

REGISTRATION REPORT

Part B

Section 8

Environmental Fate

Detailed summary of the risk assessment

Product code: GLOB2011I

Product name: SANKARI

Chemical active substance:

Pelargonic acid, 650 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(authorization)

Applicant: Globachem NV

Submission date: 31/07/2023

RMS Assessment: 16/01/2024

After commenting period: 05/05/2024

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Version history

When	What
January 2024	zRMS assessment
May 2024	After commenting period
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8 Fate and behaviour in the environment (KCP 9)

General comment zRMS

The following data and information were provided by the applicant Globachem NV and have been submitted as a dRR.

This document provides the results of the assessment of the zRMS. All comments of the zRMS there are in the “greyboxes”.

8.1 Critical GAP and overall conclusions

Table 8.1-1: Critical use pattern of the formulated product

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Use-No. *	Member state(s)	Crop and/or situa- tion (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I **	Pests or Group of pests controlled (additionally: develop- mental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product/ha a) max. rate per appl. b) max. total rate per crop/season	g as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min/max			Groundwater
Zonal uses (field or outdoor uses, certain types of protected crops)														
4 (cover- ing use 1)	PL, CZ, IE	Cereals (winter wheat [TRZAW], winter durum wheat [TRZDW], spelt [TRZSP], winter barley [HORVW], winter rye [SECCW], winter tritcale [TTLWI])	F	Aphids / Rhopalosiphum padi [RHOPPA], Sitobion avenae [MACASV]	downward spraying	At first infestation / BBCH 10- 29 (autumn: end of September to end of December)	a) 2 (14) b) 2 (14)	14 days	a) 2.0 b) 4.0	a) 1300 b) 2600	200-400	NA		A
5 (cover- ing use 2)	PL, CZ, IE	Cereals (winter wheat [TRZAW], winter durum wheat [TRZDW], spelt [TRZSP], winter barley [HORVW], winter rye [SECCW], winter tritcale [TTLWI])	F	Aphids / <i>Rhopalosiphum padi</i> [RHOPPA], <i>Sitobion avenae</i> [MACASV]	downward spraying	At first infestation / BBCH 21- 49 (spring: March to May)	a) 2 (14) b) 2 (14)	14	a) 2.0 b) 4.0	a) 1300 b) 2600	200-400	NA		A
6 (cover- ing use 3)	PL, CZ, IE	Cereals (winter and spring wheat [TRZAW & TRZAS], winter and spring durum wheat [TRZDW & TRZDS], spelt	F	Aphids / Rhopalosiphum padi [RHOPPA], Sitobion avenae [MACASV]	downward spraying	BBCH 51- 77 (spring: May to beginning of July)	a) 2 (14) b) 2 (14)	14 days	a) 2.0 b) 4.0	a) 1300 b) 2600	200-400	NA		A

		[TRZSP], winter and spring barley [HORVW & HORVS], winter and spring rye [SECCW & SECCS], winter and spring tritcale [TTLWI & TTLSO])												
8 (covering also use 7)	PL, CZ, IE	Oilseed rape (winter) [BRSNW]	F	Flea beetle / <i>Phyllotreta</i> sp. [PHYESP]	downward spraying	At first infestation / BBCH 10-16 (summer-autumn: late August to end of October)	a) 2 (14) b) 2 (14)	14	a) 1.5 b) 3.0	a) 975 b) 1950	200-400	NA		A
10 (covering also use 9)	PL, CZ, IE	Oilseed rape (winter and spring) [BRSNW and BRSNS]	F	Cabbage seed - pod weevil / <i>Ceutorhynchus obstrictus</i> [CEUTAS]	downward spraying	At first infestation / BBCH 50-65 (spring: April to July)	a) 2 (14) b) 2 (14)	14	a) 1.5 b) 3.0	a) 975 b) 1950	200-400	NA	The treatment against pollen beetle also fights the cabbage seed/pod weevil <i>Ceutorhynchus obstrictus</i> (CEUTAS)	A
11	PL, CZ, IE	Potato [SOLTU]	F	Colorado beetle / <i>Leptinotarsa decemlineata</i> [LPTNDE]	downward spraying	At first infestation / BBCH 35-85 (spring-summer: May to August)	a) 2 (14) b) 2 (14)	14	a) 1.5 b) 3.0	a) 975 b) 1950	200-400	NA		A
13 (covering use 12)	PL, CZ, IE	Maize [ZEAMX]	F	Corn borer / <i>Ostrinia nubilalis</i> [PYRUNU]	downward spraying	At first infestation / BBCH 51-71 (summer: June to July)	a) 2 (14) b) 2 (14)	14	a) 3.0 b) 6.0	a) 1950 b) 3900	200-600	NA		A

* Use number(s) in accordance with the list of all intended GAPs in Part B, Section 0 should be given in column 1

** F: professional field use, Fn: non-professional field use, Fpn: professional and non-professional field use, G: professional greenhouse use, Gn: non-professional greenhouse use, Gpn: professional

and non-professional greenhouse use, I: indoor application

Explanation for column 15 “Conclusion”

A	Safe use
R	Further refinement and/or risk mitigation measures required
C	To be confirmed by cMS
N	No safe use

Table 8.1-2: Assessed (critical) uses during approval of pelargonic acid concerning the Section Environmental Fate

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Use- No. *	Member state(s)	Crop and/or situation (crop destination / purpose of crop)	F, Fn, G, Gn, Gpn or I **	Pests or Group of pests controlled (additionally: develop- mental stages of the pest or pest group)	Application				Application rate			PHI (days)	Remarks: e.g. g safener/ synergist per ha
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product/ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min/max		
1	EU	Paths and open areas with tree growth	F	Annual and perennial mono-cotyledonous and dicotyledonous weeds	Backpack sprayer	During the vegetation period: spring to autumn (independent from growth stage)	8	21	-	31	1000	-	Spraying with spray shield. Product name: NEU1170H (pelargonic acid 186.7 g/L EC)
2	EU	woody ornamen- tals	F	Annual and perennial mono-cotyledonous and dicotyledonous weeds	Backpack sprayer	During the vegetation period: spring to autumn (independent from growth stage)	4	21	-	31	1000	-	Spraying with spray shield. Product name: NEU1170H (pelargonic acid 186.7 g/L EC)
3	EU	Paths and open areas with tree growth	F	Mosses and algae	Backpack sprayer	During the vegetation period: spring to autumn (independent	4	21	-	31	1000	-	Spraying with spray shield. Product name: NEU1170H (pelargonic acid 186.7 g/L EC)

						from growth stage)							
4	EU	Decorative lawns, turf	F	Mosses	Watering can	During the vegetation period: spring to autumn (independent from growth stage)	1	-	-	31.7	10000	-	Product name: NEU1170H (pelargonic acid 186.7 g/L EC)
5	EU	Paths and open areas with tree growth, woody ornamentals, ornamentals Europe	F	Annual and perennial mono-cotyledonous and dicotyledonous weeds, mosses and algae	Backpack sprayer	During the vegetation period: spring to autumn (independent from growth stage)	4-8	21	-	31.02	1000	-	Spraying with spray shield. Product name: NEU1170H AF (pelargonic acid 31.02 g/L EC)

* Use number(s) in accordance with the list of all intended GAPs in Part B, Section 0 should be given in column 1

** F: professional field use, Fn: non-professional field use, Fpn: professional and non-professional field use, G: professional greenhouse use, Gn: non-professional greenhouse use, Gpn: professional and non-professional greenhouse use, I: indoor application

General comment zRMS

Sankari (product code: GLOB2011I) is an emulsion concentrate (EC) containing 650 g/L of the active substance pelargonic acid for use as an insecticide in cereals, oilseed rape, potatoes and maize.

Pelargonic acid; CAS No 112-05-0 is recognised as approved for use in plant protection products under Regulation (EC) No 1107/2009 in Annex of Commission Implementing Regulation (EU) No 540/2011 of 25 May 2011 with the expiration of approval on 15 December 2024.

The this assessment used end points evaluated on EU level in accordance with EFSA document "Conclusion on the peer review of the pesticide risk assessment of the active substance Fatty acids C7 to C181 (approved under Regulation (EC) No 1107/2009 as Fatty acids C7 to C20)"; EFSA Journal 2013;11(1):3023 as the worst case. However, EFSA published in 2021 new conclusions in Peer review of the pesticide risk assessment of the active substance pelargonic acid (nonanoic acid) where the new end points appropriate for use in regulatory risk assessment are presented. Due to the fact that pelargonic acid has not yet been formally renewed in accordance with Commission Implementing Regulation (EU) 2023/1446, new data from the 2021 Peer review may or may not be used in the assessment risk.

8.2 Metabolites considered in the assessment

Table 8.2-1: Metabolites of pelargonic acid potentially relevant for exposure assessment

Metabolite	Molar mass	Chemical structure	Maximum observed occurrence in compartments	Exposure assessment required due to
-	-	-	-	-

There is no metabolite relevant for any compartment as reported in the EFSA conclusions 2013.

zRMS comment 8.2:	zRMS agreed with the applicant that relevant metabolites of pelargonic acid were not identified as reported in the EFSA conclusions 2013 (EFSA Journal 2013; 11(1):3023).
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8.3 Rate of degradation in soil (KCP 9.1.1)

Studies on degradation in soil with the formulation were not performed, since it is possible to extrapolate from data obtained with the active substance.

Evaluation by zRMS	Rate of degradation in soil (KCP 9.1.1)
Comments	No new data. Information in Section 8.3 is available in dossier of active substance pelargonic acid and can be extrapolated to formulation. Therefore no studies have been conducted. EU agreed data were correctly reported.

8.3.1 Aerobic degradation in soil (KCP 9.1.1.1)

Table 8.3-1: Summary of aerobic degradation rates for pelargonic acid - laboratory studies

Pelargonic acid, Laboratory studies, aerobic conditions										
Soil name	Soil type	pH ^{a)}	T (°C)	MWHC %	DT50 (d)	DT90 (d)	DT50 (d) 20°C pF2/10kPa ^{b)}	Chi2 (%)	Kinetic model	Evaluated on EU level y/n/ Reference
Sandfeld	Loamy sand	5.2	20°C	22	3	9-10	-	0.98	Linear regression	Y / EFSA 2013
Eisengrund	Sandy loam	7.4	20°C	28	3	8-9	-	0.98	Linear regression	
Geometric mean (n=2)							3			
pH-dependency: y/n							No			

a) pH measured in KCl

b) Normalised using a Q10 of 2.2 and Walker equation coefficient of 0.7

8.3.2 Anaerobic degradation in soil (KCP 9.1.1.1)

Not required since anaerobic conditions are not expected to occur for the envisaged uses.

8.4 Field studies (KCP 9.1.1.2)

Field dissipation studies are not triggered (lab DT50<60 days, DT90<90 days, at 20°C).

8.4.1 Soil dissipation testing on a range of representative soils (KCP 9.1.1.2.1)

No data, not required.

8.4.2 Soil accumulation testing (KCP 9.1.1.2.2)

No data, not required.

8.5 Mobility in soil (KCP 9.1.2)

Studies on mobility in soil with the formulation were not performed, since it is possible to extrapolate from data obtained with the active substance.

Evaluation by zRMS	Mobility in soil (KCP 9.1.2)
Comments	No new data. Information in Section 8.5 is available in dossier of active substance pelargonic acid and can be extrapolated to formulation. Therefore no studies have been conducted. EU agreed data were correctly reported.

Table 8.5-1: Summary of soil adsorption/desorption for pelargonic acid

Pelargonic acid							
Soil name	Soil type	OC (%)	pH (-)	Kf (mL/g)	Kfoc (mL/g)	1/n (-)	Evaluated on EU level y/n/ Reference
Parent ‡: No laboratory studies submitted. A Koc calculation was provided, based on the US EPA EPIWin suite. The estimated Koc value for the acids was determined at 47.3 cm ³ /g (Tiemann, 2003 – Report No.: 105155-A2-070401-01) Methyl esters Koc 137 L/kg Salts; no data available, expected to be very highly mobile.							Y / EFSA 2013

8.5.1 Column leaching (KCP 9.1.2.1)

No data, not required.

8.5.2 Lysimeter studies (KCP 9.1.2.2)

No data, not required.

8.5.3 Field leaching studies (KCP 9.1.2.3)

No data, not required.

8.6 Degradation in the water/sediment systems (KCP 9.2, KCP 9.2.1, KCP 9.2.2, KCP 9.2.3)

Studies on degradation in water/sediment systems with the formulation were not performed, since it is possible to extrapolate from data obtained with the active substance.

Evaluation by zRMS	Degradation in the water/sediment systems (KCP 9.2)
Comments	No new data. Information in Section 8.6 is available in dossier of active substance pelargonic acid and can be extrapolated to the formulation. Therefore no studies have been conducted.

Table 8.6-1: Summary of degradation in water/sediment of pelargonic acid

Pelargonic acid - Distribution (max. water/sediment x % after x days)										
Water/sediment system	pH water/sed. ^{a)}	DegT50 whole syst. (d)	DegT90 whole syst. (d)	Kinetic, Fit	DissT50 water (d)	DissT90 water (d)	Kinetic, Fit	DissT50 sed. (d)	Kinetic, Fit	Evaluated on EU level y/n/ Reference
DT50 water/sediment = 3 days In DAR 2008, it is written: “No specific experimental data were submitted by the Notifier’s to address the rate and pathway of degradation of fatty acids in natural water/sediment systems. It is expected that degradation of fatty acids in aquatic systems will be similar to the degradation of fatty acids in soil. The determination of fatty acids and their salts as readily biodegradable indicates that fatty acids will not persist in aquatic environments.”										Y / EFSA 2013

a) Measured in KCL

b) Normalised using a Q10 of 2.58

8.7 Predicted Environmental Concentrations in soil (PEC_{soil}) (KCP 9.1.3)

8.7.1 Justification for new endpoints

Not applicable, no new endpoint is proposed.

8.7.2 Active substance(s) and relevant metabolite(s)

Table 8.7-1: Input parameters related to application for PEC_{soil} calculations

Use No.	Uses 1-2-3-4-5-6*	Uses 7-8-9-10	Use 11	Uses 12-13
Crop	Cereals	Oilseed rape	Potato	Maize
Application rate (g as/ha)	1300	975	975	1950
Number of applications/interval	2 / 14 days	2 / 14 days	2 / 14 days	2 / 14 days
Crop interception (%)	Winter cereals: 0 (BBCH 10-29), 20 (BBCH 21-49) Spring cereals: 80 (BBCH 51-77)	40 (BBCH10-16), 80 (BBCH50-65)	60 (BBCH35), 85 (BBCH85)	75 (BBCH51-71)
Depth of soil layer (relevant for plateau concentration) (cm)	5 (5/20 for plateau)	5 (5/20 for plateau)	5 (5/20 for plateau)	5 (5/20 for plateau)

* Use 4 for winter cereals at BBCH 10-29 is used as the worst-case representative use in a risk envelope approach since it corresponds to the maximum exposure considering combination of the dose rate and interception.

Table 8.7-2: Input parameter for pelargonic acid for PEC_{soil} calculation

Compound	Molecular weight (g/mol)	Max. occurrence (%)	DT50 (days)	Value in accordance to EU end-point y/n/ Reference
Pelargonic acid	158.24	100	3.0 (SFO, laboratory)	Y/EFSA 2013

Table 8.7-3: PEC_{soil} for pelargonic acid on winter cereals (use 4) (with no interception)

PEC_{soil} (mg/kg)		Cereals			
		Single application		Multiple applications	
		Actual	TWA	Actual	TWA
Initial		1.733	-	1.802	-
Short term	24h	1.376	1.548	1.430	1.609
	2d	1.092	1.388	1.135	1.443
	4d	0.688	1.131	0.715	1.176
Long term	7d	0.344	0.859	0.357	0.893
	14d	0.068	0.515	0.071	0.535
	21d	0.014	0.354	0.014	0.368
	28d	0.003	0.268	0.003	0.278
	50d	0.000	0.156	0.000	0.162
	100d	0.000	0.075	0.000	0.078
Plateau concentration (5/20 cm) after year 1		0.000	-	0.000	-
$PEC_{accumulation}$ ($PEC_{act} + PEC_{soil, plateau}$)		1.733	-	1.802	-

8.7.2.1 PEC_{soil} of GLOB2011I

The PEC_{soil} of the formulation is calculated based on the maximum exposure derived from use 4 (winter cereals at BBCH 10-29) i.e. following application of 2 L GLOB2011I/ha considering no interception and the relative density of 0.9109 g/mL. A DT50 of 3 days was assumed as for the active substance for the PEC_{twa21d} , $PEC_{soil, plateau}$ and PEC_{accu} calculations.

Table 8.7-44: PEC_{soil} for GLOB2011I on cereals (use 34) (with no interception)

Active substance/ reparation	Application rate (g/ha)	PEC_{act} (mg/kg)	PEC_{twa21d} (mg/kg)	Tillage depth (cm)	$PEC_{soil, plateau}$ (mg/kg)	$PEC_{accu} =$ $PEC_{act} +$ $PEC_{soil, plateau}$ (mg/kg)
GLOB2011I	1821.8	2.525 2.429	0.516	5	0.000	2.525 2.429

Evaluation by zRMS	PECsoil (KCP 9.1.3)
Modelling	<p>The assumptions and results of calculations are acceptable.</p> <p>The predicted environmental concentrations in soil (PECsoil) of pelargonic acid were calculated according to recommendations of the FOCUS workgroup on degradation kinetics using the following application rate:</p> <ul style="list-style-type: none"> - 2x 2l product Sankari (GLOB2011I)/ha (2x1300 g/ha pelargonic acid) on winter cereals, with no interception was considered (use 4). <p>zRMS agrees that use 4 for winter cereals at BBCH 10-29 is the worst-case and covers other crops listed in the GAP table because it corresponds to the maximum exposure considering combination of the dose rate and interception.</p> <p>It was assumed that the active active substance was distributed in the top 5 cm soil layer with a soil bulk density of 1.5 g/mL.</p> <p>The calculated PECs values are presented in Table 8.7-3.</p> <p>The applicant also calculated the PECsoil for the formulation Sankari (GLOB2011I) but zRMS corrected the calculation. The results are shown in the Table 8.7-4.</p> <p>The calculated PECsoil values for Sankari (GLOB2011I), pelargonic acid are appropriate to be used for the subsequent risk assessment for soil organisms.</p>
Agreed Endpoints:	<p>Pelargonic acid:</p> <p><u>Single application</u> Initial PEC_{soil}: 1.733mg/kg</p> <p><u>Multiple application</u> Initial PECsoil: 1.802 mg/kg</p> <p>Formulation: Sankari (GLOB2011I)</p> <p>PECact = 2.429 mg/kg</p>

8.8 Predicted Environmental Concentrations in groundwater (PEC_{gw}) (KCP 9.2.4)

8.8.1 Justification for new endpoints

Not applicable, no new endpoint is proposed.

Table 8.8-1: Input parameters related to application for PEC_{gw} calculations

Use No.	Uses 4-5-6 (covering uses 1-2-3)	Uses 8-10 (covering uses 7-9)	Use 11	Use 13 (covering use 11)
Crop	Cereals	Oilseed rape	Potato	Maize
Application rate (g as/ha)	1300	975	975	1300
Number of applications/interval (d)	2/14	2/14	2/14	2/14

Relative application date	X days after FOCUS emergence*	X days after FOCUS emergence*	X days after FOCUS emergence*	X days after FOCUS emergence*
Crop interception (%)	Winter cereals: 0 (BBCH 10-20), 20 (BBCH 21-49) Winter and spring cereals: 80 (BBCH 51-77)	40 (BBCH10-16), 80 (BBCH50-65)	60 (BBCH35), 85 (BBCH85)	75 (BBCH51-71)
Frequency of application	annual	annual	annual	annual
Models used for calculation	FOCUS PELMO 6.6.4, FOCUS PEARL 5.5.5	FOCUS PELMO 6.6.4, FOCUS PEARL 5.5.5	FOCUS PELMO 6.6.4, FOCUS PEARL 5.5.5	FOCUS PELMO 6.6.4, FOCUS PEARL 5.5.5

* Dates of applications have been selected on the basis of the BBCH stages using AppDate model version 3.06. 2 runs (early & late) or 3 runs (early, middle and late for winter OSR and maize which have a wider application windows) are being performed. 1st run is done with a 1st application at the lower BBCH stage. 2nd run is done with a 2nd application at the highest BBCH stage. For winter cereals, the 2nd run is done with a 1st application at BBCH 20. For winter OSR and Maize, an intermediate run is done.

All application dates relative to emergence are summarized in the Table 8.8-2:

Table 8.8-2: Application dates used for groundwater risk assessment

Crop	Scenario	Application dates relative to emergence (days)					
		Start of the application window		Middle of the application window		End of the application window	
		Appl. 1	Appl. 2	Appl. 1	Appl. 2	Appl. 1	Appl. 2
Winter cereals (BBCH 10-20)	Châteaudun	1	15	-	-	15	29
	Hamburg	1	15	-	-	15	29
	Jokioinen	1	15	-	-	15	29
	Kremsmünster	1	15	-	-	15	29
	Okehampton	1	15	-	-	15	29
Winter cereals (BBCH 21-49)	Châteaudun	162	176	-	-	186	200
	Hamburg	175	189	-	-	188	202
	Jokioinen	227	241	-	-	249	263
	Kremsmünster	161	175	-	-	183	197
	Okehampton	177	191	-	-	187	201
Winter cereals (BBCH 51-77)	Châteaudun	203	217	-	-	229	243
	Hamburg	204	218	-	-	238	252
	Jokioinen	265	279	-	-	293	307
	Kremsmünster	199	213	-	-	235	249
	Okehampton	203	217	-	-	240	254
Spring cereals	Châteaudun	76	90	-	-	101	115
	Hamburg	53	67	-	-	94	108

Crop	Scenario	Application dates relative to emergence (days)					
		Start of the application window		Middle of the application window		End of the application window	
		Appl. 1	Appl. 2	Appl. 1	Appl. 2	Appl. 1	Appl. 2
(BBCH 51-77)	Jokioinen	36	50	-	-	61	75
	Kremsmünster	53	67	-	-	94	108
	Okehampton	42	56	-	-	88	102
Winter OSR (BBCH 10-16)	Châteaudun	1	15	-	-	-	-
	Hamburg	1	15	-	-	-	-
	Jokioinen	-	-	-	-	-	-
	Kremsmünster	1	15	-	-	-	-
	Okehampton	1	15	-	-	-	-
Winter OSR (BBCH 50-65)	Châteaudun	205	219	-	-	225	239
	Hamburg	237	251	-	-	245	259
	Jokioinen	-	-	-	-	-	-
	Kremsmünster	235	249	-	-	245	259
	Okehampton	249	263	-	-	259	273
Summer OSR (BBCH 50-65)	Châteaudun	-	-	-	-	-	-
	Hamburg	-	-	-	-	-	-
	Jokioinen	35	49	-	-	41	55
	Kremsmünster	-	-	-	-	-	-
	Okehampton	35	49	-	-	48	62
Potatoes (BBCH 35-85)	Châteaudun	29	43	63	77	97	111
	Hamburg	45	59	75	89	105	119
	Jokioinen	54	68	74	88	94	108
	Kremsmünster	45	59	75	89	105	119
	Okehampton	48	62	75	89	102	116
Maize (BBCH 51-71)	Châteaudun	75	89	92	106	109	123
	Hamburg	61	75	76	90	91	105
	Jokioinen	-	-	-	-	-	-
	Kremsmünster	61	75	76	90	91	105
	Okehampton	36	50	52	66	68	82

Table 8.8-3: Input parameters related to active substance pelargonic acid for PEC_{gw} calculations

Compound	Pelargonic acid	Value in accordance with EU endpoint y/n/ Reference*	Comment / Justification for deviation from EU agreed value
Molecular weight (g/mol)	158.24	Y / EFSA 2013	
Water solubility (mg/L) / temperature 1 (20°C)	207.8	Y / EFSA 2013	
Water solubility (mg/L) / temperature 2 (30°C) ^a	415.6 (calculated, 2 times the value at 20°C as recommended in PELMO GD)	Y / EFSA 2013	Value at 30° not available in EFSA Conclusions 2013. Values were thus calculated using EFSA agreed endpoints at 20°C according to the PELMO guidance document.
Saturated vapour pressure (Pa) / temperature 1 (20°C)	0.9	Y / EFSA 2013	
Saturated vapour pressure (Pa) / temperature 2 (30°C) ^a	3.6 (calculated, 4 times the value at 20°C as recommended in PELMO GD)	Y / EFSA 2013	Value at 30° not available in EFSA Conclusions 2013. Values were thus calculated using EFSA agreed endpoints at 20°C according to the PELMO guidance document.
DT ₅₀ in soil (d)	3.0 (geomean, lab., 20°C pF2)	Y / EFSA 2013	
Transformation rate (Rate constant)	0.2310491	Y / EFSA 2013	Value extracted from FOCUS PELMO 6.6.4 when using the normalized DT50 in soil mentioned just above.
K _{foc} (mL/g)/K _{fom}	47.3/27.4	Y / EFSA 2013	
1/n	0.9	Y / EFSA 2013	
Plant uptake factor	0	Y / EFSA 2013	
Formation fraction / precursor	Not applicable	Y / EFSA 2013	

^a Relevant for applied compound in PELMO

Table 8.8-4: PEC_{gw} for pelargonic acid on cereals, oilseed rape, potato and maize (with FOCUS PELMO 6.6.4)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		Pelargonic acid		
Modelling window		Start	Middle	End
Winter cereals (BBCH 10-209)	Châteaudun	0.000	-	0.000
	Hamburg	0.001	-	0.000
	Jokioinen	0.000	-	0.000
	Kremsmünster	0.000	-	0.000
	Okehampton	0.000	-	0.000

Winter cereals (BBCH 21-49)	Châteaudun	0.000	-	0.000
	Hamburg	0.000	-	0.000
	Jokioinen	0.000	-	0.000
	Kremsmünster	0.000	-	0.000
	Okehampton	0.000	-	0.000
Winter cereals (BBCH 51-77)	Châteaudun	0.000	-	0.000
	Hamburg	0.000	-	0.000
	Jokioinen	0.000	-	0.000
	Kremsmünster	0.000	-	0.000
	Okehampton	0.000	-	0.000
Spring cereals (BBCH 51-77)	Châteaudun	0.000	-	0.000
	Hamburg	0.000	-	0.000
	Jokioinen	0.000	-	0.000
	Kremsmünster	0.000	-	0.000
	Okehampton	0.000	-	0.000
Winter OSR (BBCH 10-16)	Châteaudun	0.000	-	0.000
	Hamburg	0.000	-	0.000
	Jokioinen	0.000	-	0.000
	Kremsmünster	0.000	-	0.000
	Okehampton	0.000	-	0.000
Winter OSR (BBCH 50-65)	Châteaudun	0.000	-	0.000
	Hamburg	0.000	-	0.000
	Jokioinen	0.000	-	0.000
	Kremsmünster	0.000	-	0.000
	Okehampton	0.000	-	0.000
Summer OSR (BBCH 50-65)	Châteaudun	0.000	-	0.000
	Hamburg	0.000	-	0.000
	Jokioinen	0.000	-	0.000
	Kremsmünster	0.000	-	0.000
	Okehampton	0.000	-	0.000
Potatoes (BBCH 35-85)	Châteaudun	0.000	-	0.000
	Hamburg	0.000	-	0.000
	Jokioinen	0.000	-	0.000
	Kremsmünster	0.000	-	0.000
	Okehampton	0.000	-	0.000
Maize (BBCH 51-71)	Châteaudun	0.000	-	0.000
	Hamburg	0.000	-	0.000
	Jokioinen	0.000	-	0.000
	Kremsmünster	0.000	-	0.000

	Okehampton	0.000	-	0.000
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Table 8.8-5: PEC_{gw} for pelargonic acid on cereals, oilseed rape, potato and maize (with FOCUS PEARL 5.5.5)

Crop	Scenario	80 th Percentile PEC _{gw} at 1 m Soil Depth (µg/L)		
		Pelargonic acid		
Modelling window		Start	Middle	End
Winter cereals (BBCH 10-29)	Châteaudun	< 0.001	-	< 0.001
	Hamburg	< 0.001	-	< 0.001
	Jokioinen	< 0.001	-	< 0.001
	Kremsmünster	< 0.001	-	< 0.001
	Okehampton	< 0.001	-	< 0.001
Winter cereals (BBCH 21-49)	Châteaudun	< 0.001	-	< 0.001
	Hamburg	< 0.001	-	< 0.001
	Jokioinen	< 0.001	-	< 0.001
	Kremsmünster	< 0.001	-	< 0.001
	Okehampton	< 0.001	-	< 0.001
Winter cereals (BBCH 51-77)	Châteaudun	< 0.001	-	< 0.001
	Hamburg	< 0.001	-	< 0.001
	Jokioinen	< 0.001	-	< 0.001
	Kremsmünster	< 0.001	-	< 0.001
	Okehampton	< 0.001	-	< 0.001
Spring cereals (BBCH 51-77)	Châteaudun	< 0.001	-	< 0.001
	Hamburg	< 0.001	-	< 0.001
	Jokioinen	< 0.001	-	< 0.001
	Kremsmünster	< 0.001	-	< 0.001
	Okehampton	< 0.001	-	< 0.001
Winter OSR (BBCH 10-16)	Châteaudun	< 0.001	-	< 0.001
	Hamburg	< 0.001	-	< 0.001
	Jokioinen	-	-	-
	Kremsmünster	< 0.001	-	< 0.001
	Okehampton	< 0.001	-	< 0.001
Winter OSR (BBCH 50-59)	Châteaudun	< 0.001	-	< 0.001
	Hamburg	< 0.001	-	< 0.001
	Jokioinen	-	-	-
	Kremsmünster	< 0.001	-	< 0.001
	Okehampton	< 0.001	-	< 0.001

Summer OSR (BBCH 50-59)	Châteaudun	-	-	-
	Hamburg	-	-	-
	Jokioinen	< 0.001	-	< 0.001
	Kremsmünster	-	-	-
	Okehampton	< 0.001	-	< 0.001
Potatoes (BBCH 35-85)	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	< 0.001	< 0.001	< 0.001
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001
Maize (BBCH 51-71)	Châteaudun	< 0.001	< 0.001	< 0.001
	Hamburg	< 0.001	< 0.001	< 0.001
	Jokioinen	-	-	-
	Kremsmünster	< 0.001	< 0.001	< 0.001
	Okehampton	< 0.001	< 0.001	< 0.001

PEC_{gw} are all below the trigger limit of 0.1 µg/L using both FOCUS PELMO 6.6.4 and PEARL 5.5.5.

Evaluation by zRMS	PEC _{gw} (KCP 9.2.4)
Modelling	<p>For the active substance pelargonic acid the calculations presented here are accepted.</p> <p>The applicant has used appropriate models for ground water FOCUS-PEARL 5.5.5, FOCUS-PELMO 6.6.4. PEC_{GW} values were calculated for all intended uses provided in GAP Table: cereals, oilseed rape, potato and maize.</p> <p>Input parameters used in FOCUS ground water modelling for active substance are correct.</p>
PEC _{gw}	<p>Results of modelling with FOCUS PELMO 6.6.4 and PEARL 5.5.5 show that the active substance pelargonic acid is not expected to penetrate into groundwater at concentrations of $\geq 0.1 \mu\text{g/L}$ in any of the intended uses for all scenarios.</p> <p>Therefore, it can be concluded that no unacceptable risk of leaching from pelargonic acid is expected for the proposed uses on cereals, oilseed rape, potato and maize.</p>

8.9 Predicted Environmental Concentrations in surface water (PEC_{sw}) (KCP 9.2.5)

8.9.1 Justification for new endpoints

Not applicable. No new endpoint used.

8.9.2 Active substance(s), relevant metabolite(s) and the formulation (KCP 9.2.5)

Table 8.9-1: Input parameters related to application for PEC_{sw/sed} calculations

Plant protection product	GLOB2011I			
Use No.	Uses 4-5-6 (covering uses 1-2-3)	Uses 8-10 (covering uses 7-9)	Use 11	Use 13 (covering use 12)
Crop	Cereals	Oilseed rape	Potato	Maize
Application rate (kg as/ha)	1300	975	975	1950
Number of applications/interval (d)	2 / 14	2 / 14	2 / 14	2 / 14
Application period (Step 2)	Mar-May, June-September (spring cereals) Oct-Feb (winter cereals)	Oct-Feb (autumn) Mar-May (spring) June-Sep (summer)	Mar-May (spring) June-Sep (summer)	June-Sep (summer)
Crop interception (Step 2)	average crop cover (spring cereals) no interception (autumn)	Minimal crop interception (winter and summer OSR)	Average crop cover	full canopy
Application window (Step 3)	According to BBCH stages (start and end of the windows)	-	-	-
Application method (Step 3)	Ground spray	-	-	-
CAM (Chemical application method) (Step 3)	CAM 2	-	-	-
Soil depth (cm) (Step 3)	4	-	-	-
Models used for calculation	FOCUS STEPS 1-2 v3.2, FOCUS SWASH v3.1, FOCUS PRZM v4.3.1,	-	-	-

Table 8.9-2: FOCUS Step 3 Scenario related input parameters for PEC_{sw/sed} calculations for the application of GLOB2011I

Crop	Scenario	Application window used in modelling (multiple application)	Application window used in modelling (single application)
Winter cereals (BBCH 10-29), beginning of	D3 Ditch	22/11 to 05/01 (Julian days 326-5)	22/11 to 22/12 (Julian days 326-356)
	D4 Pond/Stream	23/09 to 6/11 (Julian days 266-310)	23/09 to 23/10 (Julian days 266-296)
	D5 Pond/Stream	11/11 to 25/12 (Julian days 315-359)	11/11 to 11/12 (Julian days 315-345)

Crop	Scenario	Application window used in modelling (multiple application)	Application window used in modelling (single application)
window	R1 Pond/Stream	13/11 to 27/12 (Julian days 317-361)	13/11 to 13/12 (Julian days 317-347)
	R3 Stream	2/12 to 15/01 (Julian days 336-15)	2/12 to 1/01 (Julian days 336-1)
	R4 Stream	11/11 to 25/12 (Julian days 315-359)	11/11 to 11/12 (Julian days 315-345)
Winter cereals (BBCH 10-29), end of window	D3 Ditch	6/12 to 19/01 (Julian days 340-19)	6/12 to 5/01 (Julian days 340-5)
	D4 Pond/Stream	7/10 to 20/11 (Julian days 280-324)	7/10 to 6/11 (Julian days 280-310)
	D5 Pond/Stream	25/11 to 08/01 (Julian days 329-8)	25/11 to 25/12 (Julian days 329-359)
	R1 Pond/Stream	27/11 to 10/01 (Julian days 331-10)	27/11 to 27/12 (Julian days 331-361)
	R3 Stream	16/12 to 29/01 (Julian days 350-29)	16/12 to 15/01 (Julian days 350-15)
	R4 Stream	18/12 to 31/01 (Julian days 352-31)	18/12 to 17/01 (Julian days 352-17)

Table 8.9-3: Input parameters related to active substance pelargonic acid for PEC_{sw/sed} calculations STEP 1/2 and 3/4

Compound	Pelargonic acid	Value in accordance to EU endpoint y/n/ Reference
Molecular weight (g/mol)	158.24	Y / EFSA 2013
Saturated vapour pressure (Pa)	not required for Step 1+2 / 0.9 (20°C)	Y / EFSA 2013
Water solubility (mg/L)	207.8	Y / EFSA 2013
Diffusion coefficient in water (m ² /d)	not required for Step 1+2; 4.3 x 10 ⁻⁵	Y / default value
Diffusion coefficient in air (m ² /d)	not required for Step 1+2; 0.43	Y / default value
K _{foc} (mL/g)	47.3	Y / EFSA 2013
Freundlich Exponent 1/n	not required for Step 1+2; 0.9	Y / default value, EFSA 2013
Plant Uptake	not required for Step 1+2; 0	Y / default worst case value
Wash-Off factor from Crop (1/mm)	not required for Step 1+2; 0.05 (MACRO) 0.5 (PRZM)	Y / default value
DT _{50,soil} (d)	3.0 (geomean, lab., 20°C pF2)	Y / EFSA 2013
DT _{50,water} (d)	3.0 (step 2-3-4)	Y / EFSA 2013
DT _{50,sed} (d)	3.0 (step 2) 1000 (step 3-4)	Y / EFSA 2013
DT _{50,whole system} (d)	3.0 (step 2)	Y / EFSA 2013

Compound	Pelargonic acid	Value in accordance to EU endpoint y/n/ Reference
Maximum occurrence observed (% molar basis with respect to the parent)	-	-
Formation fraction in soil:	-	

PEC_{sw/sed}

Table 8.9-4: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for pelargonic acid following single/multiple application(s) of GLOB2011I to winter cereals (BBCH 10-29).

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)*	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)**	Max PEC _{sed} (µg/kg)*
Winter cereals (BBCH 10-29)					
Step 1	---	419.58	-	85.75	192.81
Step 2					
Northern Europe	Oct-Feb	88.25 (85.44)		18.11 (17.53)	41.08 (39.69)
	March-May	37.81 (36.91)	-	7.75 (7.56)	17.22 (16.74)
Step 3 (Multiple application, start of the window)					
D3	ditch	7.177	Drift	0.4949	1.089
D4	pond	2.539	Drainage	1.917	1.934
D4	stream	6.163	Drift	2.09	2.268
D5	pond	3.368	Drainage	2.809	3.679
D5	stream	23.26	Drainage	5.065	5.221
R1	pond	0.5639	Drift	0.3162	0.3674
R1	stream	30.04	Run-off	0.6871	3.52
R3	stream	64.36	Run-off	3.276	8.809
R4	stream	11.43	Run-off	0.4129	1.617
Step 3 (Multiple application, end of the window)					
D3	ditch	7.182	Drift	0.5156	1.126
D4	pond	12.22	Drainage	9.191	8.428
D4	stream	24.93	Drainage	9.939	9.918
D5	pond	3.368	Drainage	2.809	3.61
D5	stream	23.26	Drainage	5.065	5.141
R1	pond	0.6396	Run-off	0.3637	0.4568
R1	stream	11.56	Run-off	0.3715	1.462
R3	stream	56.17	Run-off	1.506	6.968
R4	stream	4.648	Drift	0.03166	0.3002
Step 3 (Single application, start of the window)					

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)*	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)**	Max PEC _{sed} (µg/kg)*
D3	ditch	8.213	Drift	0.2825	1.057
D4	pond	0.2845	Drift	0.1045	0.1513
D4	stream	7.126	Drift	0.1172	0.6226
D5	pond	0.3644	Drainage	0.293	0.5325
D5	stream	7.688	Drift	0.5162	0.7895
R1	pond	0.4425	Run-off	0.2488	0.2872
R1	stream	30.04	Run-off	0.6543	3.525
R3	stream	64.36	Run-off	1.807	7.973
R4	stream	11.44	Run-off	0.3865	1.622
Step 3 (Single application, end of the window)					
D3	ditch	8.212	Drift	0.2849	1.065
D4	pond	2.392	Drainage	1.803	1.812
D4	stream	6.761	Drift	1.963	2.128
D5	pond	0.3644	Drainage	0.293	0.5325
D5	stream	7.688	Drift	0.5162	0.7895
R1	pond	0.2843	Drift	0.1403	0.1428
R1	stream	6.836	Run-off	0.07467	0.3747
R3	stream	56.17	Run-off	1.518	6.981
R4	stream	5.373	Drift	0.0363	0.324

* single applications should be marked.

** two-time as required by ecotox

Table 8.9-5: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for pelargonic acid following single/multiple application(s) of GLOB2011I to winter cereals (BBCH 21-49).

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)*	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)**	Max PEC _{sed} (µg/kg)*
Winter cereals (BBCH 21-49)					
Step 1	---	419.58	-	85.75	192.81
Step 2					
Northern Europe	March-May	37.81 (36.91)	-	7.75 (7.56)	17.22 (16.74)
Step 3	Not necessary, step 2 PEC _{sw} below the RAC (50µg/L).				

* single applications should be marked.

** two-time as required by ecotox

Table 8.9-6: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for pelargonic acid following single/multiple application(s) of GLOB2011I to winter cereals (BBCH 51-77).

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)*	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)**	Max PEC _{sed} (µg/kg)*
Winter cereals (BBCH 51-77)					
Step 1	---	419.58	-	85.75	192.81
Step 2					
Northern Europe	March-May	31.08 (30.44)	-	6.37 (6.24)	14.04 (13.68)
	June-sept	31.08 (30.44)	-	6.37 (6.24)	14.04 (13.68)
Step 3	Not necessary, step 2 PEC _{sw} below the RAC (50µg/L).				

* single applications should be marked.

** twa-time as required by ecotox

Table 8.9-7: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for pelargonic acid following single/multiple application(s) of GLOB2011I to spring cereals (BBCH 51-77).

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)*	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)**	Max PEC _{sed} (µg/kg)*
Spring cereals (BBCH 51-77)					
Step 1	---	419.58	-	85.75	192.81
Step 2					
Northern Europe	March-May	31.08 (30.44)	-	6.37 (6.24)	14.04 (13.68)
	June-sept	31.08 (30.44)	-	6.37 (6.24)	14.04 (13.68)
Step 3	Not necessary, step 2 PEC _{sw} below the RAC (50µg/L).				

* single applications should be marked.

** twa-time as required by ecotox

Table 8.9-8: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for pelargonic acid following single/multiple application(s) of GLOB2011I to winter oilseed rape (BBCH 10-16).

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)*	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)**	Max PEC _{sed} (µg/kg)*
Winter oilseed rape (BBCH 10-16)					
Step 1	---	314.69	-	64.31	144.61
Step 2					
Northern Europe	Oct-Feb	40.97 (39.81)	-	8.40 (8.17)	18.88 (18.29)
	June-sept	18.27 (17.97)	-	3.74 (3.68)	8.15 (7.96)
Step 3	Not necessary, step 2 PEC _{sw} below the RAC (50µg/L).				

* single applications should be marked.

** twa-time as required by ecotox

Table 8.9-9: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for pelargonic acid following single/multiple application(s) of GLOB2011I to winter oilseed rape (BBCH 50-65).

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)*	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)**	Max PEC _{sed} (µg/kg)*
Winter oilseed rape (BBCH 50-65)					
Step 1	---	314.69	-	64.31	144.61
Step 2					
Northern Europe	March-May	18.27 (17.97)	-	3.74 (3.68)	8.15 (7.96)
	June-sept	18.27 (17.97)	-	3.74 (3.68)	8.15 (7.96)
Step 3	Not necessary, step 2 PEC _{sw} below the RAC (50µg/L).				

* numbers in brackets refer to respective single application

** twa-time as required by ecotox

Table 8.9-10: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for pelargonic acid following single/multiple application(s) of GLOB2011I to spring oilseed rape (BBCH 50-65).

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)*	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)**	Max PEC _{sed} (µg/kg)*
Spring oilseed rape (BBCH 50-65)					
Step 1	---	314.69	-	64.31	144.61
Step 2					
Northern Europe	March-May	18.27 (17.97)	-	3.74 (3.68)	8.15 (7.96)
	June-sept	18.27 (17.97)	-	3.74 (3.68)	8.15 (7.96)
Step 3	Not necessary, step 2 PEC _{sw} below the RAC (50µg/L).				

* numbers in brackets refer to respective single application

** twa-time as required by ecotox

Table 8.9-11: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for pelargonic acid following single/multiple application(s) of GLOB2011I to potato (BBCH 35-85).

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)*	Dominant entry route	21 d- PEC _{sw, twa} (µg/L)**	Max PEC _{sed} (µg/kg)*
Potato (BBCH 35-85)					
Step 1	---	314.69	-	64.31	144.61
Step 2					
Northern	March-May	15.75 (15.55)	-	3.22 (3.18)	6.95 (6.82)

Europe	June-sept	15.75 (15.55)	-	3.22 (3.18)	6.95 (6.82)
Step 3	Not necessary, step 2 PEC _{sw} below the RAC (50µg/L).				

* numbers in brackets refer to respective single application

** twa-time as required by ecotox

Table 8.9-12: FOCUS Step 1,2 and 3 PEC_{sw} and PEC_{sed} for pelargonic acid following single/multiple application(s) of GLOB2011I to maize (BBCH 51-71).

Scenario FOCUS	Waterbody	Max PEC _{sw} (µg/L)*	Dominant entry route	21 d- PEC _{sw,twa} (µg/L)**	Max PEC _{sed} (µg/kg)*
Maize (BBCH 51-71)					
Step 1	---	629.37	-	128.63	289.21
Step 2					
Northern Europe	March-May	18.88 (18.96)	-	3.86 (3.87)	7.94 (7.89)
	June-sept	18.88 (18.96)	-	3.86 (3.87)	7.94 (7.89)
Step 3	Not necessary, step 2 PEC _{sw} below the RAC (50µg/L).				

* single applications should be marked.

** twa-time as required by ecotox

FOCUS Step 4

Not required. PEC_{sw} is > to the RAC (50 µg/L) only for winter cereals when applied a BBCH 10-29 for the scenario R3. Nevertheless, scenario R3 is only relevant for Austria and Hungary through Central Europe. These countries are not listed as zRMS nor cMS as part of this submission.

8.9.2.1 PEC_{sw/sed} of GLOB2011I

The PEC_{sw} of the formulation GLOB2011I was also calculated for all crops, based on a relative density of 0.9109 g/mL for the product and one application at 1.5-3 L/ha. The calculator tool from the FOCUS SWASH model was used for this purpose. These PEC_{sw} were calculated for the ditch, pond and stream scenarios. On top, to allow for the 20% spray drift contribution from the upstream catchment in the case of streams, the drift values of the calculator have been multiplied with a factor 1.2 for the stream scenario. The results of these calculations are provided in the table below.

Table 8.9-13: Maximum PEC_{sw} for GLOB2011I

Cropping scenario	FOCUS scenario	1 m	
		% drift	Max. PEC _{sw} (µg/L)
Winter cereals	Ditch	1.9274	11.7044
	Pond	0.3282	0.5979
	Stream	1.9274	11.7044
		-	14.04528*
Spring cereals	Ditch	1.9274	11.7044
	Pond	0.3282	0.5979
	Stream	1.9274	11.7044
		-	14.04528*
Winter oilseed rape	Ditch	1.9274	8.7783
	Pond	0.3282	0.4484
	Stream	1.9274	8.7783
		-	10.53396*
Spring oilseed rape	Ditch	1.9274	8.7783
	Pond	0.3282	0.4484
	Stream	1.9274	8.7783
		-	10.53396*
Potato	Ditch	1.6838	8.7783
	Pond	0.2743	0.4484
	Stream	1.6838	8.7783
		-	10.53396*
Maize	Ditch	1.9274	17.5566
	Pond	0.3282	0.8969
	Stream	1.9274	17.5566
		-	21.06792*

*taking into account the 20% contribution from the upstream catchment

Evaluation by zRMS	PEC _{sw} (KCP 9.2.5)
Inputs for Modelling	<p>For the active substance pelargonic acid the calculations presented here are accepted.</p> <p>Predicted environmental concentrations in surface water (PEC_{sw}) and sediment (PEC_{sed}) have been calculated for pelargonic acid after the following application of the product Sankari (GLOB2011I): on sugar beet:</p> <ul style="list-style-type: none"> - 2x 2l product Sankari (GLOB2011I)/ha on cereals; - 2x 1.5l product Sankari (GLOB2011I)/ha on oilseed rape;

	<ul style="list-style-type: none"> - 2x 1.5l product Sankari (GLOB2011I)/ha on potatoes; - 2x 3l product Sankari (GLOB2011I)/ha on maize considering the pathways spray drift, drainage and runoff. <p>Input parameters used in FOCUS surface water/sediment modelling for active substance are correct.</p> <p>The PEC_{sw} and PEC_{sed} were calculated in compliance with relevant FOCUS scenarios in stepwise procedure (Steps 1, 2 and 3). The calculations were carried out at Step 1 to Step 3 for pelargonic acid in the use on winter cereals. For the remaining uses of the Sankari (GLOB2011I), the values of the PEC_{sw} and PEC_{sed} for pelargonic acid were calculated at Step 1 and 2.</p> <p>Sankari (GLOB2011I) Calculations of PEC_{sw} values for formulation has been provided by Applicant. The calculations are accepted.</p> <p>Presented calculations may be used for risk assessment.</p>
Agreed endpoints	Please refer to Tables from 8.9-4 to 8.9-13.
Implication for risk assessment	Please refer to Part B, Section 9 of this dRR.

8.10 Fate and behaviour in air (KCP 9.3, KCP 9.3.1)

Table 8.10-1 Summary of atmospheric degradation and behaviour

Compound	Pelargonic acid
Direct photolysis in air	Not required
Quantum yield of direct phototransformation	No data, no direct phototransformation is expected to occur.
Photochemical oxidative degradation in air	DT50 (h): 1.1 days derived by the Atkinson model OH (12h) concentration assumed = 1.5×10^6 radicals/cm ³
Volatilisation	Vapour pressure (Pa): 0.9 Pa at 20°C Henry's Law Constant (Pa.m ³ /mol): 0.33 at 20°C
Metabolites	None

The vapour pressure at 20 °C of the active substance pelargonic acid is $> 10^{-4}$ Pa. Hence the active substance pelargonic acid is regarded as volatile (volatilisation from soil and plant surfaces). Therefore, exposure of adjacent surface waters and terrestrial ecosystems by the active substance pelargonic acid due to volatilization with subsequent deposition should be considered. However, any exposure to the atmosphere of pelargonic acid is unlikely to be prolonged based on a rapid oxidative photodegradation. Overall, it can be considered that volatilisation to the atmosphere following normal agricultural use of the formulated product will be limited and that any potential for atmospheric exposure will be further limited by the rapid breakdown of pelargonic acid by microbial action in soil. It is considered that pelargonic acid will not to be deposited to the terrestrial or aquatic environment by atmospheric routes.

Evaluation by zRMS	Fate and behaviour in air (KCP 9.3)
Comments	The data on the atmospheric degradation and behaviour for the active substance follows the EU assessment and is therefore agreed by the zRMS.

Conclusion for exposure assessment	The vapour pressure at 20 °C of the active substance pelargonic acid is $> 10^{-4}$ Pa. Hence the active substance pelargonic acid is regarded as volatile. It is expected that there will be no significant atmospheric exposure to pelargonic acid from agricultural use (Fatty acids (C7-C20), DAR Vol3 B8, 2008). Therefore, the volatilisation to the atmosphere following normal agricultural use of the formulated product will be limited and that any potential for atmospheric exposure will be further limited by the rapid breakdown of pelargonic acid by microbial action in soil. It is considered that pelargonic acid will not to be deposited to the terrestrial or aquatic environment by atmospheric routes.
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Appendix 1 Lists of data considered in support of the evaluation

The following lists should include all product data considered in support of the evaluation, even if they may have been evaluated previously, e.g. in the EU peer review of the active substance(s), and thus, are not summarised in this document in detail. New data evaluated for the active substance(s) should be included as well.

Please sort by data points and within one data point by names of authors.

Tables considered not relevant can be deleted as appropriate.

MS to blacken authors of vertebrate studies in the version made available to third parties/public.

List of data submitted by the applicant and relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP 9.2.4	Wyns, G.	2023a	Raw input and output files of PECgw of pelargonic acid following application of GLOB2011I in central Europe Report No.: - Globachem NV non GLP Unpublished	N	Globachem nv
KCP 9.2.5	Wyns, G.	2023b	Raw input and output files of PECsw of pelargonic acid following application of GLOB2011I in central Europe Report No.: - Globachem NV non GLP Unpublished	N	Globachem nv

List of data submitted or referred to by the applicant and relied on, but already evaluated at EU peer review

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
None					

The following tables are to be completed by MS

List of data submitted by the applicant and not relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP XX	Author	YYYY	Title Company Report N Source GLP/non GLP/GEP/non GEP Published/Unpublished	Y/N	Owner

List of data relied on not submitted by the applicant but necessary for evaluation

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP XX	Author	YYYY	Title Company Report N Source GLP/non GLP/GEP/non GEP Published/Unpublished	Y/N	Owner

Appendix 2 Detailed evaluation of the new Annex II studies

Not applicable, no new Annex II studies are provided.

Appendix 3 Additional information provided by the applicant (e.g. detailed modelling data)

No additional information provided.