratory studies. The endpoints derived from studies with the active substance are considered as appropriate to assess the exposure of amidosulfuron after application of the formulation Amidosulfuron WG75.

CP 9.1.1 Rate of degradation in soil

CP 9.1.1.1 Laboratory studies

No laboratory route rate studies were conducted with the formulation. See document MCA Section 7.1.2.1 for studies with the active substance.

CP 9.1.1.2 Field studies

Field dissipation tests at three locations were conducted with the formulation, however are reported in the document MCA, Section 7.1.2.2 because they are relevant for deriving an endpoint for the active substance amidosulfuron, and are not specific for any preparation. The data confirmed a rapid degradation of amidosulfuron under field conditions, but for reason of sample spacing did not allow for the calculation of DT₅₀ and DT₉₀ values.

CP 9.1.1.2.1 Soil dissipation studies

Please refer to Document MCA 7.1.2.2.

CP 9.1.1.2.2 Soil accumulation studies

Please refer to Document MCA 7.1.2.2.

Mobility in the soil **CP 9.1.2**

CP 9.1.2.1 Laboratory studies

have not been performed Please Feer to Document MCA Experimental studies with the formulation 7.1.3. for studies with the active substance

CP 9.1.2.2 Lysimeter studies

Please refer to Document MC

leaching stud **CP 9.1.2.3**

Please refer to Do

mation of Concentration in soil **CP 9.1.3**

Predicted environmental concentrations in soil (PECSoil)

Studies Submitted and esaluated for the first inclusion of amidosulfuron on Annex I:

The below baseline dossier studies are listed for formal completeness, but are of no longer relevance for approval renewal. The studies are superseded by a new modelling evaluation KCP 9.1.3/03, to update for new abstance information and modelling guidance.

Bayer - Crop Science Division

Document MCP: Section 9 Fate and behaviour in the environment Amidosulfuron WG 75

Report: KCP 9.1.3/01 Q; 2003; M-228793-01-1

Title: Predicted environmental concentrations of amidosulfuron and its main metabolites in

soil (PECs) for representative uses in Europe Code: AE F075032, AE F101630, AE

F128870

Report No.: C030963
Document No.: M-228793-01-1

Guideline(s): -Guideline deviation(s): -GLP/GEP: no

Report: KCP 9.1.3/02

Title: Predicted environmental concentrations of midosulfuron and its main metabolites in

soil (PECs) for representative uses in Europe: Re-calculation with now selection of

substance parameters Codes: AE F07, \$\square\$2; AE \(\) 10163 \(\) AE F1\(\) 870

Report No.: C042079

Document No.: M-231921-01-1

Guideline(s): -Guideline deviation(s): -GLP/GEP: no

Studies submitted and evaluated in the course of the post-Annex I procedure for amido alfuron.

(none at EU level; updated modelling was submitted as part of the products re-approval procedure at zonal level)

Studies submitted for Annex I approval renewal:

To consider compound related input parameters from new experimental studies and kinetic evaluations, and to implement latest modeling guidance, updated PECsii calculations are presented for approval renewal, superseding all previous data evaluations.

Report: ,; 20162M-553878-01-1

Title: Amidosulfuron AMS) and metabolites: PC Soil EUR - Use in winter and spring

cereals, flax and grass in Europe

Report No.: Enga-16-0284 v1

Document No.: M-5538 P201-1

Guideline (s): none (s)

Guideline deviation(s) none none GLP/GEP: no

Methods and Materials:

The predicted environmental concentrations of soil (PECsoil) of amidosulfuron and its metabolites were estimated based on a first tier approach using a Microsoft® Excel spreadsheet. A bulk density of 1.5 kg/L and a soil mixing depth of 5 cm were used as recommended by FOCUS (1997) and EU Commission (1995, 2000). Crop interception was taken into account according to EFSA (2014). The accumulation potential of amidosulfuron and its metabolites after long term use was also assessed, employing the mixing depth of 20 cm for the calculation of the background concentration. Detailed application data used for simulation of PECsoil were compiled in Table CP 9.1.3-1.

Table CP 9.1.3-1: Application pattern used for PECsoil calculations of amidosulfuron

	70 6716 6		Applic	ation		Amount reaching
Individual Crop	FOCUS Crop Used for Interception	Rate per Season [g a.s./ha]	Interval [days]	Plant Interception [%]	BBCH Stage	soil per season application [g a.s./ha]
Winter cereals, GAP	-	1 × 30	-	-	2149	[g 4:33/14]
Winter cereals, Simulation	winter cereals	1 × 30	-	20	∑20-49©	1 24.0
Winter cereals, GAP & Simulation	winter cereals	1 × 15	-	S° 0 √	13,49	1 × 15.0
Spring cereals, GAP & Simulation	spring cereals	1 × 30	- 3		12-49	30.0 °
Flax, GAP	-	1 × 30			Before flower buds are visible	
Flax, Simulation	spring cereals	1 × 30 👟			12	1 × 30.0
Grass, GAP	-	1 × 45	L - 6		Syring- Autumn	<u>-</u>
Grass (spring), Simulation	grass	15,45	O' - K	©90 ×	perma-	1 × 4.5
Grass (autumn), Simulation	grass	01 × 450			grass	1 × 4.5

Substance Specific Parameters:

PEC_{soil} calculations were based on the non-normalised maximum DTG from the kinetic evaluation of laboratory studies. For the metabolites, the (pseudo) application rate is calculated based on the maximum amount of the metabolite observed in soil degradation studies and the molar mass correction. Further compound specific input parameters are summarized below.

Input parameters of amidosulturon and its metabolites for PECsoil

	\sim	- A						
Compound	DT50	Max.	Molar	Molar mass	Amo		ing soil per	season
	(1)	occur.	Omass ^	correction /		app	lication	
	Ď	Oin soil 🕻		factor	Winter	Winter	Spring	Grass
					cereals	cereals	cereals and flax	(spring and autumn)
	Aday @			8	30 g	15 g	30 g	45 g [′]
	s] C	[%]Ô	[g/mol]		a.s./ha	a.s./ha	a.s./ha	a.s./ha
Amidosul uron C	97,6	109	369.4	1	24	15	30	4.5
Amidospifuron desmethyl	2 3.8	\$49.6	355.4	0.9621	11.45	7.16	14.32	2.15
Amidosulfuron- desmethyl- chloropyrimidin	168	12.2	389.8	1.0552	3.09	1.93	3.86	0.58
Amidosulfuron- ADMP	\$\frac{1}{66}	9.9	155.2	0.4201	1	0.62	1.25	0.19
Amidosulfuron- guanidine	697	38.6	273.3	0.7398	6.85	4.28	8.57	1.29
Amidosulfuron- biuret	68	6.3	274.3	0.7426	1.12	0.7	1.4	0.21

Maximum non-normalised DT₅₀ from kinetic evaluation of laboratory studies, for details please refer to CA 7.1.2.1

Findings:

The maximum PEC_{soil} values for amidosulfuron and its metabolites are summarised in the following table. The maximum, short-term and long-term PEC_{soil} values and the time weighted average values (TWAC_{soil}) are provided from Table CP 9.1.3- 3 to Table CP 9.1.3- 15.

Table CP 9.1.3- 3: Maximum PEC_{soil} of amidosulfuron and its metabolites for the uses assessed

Use pattern	Winter cereals,	Winter	Spring cereals	Grass (spring and
•	1 × 30 g a.s./ha	cereals,	and flax;	w autumn),
	(20%	$1 \times 15 \text{ g}$	1 × 30 Qa. s./ha	1 × 45 g a.s./ma
	interception)	a.s./ha 🔍	1 × 30 Qa.s./ha o (0% interception)	(90% interception)
		(0% 🔘		0' \$
		interception,		
	[mg/kg]	[mg/k@)	[mg/kg]	(mg/kg] .
Amidosulfuron	0.032	0,020	U″ 07 0 740 ∑	\$\times 0.006\$\times
Amidosulfuron-desmethyl	0.015	Ø010 × 0	0.019 0	0.003
Amidosulfuron-desmethyl-	0.004	0.003	0.005	
chloropyrimidine	0.004	Q 0.00		y y .001
Amidosulfuron-ADMP	0.001	< 0.2091	0.002	€ 0.001
Amidosulfuron-guanidine	0.009	7 <u>95</u> 006 @	9 .011	0.002
Amidosulfuron-biuret	0.001	< 0.001, Q	0.002°	< 0.001

Table CP 9.1.3-4: Use in winter cereals: DEC soil (actual) and TWAE soil of amidosulfuron

			`\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Ofuron 🤝		
	Time	Winter	cereals	winter cereais		
	[days]	1"× 30 g a.s./ha	0% interception ✓	15 g a.s./ha, 0% intercepti		
	Į ×	PECsoil	TWAC, son	PECsoil	TWACsoil	
		mg/kg.}⊾	[mg/kg]	MEC _{soil} [mg/kg]	[mg/kg]	
Initial	0.5	€ 0.032 1.00		v ^y 0.020	-	
	1 ^N	0.032	0.032	0.020	0.020	
Short term	OŽ	9 032	0.032	0.020	0.020	
	O 4	△0.031 Ø	0.032	0.019	0.020	
Long term	<i>™</i> 7, 0″	0.030	0.037	0.019	0.020	
°≽			♥ @ 930	0.018	0.019	
į G	24 (√ <u>Q</u> 0028 →	0.030	0.017	0.019	
Long term		©.026 _~	≈0.029	0.016	0.018	
	£ 42 × 1	@ 0.024© ["]	0.028	0.015	0.017	
*	J [™] 50Ç	<i>∞</i> 0.022⁄2	O 0.027	0.014	0.017	
, Q	100	° 0,646 🔊	0.023	0.010	0.014	
		Ö				

Table CP 9.1.3-5: Use in spring cereals, flax and grass: PECsoil (actual) and TWACsoil of amidosulfuron

		Amidosulfuron				
	Time		eals and flax		and autumn)	
	[days]	1×30 g a.s./ha,	0% interception	1 × 45 g a.s./ha, 90% interception		
		PEC soil	TWACsoil	PECsoil	TWACsoil	
		[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	
Initial	0	0.040	-	0.006	· -	
	1	0.040	0.040	0.00%	Ø : 9 06	
Short term	2	0.039	0.040	9006	9.006 M	
	4	0.039	0.039	Ø.006 @	<i>△</i> 0.00€	
	7	0.038	0.039 >> °	√ 0.006°√	\$ 0.00e	
	14	0.036	0.038	0.005	10,0 06	
	21	0.034	0.03**/	Ö	Ø.006	
Long term	28	0.033	0,936	% 005	0.00 5	
	42	0.030	20,035	0.004	0.005	
	50	0.028	O.034 O		O 0.005	
	100	0.020	0.0297	0.003	Ø.004	

Table CP 9.1.3- 6: Use in winter cereals: PEC_{soil} factual) and TWAC_{soil} of metabolite amidosulfuron-desmethyl

	,	, V	<u> </u>				
		Time Winter cereals Winter cereals					
	Time	. Winter	cereals 🌂 🧳	Winter cereals 15 g. s./ha, 0% interception PECsoil TWACsoil			
	[days]	1 × 30 g a.s./ha)	cereals 20% imperception	1× 15 g a.s./ha,	0% interception		
		PECsoil	TWACO	on-desmethyl Winter 1 15 g. 4s./ha, PECoil	TWAC soil		
		Ø∫mg/kg ∫	mg/kgl	[mg/kg]	[mg/kg]		
Initial	0	1 × 30 g a.s./hg2 PECsoil > gmg/kg1	0.015	0.010	-		
	1 %	0 075 C	∞ 0.015 _⊘	0.010	0.009		
Short term	2	0.014	0.015	L'‱a" ∩ ∩∩∩	0.009		
	1 2 4 7 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.012	0.013 0.014 0.013 0.013 0.010 0.010	0.008	0.009		
	7.5	0.012	00014 L	0.008	0.009		
	Ø	0.4010	0 .013 0	0.006	0.008		
	21	0.000 0.007 0.004 0.004	0.011	0.005	0.007		
Long term	28	₩0.007	S 0.010	0.004	0.007		
٥,	Ŷ 42 _~	Ø 0.0 0 ₽	Q 0,009	0.003	0.006		
	5 90 (0,094 🔍	0.008	0.002	0.005		
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<b>%</b> .001 %	<b>₩</b> 0.005	< 0.001	0.003		
		0.010					

Table CP 9.1.3-7: Use in spring cereals, flax and grass: PEC_{soil} (actual) and TWAC_{soil} of metabolite amidosulfuron-desmethyl

		Amidosulfuron-desmethyl					
	Time [days]	Spring cereals and flax 1 × 30 g a.s./ha, 0% interception		Grass (spring and autumn) 1 × 45 g a.s./ha, 90% interception			
		<b>PEC</b> soil	TWACsoil	PECsoil	TWACsoil		
		[mg/kg]	[mg/kg]	[mg/k <b>g</b> ]	[mg/kg]		
Initial	0	0.019	-	0.003"			
	1	0.019	0.019	9 <b>.00</b> 3	6.003 Q		
Short term	2	0.018	0.019	Ø.003	<i>△</i> 0.00 <b>%</b>		
	4	0.017	0.018 👟 °	√y 0.003°Y	\$\tau_0.0\text{0}\$		
	7	0.016	0.017	0.002	<b>10.00</b> 3		
	14	0.013	0.016	Ø 0.0002 @	<b>20</b> .002		
	21	0.010	0,014	0.002	0.002 °		
Long term	28	0.008	<b>20.013</b>	0.001	0.002		
	42	0.006	O.011 💍	_∡ © <0.0 <b>©</b> √	O 0.002		
	50	0.004	0.0107	<0.001	<i>@</i> .002		
	100	0.001	0.006	<b>49</b> .001	@K 0.001		

Table CP 9.1.3- 8: Use in winter cereals: PEC_{soil} (actual) and TWAC_{soil} of metabolite amidosulfuron-desmethyl-chloropyrimidifie

		Applidosulfuron-desmethyl-chloropyrimidine				
	Time	. Winter	cereals C	Winter	cereals	
	[days]	1 × 30 g a.s,/ha, 2	cereals 20% interception	Winter cereals    × 15 ca.s./ha, 0% interception   PECsoil TWACsoil		
		≈PFC ~	TWACsoil	PECsoil	TWACsoil	
		🥎 [mg/kg] 🖟	Ç, [m@g/kg] ℚ`	∡[mg/kg]	[mg/kg]	
Initial	0 %	0 <b>00</b> 4 C	~~ ~	0.003	-	
	1 &	7 .0.004	″0 00 <b>4</b> ≈√	0.003	0.003	
Short term	2 🏈	0.0040	0.004	0.003	0.003	
	1 2 4 3	0.004	0.004 0.004 0.004 0.004 0.004	0.003	0.003	
		0.0004	@.004 <i></i>	0.003	0.003	
		0.004 0.004 0.004	0.004	0.002	0.003	
	21	<b>3</b> 0.004	0.00	0.002	0.002	
Long term	© 28√	Ø 0.0 <b>0</b> ₽	Q 0,004	0.002	0.002	
	#2 ¹	0,093	0004	0.002	0.002	
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<b>10,003</b>	<b>₩</b> 0.004	0.002	0.002	
	100	0.003	0.003	0.002	0.002	
		0.004 0.004 0.004 0.003 0.003 0.003 0.003				

Table CP 9.1.3- 9: Use in spring cereals, flax and grass: PEC_{soil} (actual) and TWAC_{soil} of metabolite amidosulfuron-desmethyl-chloropyrimidine

		Amidosulfuron-desmethyl-chloropyrimidine				
	Time [days]		als and flax 0% interception	Grass (spring and autumn) 1 × 45 g a.s./ha, 90% interceptio		
		PEC soil	TWACsoil	PECsoil	TWACsoil	
		[mg/kg]	[mg/kg]	[mg/kg	[mg/kg]	
Initial	0	0.005	-	<0.001		
	1	0.005	0.005	< 0.0 01 2	₹0.001	
Short term	2	0.005	0.005	Ø0.001	∠ < 0.0 % €	
	4	0.005	0.005 👟 °	\$\sqrt{0.001}	< 0,001	
	7	0.005	0.005	<0.007	≈ 0,001	
	14	0.005	0.005	50.001	≥ 0.001	
	21	0.005	0,005	Ø.001 ×	0.001,°	
Long term	28	0.005	\$0,005	©0.001	(0.000) × (0.000)	
	42	0.004	O.005 💍		Ŭ < J Ø01	
	50	0.004	0.005	<0.001	Ø.001	
	100	0.003	0.004	[♥] 40 .001 €	@K 0.001	

Table CP 9.1.3- 10: Use in winter cereals: PECson (actual) and TOACson of metabolite amidosulfuron-ADMP

			Waidaan Wa	y SMD	
	Time		Amidosalfu cereads \$\frac{1}{20\%}\cinterception	ron-ADNIY	cereals 0% interception
		Winter	cereals \$20% interception	winter	cereals
	[days]	1 × 30 g a.s./ma, 2	20% Interception	N × 15 g a.s./na,	0% interception
		OPECsoff	TWAC _{soil}	Picsoil	TWACsoil
			Ç [mêg∕kg] Qʻ	« mg/kg	[mg/kg]
Initial	0 %		0.001	<0.001	-
	1 🛇	0.001	″0.00 l	<0.001	< 0.001
Short term	2 🏈	0.001		< 0.001	< 0.001
	1 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	0.001	0 39 01 L	< 0.001	< 0.001
		0.001 🖔	0 .001 0	< 0.001	< 0.001
	L & ₩ 1/1	L <i>(0∀ (</i> 0\(\)\1	0.001 0.001 0.001	< 0.001	< 0.001
	21	20.001	J 0.00F	< 0.001	< 0.001
Long term	© 28√	Q 0.0Q D	Q 0,001	< 0.001	< 0.001
	19	0,091	~0.001	< 0.001	< 0.001
	\$50 C	20,0 001	₹ 0.001	< 0.001	< 0.001
	~ 100 ·	<0.001	© 0.001	< 0.001	< 0.001
			Õ		
		0.001 0.000 0.000 0.000 0.0001 0.0001			

Table CP 9.1.3-11: Use in spring cereals, flax and grass: PEC_{soil} (actual) and TWAC_{soil} of metabolite amidosulfuron-ADMP

			Amidosulfuron-ADMP			
	Time		als and flax	Grass (spring and autumn) 1 × 45 g a.s./ha, 90% interception		
	[days]	1×30 g a.s./ha,	0% interception			
		PEC soil	TWACsoil	PECsoil	TWACsoil	
		[mg/kg]	[mg/kg]	PEC _{soil} (2) [mg/kg	[mg/kg]	
Initial	0	0.002	-	<0.001		
	1	0.002	0.002	<0.001	©0.001	
Short term	2	0.002	0.002	Ø0.001	∠ < 0.0 % €	
	4	0.002	0.002 ∞°	\$\sqrt{0.001}	< 0,001	
	7	0.002	0.002	<0.007	~0,001	
	14	0.002	0.002	© <0001 °	≈ ∞0.001	
	21	0.002	0,002	Ø.001 ×	0.001,°	
Long term	28	0.001	20,0 02	©0.001	(0.00) × (0.10)	
_	42	0.001	O.002 💍		C < L O	
	50	0.001	0.0027	<0.001	Ø.001	
	100	0.001	0.001	\$0.001	ØK 0.001	

Table CP 9.1.3- 12: Use in winter cereals: PEC 91 (actual) and TVAC soit of metabolite amidosulfuronguanidine

			Amidosulfur	on-ga@nidine	
	Time	Winter	cereals	Winter 1 × 15 g a.s./ha, PEC _{soil}	cereals
	[days]	$1 \times 30^{\circ}$ g a.s, h_{a} , 2	cereals 20% interception	\times 15 g a.s./ha,	0% interception
		ØPEC _{sop} P _↓	TWAC soil	PECsoil	TWACsoil
		🥎 [mg/kg] 🖟	Ç [m@g/kg] Q	∭mg/kg]	[mg/kg]
Initial	0 %	<u> </u>	· - / / /	0.006	ı
	1 \$	0.009	0.009 ×	3.006 a	0.006
Short term	1 2 4 3	Q0.002©	0.009	0.006	0.006
	4.5	J. 0.009	0.009 0.009 0.009	0.006	0.006
		° 0 ,0 09 😃	0 .009 0	0.006	0.006
		\$ 40 009	Q0.009	0.006	0.006
	21	0.009 0.009	0.000	0.006	0.006
Long term	© 28√	Ø 0.0 0 €	Q 0,009	0.006	0.006
	#2º	0,000	0,009	0.005	0.006
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<b>70,0</b> 09 0	<b>₹</b> 0.009	0.005	0.006
	100	0.008	© 0.009	0.005	0.005
		0.009 0.009 0.009 0.008 0.008			

Table CP 9.1.3- 13: Use in spring cereals, flax and grass: PEC_{soil} (actual) and TWAC_{soil} of metabolite amidosulfuron-guanidine

		Amidosulfuron-guanidine					
	Time		eals and flax	Grass (spring and autumn)			
	[days]		0% interception	1 × 45 g a.s./ha, 90% interception			
		PECsoil	TWACsoil	PECsoil	TWACsoil		
		[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]		
Initial	0	0.011	-	0.002"			
	1	0.011	0.011	0002	9.002 Q		
Short term	2	0.011	0.011	Ø.002	0.00 <b>%</b>		
	4	0.011	0.011 ≥ °	\$\int 0.002*\forall	\$\tag{0.902}		
	7	0.011	0.011	0.002	<b>10.002</b>		
	14	0.011	0.0	0.002	<b>20</b> .002		
	21	0.011	0,911	0.002	0.002 °		
Long term	28	0.011	<b>20.011</b>	0.002	0.002		
	42	0.011	ڻ 10.01 <u>1</u> کي		U 0.002		
	50	0.011	0.011	0.662	<i>@</i> .002		
	100	0.010	Q.PHY &	0,002	© 0.002		

Table CP 9.1.3- 14: Use in winter cereals: PEC (actual) and TWAC (actual) actual (actual)

			A Paridosulf	ron-bjuret	cereals
	Time	Ó Wintex		Winter	cereals
	[days]	Winter cereals  1 × 30 g a.s./h@ 20% interception		1× 15 g. As./ha,	cereals 0% interception TWAC _{soil}
		PECsoil 2	TWACS OF	PEC _{soil}	TWACsoil
		PECsoil	MACO [mg/kg]	[mg/kg]	[mg/kg]
Initial	0	× 0.000			-
	1 %	. 0681	0.001	€0.001	< 0.001
Short term	2	0.001	0.00	<0.001	< 0.001
	1 2 4 7 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.001	[ 2 0.0 <b>0</b> ]	< 0.001	< 0.001
	7.5	√° 0.00 ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °	00001	< 0.001	< 0.001
	<u></u> Car	0.001 0.001 0.001 0.001 0.000 0.000	©.001 ©.001	< 0.001	< 0.001
	21	© 001 S	<b>20.001</b>	< 0.001	< 0.001
Long term	28	<b>6</b> 0.001	0.000	< 0.001	< 0.001
9/6	Q 42√y	$Q_0^{\infty} < 0.000^{2}$	Q 0,001	< 0.001	< 0.001
	<b>50</b>	<0.001	~0.001	< 0.001	< 0.001
	- 300 d	<b>% %</b> 001 <b>%</b>	<b>₹</b> 0.001	< 0.001	< 0.001
		0.001 0.001 0.001 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.			

Table CP 9.1.3- 15: Use in spring cereals, flax and grass: PEC_{soil} (actual) and TWAC_{soil} of metabolite amidosulfuron-biuret

			Amidosulfu	ıron-biuret		
	Time		als and flax	Grass (spring and autumn) 1 × 45 g a.s./ha, 90% interception		
	[days]	$1 \times 30$ g a.s./ha,	0% interception			
		<b>PEC</b> soil	TWACsoil	PECsoil	TWACsoil	
		[mg/kg]	[mg/kg]	PEC _{soil} (2) [mg/kg	[mg/kg]	
Initial	0	0.002	-	<0.001		
	1	0.002	0.002	<0.001	©0.001	
Short term	2	0.002	0.002	Ø0.001	∠ < 0.0 <b>%</b> €	
	4	0.002	0.002 ∞°	\$\sqrt{0.00}	< 0,001	
	7	0.002	0.002	<0.907	♥ <0,001	
	14	0.002	0.002	\$ \square \qquare \qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq	<b>≈</b> ∞0.001	
	21	0.002	0,002	Ø.001 ×	0.001,°	
Long term	28	0.001	<b>20.</b> 002	0.00	(0.00) × (0.00)	
	42	0.001	O.002 💍		Ů < <b>J</b> Ø01	
	50	0.001	0.0019	<0.001	Ø.001	
	100	< 0.001	0.001	^y ≰9.001 ₹	0.001 پى	

### Potential accumulation in soil:

The accumulation potential after long term use was also assessed. The results for a non-standard mixing depth of 20 cm for an arable crop with tillage are presented in the following table.

Table CP 9.1.3- 16: PEC_{soil} of amidosulfuron and its metabolites for the uses assessed, taking the effect of accumulation into account (non-standard mixing depth of 20 cm)

Use pattern		Amidosı	Amidosu	Amidosu	Amidosu	Amidosu	Amidosu
		) Ifuro o	lfurøn-	Ifuron-	V	lfuron-	lfuron-
		,	Desmeth%	Desmeth	ADMP	Guanidi	Biuret
		L &	yl "	yl.		ne	
				Chlorop			
(		, &	_04	yrimidin			
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			Ø e			
₽ ₀	PECsoil	[mg/kg]	Jmg/kg	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]
Winter Cereals	płateau (20 cm)	ې 0.001 مېرېزې م	/ <0.0 <del>0</del> 1	< 0.001	< 0.001	0.005	< 0.001
1×30 g a.s./ha	y total* C	0.03%	<b>9</b> : <b>Q</b> ₹5	0.004	0.001	0.014	0.002
Winter Cereals	plateon (20 cm)	<0.0001	×9.001	< 0.001	< 0.001	0.003	< 0.001
1×15 g a.s./ha	🏒 ့ total* 🧖 ,	<b>9</b> ,920 (	<b>6.010</b>	0.003	< 0.001	0.009	< 0.001
Spring cereals and flax	plateau (20 cm)	√\$0.001 C	°<0.001	< 0.001	< 0.001	0.007	< 0.001
1×30 g a.s./ha	U tokal* (	© 0.04 <u>1</u>	0.019	0.006	0.002	0.018	0.002
Grass (spring)	plateau (20 cm)	<0.00	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
1×45 g a.s./ha	Ototal*	0:906	0.003	< 0.001	< 0.001	0.003	< 0.001
Grass (autumn)	glateau (20cm)	<b>0.001</b>	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
1×45 g & ./ha	© total* ∧	0.001	0.003	< 0.001	< 0.001	0.003	< 0.001

^{*} total = plateat (background concentration after multi-year use) + max. PEC_{soil} (see Table CP 9.1.3-3)

Formulated Productor

Initial PECsoil for the formulated product is derived via simple spreadsheet calculation, considering homogenous distribution in 5 cm soil depth, at 1.5 g/mL soil density. No time dependent PEC values are applicable to the formulation, due to rapid disintegration of the formulation when in soil contact.

Table CP 9.1.3-17: Maximum PEC_{soil} values for the formulated product

Compound	Winter	Winter cereals,		Winter cereals,		Spring cereals and		Grass (spring and	
	$1 \times 40 \text{ g}$	1 × 40 g prod./ha		1 × 20 g prod./ha		flax,		mn),	
	(20% into	(20% interception)		(0% interception)		1 × 40 g prod./ha		$1 \times 60$ g prod./ha	
	,		•		(0% interception)		(90% interception)		
	PEC _{soil,max}	PECsoil,accu	PECsoil,max	PECsoil,accu	PECsoil,max	PECsoil,accu	PC Csoil,max	PEC _{soil,accu}	
	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]		[mg/kg]	[mg/kg]	
Amidosulfuron WG 75	0.043	-	0.027	-	0.053	- 37	0908	0 - Ø	

## CP 9.2 Fate and behaviour in water and sediment

Fate and behaviour of amidosulfuron in water and segment were assessed in the MCA document (Section 7) of the current renewal dossier based on the application of the active substance in laboratory studies. The endpoints derived from studies with the active substance are considered as appropriate to assess the exposure of amidosulfuron after application of the formulation Amidosulfuron WC75.

### CP 9.2.1 Aerobic mineralisation in surface water

Please refer to Document MCA Section 2.2.2.2

# CP 9.2.2 Water/sediment study

No laboratory route/rate studies were conducted with the formulation. See document MCA Section 7.2.1 for studies with the active substance.

### CP 9.2.3 Irradiated water/sediment study

Please refer to Document OCA Scotion 72:2.4.

### CP 9.2.4 Estimation of concentrations in groundwater

# CP 9.2.4.1 Calculation of concentrations in groundwater

# Predicted environmental concentrations in groundwater (PECGW)

Studies submitted and evaluated for the first inclusion of amidosulfuron on Annex I:

The below baseline dossier studies are listed for formal completeness, but are of no longer relevance for approval renewal. These studies are superseded by a new modelling evaluation KCP 9.2.4.1/12 and KCP 9.2.4.1/13, to update for new substance information and modelling guidance.

Report: KCP 9.2.4.1/01 ; 2003; M-230939-01-1

Title: Predicted environmental concentrations of amidosulfuron and its main metabolites in

groundwater (PECgw) calculated with FOCUS-PEARL for representative uses in

Europe Code: AE F075032, AE F101630, AE F128870

Report No.: C032161 M-230939-01-1 Document No.:

Guideline(s): Guideline deviation(s): GLP/GEP: no

KCP 9.2.4.1/02 Report: ; 2001; M-203520-01-1

Standardisation of a lysimeter study with widosulf on to all Title:

using the leaching model FOCUS PEAR

F101630, AE F128870

Report No.: C017034 M-203520-01-1 Document No.:

Guideline(s): Guideline deviation(s): GLP/GEP: no

Report: KCP 9.2.4.1/03

Predicted environmental concentrations amidosulfuror and its main metabolites AE F101630 and AMF1288 in groodwater echarge based of calculations with FOCUS-PELMO 2.2

MEF-07/085

M-284484-010 Title:

Report No.: Document No.: M-284484-019 Guideline(s): not applicab Guideline deviation(s): not applic

GLP/GEP:

Report: ҈2006; M-271158-01-1

Title:

consental comentrations of army osulfuron and Its soil metabolite AE coundwater recharge pased of calculations with FOCUS-PEARL 2.2.2

Report No.: Document No.: Guideline(s): Guideline devia

**GLP/GEP:** 

KCP 9.2.4₄/0. Report: ; 2007; M-284497-01-1

Title: viron bental cocentrations of amidosulfuron and its soil metabolite AE

in groundwater recharge based on calculations with FOCUS-PELMO 3.3.2

Report No. Document 1

Guideline( Guidelize d GLP/CEP

**₹₹**9.2.4.1706 Report: ; 2006; M-277177-01-1

Title: midos furon Statement of Bayer Crop Science on exposure and relevance of the

soil metabolite AE 1569309 in groundwater

Report No.: M-277177-01-1 Document No.: M-277177-01-1 Guideline(s): 91/414/EEC Guideline deviation(s): not specified

GLP/GEP: no

KCP 9.2.4.1/07 ; 2007; M-283751-01-1 Report:

Predicted environmental concentrations of amidosulfuron and its soil metabolites Title:

"C" and "D" in groundwater recharge based on calculations with FOCUS-PEARL

3.3.3

MEF-07/041 Report No.: M-283751-01-1 Document No.: Guideline(s): not applicable Guideline deviation(s): not applicable

GLP/GEP:

KCP 9.2.4.1/08 Report:

Title: Amidosulfuron - Statement of Bayer Crop Science of ex

soil metabolites "C" and "D" in groundvater

Report No.: M-282847-01-1 Document No.: M-282847-01-1 not specified Guideline(s): Guideline deviation(s): not specified

GLP/GEP: no

Report: KCP 9.2.4.1/09

Predicted environments concentrations of midositruron and its sometabolites "C" and "D" in ground ater recharge band on calculation with FOCUS-PELMO 3.3.2

MEF-07/086

M-284488-01-10

not specified Title:

Report No.: Document No.: Guideline(s): not specified Guideline deviation(s): not specified GLP/GEP:

# Studies submitted and evaluated in the course of the post-Annex I procedure for amidosulfuron:

The below studies are lived as 'www studies' for Formal Completeness, but are of no longer relevance for approval renewal. These modelling activities were provided as part of the confirmatory data submission, and are found summaris and and evaluated in the Addendum to Monograph prepared in the context of post Annex I procedure thew Annex II (ana)", Dec. 2010, rev. 1 Feb. 2011. The studies are superseded by new modelling evaluation QCP 9.2.4.1/12-13, to update for new substance information and modelling guidance.

,;@010; M-365831-01-1 Report:

Title: Predicted environmental concentrations in groundwater recharge (PECgw) of

midos (Duron (DE F075032) and its metabolites based on calculations with FOCUS

PEARL and FOCUS PEAMO - Use in winter cereals, spring cereals, and grass in

Europe

MEF-10/189 Report No Document No.: **%**1-365831-01 Guideline deviation(s) not applicable not applicable **GLP/GEP:** 

### **Bayer - Crop Science Division**

### Document MCP: Section 9 Fate and behaviour in the environment Amidosulfuron WG 75

KCP 9.2.4.1/11 ; 2010; M-389084-01-1 Report:

Predicted environmental concentrations in groundwater recharge (PECgw) of Title:

> amidosulfuron (AE F075032) and its metabolites based on calculations with FOCUS PEARL and FOCUS PELMO - Use in winter cereals, spring cereals and grass in

Europe

Report No.: MEF-10/573 Document No.: M-389084-01-1 Guideline(s): not applicable Guideline deviation(s): not applicable

**GLP/GEP:** no

### Studies submitted for Annex I approval renewal:

To consider compound related input parameters from new experimental studies and kinetic evaluations, and to implement latest modeling guidance updated PECew calculations are for approval renewal, superseding all previous data evaluation.

|\$\\2016**;^**\$\-5538**6**\$\≠01-1 KCP 9.2.4.1/12 Report:

Amidosulfuron (AMS) and metabolites: PECSW FOCOS PEASE, PELMO, MACRO Title:

EUR - Use in winter and spring cereals, flas, and grass in Europe

Report No.: EnSa-16-0282 v1 Document No.: M-553864-01-1

Guideline(s): none Guideline deviation(s): none **GLP/GEP:** 

### **Materials and Methods:**

The predicted environmental concentrations in groundwater PEC for amidosulfuron and its metabolites were calculated using the simulation model FQCOS PEARL (version 4.4.4), and FOCUS PELMO (version 5.5.3). In addition, FQCUS MACRO (version 5.5.4) calculations have been performed for the Chatenidum scenario PECgwovere evaluated as the 80th percentile of the mean annual leachate concentration at 1 m soil depth. Model parameters and scenarios consisting of weather, soil, and crop data were used as proposed by FOCO'S (2009, 2014). Crop interception was taken into account according to the BBCH growth stage, as accommended by EFSA (2014).

Detailed application data used for simulation of PEC were compiled in Table CP 9.2.4.1-1.

Table CP 9.2.4.1-1: Application pattern used for PEC_{gw} calculations

	70 CT1C C		Applic	ation		Amount reaching
Individual Crop	FOCUS Crop Used for Interception	Rate per Season [g a.s./ha]	Interval [days]	Plant Interception [%]	BBCH Stage	soil per season application [g a.s./ha]
Winter cereals, GAP	-	1 × 30	-	-	2149	[g
Winter cereals, Simulation	winter cereals	1 × 30	-	20	∑20-49©	1 24.0
Winter cereals, GAP & Simulation	winter cereals	1 × 15	-	S° 0 ∜	13,49	1 × 150
Spring cereals, GAP & Simulation	spring cereals	1 × 30	- 3		12-49	*** 30.0 ***********************************
Flax, GAP	-	1 × 30			Before flower buds are visible	
Flax, Simulation	spring cereals	1 × 30 👟			12	1 × 30.0
Grass, GAP	-	1 × 45	L - 6		Spring/ Autumn	<u>-</u>
Grass (spring), Simulation	grass	145	O' - K	Ø90 ×	perma-	1 × 4.5
Grass (autumn), Simulation	grass	01 × 450			grass	1 × 4.5

The application in winter cereals according to GAP is intended at the onset of the spring vegetation period, when climate conditions allow for resumption of crop and weed growth after winter dormancy. Treatment is made to well established crop, with use rate depending on crop BBCH stage reached at that time. No pre-defined event dates are implemented in the EOCUS model that would directly translate this cropping situation into discrete calendar dates for each groundwater scenario setting. To generate an adequate cenario-adapted representation with relative date setting, the following approach was therefore used the simulated treatment was referenced relative to the tabulated crop emergence date of the earliest emerging spring crop the not necessarily cereals) that was defined by FOCUS for the respective scenario. An application timed 14 days before that date was then selected, considered suitable to represent the start of the regretation period in the respective scenario environment. An overview of the date selection per scenario is presented in the table below; for technical reason, such application dates thus be entered to the simulation model formally as 'absolute' dates, even though referencing was in fact of relative type.

Table CP 9.24.1-2: Spring emergence dates of earliest crops in the FOCUS scenarios

Scenario	Crop O	Tabulated Emergence date	Selected Application date for winter cereals
Châteaudun	spring @reals	10 Mar	24 Feb
Hamburg &	carrots	10 Mar	24 Feb
Jokioinen Jokioinen	spring cereals	18 May	04 May
Kremsmuenster	caprots	10 Mar	24 Feb
Okehampton	field beans	15 Mar	01 Mar
Piacenza Porto	sugar beet	20 Mar	06 Mar
Porto	carrots	28 Feb	14 Feb
Sevilla	cabbage	01 Mar	15 Feb
Thiva	potatoes	01 Mar	15 Feb

Following this procedure, the application dates are realistic and consistent with crop event dates and weather pertinent to the respective scenario as given by FOCUS (2009, 2014).

The application to **spring cereals and flax** was timed relative to FOCUS crop emergence date of spring cereals, considering an offset of 4 days to represent an early post-emergent situation.

For **spring use in grass**, the same approach as for spring application in winter cereals was used, i.e., the application is done at the beginning of the vegetation period.

For **autumn use in grass**, the application was set relative to FOCUS crop emergence date of winter cereals, timed 14 days before this date. For technical reason (reference crop is different to simulated crop), such application dates need to be entered to the simulation mode formally as 'absolute' dates, event though refencing was in fact of relative type.

Table CP 9.2.4.1- 3: First application dates and related information for application as asset for the simulation runs

				O	, O
	Winter cereals	Winter cereals		Permanent grass	Permanent grass
Individual crop	$1 \times 30 \text{ g a.s./ha}$	1 × 15 g a.s./ba	and flax 🤝	(spring)	(agrumn)
marviduai crop	BBCH 20-49	BBCH 13,49 *	1 <b>≪</b> 30 g a.ş≪ba	1 ×45 g a.s.√a	1 45 g a.s./ha
	BBCH 20-49		8BCH 12C49	& BBCH 0-99	₿BCH 0-99
Repeat Interval for App. Events	Every Year	Every Year	EveryYear	Every Year	Every Year
Application Technique	Spray	Spray	Spray S	Spray	Spray
Absolute / Relative to	Absolute	Absoute	© Emergence	Absolute	Absolute
	1st App. Date	1st App. Date	1st App. Date	1st App. Date	1st app. Date
Scenario	(Julian day)	(Jaljian day)	(Julian day)	(Julian day)	(Julian day)
	Offset	Offset	√ Offset Q	Offset	Offset
Chateaudun	24 Feb	24 Feb (	√ 14 Mar	24 Feb	12 Oct
	(\$\varepsilon\)	(55)	(78)	y (55)	(285)
		9-1 8	@, 4 ~ \\	` <del>-</del> ´	` <del>-</del>
Hamburg	24 Feb	24 Feb	_005 Apr√	24 Feb	18 Oct
	(55)	\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\tag{55}\$\	O (95)	(55)	(291)
2	× ~ 3			-	-
Jokioinen	Ø May 🐬	May 🔊	22May	04 May	06 Sep
	(124)	(124)	_{@1} (142)	(124)	(249)
	~ .	~ ~	4	-	-
Kremsmuenster	24 <b>fe</b> b (	24 Appeb 8	05 Apr	24 Feb	22 Oct
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	(55)	(30)	(95)	(55)	(295)
			4	01 M	- 02.0-4
Okehampton	01 Mary	© 01 Mar	05 Apr	01 Mar	03 Oct
	(60)	(000°),	(95) 4	(60)	(276)
Piacenza 4	00 Mar	06 Mar	4	- 06 Mar	- 17 Nov
I laceliza	$Q_{i}$ (65)	© (65)	_	(65)	(321)
	(03) - &	(03)	_	(03)	(321)
Porto	) 14 Ph 😘	14 Feb	14 Mar	14 Feb	16 Nov
1 0110	(45) A	(45)	(73)	(45)	(320)
	0	-	4	-	-
Sevilla	15 Feb →	15 Feb	-	15 Feb	16 Nov
,	(46)	(46)	-	(46)	(320)
Ô	· - ´	-	-	-	- '
Thiva	15 Feb	15 Feb	-	15 Feb	16 Nov
	(46)	(46)	-	(46)	(320)
	-	-	-	-	-

Substance specific and model related input parameters and detailed information about formation fractions and degradation rates for the different PECgw calculations are summarised in the following tables.

Table CP 9.2.4.1- 4: Substance specific and model related input parameter for  $PEC_{gw}$  calculation of amidosulfuron and its metabolites (model parameters not listed are kept as default)

Parameter	
Molar Mass         [g/mol]         369.4         355.4         369.4         389.8           Water Solubility         [mg/L]         3070         302.00         307.0         157.00           Vapour Pressure         [Pa]         1.30E-06         5.60E-08         1.30E-06         1.90E-06           Freundlich Exponent         [-]         0.9391         0.9341         0.0004         0.920W           Plant Uptake Factor         [-]         0.3         0.0         0.0         0.0         0.0           Walker Exponent         [-]         0.7         0.7         0.7         0.7         0.7           PEARL parameters         Substance Code         [-]         AMS         0.829         2.829         59.829           Molar Activ. Energy         [kJ/mol]         65.4         65.4         65.4         65.4         65.4           K _{om} [mL/g]         10.8         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9         10.9	I- 🔊
Water Solubility         [mg/L]         3070         30200         3070         13700           Vapour Pressure         [Pa]         1.30E-06         5.60E-08         1.6E-06         1.90E-06           Freundlich Exponent         [-]         0.939¹¹)         0.934¹¹)         0.00⁴¹         0.920½           Plant Uptake Factor         [-]         0.3         0.0         0.0         0.0         0.920½           Walker Exponent         [-]         0.7         0.7         0.7         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0	I
Water Solubility         [mg/L]         3070         30200         3070         13700           Vapour Pressure         [Pa]         1.30E-06         5.60E-08         1.30E-06         1.90E-06           Freundlich Exponent         [-]         0.939¹¹)         0.934¹¹)         0.00⁴¹         0.920½           Plant Uptake Factor         [-]         0.3         0.0         0.0         0.0         0.920½           Walker Exponent         [-]         0.7         0.7         0.7         0.7         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.	
Freundlich Exponent   [-]   0.939¹¹)   (934¹¹)   (000⁴)   (0.920\)   Plant Uptake Factor   [-]   0.3   0.0   0.0   0.0     Walker Exponent   [-]   0.7   0.7   0.7   0.7     PEARL parameters   (1.9	
Plant Uptake Factor         [-]         0.3         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0	
Walker Exponent         [-]         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7	)
Walker Exponent         [-]         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7         0.7	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	
Substance Code         [-]         AMS         Cosme         Inter         Od-chl           DT ₅₀ [days]         14.42°         10.82°         2.82°         59.82°           Molar Activ. Energy         [kJ/mol]         65.4         65.4         65.4         65.4           K _{om} [mL/g]         10.87         10.0         16.9           K _f [mL/g]         AS         A1.7         B1.0         C1	
Molar Activ. Energy   [kJ/mol]   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65.4   65	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
K _f [mL/g]	
PELMO parameters Substance Code [-] AS A1 B1 C1	
Substance Code [-] AS O A1 B1 C1	
Substance Code [-] AS	
Rate Constant [1/day] 0.04812 0.06448 0.24844 0.01159	
1.0 191 0.0 191 0.0 195 (1) 0.2 19 1 0.0 1139	
$  O_{10} $ $  [-] $ $  \mathscr{D}   2.58 $ $  \mathscr{D}   2.58 $ $  2.58 $	
$K_{oc}$ $[mL/g]$ 1863) $\sqrt{27.3^3}$ $\sqrt{0.0^4}$ 29.13)	
MACRO parameters	
Substance code A AMS desmit of n.r. d-chl	
Exponent moisture 0.49 n.r. 0.49	
Exponent temperature [1/K] 0.0948 00948 n.r. 0.0948	

Arithmetic mean value from different spils (for detailed values please refer to CA 7.1.3.1).

n.r. = not relevant

Geometric mean of normalised DT5 in aerobje soil under laboratory conditions (for detail refer to CA 7.1.2.1).

Geometric mean value from different soils (for detailed values please refer to CA 7.1.3.1). generic worst case value.

The property of the pro Geometric mean Formalised DT50 in aerobic soil under laboratory conditions (for detailed values please

Table CP 9.2.4.1-5: Substance specific and model related input parameter for PEC_{gw} calculation of amidosulfuron and its metabolites (model parameters not listed are kept as default) -

Parameter	Unit	Amidosulfuron- ADMP	Amidosulfuron- guanidine	Amidosulfuron- biuret
Common				
Molar Mass	[g/mol]	155.2	273.3	274.3
Water Solubility	[mg/L]	5200	2100	81000
Vapour Pressure	[Pa]	2.60E-02	5.20E-08	2.70P-05
Freundlich Exponent	[-]	$0.760^{1)}$	0.903 ²⁾	₩ 1 <u>1</u> 0000 €
Plant Uptake Factor	[-]	0.0	≥° 0.0 √	0.0
Walker Exponent	[-]	0.7	0,7,	<b>√</b> 0.₹√
PEARL parameters				. % . %
Substance Code	[-]	ADMP	a spaani	brure 4,°
DT ₅₀	[days]	14.6 ⁴⁾	399.0 ³⁾	26.0 ³
Molar Activ. Energy	[kJ/mol]	65.4	Ĉ 65, <b>€</b> "Ø	© 65.4©°
K _{om}	[mL/g]	160.0	\$ 8.9 ×	
$K_{\mathrm{f}}$	[mL/g]	<u>-</u> . ~ ,		Z V
PELMO parameters				0' <u>/</u>
Substance Code	[-]	Di Q	B2 [™]	© C2
Rate Constant	[1/day]	0.\$4748	6 0.00174 C	0.02666
$Q_{10}$	[-]		[_@`\$_58	2.58
Koc	[mL/g]	276.01)	Y (5.4 ⁵ )	$0.0^{6}$
MACRO parameters				<i>I</i>
Substance code	[-]	ADMP S	guam 🦠	biure
Exponent moisture	[-]	© 20.49	<b>1 1 1 1 1 1 1 1 1 1</b>	0.49
Exponent temperature	[1/K]	0.0948	Q,0948	0.0948

1) Arithmetic mean Freundlich exponent and geometric mean KOC value from different soils (for detailed values please refer to CA 7.03.1 and the EFSA conclusions of foramsulturon (EFSA Journal 2016;14(3):4421)).

Arithmetic mean value from different soils (for detailed values please refer to CA 7.1.3.1).

Geometric mean of normalised DT₅₀ in aerobic soil under aboratory conditions (for detailed values please refer to CA 7.1.2.1

Geometric mean of normalized DT- in aerobic soil under laboratory conditions (for detailed values please refer to CA 7.1(2) 1) and of normalised DTs published in the EFSA conclusions of foramsulfuron (EFSA Journal 2016, 14(3):44(2).

Geometric mean value from different soils (for detailed values please refer to CA 7.1.3.1).

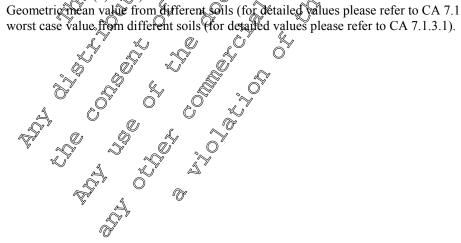


Table CP 9.2.4.1- 6: Degradation pathway related parameters for amidosulfuron and its metabolites

Degradation fraction from → to	AMS -> desme: 0.291
(-) (FOCUS PEARL)	AMS -> Inter: 0.564
	AMS -> ADMP: 0.121
	Inter -> d-chl: 0.268
	Inter -> guani: 0.539
	Inter -> biure: 0.193
Degradation rate from → to	Active Substance -> A1: 0.0140073
(1/day) (FOCUS PELMO) ¹⁾	Active Substance -> B1: 0.02714837
	recive Substance - B1: 0:005027
	Active Substance -> BR/CO2: 0.0011552
	A1 -> BR/CO2: 0.06 1803
	B1 -> C1: 0.06658 9
	B1 -> B2: 0.1330091
	B1 -> C1: 0.066\$879  B1 -> B2: 0.1339091  B1 -> C2: 0.0409489
	D1 -> BR/CO2: 0.04747584
	B2 -> BACO2! 0,001/3 AZ
	C2 -> BR/CO2Q0.0266\$95

¹⁾ Calculated as  $ln(2) / DT_{50} \times formation fraction$ 

For simulation of sequential metabolites in MACRO, (pseudo) application, rates were calculated based on the maximum amount of the metabolite observed in soil degradation studies and the molar mass correction (see Table CP 9.1.3- 2 in Point CP 9.1.3). The rates used in the simulations are given in the table below. The metabolites were then handled in MACRO as parent substance applied at the application dates given in Table CP 9.2.4.1.23.

Table CP 9.2.4.1- 7: FOCUS MACRO Calculation of metabolite application rates

Compound	Parent	Amodosulfuro Adesmetryl	Amidosulfuro n-desmethyl- chloropyrium dine	9 9	Amidosulfuro n-guanidine	Amidosulfuro n-biuret
Crop / rate	(ga.s./ha) 🔬	( <b>D</b> ha)	(g/ha)	♥ (g/ha)	(g/ha)	(g/ha)
Winter Cereals (30 g/ha)	1×24.000	11.45	3.09	1×1.00	1×6.85	1×1.12
Winter Cereals (15 g/ha)	1×\$5.000 &	, 1×7,6	1×1:90	1×0.62	1×4.28	1×0.70
Spring cereals and flax	**×30.000	J×14.32	<b>4</b> ×3.86	1×1.25	1×8.57	1×1.4
Permanent grass (spring)	1,44,300 ~	1×2 <b>0</b> 5	1×0.58	1×0.19	1×1.29	1×0.21
Permanent gass (autumn)	1×4.500	2.15	1×0.58	1×0.19	1×1.29	1×0.21

### Findings:

PEC_{gw} were evaluated as the 80th percentile of the mean annual leachate concentration at 1 m soil depth. FOCUS PEARL, PELMO and MACRO PEC_{gw} results for amidosulfuron and its metabolites are given in the following tables.

Table CP 9.2.4.1-8: Winter cereals: FOCUS PEARL, PELMO & MACRO PECgw results of amidosulfuron and its metabolites

Jse Pattern		Winter	cereals,	
		1 × 30 g a.s./ha, 1 >	< 20% interception	ı
	Amidosulfuron	Amidosulfuron- desmethyl	Intermediate metabolites	Amidosulfuron- desmethyl-
FOCUS PEARL	PEC _{gw} [μg/L]	PEC _{gw} [μg/L]	PEC _{gw} [μg/L]	PEGaw    µg@r    0,760   0.332   0.2690   0.243
Chateaudun	0.011	0.007	02093	/ ₂ 0,160
Hamburg	0.071	0.043	<b>©</b> 023 .∼	°√0.332 ⊀√
okioinen	0.054	0.033	0.030 O	0.2690
Cremsmuenster	0.049	0.029	0.010	0.245
Okehampton	0.086	0.049	× 0.020	
iacenza	0.029	0.018	D 0007 @1	Ø.177 O
orto	0.041	0.022	% 018. A	√0.161≥
evilla	< 0.001	<0.001	\$0.001 \$\langle 0.001	0.101 ₀
hiva	0.003	0.002	<0.001	0.003
OCUS PELMO	PEC _{gw}	PE Sw	Q PE€gw	PEC _{gw}
	[µg/L]	[jæg/L]	ang/L]	@Ĭμg/L]
hateaudun	0.008	<b>₹</b> 0.005 ©″	0.002	0.146
amburg	0.087	Q 70.046		0.329
okioinen	0.053		0.041	<b>©259</b>
remsmuenster	0.062	0:037	0016	0.279
kehampton	0.119	9.064	90.033	0.313
iacenza	0.040	0.020	0.010	0.214
orto	0.059	0.025	0.047"	0.166
evilla	<0.001	○ <0. <del>00</del> 1 ×	<b>₹0</b> ₹001	0.016
hiva	0001	0,001	<0.001	0.055
OCUS MACRO	PEC _{gw} γμg/L]		PEC _{gw} y′ [μg/L]	PEC _{gw} [μg/L]
hateaudun	0.006	7/ <0.001 (		0.055
: = not relevant	0, ~, 7		T S	
bold: values ex	eding the trigger Val	ue of El µg/L	<b>O</b> 1	
Ğ,	eding the trigger val		F.	

Table CP 9.2.4.1-9: Winter cereals - continued: FOCUS PEARL, PELMO & MACRO PECgw results of amidosulfuron and its metabolites

FOCUS PEARL Chateaudun Hamburg Jokioinen	Amidosulfuron-ADMP PECgw	guanidine	Amidosulfuron biuret
Chateaudun Hamburg	Amidosulfuron-ADMP PECgw	Amidosulfuron- guanidine	Amidosulfuron biuret
Chateaudun Hamburg	PECgw	guanidine	
Chateaudun Hamburg	PECgw	guanidine	
Chateaudun Hamburg			( <i>(/)</i> )
Chateaudun Hamburg	r / <del>r</del> 1	PECgw	PEC. o
Hamburg	[µg/L]	[µg/L]	[µg/L]
	< 0.001	3.159	Ø,089 ∜ ,
Iokioinen	< 0.001	2.225	0.2460°
JORIOIIICII	< 0.001	3.138	
Kremsmuenster	< 0.001	1.360	0449 4 5
Okehampton	< 0.001	1.202	
Piacenza	< 0.001	1.202 1.907 1.335	0.083
Porto	< 0.001	1.335	0.103
Sevilla	< 0.001	1.335 1.692 3.916	0.006
Thiva	< 0.001	3.916	0.034
FOCUS PELMO	$PEC_{gw}$	PEC	PEC _{gw} [μg/L]  0.246  0.471  0.4149  0.083  0.103  0.103  PEC _{gw} [μg/L]
	[µg/L]	$\mu g/\mathcal{Q}$	O μg/L p
Chateaudun	<0.001	2.765	0.051 4 00209
Hamburg	0.001	2,002	
Jokioinen	<0.001	2.049 <b>©</b>	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Kremsmuenster	<0.001	1.567	0.156
Okehampton Piacenza	<0.001 O <0.001	1.176	0.1 <b>2</b> 0.1 <b>3</b> 0.093
Porto	<0.001	£233 O 7.130	0.081
Sevilla	<0.001	In ·	0.009
Thiva	<0.004	1.49%	0.007
	D D D D D D D D D D D D D D D D D D D	DEM 9	, DEC
FOCUS MACRO	Φμg/L]	PEC _{gw}	μg/L]
Chateaudun	<0.000 V	$\sqrt[n]{3}$	0.026
	eding the trigger value of the control of the trigger value of the control of the		

Table CP 9.2.4.1-10: Winter cereals: FOCUS PEARL, PELMO & MACRO PECgw results of amidosulfuron and its metabolites

	amidosuituron a	na its metabolites		
Use Pattern		Winter	cereals,	
		1 × 15 g a.s./ha, 1	× 0% interception	
				Amidosulfuron-
	A: J1£	Amidosulfuron-	Intermediate	desmethyl-
	Amidosulfuron	desmethyl	metabolites	chloropyrimidin
				e a
FOCUS PEARL	$PEC_{gw}$	$PEC_{gw}$	$PEC_{gw}$	Chlorapyrimidia  e  PECw [µg0v]  0.995  0.1600  0.150  0.77  0.106  0.095  0.095
	[µg/L]	[µg/L]	[μg/L]	
Chateaudun	0.006	0.004	0.092	√ ~0°,0°95 °°
Hamburg	0.042	0.025	<b>©</b> 014	~0.200 <b>€</b>
okioinen	0.031	0.019	0.018 0	0.1600
Kremsmuenster	0.029	0.018	0.006	0.150
Okehampton	0.052	0.030	0.012	0 <b>0</b> 77
iacenza	0.017	0.011	P	Ø.106 O
Porto	0.024	0.013	Ø.011 ·	~¥0.09 <b>5</b>
Sevilla	< 0.001	< 0.001	~0.00 <u>1</u>	0.002
Thiva	0.002	0.001	<0.001	O` 0.0654 <u>~</u>
FOCUS PELMO	PEC _{gw} [μg/L]	PESw *	PEC _{gw}	PEC _{gw} δ' Qμg/L]
Chateaudun	0.004	₹ Ø.003 ©	Ø0 001®	0.08 0.08
Hamburg	0.052	0.003		0,198
okioinen	0.031	0.02	0.036	<b>©</b> 58
remsmuenster	0.037	D 0x022 ×	0009	s 9.170
kehampton	0.071	\$\square\$038 \qquare	\$ 020 cO'	0.192
iacenza	0.071	0.012	0.0160	0.129
orto	0.035	0.010	\$\int 0.029\text{\$ 0.029}\text{\$ 0.029}\t	0.100
evilla	<0.001	O <0.001 °	√ «Ø001 ». °	0.009
hiva	0.0001	<b>20,</b> 001 .(,	₹0.001 ₹	0.033
	REC _{gw}	PECgw	@ PEC _{gw}	PECgw
OCUS MACRO	/μg/L]	[μg/JL]	[µg/]	[µg/L]
hateaudun	0.004	0.000	Ôt.	0.032
r. = not relevant	O, &, 7			
<b>bold</b> : values ex	eding the trigger val	ue of β. l μg/L	~	
	\$' \( \).			
n <b>bold</b> : values excep			) ^v	
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Table CP 9.2.4.1-11: Winter cereals - continued: FOCUS PEARL, PELMO & MACRO PECgw results of amidosulfuron and its metabolites

Table CP 9.2.4.1-12: Spring cereals and flax: FOCUS PEARL, PELMO & MACRO PECgw results of amidosulfuron and its metabolites

Use Pattern			als and flax,	
	Amidosulfuron	1 × 30 g a.s./ha, 1 Amidosulfuron- desmethyl	× 0% interception  Intermediate  metabolites	Amidosulfuron- desmethyl- chlorapyrimidin
FOCUS PEARL	PEC _{gw} [μg/L]	PEC _{gw} [μg/L]	PEC _{gw} [μg/L]	PEC. PEC. PEC. PEC. PEC. PEC. PEC. PEC.
Chateaudun Hamburg	0.010 0.092	0.007 0.057	0093 °	0.158
Jokioinen	0.058	0.036	0.044	0.3410
Kremsmuenster Okehampton	0.071 0.065	0.043 0.040	0.014 y 0.015	0.330 0.309 0.127 PEC 900
Porto	0.010 <b>PEC</b> _{gw}	0.006 PEC _{gw}	) 0004 @	PEC GROWN
FOCUS PELMO	[µg/L]	[µg/L]	PEC _{gw}	lμgμα
Chateaudun Hamburg	0.005 0.034	0.003	0.0 <b>©</b> 2 Q- <b>0</b> 11	0.121 9.272
Jokioinen Kremsmuenster	0.061 0.056	0.937 (9.034 O	Ø.060 &	©0.290 © 0.29©
Okehampton	0.068	0.038	0.01	0.269
Porto	0.021 <b>PEC</b> _{gw}	O O O O O O O O O O O O O O O O O O O	0.009 \\ \[ \sqrt{QC}C_{gw} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	<b>№ 2143</b> • PECgw
FOCUS MACRO	rec _{gw} [μg/L] 🗞	FEX.gw Surface [FEX.gw]	μg/L	μg/L]
Chateaudun	0.008	\$\int_0.002\langle	҈ n.r.Q″	0.061

In **bold:** values exceeding the trigger value of 0.1 µg/L

Table CP 9.2.4.1- 13: Spring cereals and flax - continued: FOCUS PEARL, PELMO & MACRO PECgw results of amidosulfuron and its metabolites

Use Pattern		Spring cereals and flax,	
	% Q 1 × 30	g a.s./🙉, 1 × 0% interc	eption
Ser alleria		Amidosoffuron- O guandine	Amidosulfuron-biuret
FOCUS PEARL	PEC _{gw}	PEC _{gw} [μg/L]	PEC _{gw} [μg/L]
Chateaudun 💍	0 <0.4001 0 60.001 5	2.740	0.087
Hamburg 💉		3.405	0.416
Jokioinen O	<b>6</b> 0.001 <b>6</b>	2.772	0.580
Kremsmuenster 💍	<0.00Û	1.828	0.198
Okehampton	<0.901	1.456	0.173
Porto V	<0.901	1.154	0.054
FOCUS PELMO	PEC _{gw}	$PEC_{gw}$	$PEC_{gw}$
FOCUS FELMO	μg/L] ^Δ	[µg/L]	[µg/L]
Chateaudun	<0.07031	2.361	0.061
Hamburg	<0.001	1.988	0.184
Jokioinen	<0.001	2.112	0.449
Kremsmuenster	<0.001	1.794	0.165
Okehampton	< 0.001	1.220	0.136
Porto	< 0.001	0.992	0.060
FOCUS MACRO	$PEC_{gw}$	$PEC_{gw}$	$PEC_{gw}$
FUCUS MACKU	[µg/L]	[µg/L]	[µg/L]
Chateaudun	< 0.001	2.94	0.029

In **bold**: values exceeding the trigger value of  $0.1 \mu g/L$ 

Table CP 9.2.4.1-14: Permanent grass (spring): FOCUS PEARL, PELMO & MACRO PECgw results of amidosulfuron and its metabolites

	1			1	
Use Pattern		Permanent g	, <u>.</u>	_	
		$1 \times 45$ g a.s./ha, $1 \times$	< 90% interception		
				Amidosalfuron-	
	Amidosulfuron	Amidosulfuron-	Intermediate	desmethyl	4
	Aimuosumunon	desmethyl	metabolites	chloropyrinodin	
				O e	
FOCUS PEARL	PECgw	PECgw	PECgw A	PEC _{gw}	
FOCUSTEARL	[µg/L]	[µg/L]	[µg/L]		
Chateaudun	0.004	0.003	<b>₹</b> \$0.001	0.036	W
Hamburg	0.010	0.006	0.004	\$\times 0.0 <b>58</b> \times                                                                                                                                                                                                                                                                                                                                  \qquad                \	
Jokioinen	0.009	0.006	√ 0.0 <b>6</b> √	© 0,000 A	
Kremsmuenster	0.006	0.004	0×0001 ₀₁	<b>6</b> ,040 C	Ũ
Okehampton	0.010	0.006	×0.003 🔏	J.0.046	
Piacenza	0.005	0.003	0.001	0.035	
Porto	0.005	0.003	0.003	0.924	<b>V</b>
Sevilla	< 0.001	<0.007	~0 <b>,0</b> 001	$\sqrt{0.016}$	
Thiva	< 0.001	<0.001	©,001	Ø.019 °	
FOCUS PELMO	$PEC_{gw}$	PEC _{gw}	PÉC _{gw}	PECg@j	
FOCUS I ELMO	[µg/L]	μg/L]	L [μg/ID	🅎 [μg/🎾]	
Chateaudun	0.002	Ø 0.0 <b>0</b> €	<0.001	<b>9</b> 9 <b>5</b> 925	
Hamburg	0.010	0,095	<b>9</b> 3004 ~	0.038	
Jokioinen	0.008	<b>30,005</b>	©.007 °	<b>№</b> 0.042	
Kremsmuenster	0.005	©0.003 _g	0.001	0.035	
Okehampton	0.013	0.008	£ 0.005 €	0.046	
Piacenza	0.01\$	0.006 %	, 0 <b>0</b>	0.040	
Porto	0.00	0.005	**************************************	0.024	
Sevilla	<b>20.</b> 001	<b>3</b> 0.001	<0.001	0.011	
Thiva	\$0.001 \$0.001	<0.001	© <0.0 <b>4</b>	0.015	
FOCUS MACRO	PECgw	PEC.	O PEC _{gw}	$PEC_{gw}$	
	μg/[s] «	V [µg/L]	[hwg/L]	[µg/L]	
Chateaudun	0.002	<b>©</b> .000 S	≫n.r.	0.010	
n.r. = not relevant			Q1		
			Ţ		
		D. ~~	Ŋ [*]		
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 $[\]overline{n.r.} = not relevant$

Table CP 9.2.4.1-15: Permanent grass (spring) - continued: FOCUS PEARL, PELMO & MACRO PECgw results of amidosulfuron and its metabolites

		Permanent grass (spring		
	1 × 45	g a.s./ha, 1 × 90% intere	ception	
	Amidosulfuron-ADMP	Amidosulfuron-	Amidosulfuron biuret	
	Amigosumuron-ADNIP	guanidine	@ . Y	
EOCHO DE A DI	PECgw	PECgw	PEC _{gw} ο [μg/L] 0.023 0.051 0.107 0.0023 0.0025 0.018 0.016 0.005 0.005	e
FOCUS PEARL	[µg/L]	[μg/L]	[µg/L]	4
Chateaudun	< 0.001	0.327	023 📞	
Hamburg	< 0.001	0.474	© 0.0510° A	4
Jokioinen	< 0.001	0.532 %°	0.107	
Kremsmuenster	< 0.001	0.281	0.023	
Okehampton	< 0.001		0 2025 0 5) "
Piacenza	< 0.001	0.377	30.018	A
Porto	< 0.001	0.186	0.018	A.
Sevilla	< 0.001	0.92	@ 0,005 C	W.
Thiva	< 0.001	0.166 0.512 0.3190	0.005	
	PECgw	PECgy	PEC _{gw}	
FOCUS PELMO	μg/L]		L O μg/L O	
Chateaudun		$\begin{array}{c c} & \mu g/4J \\ \hline 0.287 \\ \end{array}$		
Cnateaudun Hamburg	<0.001	0.28/	0.0H3	
Hamburg Jokioinen	<0.001	7 AU 203 Q "	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
Kremsmuenster	<0.001	0.236	0.021	
		0.230	0.021	
Okehampton	<0.001	0.888	0.0	
Piacenza Porto	<0.001	% 6.184 0 7 1.144	0.018	
	<0.001 <0.001	ln ·	0.003	
Sevilla		0.267		
Thiva	<0.001	0′ 0,242	0.003	
FOCUS MACRO	PLC _{gw}	PEC _{gw}	PECgw	
	Wig/L	β Jμg/L]	[μg/L]	
Chateaudun			0.006	
	eding the trigger value of (

Table CP 9.2.4.1-16: Permanent grass (autumn): FOCUS PEARL, PELMO & MACRO PECgw results of amidosulfuron and its metabolites

	annuosunuron a				Ì	
Use Pattern						
	1 × 45 g a.s./ha, 1 × 90% interception					
				Amidosulfuron-		
	Amidosulfuron	Amidosulfuron-	Intermediate	desmethyl-		
	Amidosulturon	desmethyl	metabolites	11 69 1.	e	
				e o	4	
EOCHG DE A DI	PECgw	PECgw	PECgw	PEC	. 0	
FOCUS PEARL	[µg/L]	[µg/L]	[µg/L]	Մ [րենը] Կ		
Chateaudun	0.014	0.007	02096	20.9 50		
Hamburg	0.067	0.025	.© 045	. ≈ Ø.110 ≪		
Jokioinen	0.046	0.022	Ø.065 O	0.1130		
Kremsmuenster	0.025	0.011	0.009	0.060		
Okehampton	0.071	0.025	V 0.023	02065		
Piacenza	0.033	0.012	D 00011 .@	2 0.059	Q'	
Porto	0.075	0.023	\$\tag{0.029}	№ 0.033		
Sevilla	0.014	0.006	0.00	(0.026		
Thiva	0.005	0.002	0.000	O 0.00 A	1	
EOCHE DEL MO	PEC_{gw}	PE Sw	Q PE€gw	REC _{gw}		
FOCUS PELMO	μg/L]	[jag/L]	jug/L]	Qμg/L]		
Chateaudun	0.009	(₩.004 O	© 0.004	0.038		
Hamburg	0.066	0.023	0.05%	0,074		
Jokioinen	0.049	0.0	0.086	© 066		
Kremsmuenster	0.029	© 0.0√1	©0013 S	<a>\$\Q\$0.056		
Okehampton	0.072	9 .024	40.026 C	0.056		
Piacenza	0.075	0.019	© 0.02®	0.045		
Porto	0.105	0.026	(J) 0.040°	0.027		
Sevilla	0.016	O 0.0 0 5 ~	0.9 10	0.021		
Thiva	00005	20 ,002 <u>~</u>	0.004 🔌 "	0.029		
FOCUS MACRO	PEC _{gw} Øγ μg/L]√γ	₹PEC gw O″	PEC _{gw} y '	PEC_{gw}		
		[µg/L]	િ լրբան	[µg/L]		
Chateaudun	0.015	O 1003	Or.	0.019		
n.r. = not relevant In bold : values exceeding the trigger value of 0.1 µg/L						
In bold : values exe	eding the trigger val	lue of the lug/lo	<i>@</i> -			
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	- ()					

Table CP 9.2.4.1- 17: Permanent grass (autumn) - continued: FOCUS PEARL, PELMO & MACRO PEC_{gw} results of amidosulfuron and its metabolites

Use Pattern	Permanent grass (autumn), 1 × 45 g a.s./ha, 1 × 90% interception				
	Amidosulfuron-ADMP	Amidosulfuron- guanidine	Amidosulfuron biuret		
FOCUS PEARL	PEC _{gw} [μg/L]	PEC _{gw} [μg/L]	PEGN µg/L		
Chateaudun	< 0.001	0.346	036 🗸		
Hamburg	< 0.001	0.550	© 0.079° A		
Jokioinen	< 0.001	0.588 🙈 °			
Kremsmuenster	< 0.001	0.296	0.155 0.0034 0.051		
Okehampton	< 0.001	0.225	O 6051 O 5		
Piacenza	< 0.001	0.421	0.031 0.029 0.020 0.014		
Porto	< 0.001	0.165	0.026		
Sevilla	< 0.001	0.165 0.922			
Thiva	< 0.001	9.437	0.014		
FOCUS PELMO	PEC _{gw}	PECgo			
C1 1	[μg/L]	μg/Ľ) Û	Ο΄ [μg/ĽΙΟ΄		
Chateaudun	< 0.001	0.298	0.038		
Hamburg	0.001	0.312			
Jokioinen	<0.001	0.273	0.108		
Kremsmuenster	<0.001	0.2/3	0.034		
Okehampton	<0.001	0.£90 6.190 70.121	0.040		
Piacenza	0.001	6190 0 1121 0	1.000		
Porto	<0.001	In .	0.028		
Sevilla Thiva	<0.001 <0.001	0.253	0.017		
TIIIVa		0,293	// 💸 -		
FOCUS MACRO	PEC _{gw} O Qug/L]	PEC _{gw}	PECgw [µg/L]		
Chateaudun	\$\infty <0.000\text{\$\tilde{V}\$} \tilde{\nabla}	7 0°0.41	0.019		

In **bold**: values exceeding the trigger value of 0.1 µg/L

Conclusion:

Amidosulfuron: PEC_{gw} simulation did not reach or exceed the parametric trigger value of 0.1 µg/L in any European scenario for the intended uses on winter cereals (15 g/ha), spring cereals and flax (30 g/ha), and spring use on grass (45 g/ha). For the intended uses on winter cereals (30 g/ha), and autumn treatment of grass (45 g/ha), no exceedances resulted in the calculations based on the PEARL and MACRO models, however a hight breach was noted for a single scenario situation when using the alternative simulation model PELMO:

- winter cereal (30 g/ha), PELMO simulation for scenario Okehampton: 0.119 μg/L
- autumn usograss (Φ) g/ha QPELMO simulation for scenario Porto: 0.105 μg/L

These situations are left unresolved for the purpose of the present approval renewal document, and will be addressed at national level in the phase of product re-registrations post-Annex I approval.

Amidosulfuron-desmeth amidosulfuron-ADMP: PEC_{gw} simulations for all intended uses did not reach or exceed the parametric trigger value of 0.1 $\mu g/L$ in any European scenario, any simulation model. Thus, further assessment on the potential relevance in groundwater is not required for these components.

Amidosulfuron-desmethyl-chloropyrimidine, amidosulfuron-guanidine, amidosulfuron-biuret:

The parametric trigger value of $0.1 \,\mu\text{g/L}$ was exceeded in the simulations for various scenario situations. Detailed assessments of the potential relevance in groundwater following the stepwise procedure of guidance SANCO 221/2000 were therefore made and are provided in Document N4,

brief tabular overview summaries hereon are given below. For all three components, the assessments clearly concluded no relevance for groundwater.

Summary of relevance assessment for metabolite amidosulfuron-desmethyl-chloropyrimidine

	Assessment step		Result of assessment	DQ Q
	STEP 1		Metabolite of <u>no</u> concern?	No &
Quantification of groundwater contamination	STEP 2		Max PECgw Based on	0.46 Sug/L O O O O O O O O O O O O O O O O O O O
	STEP 3	Stage 1	Biological activity comparable to the parent?	
		Stage 2	Genotoxic properties of metabolity?	Non-genotow
risk Hazard assessment	STHO-4	Stage 3	Toxic properties of metabolite; Classification of parent Classification of metabolite Estimated consumer exposure via frinking water and other sources; threshold of concern approach	Not classified (aprinion ECHA/RAC/CLH-O- 000000209-70-01/F of 08 March 2012) None proposed. Low toxicity expected based on DEREK / LHASA prediction, and experimental information available for structurally similar component AE F128721. PECgw is less than 0.75 µg/L, therefore consumer exposure assessment is not required. The threshold of concern
Consumer health risk assessment	SEP 5		Refined risk assessment Fredicted exposure (% of ADI) ABU based on	approach applies. Not required. Not required. Not required.

$Summary\ of\ relevance\ assessment\ for\ metabolite\ amidosulfuron-guanidine$

	Assessment	step	Result of assessment	
	STEP 1		Metabolite of <u>no</u> concern?	No
Quantification of groundwater contamination	STEP 2		Max PECgw Based on	3.916 µg/LQ FOCUS(PEARL simulation, Thiva scenario use on wintercereals, 30g a.s./hQ20%
	STEP 3	Stage 1	Biological activity comparable to the parent?	No Y O
		Stage 2	Genotoxic properties of metabolite?	Non-genotoxic
		Stage 3	Toxic properties of metapolite:	Notyclassiffed.
			Classification of parent	Copinion ECHA/KAC/CLH-O- 0000002509-7001/F of 08 March 2012
		(Cassification of metabolite	None proposed. Yat oral seute toxicity: LD ₅₀ 2000 mg/kg
sessment				rat of al 28 day toxicity: no treatment related effects up no the highest dose tested (10,000 ppm; 778 mg/kg bw/d
Hazard assessment				for male, and 867 mg/kg bw/d for females).
	STEP 4		Estimated consumer exposure via arinking water and other	Adult (60 kg bw, 2 L): 0.131 µg/kg bw/day
Ê			Cources: threshold of concern capproach	Child (10 kg bw, 1 L): 0.392 μg/kg bw/day
				Infant (5 kg bw, 0.75 L): 0.587 μg/kg bw/day
ssmen				no relevant contribution via food
sk asse	STEP 5		Retined risk assessment Predicted exposure	Adult (60 kg bw, 2 L):
th ris			(% of ADI)	0.1 % ADI
er heal	STEP 5			Child (10 kg bw, 1 L): 0.2 % ADI
Consumer health risk assessment		-		Infant (5 kg bw, 0.75 L): 0.3 % ADI
ప			ADI based on	NOEL from 28 day rat study.

Summary of relevance assessment for metabolite amidosulfuron-biuret

	Assessment step		Result of assessment	Result of assessment		
	STEP 1		Metabolite of <u>no</u> concern?	No		
ion ater ion	STEP 2		Max PECgw	0.580 μg/L _Q		
Quantification of groundwater contamination			Based on	FOCUSCEARL simulation, Jokiomen scenario, useon wintercereals, 30g a.s./h020%		
3	STEP 3	Stage 1	Biological activity comparable to the parent?	No Y		
		Stage 2	Genotoxic properties of metabolite?	Non-genotoxic		
		Stage 3	Toxic properties of metabolite:	Not classified.		
			Classification of parent	Copinion ECHA/RAC/CLH-O- 0000002509-7001/F of 08 March 2012		
sessment		(Jassification of metabolite	None proposed. Low to scitty expected based on DEREK / LHASA		
Hazard assessment				prediction, and experimental information available for wucturally similar component amidosulfuron-guanidine.		
th risk	STEP 4		Estimated Onsumer exposure via drinking water and other sources threshold of concern approach	PECgw is less than 0.75 μg/L, therefore consumer exposure assessment is not required. The threshold of concern approach applies.		
heal	SYTEP 5		Refined risk assessment	Not required.		
umer sment			Predicted exposure (% of	Not required.		
Const			DI based on	Not required.		
			via drinking water and other sources threshold of consern approach Refined risk assessment Predicted exposure (% of ADI) Di based on			

In overall conclusion, the intended uses of the formulation do not pose a concern with regards to groundwater exposure of metabolites of amidosulfuron.

Specific PECgw simulation for metabolite Amidosulfuron-ADHP:

Metabolite amidosulfuron-ADHP is reported to have been observed

- in leachate samples of a lysimeter study treated with amidosulfuron, at max. 0.25 µg a i-equiv./L in an individual sample, annual average to be expected notably lower but not calculable (cf. Document MCA, Section CA 7.1.4.2), and
- in an anaerobic soil metabolism study dosed with amidosulfuron, at abundance of 10.9% at 90 days after flooding (cf. Document MCA, Section CA. 1.1.2)

The component was however not detected in any of the Caboratory aerobic soil degradation studies on amidosulfuron. Therefore, a formation fraction in soil cannot be easily derived, and the component cannot be implemented in the standard metabolic particular assessment.

To nevertheless provide an estimate of the potential worst case groundwater exposure to amidosulfuron-ADHP for the intended use of the present product, the subsequent individual component modelling simulation is provided based on the overconservative assumption of 100% formation:

Report: KCP 9.2.4.1/13 ,; 2916; M-553879-027

Title: Amidosulfuron (AMS) and metabolite: PCgw CCUS, PCARL, PELMO, MACRO

EUR - Use in winter and spring cereals, flax and grass in Europe

Report No.: EnSa-16-0353 v1

Document No.: M-553879-02-1

Guideline(s): none
Guideline deviation(s): none
GLP/GEP:

Materials and Methods:

PEC_{gw} for the metabolite amidosulfuron DHP was calculated using the approach, scenarios and application rates described for the calculations or the parent compound, summarised under KCP 9.2.4.1/12 above.

As there is no information on formation fraction and maximum occurrence of the metabolite amidosulfuron-ADHP from aerobic soil metabolism studies on amidosulfuron, worst case assumptions were used for the calculations DF of land maximum occurrence of 100%). It should be clearly noted that values predicted using the combination of worst-case assumption on both degradation and formation of the amidosulfuron-ADHP may represent a very conservative estimation and would be overprotective for the actual field conditions.

Table CP 9.2.4.1- 18: Substance specific and model related input parameter for PECgw calculation of amidosulfuron and its metabolite (model parameters not listed are kept as default)

Parameter	Unit	Amidosulfuron- ADHP		
Common				
Molar Mass	[g/mol]	127.1		
Water Solubility	[mg/L]	66.0		
Vapour Pressure	[Pa]	2.70E-03		
Freundlich	[-]	0.919		
Exponent				
Plant Uptake	[-]	0.0		
Factor				
Walker Exponent	[-]	0.70		
PEARL paramete	ers			
Substance Code	[-] 🐇	J AMPHP O		
DT ₅₀	[days]O	ر 30.9 چ		
Molar Activ.	[kJ/mao*]	65,4		
Energy	**			
Kom	[m/L/g] 🔉	150.3 ₂ 0"		
Kf	mL/g	,		
PELMO parameters Substance Code Rate Constant [1/day] Q10 [mL/syl				
Substance Code		O AC		
Rate Constant	[1/day]	9 0,0°2243		
Q_{10}	က်ိ် [-] တိ	2.58		
K _{oc}	[mL/s]		Q.	
MACEO parame	ters 🤊		7	
Substance code	[-]	🖒 deSme 🧴		
Exponent O	O [-] 👋	0.49		
DExponent (%)	[14]	0.0948		
temperature V		B L		

Table CP 9.2.4.1- 19: Degradation pathway related parameters for amidosulfuron and its metabolite

Degradation fraction from To AMS - ADHP:
(-) (FOCUS PEARL)
Degradation rate from Active Substance -> A1: 0.0481350
(1/day) (FOCOS PELAGO) a) (1/day) (FOCOS PELAGO) (1/day)

a) Calculated as ln(2) DA 50 × formation fraction

For simulation of sequential metabolites in MACRO, (pseudo) application rates were calculated based on the respective conversion factor as given in Table CP 9.2.4.1.-19. The rates used in the simulations are given in Table CP 9.2.4.1-20. The metabolites were then handled in MACRO as parent substance applied at the application dates given in Table CP 9.2.4.1-3.

Table CP 9.2.4.1- 20: Calculation of metabolite application rates (FOCUS MACRO)

Compound	Parent	Amidosulfuron- ADHP
Crop / rate	(g a.s./ha)	(g/ha)
Winter Cereals	1×24.000	1×8.26
(30 g/ha)		
Winter Cereals	1×15.000	1×5.16
(15 g/ha)		
Spring cereals and	1×30.000	1×10.32
flax		
Permanent grass	1×4.500	≥ 1×1.55 €
(spring)		
Permanent grass	1×4.500	(L) 1×135 (k)
(autumn)		

Findings:

Table CP 9.2.4.1-21: Winter cereals: FOCUS PEAR PELMO & metabolite amidosulfurcon-ADHP

	flax		
	Permanent gras	ss 1×4.500	
	(spring)		
	Permanent gras	ss 1×4.500	
	(autumn)		
		W.	
Findings:			
PEC _{gw} were evaluat	ted as the 80th percer	ntile of t he √mea	in annual reachate aconceptration at 1 m soil
depth. FOCUS PEA	RL, PELMO and M	ACRO PĚC _{gw}	sults for amidesulfuron and it metabolites
are given in the follo	owing tables.		
Table CD 0 2 / 1_21.	Winter careals: FOCI	IC DE A DI DEI M	MAR MALDO PEC results of the lysimator
1 abie C1 3.2.4.1- 21.	metabolite amidosulf	ron-ADHP	WY & MASCKO RECEIVE TO SMITHETE
			MACRO REC _{gw} results of the lysimeter
Use Pattern	Winter cereals 1		
	$1 \times 30 \text{ g a.s./ha,}$		
	1 × 20% interception		
	Amidosulfuron-) 4 6
	ABUIP		, Q , Ç
EOCHE DE A DI	ECgw S		
FOCUS PEARL	μg/L)		
Chateaudun	<0.06		
Hamburg	0.011		*
Jokioinen	0,003		ŽŽ
Kremsmuenster	(O 0.010 O V		
Okenampion	0.016	,	
Piacenza 🖓	5 0.009		
Porto	© 0004 °		
Sevilla	<0.001	Ò" 📡	
Thiva	<0.001 PE # 1		
FOCUS PEL MO	O PEC V		
Chateaudun	[µg/L] [[] [] [] [] [] [] [] [] []	~ O'	
Hamburg O	0.014	Š	
Joksoinen	0.003	*	
Kremsmuenster	0.0012		
Okehampton	20018		
Piacenza 🛋	0.018		
Porto	0.006		
Sevilla	< 0.001		
Thiva	<0.001		
FOCUS MACRO	PECgw		
	[µg/L]		
Chateaudun	< 0.001		

In **bold:** values exceeding the trigger value of 0.1 μg/L

Table CP 9.2.4.1-22: Winter cereals: FOCUS PEARL, PELMO & MACRO PECgw results of the lysimeter metabolite amidosulfuron-ADHP

	metabonte annaosa
Use Pattern	Winter cereals, 1 × 15 g a.s./ha, 1 × 0% interception Amidosulfuron- ADHP PECgw [µg/L] <0.001 0.007 0.002 0.006 0.009 0.005 0.003 <0.001 <0.001 PECgw [µg/L] 0.001 0.008 0.002 0.007 0.010 0.006 0.004 <0.001 PECgw µg/L] clime the trigger value of the strigger value of the string value of the strigger value of the string val
	1 × 15 g a.s./ha,
	1 × 0% interception
	Amidosulfuron-
	ADHP
EOCHC DE ADI	PECgw
FOCUS PEARL	[µg/L]
Chateaudun	< 0.001
Hamburg	0.007
Jokioinen	0.002
Kremsmuenster	0.006
Okehampton	0.009
Piacenza	0.005
Porto	0.003
Sevilla	< 0.001
Thiva	< 0.001
11111	PEC
FOCUS PELMO	[u\sigma/L.]
Chateaudun	(μg/L) 0.001
Hamburg	0.001
Iokioinen	0.008
Vremenueneter	0.002
Okehampton	0.007
Diacenza	0.010
Dorto	0.000
Covilla	0.004
Thive	<0.001 <0/001
Tillva	10:001 10:001
FOCUS MACRO	E E Cgw
Cl. 4 1	μg/Lj
Chateaudun	<0.0001
In bold : values excee	ding the trigger value of
	O Q A
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⟨ ⟨ ⟩	
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	yer – Crop Scie cument MCP: Sect nidosulfuron WG 7	tion 9 Fate and behaviour i	Page 42 of 57 2016-05-31 in the environment
Use Pattern	ole CP 9.2.4.1- 23:	Spring cereals and flax: FC lysimeter metabolite amide	OCUS PEARL, PELMO & MACRO PECgw results of the osulfuron-ADHP
Amidosulfuron-ADHP PEC_rw	Use Pattern	Spring cereals and flax, 1 × 30 g a.s./ha, 1 × 0% interception	
Chateaudun	FOCUS PEARL	Amidosulfuron-ADHP PECgw	
Hamburg 0.013 0.004 Kremsmuenster 0.012 0.000 Porto 0.0001 0.001	Chateaudun	(μg/L) <0.001	
Jokioinen	Hamburg	0.013	
Kremsmuenster Okehampton Porto OCUS PELMO PECew Ing/L Chateaudun Hamburg Jokioinen Kremsmuenster Okehampton Porto OCUS MACRO PECew Orling/L Chateaudun	Jokioinen	0.004	
Okehampton	Kremsmuenster	0.012	
Porto	Okehampton	0.009	
The Corner The	Porto	<0.001	
Chateaudun Hamburg 0.001 Hamburg 0.005 Jokioinen Nocus Macro Peccew µg/L Chateaudun Chateaudun Chateaudun Chateaudun Chateau	FOCUS PELMO	PECgw [ug/L]	
Hamburg 0.005 Jokoinen 0.003 Kremsmuenster 0.008 Okehampton 0.007 Porto 0.001 COCUS MACRO PEC gw [µg/L] PEC gw	Chateaudun	0.001	
Jokioinen Kremsmuenster Okehampton Porto Ocus MACRO PEC _{gw} [ng/L] Chateaudun Chateaudun Chateaudun John	Hamburg	0.005	
Kremsmuenster Okehampton Porto 0.001 Chateaudun Chateaudun Okehampton Porto Oke	Jokioinen	0.003	
Okehampton Porto 0.007 0.001 PECew [µg/L] Chateaudun https://doi.org/10.1016/j.jup/libraria/ Chateaudun Okehampton 0.007 PECew [µg/L] Chateaudun Okehampton 0.001 O	Kremsmuenster	0.008	
Porto OCUS MACRO PEC sw μg/L Chateaudun OCUS MACRO P	Okehampton	0.007	
Chateaudun <0.001	Porto	0.001	
Chateaudun	FOCUS MACRO	PECgw Q " [ug/L] Q "	
	Chateaudun	<0.001	

Table CP 9.2.4.1- 24: Permanent grass (spring): FOCUS PEARL, PELMO & MACRO PECgw results of the lysimeter metabolite amidosulfuron-ADHP

-J ~	
Use Pattern	Permanent grass
	(spring),
	1×45 g a.s./ha,
	1 × 90% interception
	Permanent grass (spring), 1 × 45 g a.s./ha, 1 × 90% interception Amidosulfuron-ADHP PECgw [μg/L] <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 PECgw [μg/L] <0.001 <0.001 <0.001 PECgw [μg/L] <0.001 <0.001 PECgw (μg/L] <0.001 <0.001 PECgw (μg/L) <0.001 PECgw (μg/L) <0.001
EOCHG DE A DI	PECgw
rucus Peakl	$[\mu g/L]$
Chateaudun	<0.001
Hamburg	0.001
Jokioinen	< 0.001
Kremsmuenster	< 0.001
Okehampton	0.001
Piacenza	0.001
Porto	< 0.001
Sevilla	< 0.001
Thiva	< 0.001
	PEC W
FOCUS PELMO	
Chateaudun	<0.001 %
Hamburg	0.001
Iokioinen	<0.001
K remembereter	0.000
Okehampton	0.00
Diacenza	0.002
Porto	\$0.004 ×
rono Cavilla	10.002 S
Sevilla Thire	~U.UBU.
ımva	MEC .
FOCUS MACRO	O Pro/Lk
Chateaudun	. <0.001
Chatcaddun	
~ Q ~	
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Table CP 9.2.4.1- 25: Permanent grass (autumn): FOCUS PEARL, PELMO & MACRO PECgw results of the lysimeter metabolite amidosulfuron-ADHP

Use Pattern	Parmonant grees
OSC I ALLEI II	(outumn)
	$\begin{array}{c} \text{(autumn)}, \\ 1 \times 45 \text{ a.s./ha} \end{array}$
	1 × 90% interception
	Amidosulfuron-ADHP
	Amigosunuron-ADHP
FOCUS PEARL	PECgw
	[μg/L]
Chateaudun	0.002
Hamburg	0.014
Jokioinen	0.004
Kremsmuenster	0.004
Okehampton	0.007
Piacenza	0.009
Porto	0.003
Sevilla	0.001
Thiva	0.001
FOCUS PELMO	PECgw
FOCUS PELMO	[µg/L]
Chateaudun	0.001
Hamburg	0.011
Jokioinen	0.003
Kremsmuenster	0.004
Okehampton	0.007 💍 🦠
Piacenza	0.010
Porto	0:903
Sevilla	0.001
Thiva	Ø.001
FOCUS MACRO	Permanent grass (autumn), 1 × 45 g a.s./ha, 1 × 90% interception  Amidosulfuron-ADHP  PECgw [μg/L]  0.002 0.014 0.004 0.004 0.007 0.009 0.003 0.001 0.001 PECgw [μg/L]  0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001
roces where	[μg//]
Chateaudun	< \$\int 01

#### Conclusion:

Amidosulfuron-ADHP: For all intendent uses in (winter and spring) cereals, flax, and permanent grass (spring and autumn) the results for the PEC_{gw} coculations do not reach or exceed the PEC_{gw} trigger of 0 kg/L in any European scenario. Thus, further assessment on the substance relevance in groundwater would not be triggered by this modelling similation. However, due to the reported maximum detect in an individual dysimeter leachate sample at 0.25 µg/L, and the unavailability of (to be expected notably lower) annual average data for a formal trigger comparison, a groundwater relevance assessment for the component has bevertheless been established in Document N4, of which a tabular overview summary is provided here below. Based on these information, amidosulfuron-ADHP was demonstrated to have no relevance for groundwater.

#### Summary of relevance assessment for metabolite amidosulfuron-ADHP

	Assessment step		Result of assessment		
	STEP 1		Metabolite of <u>no</u> concern?	No	
Quantification of groundwater contamination	STEP 2		Based on		
	STEP 3	Stage 1	Biological activity comparable to the parent?	NET OF ST	
		Stage 2	Genotoxic properties of metabolite?	ONOn-genotoxic O	
		Stage 3	Toxic properties of metabolite; Classification of parent	Not classified.	
sment				(opinion ECHA/RAC/CLH-O- 0000002500-70-01/F of 08 (Qarch 2902)	
Hazard assessment			Classification of metabolite	None proposed.  rat oyal acute toxicity:  LD ₅₀ > 5000 mg/kg	
lth risk	STEP 4		Estingated consumer exposure of drinking water and other sources; threshold of concern approach	PECgw is less than 0.75 μg/L, therefore consumer exposure assessment is not required. The threshold of concern approach applies.	
Consumer health risk assessment	SPEP 5		Refined rist assessment  Predicted exposure (% of	Not required.  Not required.	
Consi			ADT based on	Not required.	

Overall, there is no concern for ground water from amidosulfuron-ADMP from the intended uses of the present product.

# CP 9.2.4.2 Additional field tests

Additional field tests to assess the leaching behaviour of amidosulfuron and its metabolites are not considered necessary safe use was demonstrated based on laboratory information.

#### **CP 9.2.5** Estimation of concentrations in surface water and sediment

Predicted environmental concentrations in surface water (PEC_{SW}) Predicted environmental concentrations in sediment (PEC_{SED})

Studies submitted and evaluated for the first inclusion of amidosulfuron on

The below baseline dossier studies are listed for formal completeness, but are of no longer relevance for approval renewal. These studies are superseded by a new modelling evaluation update for new substance information and modelling guidance

KCP 9.2.5/01 : 2003: Ma Report:

Predicted environmental concentrations of Title:

surface water and sediment (PEC, PEC, PEC, ) for

via spray drift Code: AE F0750

Report No.: C030965 Document No.: M-228794-01-1 not applicable Guideline(s): not applicable Guideline deviation(s):

GLP/GEP: no

KCP 9.2.5/02 Report:

Predicted environmenta foncentrations in auramidosulfuro und its vain massolites Ocor Title:

Report No.: C046140 Document No.: M-237687 Guideline(s): Guideline deviation(s):

GLP/GEP:

Report:

sulfur based on exposure calculations according Title:

Report No.: Document No.: Guideline(s):

Guideline dev **GLP/GEP:** 

; 2007; M-283755-01-1 Report:

cted enginnen concentrations in surface water and sediment of Title:

osulfu@i metalvite AE 1569309 based on calculations with FOCUS Step 1&2 app@ations cereals and grassland

Guideline(s) Guideline deviation

**GLP/GEP:** 

Studies submitted and evaluated in the course of the post-Annex I procedure for amidosulfuron:

(none at EU level; updated modelling was submitted as part of the product re-approval procedure at zonal level)

#### Studies submitted for Annex I approval renewal:

To consider compound related input parameters from new experimental studies and kinetic evaluations, and to implement latest modeling guidance, updated PEC_{sw} calculations are presented for approval renewal, superseding all previous data evaluations.

**Report:** KCP 9.2.5/05 ,; 2016; M-554554-01-1

Title: Amidosulfuron (AMS) and metabolites: PECsw,sed FOCUS EUR - Use in winter

cereals, spring cereals, flax and grass in Europe

Report No.: EnSa-16-0283 v1 Document No.: M-554554-01-1

Guideline(s): none
Guideline deviation(s): none
GLP/GEP: no

#### Material and methods:

Predicted environmental concentrations of the herbride analosulfuron and its metabolites in surface water (PEC_{sw}) and sediment (PEC_{sed}) were calculated for the use in Europe, according the tiered FOCUS Surface Water (SW) approach (FOCUS 2001, 2015). All relevant entry outes of a compound into surface water (principally a combination of spray drift and runoff/erosion or than flow) were considered in these calculations.

Details of the application patterns assessed are summarised in Table CR. 2.5-1

Table CP 9.2.5-1: Application pattern used for PECsystel calculations (FOCUS Step 1&2)

	2~3		App	lication	1	Amount
Individual	FOCUS Crop Used for	Rate O	Interval	Plant (5) Interception	BBCH Stage	reaching soil per season
Crop	Interception	Ö	L, ", ",		Suge	application
		[g⁄a;s./ha] (	)"[days\[	[ ]//0]		[g a.s./ha]
Winter cereals,	coreals, winter	€1 × 30€	O	a erage crop	21-49	1 × 24
GAP & Simulation				©over (20%)	21-49	1 ^ 24
Winter cereals,	cerears, winter	1.415	J - 5	min. crop	13-49	1 × 15
GAP & Simulation	(arable crops)		)	cover (0%)	13-47	1 ~ 15
Spring cereals Frax	cereals, spring	$0.00 \times 30$		min. crop	12-49	$1 \times 30$
GAP & Simulation	(arable crops)	01 \ 30 \		cover (0%)	12-49	1 ^ 30
Grass (spring),	grass alfalfa 🖔	1 2/8/5	(a	full canopy	Spring	1 × 11.25
GAP & Simulation,	(arable crop@/	1043	-	(75%)	Spring	1 ^ 11.23
Grass (autumn),	grass / altabra	2 × 45	<i>y</i>	full canopy	Autumn	1 × 11.25
GAP & Simulation	arable crops)	\$ ^ 43	-	(75%)	Autumm	1 ^ 11.23

At FOCUS Step 1822 the application was timed to the default periods 'March to May' for the intended spring roes, or 'October to February' for the intended autumn use on grass

At FOCUS Tep 3 actual application dates are generally determined by the PAT (pesticide application timer) included within SWASH, considering crop event dates.

For the application to **spring @reals and flax**, PAT start date was timed relative to FOCUS crop emergence date of spring cereals, considering an offset of 3 days to represent an early post-emergent situation.

The application in winter cereals according to GAP is intended at the onset of the spring vegetation period, when climate conditions allow for resumption of crop and weed growth after winter dormancy. Treatment is made to well established crop, with use rate depending on crop BBCH stage reached at that time. However, no pre-defined event dates are implemented in the FOCUS model that would directly translate this cropping situation into discrete calendar dates for each surface water scenario setting. To generate an adequate scenario-adapted representation with relative date setting, the

following approach was therefore used: the simulated treatment was referenced relative to the tabulated crop emergence date of the earliest emerging spring crop (i.e. not necessarily cereals) that was defined by FOCUS for the respective scenario. Start of the PAT window was then set 14 days before that date, considered suitable to represent the start of the vegetation period in the respective scenario environment. An overview of the date selections per scenario is presented in the tables below.

Similarly, for **spring use on grass** the application was timed using the earliest crops emergence dates.

Table CP 9.2.5- 2: Spring emergence dates of earliest crops in the FOCUS scenarios

Scenario	Location	Crop Emergence date
D1	Lanna	spring ce@als \(\square\) 05-Ma\(\square\)
D2	Brimstone	spring cereals a) 15-Mar a)
D3	Vredepeel	spring cereals Q Q Apr
D4	Skousbo	field beans / 5-Apr &
D5	La Jailliere	spring cerepils 5-Mar
D6	Thiva	froot vegetables 25-Feb 25-Feb
R1	Weiherbach	of field beans 10 to 10 to 10
R2	Porto	bulb Degetables & 282Feb
R3	Bologna	root vegetables 26-Feb
R4	Roujan	fort vegetables 26-Feb

a) no crop with emergence in spring defined; D5 data used in stead

For autumn use in grass, the PAT standate was set relative to the emergence date of winter cereals (Table CP 9.2.5- 3). For technical reason or efference crops is different to simulated crop), such application dates need to be entered to the simulation model formally as 'absolute' dates, even though refencing was in fact of relative type.

Table CP 9.2.5-3: Emergence dates of winter cereals in the FOChS scenarios

	۰۱. ۷ ۱		<b>√</b> . <b>√</b> .
	<b>Sc</b> enario 7	🖒 Location	Emergence date
	D1@	T Lama	25-Sep
(	D2 N	Brimstone	25-Oct
0	D3 🔊	<b>N</b> redepec	② 21-Nov
7	&°Ď4 ♣	#Skousbo *	22-Sep
	D5000	La Jannere	10-Nov
8	$D6^{\circ}$	Thiva 💯	30-Nov
~	r <b>R</b> a C	Weiherbach	12-Nov
)	$\mathbb{O}_{\!R2}$ $\mathbb{O}^{\!\scriptscriptstyle y}$	Porto	01-Dec a)
	≪ R3 Ø	💍 🏿 Bologna	01-Dec
	S R4S	Rowan	10-Nov

Details of the parameters used in all Step 3 calculations are summarised in Table CP 9.2.5- 6.

Table CP 9.2.5- 4: Application dates of amidosulfuron for the FOCUS Step 3 calculations – Winter cereals (late & early)

Parameter	Winter cereals (1 >	30 g a.s./ha) (late)	Winter cereals (1 ×	15 g a.s./ha) (early)	
PAT start date	,	, , ,		, , , , ,	
rel./absolute	Abso	olute	Abso	olute	
Appl. method		d spray	Ground spray		
(appl. type)		foliar linear, 4 cm)	(CAM 2 - appin f		
No of appl.	(Crivi 2 - appin i	l	(C/IIVI 2 - appin IV		
PAT window		ı			
range	2	0	<b>6</b>	,	
_	PAT		DAT S		
Application	start/end date	Appl. Date	start/end date	OAppl Date	
Details	(Julian day)	Appi. Date	(Tulian day)	Appa Date	
D1	21-Apr/21-May	25-Apr	21-Apr/21-May	Apr o	
Ditch/Stream	(111/141)	23-Apr	(111/041)		
Ditch/Sucam	(111/141)		(11170/41)	O Q	
D2	01-Mar/31-Mar	12- <b>Ma</b> r 📡	01 _z Mar/31-Mar	12.40m	
Ditch/Stream	(60/90)		(60/90)		
Ditch/Stream	(00/70)			,	
D3	18-Mar/17-Apr	7-Mar	018-Mar/17-Apr	∯17-Mar	
Ditch	(77/107)		(77/107)	6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Bittin	(///10/)			@.	
D4	01-Apr/01-May &	18 Apr	Apr/01 May	18-Apr	
Pond/Stream	(91/121)		(9 <del>1</del> \Q21)		
	0 8				
D5	01-Mar/31-Mar	07-Mar	01/Mar/31/Mar	07-Mar	
Pond/Stream	(60/90€		√ (60/90 <b>)</b>		
			Q'		
D6	11-Feb/13-Mar	$\bigcirc_{27\text{-Feb}}$	11-Fet 13-Mar	27-Feb	
Ditch	<b>42</b> /72) <b>3</b>	2	(A2/72)		
R1	Mar/26/Apr	7 2€-Apr	27-Mar/26-Apr	26-Apr	
Pond/Stream	(86/146)		©" (86/116)		
>			P*		
R2	\$ - \$\frac{1}{2}		-	-	
Stream 🛴 🧞					
R3	12-Feb/14-May	19-Feb	12-Feb/14-Mar	19-Feb	
Stream Stream	(¥3/73) [©]		(43/73)		
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			10 5 1 /14 3 6	00.16	
R4 🞾	2-Feb/14/Mar	∕ <b>02</b> -Mar	12-Feb/14-Mar	02-Mar	
Stream	(43/93)		(43/73)		
\(\doldsymbol{O}'\)					
<u> </u>		$\mathcal{L}'$			
		7			
- A	2-Feb/t Mar (437/3) (437/3)				
₩					
	A .				
*@	y				

Table CP 9.2.5- 5: Application dates of amidosulfuron for the FOCUS Step 3 calculations – spring cereals, flax and grass (spring)

Parameter	Spring cereals / Fla	Grass (spring) (	Grass (spring) (1 × 45 g a.s./ha)		
PAT start date					
rel./absolute	Relative: 3 days	after emergence	Abso		
Appl. method	Groun	d spray	Ground spray		
(appl. type)	(CAM 2 - appln f	oliar linear, 4 cm)	(CAM 2 - appin fo	oliar linear, 4 cm)	
No of appl.		1			
PAT window					
range		0			
Application	PAT		· PAT >		
Details	start/end date	Appl. Date	start/end date	Appl Date	
	(Julian day)	W.	(Tulian day)		
D1	08-May/07-Jun	14-May 🔘	25-May/94-Jun	May o	
Ditch/Stream	(128/158)	W W	(125@55) S		
D2		0 . (	17.00 11.00	O	
D2	-		15 Mar/14-Apr	15 <b>.</b> Tar	
Ditch/Stream			$\left(\begin{array}{c} \sqrt{3}(\sqrt{4}/104) \\ \sqrt{3} \end{array}\right)$		
D3	04-Apr/04-May		01-A& 01-May	\$\)04-Apr	
Ditch	(94/124)	704-App	01-Apri/01-Iviay	07 04-Api	
Ditti	(94/124)		(91/121)		
D4	29-Apr/29-May &	ON ON O	Apr/95-May	<i>U</i> 18-Apr	
Pond/Stream	(119/149) Q	OS IVIUY	(10sQ)35) C	10 / <b>L</b> pi	
1 one, or cam					
D5	18-Mar/17-Apr	08-Apr &	15 Mar/14 Apr	08-Apr	
Pond/Stream	(77/107)		\$\(\lambda(74/104)\)	* * - F -	
			Q'		
D6		0 - 💖		-	
Ditch		, ,			
R1	\$~ -,@	7 O- 2		-	
Pond/Stream			W"		
*			D ^y		
R2			28-Feb/30-Mar	06-Mar	
Stream			(59/89)		
D2 80			26 E-1/20 M	26 F 1	
R3			26-Feb/28-Mar	26-Feb	
Stream	J'		(57/87)		
$\mathbf{p}_A  \mathcal{A}_{\mu}$	Mart Anr	9-Mar			
Stream 🛇	(777) (777) (777)	21-IVIAI	-	-	
Stream 4	9 (11101)				
O _x		.**			
A C		Ų.			
		r			
	8-Mar (7-Apr (77/107)				
	4 O				
,					
Ű.	7				

Table CP 9.2.5- 6: Application dates of amidosulfuron for the FOCUS Step 3 calculations –grass (autumn)

	Parameter	Grass autumn (	1 × 45 g a.s./ha)
	PAT start date		
	rel./absolute	Abso	olute
	Appl. method	Ground	l spray
	(appl. type)	(CAM 2 - appln fo	oliar linear, 4 cm)
	No of appl.	1	
	PAT window		
	range	30	
	Application	PAT	· Appl Date
	Details	start/end date	· Appl Date
	Details	(Julian day) 🧳	
	D1	25-Sep/25-Oct	03-Oct
	Ditch/Stream	(268/298)	
		\ \lambda_1	O Appl Date 7
	D2	25-Oct/24 Nov	Nov Of Nov
	Ditch/Stream	(298/328)	
			03-Nov 22-Nov 5
	D3	21-Nov/21-12ec	22- <b>X</b>
	Ditch	325/355	
	D4	22-Sep 22-Oct	03-Oct 7 03-Nov
	Pond/Stream &	(263/295) ₃ .	28-Sep
	Pond/Stream	(203/293)	
	D5	10 Nov/16 Dec	
	Pond/Stream	(314/344)	A-1100 C
	l &	(317977) U	
	D6 N		28-Sep 22-Nov
	Ritch D		
	₽ R1 Ô		_ ^ -
	Pond/Stream		
			Ù.
6	Q R2 Q	O'-Dec/3QDec	7 14-Dec
((	Stream -	(335\$65)	
)	R3		
	«√″ R3 [™] ©	01-Dec/31-10dc	05-Dec
	Stream O	(335/365)	
~ ~			
, } ≰/		Oʻ 😽	-
′	Stream?	<b>√</b>	

Substance related parameters used for amidosulfuron and its metabolites in the calculations at FOCUS SW Steps 1, 2 and levels are summarized below.

Table CP 9.2.5-7: Substance parameters used at FOCUS Steps 1&2

Parameter	Unit	Amidosulfuron	Amidosulfuron-	Amidosulfuron-	Amidosulfuron-
			Desmethyl	Desmethyl-	ADMP
				Chloropyrimidine	
Molar mass	[g/mol]	369.38	355.4	389.8	155.2
Water solubility	[mg/L]	3070	30200	15700	5200
Koc	[mL/g]	18.6	17.3	29.1	。 276
Degradation					
Soil	[days]	14.4	10.8	<b>29</b> .8 4	14.5
Total system	[days]	50.1	13.4	@1000 @	<b>4. 1 1 1 1 1 1 1 1 1 1</b>
Water	[days]	50.1	13.4 奏 °	√y 1000°>	4.7
Sediment	[days]	50.1	13.4	1000	×4.1
Max occurrence					
Water / sediment	[%]	100	18 °	<b>V</b> 0 <b>V</b>	8.34 , °
Soil	[%]	100	<b>49</b> .6	12.2	9.0

Table CP 9.2.5-8: (contd.) Substance parameters used at FOCUS Steps 1&2

,		1		
Parameter	Unit	Amidosalfuron-	Amidos of furor Biuret	(Guanidinocarbonyl) sulfamicacid
		Guaridine 0	<b>B</b> iuret 🖔	sulfami@cid
Molar mass	[g/mol]	273.3	Q274.3,	(U) 10% (U) 1
Water solubility	[mg/L]	2100°	<b>Biuret</b> 2274.3 81000	1 <b>0</b> 0000 a)
Koc	[mL/g]		alla ()(047M)  ≪	Ø.0001
Degradation	Ć	900 49	26	
Soil	[days]Û	~ 399 <b>%</b>	26 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	102.2 100000 a) 20.0001
Total system	[days] [veys] [days] [days]	∜ 142 °∀	I ♥ 1000♥ 🍃	111
Water	[days] [days]	142	1,000	111
Sediment	[days] 🎘	<b>3 3 2</b>	1000	111
Max occurrence			9.94	
Water / sediment	" [% <b>)</b> "		9.9.4	23.8
Soil		₹ 38.©″	O 6.34	0
unknown, worst case assumed	i 🖖 🖫	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	? . Ø. Y	
Sediment  Max occurrence  Water / sediment  Soil  unknown, worst case assumed				

a) unknown, worst case assumed

**Table CP 9.2.5-9:** Substance parameters used for amidosulfuron at Step 3

	Parameter	Unit	Parent	
		Unit	Amidosulfuron	
	Substance			
	SWASH code General	1	AMS	
	Molar mass	[g/mol]	369	
	Water solubility (temp.) Vapour pressure (temp.)	[mg/L] [Pa]	1.3E 06 (20 °C)	L
	Crop processes	[1 a]	1.31-90 (20 C)	
	Coefficient for uptake by plant (TSCF)	[-]	0.31	L 1
	Wash-off factor	[1/mm]°	0.310	, Š
	Sorption	(I)		
	K _{OC}	m/L/g]	18.6. 0	s Sy I
	Kom	mL/g	10.8	.// .
	Freundlich exponent (1/n)	[-]LIII./[5].	0.959	
	Transformation			
	DT ₅₀ in soil	[days] 🚀	14.4	
	temperature	(°C]	₹ 20 ₹ ¢	
	moisture content (pF)		20 20	
	formation fraction in soil			
	DT ₅₀ in water	[abays] ≼	<i>∞</i> 0 1	
	temperature	@[°C] \$		
	formation fraction in water	[-][/	~O -C	
	DT ₅₀ in sediment	[dav3]	1000 27 1000	
	temperature	(C)	20	
	formation fraction in sediment	[-]	<b>-</b>	
	DT ₅₀ on canopy	Q [days]Q	10	
	Exponent for the effect of moisture	, b		
	PRZM and TOXSWA (Walker exp.)	`~\J .	>y 0.7	
	MACRO (calibrated volue)	[-]	0.49	
	Effect of temperature			
	TOXSW (molar activation energy)	[kJ/m&l]	65.4	
	MACRO (effect & temperature)	, [4 <b>,4</b> K]	0.0948	
	PRZM (Q10)	Ĭ-]	2.58	
	PRZM V (QIV)	Ø n		
Findings:		<b>y</b>		
Steps 1 and	12: Thomaxin@m PEOw and PECsed Va	ílues for ami	dosulfuron and its met	abolites at
Steps 1 and	2 are given in the following tables. &			
8				
₩ /				
*	j a Zy áy			
	\$ 10°			
	12: The maxing PEC and PEC sed value 2 are given in the following tables.			

Table CP 9.2.5-10: Maximum PEC_{sw} and PEC_{sed} values for amidosulfuron and its metabolites at Steps 1 & 2

Use pattern	FOCUS scenario	Amidosulfuron		desmetnyi		Amidosulfuron- desmethyl- chloropyrimidine		Amidosulfuron- ADMP	
	scenario	PEC _{sw} [μg/L]	PEC _{sed} [µg/kg]	PEC _{sw} [μg/L]	PEC _{sed} [μg/kg]	PEC _{sw} [μg/L]	PEC。 [μg/kg]	PEC _{sw} [μg/L]	PEC _{sed} [μg/kg]
Winter cereals	Step 1 Step 2	10.034	1.8394	6.4826	1.1129		3607 Q	0.5686	W`
1 × 30 g a.s./ha	N-EU Single S-EU Single	1.5446 2.8325	0.2830 0.5192	0.8507 1.6614	0.1449 0.285	0.1893© 0.378&	0.0550 0.1102	0.0 <del>7 </del> 8 0 316	0.2110 0.4148
Winter cereals	Step 1 Step 2	5.0170	0.9197	3.2413	0. <b>35</b> 64		0.4803	0.2843	0.7714
1 × 15 g a.s./ha	N-EU Single S-EU Single	0.9333 1.7382	0.1710 0.3187	1.0334		0.2366	0.9689	\ <del>_</del> //	0 13/10 5,2583
Spring cereals and flax	Step 1 Step 2	10.034	1.8394	6.4826	1.1129	1,2394		Øj`	1.5428
1 × 30 g a.s./ha		1.8666 3.4764	0.6374	1,0533 â 2.0667ô	0.355	0.4733	0,13//	0.0962 0.0985	0.2619 0.5166
Grass (Spring)	Step 1 Step 2 N-EU Single	15.051 0.9889	2.7592 ⁽²⁾ 0.4808	9.7240 × 0.4400	1.6 <b>69</b> 3 <b>0</b> .0727 <i>0</i>	1.8590 \$7.0887 \$7.0887		©.8529 0.0405	2.3142 0.1064
1 × 45 g a.s./ha	S-EU Single	1.5925	<b>Q</b> 2916 4	(9.8200)	0.138 <b>4</b> €	0.17 <b>7</b> \$	0.05	0.0751	0.2019
Grass (Autumn) 1 × 45 g a.s./ha	Step 1 Step 2 N-EU Single S-EU Single	1.89 <b>4</b> 4 1.5 <b>9</b> 25 #	2.7592© 0.3469 92916	9.7246 1.0100 6/8200			≫ 0.0646	0.8529 0.0924 0.0751	2.3142 0.2496 0.2019

Table CP 9.2.5- 11: (contd): Maximum PEC_{sw} and PEC_{sed} values for amidosulfuron and its metabolites at Steps 1 & 2

		<u> </u>	$\overline{}$		J. V		
	FOCUS	Amidosulturon- guanidine		Amidesulfuron- biuret		(Guanidinocarbonyl) sulfamic acid	
Use pattern©	scepario	PEC	PE	PECsw	PECsed	PEC _{sw}	PEC _{sed}
	*	[µg/L]	[µg/kg]	@g/L]	[µg/kg]	[µg/L]	[µg/kg]
Winter cereal	Step 🎉 Step 🖗 🍣	©3713	<b>9</b> .6698	∄.2233	< 0.0001	1.2063	<0.0001
1 × 30 g a/s. ha	N-EU Single	0.6882	0.1654	0.1845	< 0.0001	0.1865	< 0.0001
	SEU Single	1.3548	0.2945	0.3488	< 0.0001	0.3415	< 0.0001
Winter cereals,	Step 1 Step 2	2 857 857	Q,3349	0.6116	< 0.0001	0.6032	<0.0001
1 × 15 g a Oha	NÐŬ Sing@	0.4249%	0.0651	0.1128	< 0.0001	0.1126	< 0.0001
A C	S-EU Single	0.8290	0.1270	0.2155	< 0.0001	0.2095	< 0.0001
Spring@ereals and thax	Step 1 (	<b>4</b> .3713	0.6698	1.2233	< 0.0001	1.2063	<0.0001
and flax 1 × 30 g a.s.\/ha	N ₂ EW Single		0.1302	0.2256	< 0.0001	0.2253	< 0.0001
1 50 g uzzynu	SEU Single	1.6581	0.2541	0.4310	< 0.0001	0.4189	< 0.0001
Grass 🔻 🐧	Step 1 🕜	6.5570	1.0047	1.8349	< 0.0001	1.8095	< 0.0001
(Spring)	Step 2						
1 × 45 g a.s. Ma	N-EU Single	0.3656	0.0560	0.1074	< 0.0001	0.1200	< 0.0001
1 73 g a.s. 191a	S-EU Single	0.6687	0.1024	0.1844	< 0.0001	0.1926	< 0.0001
Cross	Step 1	6.5570	1.0047	1.8349	< 0.0001	1.8095	< 0.0001
Grass	Step 2						
(Autumn)		0.8202	0.1256	0.2229	< 0.0001	0.2290	< 0.0001
1 × 45 g a.s./ha	S-EU Single	0.6687	0.1024	0.1844	< 0.0001	0.1926	< 0.0001

Step 3: The maximum PEC_{sw} and PEC_{sed} values for relevant FOCUS Step 3 scenarios are given in the following tables.

**Table CP 9.2.5-12:** Winter cereals (late): Maximum PECsw, PECsed and 7d-TWAsw values for amidosulfuron at Step 3

Use pattern	Wi	ha Q		
FOCUS scenario	Entry route*	PECsw	7d-TWA _{SW}	PEC _{sed}
		[µg/L]	[µg/L]	[μg/kg] 📜 🧳
D1 (ditch)	S	0.2653	0.2433	0.2116 0.1040 1.0130 0.5749 0.0134 0.0079 0.00771
D1 (stream)	D	0.2499	0.1239	0.1040 2
D2 (ditch)	D	4.1960	2.2770 %	° 1.0150
D2 (stream)	D	2.6770	1.2660	0,5,749
D3 (ditch)	S	0.1916	0.0266	00219, 4 6 2
D4 (pond)	S	0.0112	0.010	0.0134 0.0070
D4 (stream)	S	0.1481	0.0054	~ 0.0079°   ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
D5 (pond)	S	0.0080	Q. <b>Q</b> 076 Č	0, <b>00</b> ,71 <b>6</b> 0 <b>0</b>
D5 (stream)	S	0.1509	<b>0</b> .0014 ~	0.0134 0.0079 0.0071 0.0037 0.0186
D6 (ditch)	S	0.1939	0.0186	( .0186 ₁
R1 (pond)	R	0.0079		
R1 (stream)	R	0.2550	0. <b>00</b> ,50	0.0227
R3 (stream)	R	0.5171	0.0360	Q.9457 P
R4 (stream)	R	0.339	60.0392	@.0404 <i>&amp;</i>

Entry route spray drift (S), drainage (D) tonoff (R); relevant only for parent substance

**Table CP 9.2.5-13:** 

Use pattern	Wi	nter cereals (ear	√y), 1 × 1€0g a.s.	/hQ
FOCUS scenario	Entry route*	PEC _{sw}	7d-TWAsw	PEGed
		[µg/L]	[μg/L] 🦠	[jrg/kg]
D1 (ditch)	S	Q"0.132C	0.1211	<b>20</b> 0970
D1 (stream)		© [™] 0.10 <b>3</b> 5	0.05	L, 0.0477
D2 (ditch)	ČĎ [^]	2,0940 🏑	1.10000	© ^ν 0.5137
D2 (stream)		<b>₩</b> 3370 <b>%</b>	99. <b>9</b> 260 S	0.2919
D3 (ditch)	$\circ$ S	0.0957	Ø.0132	0.0110
D4 (pond)		0.005	0.0053	0.0065
D4 (stream)	\&\S'\ \\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	[₩] 0.0038	0.0026	0.0039
D5 (pond)	SS W	<b>20</b> 0040	0.0038	0.0036
D5 (stream)	S	8.0753	0.0007	0.0019
D6 (ditch)		[@ 0.09 <b>70</b> /	<b>€</b> ∕0.0093	0.0095
R1 (pond)		0.00#0	0.0038	0.0036
R1 (stream)		Q\$270 Q	0.0075	0.0115
R3 (stream)	R &	<b>©</b> .2601 O'	0.0181	0.0233
R4 (stream)	$\mathbb{O}^{\mathbb{V}}$ R $\mathbb{O}^{\mathbb{V}}$	© 0.1712°	0.0198	0.0207
* Entry Toute spra	ry drift (S), drain	age (D), ymoff (	R); relevant only	for parent substance
	sy drift (a), drain			

Table CP 9.2.5- 14: Spring cereals & flax: Maximum PECsw, PECsed and 7d-TWAsw values for amidosulfuron at Step 3

Use pattern	Spring cereals & flax, 1 × 30 g a.s./ha						
FOCUS scenario	Entry route*	PECsw	7d-TWAsw	PECsed			
		[µg/L]	[µg/L]	[µg/kg]			
D1 (Ditch)	D	0.2973	0.2853	0.2008			
D1 (Stream)	D	0.1953	0.1756	0.1083			
D3 (Ditch)	S	0.1927	0.0292	0.0241			
D4 (Pond)	S	0.0113	0.0109	0.0146			
D4 (Stream)	S	0.1486	0.0056	0.008			
D5 (Pond)	S	0.0077	0.0074	0.0068			
D5 (Stream)	S	0.1515	0.0012	0.0037			
R4 (Stream)	S	0.1252	0.0032	Ø064 & ?			

Entry route spray drift (S), drainage (D), runoff (R); relevant only for parent substance

**Table CP 9.2.5-15:** amidosulfuron at Step 3

» <u></u>							
?							
R4 (Stream)   S   0.1252   0.0032   0.0064     * Entry route spray drift (S), drainage (D), runoff (R); relevant only for parent substance							
Table CP 9.2.5-15: Grass (spring): Maximum PECw, PECW and 7d-TW Asy values for							
D1 (Stream)   D   0.1953   0.1756   0.1083     D3 (Ditch)   S   0.1927   0.0292   0.0241     D4 (Pond)   S   0.0113   0.0109   0.0146     D4 (Stream)   S   0.1486   0.0056   0.0080     D5 (Pond)   S   0.0077   0.0074   0.0068     D5 (Stream)   S   0.1515   0.0012   0.0037     R4 (Stream)   S   0.1252   0.0032   0.0064     * Entry route spray drift (S), drainage (D), runoff (R); relevant only for farent substance    Table CP 9.2.5- 15: Grass (spring): Maximum PECsw, PECst and 7d-TWAsw values for amidosulfuron at Step 3    Use pattern   Grass (spring), 1 × 45 gas ha     FOCUS scenario   Entry route*   PECsw   7d-TWAsw   PECst							
Use pattern Grass (spring), 1 × 45 gas /ha							

Entry route spray drift (S), dramage (D), runoff (R); relevant only for parent substance

**Table CP 9.2.5- 16:** © Grass (autumn): Maxenum PCCsw, PCCsed and 7d-TWAsw values for amidosulfaren at Step 3

Use pattern		Grass (autumn)	, 1 × 45@ a.s./ha	1
FOCUS scenario	Entry route*	<b>BECSW</b> O	7d-PWAsw	PECsed
		[μg/L]	& <u>[μg/L]</u>	[µg/kg]
D1 (Ditch)	× 20, ~	× 0.7453	© ["] 0.6786	0.6394
D1 (Stream)	_@ďo ≪	" 0, <b>46</b> 47	0.4248	0.3012
D2 (Ditch)	Q D 🐇	<b>3</b> .670	7.6190	2.8160
D2 (Stream)	D O	8.5990	4.5300	1.7960
D3 (Ditch)	S	© 0.29¥¥	0.0493	0.0408
D4 (Pord)	<b>D</b>	0.0224	0.0224	0.0307
D4 (Stream)	S	<b>6.2</b> 466	0.0486	0.0273
D5 (Pond)	D S	å≫0.2222	0.2204	0.2296
D5 (Stream)	⇒ s∜	0.2661	0.1561	0.0752
R2 (Stream)	r R	0.3120	0.0290	0.0372
R3 (Stream)	∠AS	0.2630	0.0096	0.0153

Entry route spray disit (S), drainage (D), runoff (R); relevant only for parent substance

#### **PECsw of Formulated Product**

For the formulated product, meaningful PECsw can only be calculated for the direct entry route drift exposure. Indirect routes involving secondary movements of a soil deposit, such as drainage and

runoff, would not lead to an exposure of the aquatic environment to the intact formulated spray solution. When hitting soil, the formulation will be disintegrated via dilution in the pore water, differential adsorption and retention of its components by soil particles, and rapid biological degradation of coformulants. Therefore, experimental endpoints from the product are to be compared with the drift exposure PEC_{SW} of the product. These are calculated in a simple tier 1 approach, considering standard drift rates and a standard water body, which is 30 cm deep and without riparian vegetation.

Table CP 9.2.5- 17: Initial maximum PECsw values of the formulation, considering spray drift after one application as only route of entry relevant for the product.

one apprication as only route of entry relevant for the production						
Compound	Scenario	Drift rate	Winter cereals,	Winter cereals,	Spring cereals	Grass
			$1 \times 0.04 \text{ kg/hg}$	4 × 0.02 kg/ha	& Flax,	Spring/
			l		1 × 0.04 kg/ha	Autumn)
			.,0			1 × <b>0.</b> 06
						kg/ha
		(arable	PECSW, max	PECSW, max	PEC _{SW, max}	PECsw, max
		crops)	[μg/L]	[µg/L]		(μg/L)
	small static					
	ditch,			Q , , , , ,		
Amidosulfuron	at the edge of	2.77 % 📡 "	<b>0</b> .369	€.185 ·	a Sko	0.554
WG 75	the treated field,	(no buf <del>fe</del> r)	3.307		<b>9</b> 569	0.554
	water depth 0.3	, O				
	m	O %		D' 39 .	Ö	

PEC derived from calculation of entry in standard ditch was spray drift (water body of 30 cm depth), according to BBA (2006)¹

### CP 9.3 Fate and behaviour in air

No volatility studies on the preparation have been performed. Details of volatility for the active substance and its metabolites are given in Decument NCA Section 2.

## CP 9.3.1 Route and rate of degradation in air and transport via air

Please refer to Document MCA 72,2.

### Predicted environmental concentrations from airborne transport

Due to the low half the in awand the very low vapour pressure no exposure via air is expected.

# CP 9.4 Estimation of concentrations for other routes of exposure

No data for other routes of exposure were generated or required for Amidosulfuron WG 75.

¹ D., (2006) Bekanntmachung über die Abtrifteckwerte, die bei der Prüfung und Zulassung von Pflanzenschutzmitteln herangezogen werden, http://www.jki.bund.de/de/startseite/institute/anwendungstechnik/abdrifteckwerte.html