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# Version history

Date	Data points containing amendments or additions <sup>1</sup> and brief description	Document identifier and
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### **CP 9** FATE AND BEHAVIOUR IN THE ENVIRONMENT

Table CP 9-1: Intended application pattern

Use patte	ern considered i		ental exposure a		
Crop	Timing of application (range)	Number of applications	Application interval [days]	Maximum label rate [L/ha]	Maximum application rate, individual recatment [g@a]
OSR*	BBCH 30-59	2	\$\tag{10^*}	0.3	0 72 G
* oilseed	rape				

Сгор	F G or I (b)	Application  Interval before applications  (f-h)  (k)  Application  Application  Application  Application  Interval before applications  Interval befo
Oil Seed Rape	F	Foliar BBCH 3 12 20 24-72 100 22 Product label rate: Max. 0.3 L/ha

In addition to the active substance thiacloprid, the degradation products summarised in Table 9-2 were addressed in this document as they have to be considered for exposure assessments.

Active substance and degradation products addressed in this document

Compound / Codes	Chemical Structure	Considered for
Thiacloprid (Y&C 2894) Active Substance (a.s.)	CON CON	PEC <sub>soil</sub> PEC <sub>gw</sub> PEC <sub>sw</sub> & PEC <sub>sed</sub>
YRC 2896 dos aviero		PEC <sub>soil</sub> PEC <sub>gw</sub> PEC <sub>sw</sub> & PEC <sub>sed</sub>
(M29)	CI N NH	PEC <sub>soil</sub> PEC <sub>gw</sub> PEC <sub>sw</sub> & PEC <sub>sed</sub>
YRC 289 Sulfonic acid (sodium salt shown) (M30)	CI N HN O H <sub>2</sub> N O	PEC <sub>soil</sub> PEC <sub>gw</sub> PEC <sub>sw</sub> & PEC <sub>sed</sub>



Compound / Codes	Chemical Structure	Considered for
YRC 2894-sulfonic acid amide (M34)	ONS OH ON NH2	PEC.
YRC 2894-thiadiazine (M46)	O, S-OH	PEC <sub>gw</sub>

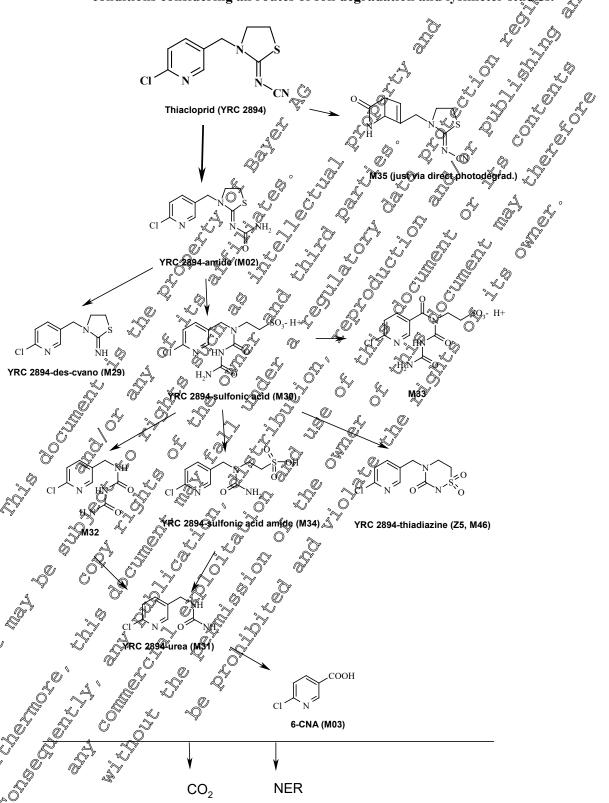
A list of metabolites, which contains the structures, the synonyms and code numbers attributed to the compound thiacloprid, is presented in <a href="Document N3">Document N3</a> of this dossier Document N3 of this dossier Dustification of the residue definition for risk assessment is provided by MCA Section Definition of the residue for risk assessment Definition of the residue definition of the residue for risk assessment Definition of the residue definition of the residue for risk assessment Definition of the residue definition of t

	Pacidua Definition for risk assessment
Compartment	Residue Designation for risk assessment
	Thiacloprid (YRC) 2894) YRC 2894-amid (M02) YRC 2894-deg cyano (M29)
Soil	YRC 2899-amid@M02)
	1 I RU 2094-UESt CVano UVI291 as a v & v & v & v
	Thiactoprid (YRC 2894) YRC 2894-des-cyano (M29) YRC 2894-amide (M30)  Thiactoprid (YRC 2894) YRC 2894-amide (M29) YRC 2894-des-cyano (M29) YRC 2894-sulfonic acid (M30) YRC 2894-sulfonic acid amide (M34) YRC 2894-thiadazine (M46) Thiactoprid (YRC 2894) YRC 2894-amide (M02)
	This cloprid (YRC \$894) @ \$ \$ \$ \$ \$
	XXC 2894-amid@XM02X
Groundwater (	TRC 2894-des-Eyano (M29)
Groundwater	YRO2894-sulfonic acid (Mad)
0	YRC 2894-sulfonic acid araide (Mas4)
Ò	YRC 2894-thia dazine (M46)
	Thiacloprid (MRC 2894)  YR 2894-amide (M02)  YR 2894-des-cyaho (M09)
Surface water	YR. Ø 2894- Divide (M 02)
Surface water	YRO 2894-des-cyrano (MO)) (MO)
	SRC 2894-sulforic acid (M30) 0 0
Sediment	Thiacloprid (FRC 2894) YR (2894-anide (M02) YR (2894-des-cyano (M09) FRC 2894-sultonic acid (M30) Thiacloprid (FRC 2894) Thiacloprid (FRC 2894)
Air @	Thi Wroprie (TYRC 2894), O', O' O'

# Fate and behaviour in soil

For information on the fave and behaviour in soil please refer to MCA Section 7, data point 7.1. The proposed degradation pathway of this Coprid in soil is shown in Figure CP 9.1- 1.

Figure CP 9.1-1: Proposed degradation pathway of thiacloprid in soil under laboratory conditions considering all routes of soil degradation and lysimeter studies.





### **CP 9.1.1** Rate of degradation in soil

No specific studies with the formulation are required. For further information on the fate and behaviour in soil please refer to MCA Section 7, data points 7.1.1 and 7.1.2.

### **CP 9.1.1.1** Laboratory studies

For information on laboratory studies please refer to MCA Section 7, data point 7.1.2

### **Field studies** CP 9.1.1.2

For information on field studies please refer to MCA section 7, date point 7.1.2

### **CP 9.1.1.2.1** Soil dissipation studies

extion 7 Jata point For information on field dissipation studies please refer to MCA

# **CP 9.1.1.2.2** Soil accumulation studies

For information on field accumulation studies please

### **CP 9.1.2** Mobility in the soil

For information on mobility studies please refer to MCA Section 7, data point 7.1

CP 9.1.2.1 Laboratory studies

For information on laboratory studies please refer to MCA Section 7, data point 7

CP 9.1.2.2 Lysimeter studies

For information on lysmeter studies please refer to Section 7, data point 7.1.4.2.

CP 9.1.2.3 Field leaching studies

For information on field leaching studies please refer to MCA Section 7, data point 7.1.4.3.

### **CP 9.1.3** Estimation of concentrations in soil

New calculations were performed to reflect findings from new studies presented in the active substance dossier, section 7 "Fate and behaviour in the environment". In addition these calculations considered the most recent guidance documents for exposure calculations. Calculations of prodicted environmental concentrations in soil (BEC.) 7.1.0 environmental concentrations in soil (PEC<sub>soil</sub>) are presented below.

### Predicted environmental concentrations in soil (PEC)

### **Endpoints for PEC**<sub>soil</sub>

For deriving the respective end points please refer MCA Section

Table CP 9.1.3-1: Key modelling input parameters for this cloperid and its metabolic

Compound	Worst case DT59 non-normalised [days]	Maximum occurrence in soil	Molar mass	Molar mass correction factor
Thiacloprid	013.7)** ×	7 J 1000 5	<b>\$</b> 2.7	, <b>(2</b> ) 1
YRC 2894-amide (M02)	Q 321 1 )*	86371	270.7	1.0712
YRC 2894-sulfonic acid (M30)	@ \$\$\P.6\)* O*	\$\tag{\text{\tint{\text{\tin}\exiting{\text{\texi}}\\ \text{\text{\text{\text{\text{\text{\text{\texi}\text{\ti}\}\tint{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\texi}\text{\text{\texi}\text{\texititt{\text{\texitile}}\tint{\text{\texitile}}\text{\text{\texitilex{\texi{\texi}\texit{\texitilex{\tiin}\tint{\texi}\tint{\texitilex{\texit{\texi}\tiliz}\tin	3368 (	1.3328
YRC 2894-des-cyano (M29)	, y	33.2	≥27.7 C	0.9011

\*: worst case non-normalized field DT50 Palue.

worst case non-normalized laboratory DT50 value.

N.: 2011: M-404822-04

W.; 1998; M-901076-02-1 (KCA

201**4**, M-49, 012-01-1 Report:

Third cloprid (TCF) and metabolites: PECsoil EUR - Use in oil seed rape and maize in Europe
EnSa-14-0806

M-491012-01-1 Title:

Report No.: ô Document No.: M-#91012-01-1 Guidelines: not applicable GLP/GEP:

Methods and Materials: The predicted environmental concentrations in soil (PEC<sub>soil</sub>) of thiacloprid and its metabolites were estimated based on a first tier approach using a Microsoft® Excel spreadsheet. A bulk density of 1.5 kg and soil maxing gepths of 5 cm were used as recommended by FOCUS (1997) and EU Commission (1995, 2000). The accomulation potential of this cloprid and 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 PEC<sub>soil</sub> were compiled in Table CP 9.1.3-2.

Application pattern used for PECsoil calculations of thiacloprid

		Application				Amount
. 1. 10	FOCUS crop	Rate	reaching soil			
crops 6	used for	per season		interception	stage	per season
	interception	[g a.s. /ha]	[days]	[%]		application [g a.s./ha]
oilseed rape, GAP & simulation	oilseed rape	2 × 72	10	2 × 80	2 × 30-59	2 × 14.4

**Substance Specific Parameters:** The compound specific input parameters (end points for PEC<sub>soil</sub> calculations) are summarized in Table CP 9.1.3-1.

**Findings:** The maximum PEC<sub>soil</sub> values for thiacloprid and its metabolites are summarised in Table CP 9.1.3- 3. The maximum, short-term and long-term PEC<sub>soil</sub> values and the time weighted average values (TWAC<sub>soil</sub>) are provided thereafter.

Table CP 9.1.3-3: Maximum PEC<sub>soil</sub> of thiacloprid and its metabolities for the uses assessed

	Thiacloprid	ARC 2894 YRC 2894 ARC
Use Pattern	PECsoil [mg/kg]	PECsoil [mg/kg] PECsoil [mg/kg] PECsoil [mg/kg]
oilseed rape 2×72 g a.s./ha, 10 days, 2×80%	0.031	0.035 0.010 0 0.014

Table CP 9.1.3-4: PECsoil (actual) of thiacloprid and its metabolites

Thineclebrid   PEC.soil   PEC.s	Short term  1 0.029 0.035 0.010 0.011  24 0.025 0.035 0.009 0.011  7 0.022 0.035 0.009 0.011  7 0.022 0.035 0.009 0.011  20 0.015 0.034 0.009 0.011  Long term  28 0.007 0.034 0.008 0.011  42 0.0694 0.032 0.008 0.011		T T				<del></del>
Short term 1 0.029 0.035 0.010 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011	Short term 1 0.029 0.035 0.010 0.011				Oilsee 2×72 g a.s./ha,	d rap <b>©</b> 10 <b>days</b> , 2× <b>80%</b>	
Short term 1 0.029 0.035 0.010 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011	Short term 1 0.029 0.035 0.010 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011			Thiodonid O	YBC 2894	OYRG2894	₹ <b>X</b> RC 2894
Short term 1 0,029 0.035 0.010 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011	Short term 1 0.029 0.035 0.010 0.011			V MacJophia &	Samide /	৺ -sulfonic acte	🀒 -des-cyano
Short term 1 0,029 0.035 0.010 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011	Short term 1 0.029 0.035 0.010 0.011		Time 🎜	PECsoil		PEC <sub>soil</sub>	O" PECsoil
Short term 1 0.029 0.035 0.010 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011	Short term 1 0.029 0.035 0.010 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011 0.011		[days]	⊈mg/kg(D′	🥍 [m@g/kg] 🐣	mg/kg	[mg/kg]
Short term    1	Short term    1	Initial	0 🚀	0.03	0.035	√° 90010 √°	0.011
Short term 2 0.028 0.035 0.009 0.011  24 0.028 0.035 0.009 0.011  7 0.022 0.0035 0.009 0.011  44 0.015 0.034 0.009 0.011  Long term 28 0.007 0.032 0.008 0.011  28 0.007 0.032 0.007 0.011  50 0.009 0.001  50 0.000 0.000 0.001  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000 0.0000  50 0.000 0.000 0.000  50 0.000 0.000 0.000  50 0.000 0.000  50 0.000 0.000 0.000  50 0.0000  50 0.000 0.000  50 0.000 0.000  50 0.0000  50	Short term		1 2	0.029		<b>%</b> .010	
1	Long term    4	Short term	<b>2</b>	<u>0.028</u>	0,03/5 0	<b>№</b> 0.01 <b>0</b> √	
Long term	Long term    1		<b>2</b> 4	0.025	3° 035 0	0.009	
Long term    Constant   Constant	Long term    14		\$ 7.0" 2	√ 0.0921 √	\$\sqrt{0.035}\sqrt{0}	<b>Q 0 0 0 0 0 0 0 0</b>	
Long term    28	Long term	. (		<b>Q.015</b>	√ 0.03¥	<b>₹</b> 0.009	
Long term	Long term	_		<b>©</b> 0.011%	0034	0.008	
42 0.004 0.0032 0.007 0.011  50 0.002 0.0032 0.007 0.011  50 0.005 0.005 0.010	41 0.304 0.032 0.007 0.011  50 0.005 0.005 0.005  0.0010  0.0010  0.0010	Long term	10,28	<u>6</u> 0.007	y 0.033	~	
## 64002	8002		420	0.004	0.032	(♥ () ()() /	
				6,5002	0.932 0	0.007	
			[ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	₹₹0.00£\$	/y (0.028 <u>4</u> /	0.005	0.010

**Table CP 9.1.3-5:** TWACsoil of thiacloprid and its metabolites

			2×72 g a.s./ha, 1	d rape 10 days, 2×80%	
		Thiacloprid	YRC 2894 -amide	YRC 2894 -sulfonicacid	YR <b>©</b> 2894 -des-cyano
	Time [days]	TWAC <sub>soil</sub> [mg/kg]	TWAC <sub>soil</sub> [mg/kg]	TWACsoil	TWACsoil [mg/kg]
Initial	0		_0	@Y	
	1	0.030	0.035	Q 0.010	<b>30</b> .011
Short term	2	0.029	Ø.035	0.010	Q 0.01 (V
	4	0.028	△ 0.035	0.010	( 0.01 )
	7	0.026	0.035	© 0.009 \ \	D" @9.011_@"
	14	0.022	0.035	√° 0.0009 ~	\$\sqrt{0.01}\sqrt{}
	21	0.019	0.034°	C 2009 S	0.011
Long term	28	0.016		0.009	950M1 L°
	42	0.013	6.034	<u> 3</u> 0.0 <b>0</b>	♥.011 <sub>@</sub> ″
	50	0.014	V.033	√ 0×008 ×	
	100	0,49 <b>6</b> 6 .%		© \$9.007 ©	© 0.0 <b>0</b> 1

### Potential accumulation in soil:

The accumulation potential after long term use was also assessed. The results for a standard-mixing depth of 20 cm for an arable crop with tillage are presented in Table CP9.1.3.6.

PECsoil of this coprid and its metabolites taking the effect of accumulation into **Table CP 9.1.3-6:** «account (mixing depth of 20 cm)

Use Pattern		PEC soil		YRC 2894	YRC 2894 Gulfonic acid [mg/kg]	YRC 2894 -des-cyano [mg/kg]
Oilseed rape	~~· . •	pΩiteau &	<0.001	<b>20</b> 007	< 0.001	0.008
2×72 g a.s./ha, 10	day <b>©</b> , 2×80%	⊚ total*	ר.031	0.043	0.010	0.019

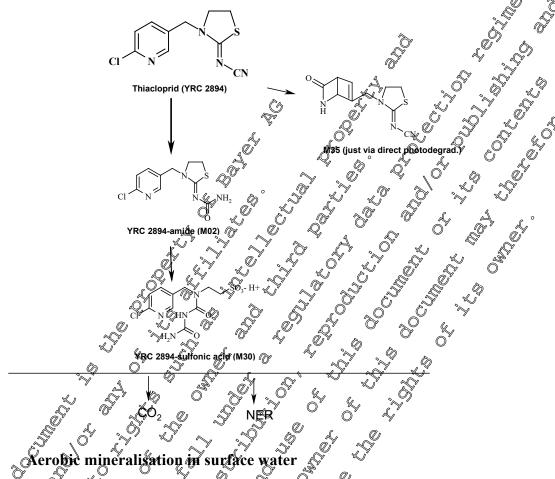
<sup>\*</sup> total = plateau (background concentration after multi-year use) + max PEC soil (see )

### Face and behaviour in water and sediment **CP 9.2**

The proposed degradation pathway of this cloprid in water and sediment is shown in Figure CP 9.2-1.

For information on the fate and behaviour in water and sediment please refer to MCA Section 7, data point 7.2

**Figure CP 9.2-1:** Proposed bio-degradation pathway of Thiacloprid (YRC 2894) in the aquatics.



# **CP 9.2.1**

For information on aerobic mineralisation in surface water studies please refer to MCA Section 7, data point 7.2 point 7.2,2\dot2.

please refer to MGA Section 7, data point 7.2.2.3. For information on water/sediment studie

For information on irradiated water/sediment studies please refer to MCA Section 7, data point 7.2.2.4.

# Estimation of concentrations in groundwater

Calculations were performed, to reflect findings from new studies presented in the active substance dossier, section "Fate and Chavion" in the environment". In addition these calculations consider the most recent guidance documents for exposure calculations.

Calculations of predicted environmental concentrations in groundwater (PEC<sub>gw</sub>) are presented below.

For deriving the respective end points please refer to MCA Section 7, data point 7.1.

Table CP 9.2.4-1: Key modelling input parameters for thiacloprid and its metabolites

Compound	Formation fraction	DT <sub>50</sub> [days]	Koc )2 [mL/g]	Kom <sup>)2</sup> [mL/g]	FREUNDLACH)2 exponent
Thiacloprid	1.0	5.4 <sup>)1</sup>	615.0	357.0	£880 (\$)
YRC 2894-amide (M02)	0.61 )2	41.3 )1	293.0	4 170.0	©0.830
YRC 2894- sulfonic acid (M30)	0.80 )2	15.6 1	20.2	11.7	0.240
YRC 2894-thiadiazine (M46)	0.44 )5	19.8	9.6	5.6	<b>3</b> 960 <b>3</b>
YRC 2894-des-cyano (M29)	0.23 )2	$140.7^{\circ}$	3710	215.Q	₹0.84 <b>%</b>
YRC 2894-sulfonic acid amide (M34)	$0.56^{-0.2}$	<u> 3</u> 48.8 )4	Ø.0	. 4d	1.000

<sup>)1:</sup> Median of complete data set of normalized lab and field 20 values.

# CP 9.2.4.1 Calculation of concentrations in groundwater

Predicted environmental concertrations in groundwater (PEC<sub>GW</sub>)

**Report:** ; 201 M-49 013-01-

Title: Thiacloprid (TCP) and Gretabothes: PFGgw FOCUS PFARL, PELMO EUR - Use in oil

seed rape and maize in Europe

Report No.: EnSa<sup>2</sup>14-0807

Document No.: M49101501-1

Guidelines: oot applicable

GLP/GEP: no

Materials and Methods: The predicted environmental concentrations in groundwater (PEC<sub>gw</sub>) for thiacloprid and its metabolites were calculated using the simulation model FOCUS PEARL (version 4.4.4) and FOCUS PELMO (version 30.3). Crop interception was taken into account according to the BBCH growth stage, as recommended by FOCUS (2012). Application dates for the simulation runs were defined following the crop event dates of the respective crop and scenario as given by FOCUS (2000, 2009).

Detailed application data used for simulation of PEC<sub>gr</sub> were compiled in Table CP 9.2.4.1-1.

Table CP.2.4.1-1: Application pattern ased for PECgw calculations

			App	lication		Amount
Individual crop	FOCUS erop used for interception	Rate C Cper season	Interval	Plant interception	BBCH stage	reaching soil per season application
	, integration	[g&.s./ha]	[days]	[%]		[g a.s./ha]
Oilseed rape, GAP	~ - S	2 × 72	10	-	2 × 30-59	-
Oilseed rape (surpmer) simulation 1	oil seed rape (sammer)	2 × 72	10	2 × 80	2 × 30-59	2 × 14.4
Oilscod rape winter of simulation of	oil seed rape (winter)	2 × 72	10	2 × 80	2 × 30-59	2 × 14.4

For oilseed rape applications, absolute dates were derived for the simulation runs. All application dates are summarised in the table below.

<sup>)2:</sup> Arithmetic mean of data set.

<sup>)3:</sup> Geometric mean of lab data set.

<sup>)4:</sup> Worst case of lab data set.

<sup>)5:</sup> Worst case assumption that M30 can only degrade to M34 and M46

**Table CP 9.2.4.1-2:** 

simulation ru Individual crop	Oilseed rape (summer)	Oilsecs rape (winter)
Repeat Interval for App. Events	Every Year	Every Year
Application Technique	Spray	Spray Spray
Absolute / Relative to	Absolute 🖔	
Scenario	1st App. Date/(Julian day)	Jest App. Date (Julian 1997)
	18 Jan (169) - 68 May (28) - 04 May (124)	Absolute  19 Apr./(109)  05 May/(125)  11 May (121)  20 Apr/(100)  19 Apr./(100)

Substance specific and model related input parameters for FOCOS calculations are summarised in Table CP 9.2.401-3. Degradation pathwa PEARL PELMO PECgw ay Pelated parameters are given in Table CP 9.2.4.1-4.

Compound input parameters for this loprid and its metabolites **Table CP 9.2.4.1-3:** 

		/		
Parameter Unit OCP Am	2894- ide sulforer acid	YKC 2894 Diadia Ane	YRC 2894- des-cyano	YRC 2894- sulfonic acid amide
Common Symple 2577 27				
Molar Mass Sg/mall 252.7 279	336.80	@75.7	227.7	293.7
Solubility (mg/L) 159 (159 (mg/L)	30 ° 56990	<b>30000</b>	57000	135000
	E-10 3.80 E-04 ^	2.30E-05	1.10E-04	5.90E-07
	300°   %9.940 °	0.960	0.840	1.000
Plant Uptake Factor Q	$\mathfrak{G}^{\vee}$ & $0.0\mathfrak{A}^{\vee}$	0.0	0.0	0.0
Walker Exponent	ž P <b>9.</b> 7	0.7	0.7	0.7
PEARL Parameters				
Substance Code \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0,20° 0,130	MZ5	M29	M34
$DT_{50}$ $\mathbb{Q}$ $\mathbb{Q}$ $\mathbb{Q}$ $\mathbb{Q}$ $\mathbb{Q}$ $\mathbb{Q}$ $\mathbb{Q}$ $\mathbb{Q}$	3 b 15.6	19.8	140.7	48.8
Molar Activa Energy [kJ/mol] \$\infty 65.4 \times 65.4		65.4	65.4	65.4
$ \mathbf{K}_{\text{om}} $	0.0 11.7	5.6	215.0	3.6
$[K_f]$ $[mL/g]$ $[m]$	<u>.</u> 9 -	-	-	-
PELAMO Parameters	7			
Substance Code	.1 B1	C1	A2	B2
Rate Constant	680 0.04450	0.03500	0.00490	0.01420
$Q_{10}$ $Q$	58 2.58	2.58	2.58	2.58
$K_{oc}$ $[mLg]$ $615.0$ $29$	3.0 20.2	9.6	371.0	6.3 #

<sup>\*</sup> TCP = this Noprid



Table CP 9.2.4.1- 4: Degradation pathway related parameters for thiacloprid and its metabolites

		(//)
	0.61 TCP -> M02	
Degradation fraction from → to	0.23* M02 -> M29	
(FOCUS PEARL)	0.8  M02 -> M30	
(FOCUSTEARL)	0.6 M30 -> M34	
	0.44 M30 -> MZ5	
	0.0787000 AS -> A1	
	0.0499000 AS SR/CO <sub>2</sub>	
	0.0134000 A1 B1	
Decreadation note from -> to	0.0034000*₄A1 -> A2	
Degradation rate from → to (FOCUS PELMO)	0.019600@1 -> C1	
(FOCUS PELMO)	0.02490 B1 -> B2	
	$0.0350000 \text{ C1} -> < BR/CO_2$	
	0.0049000 a2° -> <td></td>	
	0.042000B2 -> BR/CO	

<sup>\*</sup>The sum of formation fractions of YRC 2894-des-cyano (0.23) and YRC 2894-sulfonic acid (0.80) is slightly larger than 1. In FOCUS PELMO, this would lead to faster disappearance of YRC 2894-amide (by 3%) due to the way the specification of degradation parameters is technically implemented (FOCUS PEARL is not affected). In order to overcome this issue the formation of YRC 2894-des-cyano was limited to 0.20 in FOCUS PELMO runs. This change does not have any measurable effect on the PEC of YRC 2894-des-cyano but is essential to keep internal consistency of the description of other metabolites.

Findings: PEC<sub>GW</sub> were evaluated as the 80 percentile of the mean annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEARL and PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth. FOCUS PEC<sub>GW</sub> results for this form annual leachate concentration at 1 m soil depth and a first form annual leachate concentration at 1 m soil depth annual leachate concentration at 1 m soil dep

Use Pattern	% Oilseed	rape (winter),	2 72 g a.s./ha	1, 2 × 80% inte	rception, 10 d	interval
	TCP 3	YR 2894- amide	YRG 2894 sulfonic acid	YRV 2894- thradiazine	YRC 2894- des-cyano	YRC 2894- sulfonic acid amide
FOCUS PEARL	PECgw [arg/L]	PEG <sub>gw</sub>	PFGgw [µg/L]	PEC <sub>gw</sub> [μg/L]	PEC <sub>gw</sub> [μg/L]	PEC <sub>gw</sub> [μg/L]
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		00.0200 0.1862	0.119 0.436	<0.001 <0.001	1.181 2.068
	<0.001 \$0.001	° < <b>9</b> (501 .	0. <b>0</b> 66 ≥0.116	0.212 0.238	<0.001 <0.001	1.039 1.028
	0.001 0.001 0.001	~,<0.004, ~,<0.004, ~,<0.001, ~,	0.039 0.070	0.097 0.151	<0.001 <0.001	0.581 0.928
FOCUS PELMO	PEC <sub>gw</sub> © ₄ {µg/L}	PEČ <sub>gw</sub> O Apg/LJQ	PEC <sub>gw</sub> [μg/L]	PEC <sub>gw</sub> [μg/L]	PEC <sub>gw</sub> [μg/L]	PEC <sub>gw</sub> [μg/L]
	<0.001 <0001 ×	<0.001 <0.001	0.020 0.155	0.120 0.414	<0.001 <0.001	1.095 1.849
	<0.0010 ↓<0.00€	<0.001 <0.001	0.076 0.141	0.242 0.266	<0.001 <0.001	1.193 1.077
	<0.001 <0.001	<0.001 <0.001	0.067 0.105	0.149 0.184	<0.001 <0.001	0.829 0.937
* TCP = toacloprid						

Table CP 9.2.4.1- 6: Oilseed rape (summer): FOCUS PEARL & PELMO PEC<sub>gw</sub> results of thiacloprid and its metabolites

Use Pattern	oilseed rape (summer), 2 × 72 g a.s./ha, 2 × 80% interceptio				erception, 10 d	interval
	ТСР	YRC 2894- amide	YRC 2894- sulfonic acid	YRC 2894- thiadiazine	YRC 2894- des-cyano	YRC 2894 sulfonic acid mide
FOCUS PEARL	PEC <sub>gw</sub> [μg/L]	PEC <sub>gw</sub> [μg/L]	PEC <sub>gw</sub> [μg/L	PEC <sub>gw</sub> () [µg/L]	PEC <sub>gw</sub> γ [μg/L]	PEC <sub>gw</sub>
	< 0.001	<0.001	0.126	0.42	<0.064	2.499
	< 0.001	< 0.001	0.226	0.\$52	<0.001	1,038
	< 0.001	< 0.001	055	0 × 115 ⊜°	£Ø.001 √y	0.689
EOCHE DEL MO	PECgw	PECgw	<b>₹PEC</b> gw	PEG	PECow	PECOW
FOCUS PELMO	[µg/L]	[µg/L] &	[μ <b>g/J</b> Ľ] _	<b>[μg/L]</b>	<b>(β)</b> [μg <b>(Φ)</b> ]	🦫 [μg⁄IĽ]
	< 0.001	<0.001	,0°49	<b>A</b> 455 ©	Ø.001 <sub>€</sub>	<b>2</b> 307
	< 0.001	< 0.001	©0.134®	Q0.263 U	<0.0010°	Ø1.047
	< 0.001	<0.004	0.075	0.14 <sup>4</sup>	© < 0.00,1	0.749
* TCP = thiacloprid		0,7 ,%	y .0 .*	Y 0 1	Y Q *	

Conclusion: There are no concerns for groundwater from the use of the clopped in accordance with the use pattern for the representative formulation.

The concentration of the metabolites YRC 2894-sulfonic acid, YRC 2894-thiadiazing and YRC 2894-sulfonic acid amide may seed 0.1 µg/s, however the relevance of these metabolities has been assessed and all metabolites are non-selevant in groundwater (see Document N4).

### **CP 9.2.4.2** Additional field tests

No additional field studies were performed or required due to low PEC<sub>gw</sub> values calculated (see P. 9.2.4.1).

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

New calculations were performed, to reflect findings from new studies presented in the active substance dossier, section 7 "Fate and behaviour in the environment" in addition these calculations consider the most recent guidance documents for exposure calculations. Calculations of predicted environmental concentrations are presented below.

Predicted environmental concentrations in water (FEC so and in sediment (FEC sed)

## Endpoints for PEC<sub>SW</sub> and sediment (PEC<sub>SED</sub>)

For deriving the respective end points mease refer to MCA Section O, date point 32

Table CP 9.2.5-1: Key modelling input parameters for this clope and its metabolites at Steps 1-2 level PEC calculations

Parameter	Unit 🏈	Thiacleprid	YRC 2894	ØYRC, 2894 €	YRC 2894
			∕ @amide <sup>~∀</sup> 🌡	🤝 -des-cyano	-sulfonic acid
Molar Mass	g/mol	<b>25</b> 2.7	∠ 270.7\	× 227.7 ×	336.8
Water Solubility	mg/L	159		5700	56000
Koc	mL/g	1 % /r DIO @	<b>2</b> 93 0	\$ 37₩	20.2
Degradation			, S 418 L	0 ~	
Degradation Soil Total System	days 💸	?) ×3.4 ~		<b>@</b> :40.7	15.6
	days 😽	( 15.8°)	2 99!2 S	1000 *	1000 *
Water S	days 🔘	15,80		1000 *	1000 *
Sediment	days	15.8	\$ 99.20	1000 *	1000 *
Max Occurrence	4) 4j			*	
Water Sediment	<b>3</b>	100		0.0001	9.7
Soil 😽	% »	1 <b>00</b> >	, 86.7 <del>%</del>	33.2	19.7

<sup>\*</sup> Default value used

Table CP 9.2.5 2: Additional modelling input parameters for thiacloprid and its metabolites at steps 3/4 level PCC calculations.

Parameter	Until	Thiacloprid	YRC 2894 -amide	YRC 2894 -des-cyano
Vapour Pressure	På V	<b>3</b> €-10	3.4E-10	1.1E-04
Plant Uptake Factor		0.0	0.0	0.0
Wash-Off Factor PRZM \	I/ganan ~	Q 0.5	0.5	0.5
	10mm	0.05	0.05	0.05
Degradation 🗸 🗸		)		
Soil O O	day	5.4	41.3	140.7
Form. Frac. PRZM	motar basis	=	0.610	0.230
Form Frac. MACROS	molar basis	-	0.653	0.207
Agnatic Mcabolite				
Molar Mass Corr. Factor		-	1.07123	-
Max Oct.	%	-	69	-
Tot. Corr. Factor		-	0.73915	-
Max Occ. at Day		-	35	-



Report: ; 2014; M-491014-01-1

Thiacloprid (TCP) and metabolites: PECsw,sed FOCUS EUR - Use in maize and on seed of rape in Europe Title:

Title: Thiacloprid (TCP) and metabolife: PECsw, sed FOCUS FUR (M29 assessment) - Usern maize and oil seed rape in Europe

Report No.: EnSa-14-0882
Document No.: M-491773-01-1

Guidelines: not applicable; not applicable
GLP/GEP: no

Materials and Methods: Predicted environmental concentrations in off face water and sediment (PECsw and PECscd) of thiacloprid and its metabolites have been calculated for the use in spring and winter oilseed rape in Europe All relevant entry routes of a compound into surface water (combination of spray drift and runoff/erosion or drain flow) were considered.

At FOCUS Step 2 the application period was set to southern Europe was considered. Definition unmarised in Table CP.

Application patter used for PECosed calculations at FOCUS Steps 1&2

_		<b>^</b>		× × × 1		
Crop	≪Rate ≪ [g a.s./ax]	Interval	BBCH	COCUSCrop (cropgroup)	Season	Crop cover
Oilseed rape, GAP	2 72	<b>≪</b> 10 🍣	3 <b>0-3</b> 9	4. A -	-	-
Oilseed rape (spring) simulation 1	& × 72		90-59	oilseed rape, spring Carable crops)	Mar May	average
Oilseed rape (winter), simulation 2		**************************************	30-59	⑥ iseed rape, winter (arable crops)	Mar May	average

In FOCUS Step 3, the application date for each scenario is determined by the Pesticide Application Timer (PAT), which is part of the FOCUS SW Scenarios. The user may only define an application time window. Absolute application dates for obseed rape simulation runs were estimated using a German regulatory tool App Date 1 Details of the parameters used in the Step 3 calculations are 4 9 25 - 4.

<sup>&</sup>lt;sup>1</sup> Klein M., 2010: Computer programme: "AppDate: Estimation of application dates based on crop development." (v.1.01c.).



Table CP 9.2.5-4: Application dates of thiacloprid for the FOCUS Step 3 calculations

F	1		1	
Parameter	Oilseed ra	pe (spring)	Oilseed ra	pe (winter)
PAT start date			<b>*</b>	
rel./absolute	Abso	olute	A) bs	olute 🗸 🔊
Appl. method	ground	d spray	ground	d spray
(appl. type)		M 2)	(CA	M 2) 🔊 👋 🙏
No of appl.		,		
PAT window			Ů.	olute d spray M 2) 2
range	4	.0	l & 4	
Appl. interval	1	0		M 2) 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Application	PAT Start Date	A mar le Doct o	PAT Start Date	Appl Date
Details	(Julian Day)	Appl Date	🥎 (Julia Day) 👸	Appl Date
D1	21-Jun	ر 24-Jun °		D' ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
	(172)	04-Ju <b>2</b> ×		"      ' 4
D2	-		29-Apr	07-May 4°
	-	\langle   \langle \rangle \r	(19)	23 May
D3	20-May (140)	2 <b>2</b> -May	9-Apr (119) (119) (13-May (133) (133)	23 May 2 04-May 2 22-May
	(140)	/ 23-Jun	(119) Q	\$22-Ma9
D4	06-Jun "○ <sup>™</sup>	04-Jul 2	7 13-18 Fay	30- <b>M</b> ay
	(157)	16-Jul	(P33) (C)	30-May 30-Jun 23-Apr 11-May
D5	24-Apr	24-Apr	23-Apr. (113)	23-Apr
	1 (114)	11-May (	$\mathbb{Q}(113)$	<b>№</b> 11-May
D6	W W.			I
	b - 0	S Q- '0		ļ. Ģ -
R1	%√7-May 4	D ST-May 2	22-Apr	26-Apr
	(13,7)	0° 12-44m 0°	(112) 5	09-May
R2				-
	\$ L - B' :		@ ,	-
R3	(1347) (1347)		06-Apt	11-Apr
			(96) <sup>y</sup>	22-Apr
R4 🍣		5 5- 7- 7- 7- 7- 7- 7- 7- 7- 7- 7- 7- 7- 7-		-
Ž.	ľ°° ~ ~ ~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~ √ -	-

Composind input parameters for the Steps 1&2 simulation runs are summarised in Table CP 9.2.5-1 and for the Steps 3&4 simulation runs in Table CP 9.2.5-2.

Note, Step 3 assessment was calculated also for the metabolites YRC 2894-amide and YRC 2894-descyano. Due to technical limitations of the models used for the calculations a special treatment is needed for YRC 2894-des-cyano. The metabolite is considered here to be a direct degradation product of the parent substance even though the evaluation of the soil degradation studies indicates that YRC 2894-des-cyano is formed from the YRC 894-amide (this set up cannot be directly reproduced in Step 3 of FOCUS<sub>sw</sub>). The imployed formation fraction of 23 % from the parent represents a worst case estimate of the degradation behaviour of YRC 2894-des-cyano in soil.

Findings: Steps 1&2: The maximum PDC<sub>sw</sub> and PEC<sub>sed</sub> values for thiacloprid and its metabolites at Steps 1&2 are summarised in Table CP 9.2.5-5.

**Table CP 9.2.5-5:** Maximum PEC<sub>sw</sub> and PEC<sub>sed</sub> values for thiacloprid and its metabolites at Steps 1&2

									0. 9
		Thiec	loprid	YRC	2894	YRC	2894	YRC	2894
Ilaa mattaun	Caanania	Tillac	iopriu	-amide		-des-cyapo		-sulfore acid	
Use pattern	Scenario	<b>PECsw</b>	PECsed	<b>PECsw</b>	PECsed	<b>PECsw</b>	PEC sed	PECsw	PE Sed
		[µg/L]	[µg/kg]	[µg/L]	[µg/kg]	[µg/L] «	[µg/kg]	[μ <b>g</b> Æ]	[mg/kg]
	Step 1	27.70	162.2	33.04	93.93	9.60🎾	35.64	12.44	<b>2</b> .4794
Oilseed rape	Step 2			(	٥	a.Y	,		
	N-EU Multi	1.127	6.171	2.304	6.529	0 <b>0</b> 52	2.046	0.65	0×132
(spring)	S-EU Multi	1.732	9.730	3.964	11.36	JP. 103	4.093	1,659	<b>2</b> 34 €
$2 \times 72$ g a.s./ha	N-EU Single	0.833	4.584	1 <u>.</u> \$47	3.612 🔏	$0.283$ $^{3}$	1.048	0.392	Ç0.079₩
	S-EU Single	1.306	7.371	<b>⊘</b> ∵176	6.229	0.563	<b>2</b> Q097	∂0.700 <sub>∞</sub>	0.14
	Step 1	27.70	162.2 '	<sup>©</sup> 33.04°	93 <b>/3</b> 3	<b>9</b> ,607	~35.64	12.44	2: <b>Q</b> 79
Oilsaad rana	Step 2		<b>\</b>					***	****
Oilseed rape (winter) 2 × 72 g a.s./ha	N-EU Multi	1.127	6.17P	2.304	6.529 n	×0.5 <b>5</b> 2	2.0046	<b>40</b> .654 &	0.132 •
	S-EU Multi	1.732	9.430 。	<b>®</b> .964 (	₩ 11.3 <b>6</b> %	1,103	<b>4</b> ,093	©1.159@	0.2 <i>3</i> /4
	N-EU Single	0.833	<b>4</b> 2584~	×1.277	3.642	Ø <del>.</del> 283 👡	Q1.04 <b>&amp;</b> √	0.392	0079
	S-EU Single	1.306	®7.371√°	2.1 <b>%</b> 6	∘6.229	©0.565€Ĵ	2.097	0.700	<b>6</b> .141

Step 3: The maximum PEC<sub>sw</sub> and BEC<sub>sed</sub> values of thiacloprid, YRC 2894-amide and YRC 2894-descyano for relevant FOCUS Step 3 scenarios are given in the following tables.

Spring oilseed rape, Maximum PECsw and PECs values for this cloprid at Step 3 **Table CP 9.2.5-6:** 

			<b>Y</b>		y <u> </u>	•
	4		Thiae	loprid 🤍		
FOCUS scenario		S Oils	eed Pape (sprir	ıg) <b>2</b> ″× 72 <b>%g</b> , a.s	./ha/	
	Sig	gle applicatio		O'Mu	ıltîple applicat	ion
	Entry 📡	PECsw 🔪	PEO sed	Entry @	PEC <sub>sw</sub>	PECsed
FOCUS scenario	ˈˌroute* 🍫 🕆	<sub>&amp;</sub> [μg/L] <i>∕</i> ∕√	ကြို့g/kg] ဆိ	route* 🎊	[µg/L]	[µg/kg]
D1 (ditch)	S O	0.464	<i>‰</i> 0.97 <b>2</b> >	S	0.625	1.588
D1 (stream)	S S	0.404	0.200		0.349	0.228
D3 (ditch)	«\$ «"	<b>0,</b> ≇\$57 Ĉ	° 0.266 ©	, <b>%</b>	0.400	0.333
D4 (pond)	OS S	.016	<b>2</b> 0.046	S	0.020	0.073
D4 (stream)	$S \gg 1$	0.394	°√0.076°°	S S	0.341	0.084
D5 (pond)	Q'S\'	\$ 0.Q\$6 z	√ 0.054	S	0.020	0.083
D5 (stream)	ľ s s	<b>9388</b>	0.018	S	0.344	0.025
R1 (pond)	Q R S	Ø.034 ×	Ø.120 \$	R	0.049	0.179
R1 (stream)	SO'S	$\sim 0.301^{\circ}$	∞ 0.510°°	R	0.426	0.639
* Entry route letters S,	D, and Correspon	nd to the domin	ant entra Path – s	pray drift, drainas	ge, and runoff.	
					,	
<b>4</b> 1			**************************************			
4			7			
		w 4				
L.	4 ° 2	, Ş				
Q"		w w				
		~Q				
	Ž.					
FOCUS scenario  D1 (ditch) D1 (stream) D3 (ditch) D4 (pond) D5 (pond) D5 (stream) R1 (pond) R1 (stream) * Entry route letters S,						



Table CP 9.2.5-7: Spring oilseed rape: Maximum PEC<sub>sw</sub> and PEC<sub>sed</sub> values for YRC 2894-amide at Step 3

		YRC 289	94-amide	
Use pattern		Oilseed rape (sprii	ng), 2 × 72 g a.s./ha©	,Ø' &
	Single ap	plication	Multiple a	pplication
	$PEC_{sw}$	PECsed	PEC <sub>svy</sub>	REC segre
FOCUS scenario	[µg/L]	[µg/kg]	[μg/ <b>Ϳ</b> ͿͿ <sup>ʹ)</sup>	🎾 μg/kgg 🔍
D1 (ditch)	0.355	1.375	0.533	2357
D1 (stream)	0.067	0.660	<b>Q</b> 119	₩21 🛫
D3 (ditch)	< 0.001	<0.001	Q0.001	( 0.00 × (
D4 (pond)	0.012	0.119	Q 0.036	0.32 <b>0</b>
D4 (stream)	0.016	0,028	0,635 Q	0,000 0
D5 (pond)	0.014	0.092	6×021	<b>√</b> √ 159 √
D5 (stream)	0.008	<b>№</b> 0.012 <b>©</b>	0.017	♥ <b>*</b> 0.026 <b>*</b> ♥
R1 (pond)	0.032	0.232	0.0 <b>%</b> €	√ 0.43 <b>%</b> , .∘
R1 (stream)	0.220	, , , , , , , , , , , , , , , , , , ,	0.409	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Table CP 9.2.5- 8: Spring oilseed cape: Maximum PEC and PEC sed values for YRC 2894-des-cyano at Step 3

	Oilseed rape (spring), 2 72 g a.s./ha	
Use pattern	Oilseed rape (spring), 2 72 g a.s./ha	
	Single application         Multiple a	pplication
	BECsw DECsed PECsw	PEC <sub>sed</sub>
FOCUS scenario	Mug/L	[μg/kg]
D1 (ditch)		1.651
D1 (stream) D3 (ditch) D4 (pond) D4 (stream) D5 (pond)	0.048 0 0.0538 0 0 0.090 0	0.974
D3 (ditch)	\$0.001 \$\frac{1}{2}\$ \$\frac{1}	< 0.001
D4 (pond)	0.000	0.251
D4 (stream)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.091
D5 (pond)	0.017 0.034 0.019 0.019	0.241
D5 (stream)		0.050
R1 (pond)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.193
R1 (stream)	0.054 0 0.055 0 0.125	0.109

Table CP 9.2.5- 9. Winter oilseed pape: Waximum PEC and PEC sed values for thiacloprid at Step 3

		Thiacloprid							
Use pattern				ter), 2 × 72 g a.s./ha					
		ingle@pplicatio	on ¸∜	Mı	Multiple application				
	<b>Entry</b>	PEC	PEC <sub>sed</sub>	Entry	<b>PECsw</b>	PECsed			
FOCUS scenario		ு [μg <b>/t</b> ]	🌱 [μg/kg]	route*	[µg/L]	[µg/kg]			
D2 (ditch)	S E	0.462	0.814	S	0.411	1.166			
D2 (stream)		<b>20</b> .411	0.726	S	0.357	0.994			
D3 (ditch)		© 0.457 V	0.301	S	0.400	0.354			
D4 (pond)	y" <b>8</b> 8" ,	0.026	0.051	S	0.021	0.081			
D4 (stream)		0.392	0.065	S	0.341	0.083			
D4 (stream) D5 (pond) D5 (stream)	S ()	0.016	0.055	S	0.020	0.085			
D5 (stream)	S S	0.406	0.035	S	0.368	0.091			
$\perp R \perp (\mathfrak{s} \wr \mathfrak{S} nd) = \emptyset$	S	0.016	0.090	R	0.047	0.217			
R K stream	A.S.	0.300	0.112	R	0.501	0.390			
R3 (stream)	S	0.424	0.456	S	0.368	0.453			

<sup>\*</sup> Entry route: letters S, D, and R correspond to the dominant entry path – spray drift, drainage, and runoff.



**Table CP 9.2.5-10:** Winter oilseed rape: Maximum PEC<sub>sw</sub> and PEC<sub>sed</sub> values for YRC 2894-amide

		YRC 289	94-amide	
Use pattern		Oilseed rape (wint	er), 2 × 72 g a.s./ha©	(U )
	Single a	pplication	Multiple a	ipplication 🔻 🤝 🗍
	<b>PEC</b> <sub>sw</sub>	PEC <sub>sed</sub>	PEC <sub>sw</sub>	PEC seg
FOCUS scenario	[µg/L]	[µg/kg]	[μg/ <b>Ϳ</b> Ϣ	µg/kgp 📈
D2 (ditch)	0.104	0.488	0.222	1,008
D2 (stream)	0.065	0.286	<b>Q</b> 39	Ø \$396 ×
D3 (ditch)	< 0.001	<0.001	<b>20.001</b> €	£ 20.00 £ &
D4 (pond)	0.012	0.02	Q 0.023	0.23 <b>4</b> C
D4 (stream)	0.013	0,021	0,643 Q	0,0° 0,0071 0,0°
D5 (pond)	0.012	0.075	6019 6	<b>√</b> 128 <b>√</b> 1
D5 (stream)	0.004	\$\sqrt{0.005}\text{\tin}\text{\tetx{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\texi}\text{\text{\tetx{\texi}\text{\text{\texi}\text{\texi{\texi{\texi{\texi{\texi{\texi{\texi}\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{	0.009	₩ <b>~</b> 0.013 <b>~</b>
R1 (pond)	0.031	0.184	0.0 <b>%</b> €	0.52%,
R1 (stream)	0.162	0.2006	0.352	O 0236
R3 (stream)	0.265	© ~0.7131 ~ °	\$\tag{\text{0}\}552_\ \times^\text{0}	√

**Table CP 9.2.5-11:** Winter oilseed raper Maximu at Step 3 Q

	Ø ,*\	VAR C 28/4	-des-Qano	<b>%</b>
Use pattern		Oilseed rape (winter	er)( 7 × 72 @ s /bs	
Osc pattern	Signia an	plication	Multiple a	ralication
	PEC <sub>sw</sub>	h dina	PEC	PECsed
FOCUS scenario	Γ - Δ <del>Γ</del>	ØPEC. Ο [μg/kg] , Ο	Lec. (μg/L) (S	[μg/kg]
D2 (ditch)	0025		© 6251 K	1.744
D2 (ditch) D2 (stream) D3 (ditch) D4 (pond) D4 (stream)	0.0025 0.0079 0.00079 0.0009	N 7518 N 1	$\mathcal{D}_{n} = 0.157$	1.027
D3 (ditch)	©<0.001y	0.010 0.000 0.000 0.000	~~0.00m	< 0.001
D4 (pond)	0.009 0.009 0.005 Ø	0.095		0.210
D4 (stream)	0.00	© 03037 ©	0,044	0.082
D5 (pond)	°° 0.005 ₺	0.045 0.069 0.015	<b>50</b> .010	0.129
D5 (stream)	÷ 0.014° &	" <sup>0</sup> 0.015 ~	0.019	0.027
R1 (popul)	0.003	0.069 V 0.015 V 0.066 V	。 O 0.019	0.155
R1 (stream)	0.040 🐇	© 20042 &	0.010 0.019 0.019 0.102	0.101
R3 (stream)	Ø.072/\$\frac{\frac{1}{2}}{2}	y 60.0470 ×	0.144	0.084
Q -				
Sten 4: The maxim	UPPEC Cand REC.	⊾vQues∘oPthiaclobrid	l for relevant FOCUS	Step 4 scenarios
are given in the foll	owing tables		1011010 (	orep . seemanes
are given in the ion	lowing gaoles .			
**************************************		\$ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
_ \		A 0,		
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		¥ A n		
Ŭ Ŝ				
A 'QA				
Ö			0.010 0.019 0.019 0.102 0.144	



**Table CP 9.2.5-12:** Spring oilseed rape: Maximum PEC<sub>sw</sub> values for thiacloprid at Step 4 after single<sub>o</sub> and multiple applications

					Thiac	loprid	^		
				Oilseed	rape (sprii	ng), $2 \times 72$	g a.s./ha	d	
			Single ap	plication			Multiple a	pplication	
Buffer Width	Scenario		PECsw Drift Re		Ĉħ	A		[µg/LD eduction	
& Type		0%	50%	75%	90%	0%_@	50%	Ø5% <sub>~</sub> O	<sup>9</sup> 90%
	D1 (ditch)	0.125	0.063	0.031	<b>£0.013</b>	0.10		0.040	00016 <sub>(4</sub>
	D1 (stream)	0.147	0.074	0.037	©′0.015	0,223	0.062,0	0.031	@0.012
	D3 (ditch)	0.124	0.062	0.031	0.013	0.104		g::026	- 0 0 1 A .
5m	D4 (pond)	0.014	0.007	0.0630	0.001	>0.017 <sup>©</sup>	0.009	0.004	0.002
SD	D4 (stream)	0.144	0.072	0036	∂0.014\$	0. <b>121</b> ″	<b>20</b> 9060 2	0.030	<b>Ø</b> Ø12
SD	D5 (pond)	0.014	0.007	©003	© 0.00%	0.0017	₹0.009	0,004	₹ 0.002°
	D5 (stream)	0.141	0.071	<u>4</u> 0.035	0.054	.00.122 <sup>©</sup>	0.061	6030	0.012
	R1 (pond)	0.033	0.028 🔏	√0.Q <b>2</b> 6√	0.025	0.0484	0.042	, 0.039 <sup>©</sup>	0,037
	R1 (stream)	0.280	0.280	0.280	@Ø.280L	0.426	° 426 €	0.426	<b>4</b> 26

<sup>\*</sup> SD and RO denote spray drift and runoff buter

Spring oilseed rape: Maximum PEC values for this copridat Step 4 after single and mattiple applications Table CP 9.2.5- 13:

			,				<u> </u>		
				Offseed	<b>Thiac</b>	loprid		Ö	
			Ĭ Ŵ	Offseed	rape (sprji	ng), 2 <sup>2</sup> / <sub>2</sub> 72	g azs./ha	<i>J</i>	
		Y A	Single a	pptcation dug/kgky reduction 75% 0.074 0.019	<u>/</u>	<b>L</b>	Multiple	pplication	
Buffer	Scenario		PECsed	dμg/kgt) eduction	& _		PEC sed	[µg/kg]	
Width	Scenario	\$ ·,	ODrift R	eduction			Drift Ro		
& Type	Š.	9% 2	<sup>9</sup> 50%	75%	90%	<b>0%</b>	♥ 50%	75%	90%
	D1 (dit(A) D1 (stream) D3 (ditch)	0.279 0. <b>0</b> 75	Q.144	@0.07 <b>4</b> \$	0.031	\$0.439	0.226	0.117	0.048
	D1 (stream)	0.275	0.038	0.019	<b>10</b> 008	D 0.08₽	0.043	0.022	0.009
	D3@ditch)	0,075	90.038	00020	0.008 0.008	0.091	0.047	0.024	0.010
5m &	D4 (pond)	©0.04 <b>0</b> €	0.029	0.011	0.000	0.063	0.033	0.017	0.007
SD &	D4 (stream) 🧏	0.075 0.075 0.040 0.028	0.014	0.007	0.003	0.031	0.016	0.008	0.003
SD	D5 (pond) 💨 '	0.40,47	Ø.024 (	0.913	Ø.005 ≥	0.072	0.037	0.020	0.008
	D5 (stream)	0.007	D" 0.0 <b>03</b> ,"	0.002	< 0.00	0.009	0.005	0.002	< 0.001
	R1 (pond)	0.1145	0.006	×0.087 C	₹ 0.0 <b>%∑</b>	0.170	0.142	0.128	0.119
	R1 (stream)	0.50	_ <b>0,499</b> _	0.498	0.497	0.629	0.626	0.624	0.624
* SD and	RO denote spray	drift and run	off buffer						
				~ ×	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
d	Ö y	¥ Q			,				
<b>%</b> 1	, Ç	, A							
~~		\$ ' \cdot \c	y Q						
			) (V)	4					
	L & 1	\ \Q^{y}	ŢĢ	Q`					
		, O ×	ý «Q						
K		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \							
	"O" Ä"								
Æ,									
,	O <sub>A</sub>								
	D1 (ditCh) D1 (stream) D3 (ditch) D4 (pond) D5 (pond) D5 (stream) R1 (pond) R1 (stream) RO denote spray								

**Table CP 9.2.5-14:** Winter oilseed rape: Maximum PEC<sub>sw</sub> values for thiacloprid at Step 4 after single<sub>o</sub> and multiple applications

					Thiac	loprid	^		
				Oilseed	rape (wint	er), 2 × 72	g a.s./ha		
			Single ap	plication			Multiple a	pplication	
Buffer Width	Scenario			[µg/L]) eduction	Ĉħ			[μg/LΦ eduction	
& Type		0%	50%	75%	90%	0%_@	50%	Ø5%~C	90%
5m SD	D2 (ditch) D2 (stream) D3 (ditch) D4 (pond) D4 (stream) D5 (pond) D5 (stream) R1 (pond) R1 (stream)	0.125 0.150 0.124 0.014 0.143 0.014 0.148 0.014 0.138	0.063 0.075 0.062 0.007 0.072 0.007 0.074 0.012	0.031 0.038 0.031 0.003 0.036 0.037 0.011 0.138	0.001 30.014 0.005	0.045 0.130 0.045 0.501	0.053 0.063 0.055 0.009 0.009 0.009 0.065 0.040 0.551	0.005 0.005 0.004 0.032 0.038 0.594	0.002 0.01\$
SD	D5 (stream) R1 (pond)	0.148 0.014	0.074 0.012 ×	<u>4</u> 0.037	0.05	0.045	0.065	4.00	6032 0.038 €

<sup>\*</sup> SD and RO denote spray drift and runoff buffer

Winter oilseed vape: Maximum PEC of values for this cloprid at Step 4 after single and multiple applications **Table CP 9.2.5-15:** 

Thiacloprid  Thiacloprid  Silseed Sape (Winter & 2 × 72 g a.s./ha)	<del>V</del>	
	<u>~</u>	
J. S Oilseed ape (Winter) 2 × 7,2 g a.s./h@	) )	
	application	1
Ruffer & & DPECMug/kgl & Q . PEC.	ed [μg/kg]	
Buffer Width Scenario PEC [µg/kg]) PECs  Drift Reduction Drift 1	Reduction	
Width Scenario Drift Reduction Drift Legy Dr	75%	90%
$D_{2}(A = A = A = A = A = A = A = A = A = A =$	0.087	0.036
	0.098	0.041
(ditch)   0.085   0.04   0.022   0.009   0.097   0.050	0.026	0.011
5m D4 (pond) 0.04\$\(\text{0.012}\) 0.023 0.012\(\text{0.012}\) 0.005 0.070 0.036 D4 (stream) 0.4024 0.012\(\text{0.012}\) 0.006 0.005 0.005 0.015	0.019	0.008
5m D4 (stream) 0.4024 50.012 0 0.606 50.002 \$70.030 0.015	0.008	0.003
D5 (pond) 0.048 0 0.025 0.0013 0.006 0.074 0.038	0.020	0.008
5m D4 (stream) 0.024 0.012 0.006 0.002 0.030 0.015 0.048 0.025 0.013 0.006 0.0074 0.038 0.017 0.008 0.013 0.0074 0.038 0.017	0.008	0.003
D4 (stream) 0.024 0.012 0.006 0.002 0.030 0.015 0.006 0.003 0.015 0.006 0.003 0.017 0.008 0.003 0.007 0.033 0.017 0.006 0.003 0.007 0.006 0.175 0.008 0.107 0.106 0.382 0.380	0.160	0.151
R1 (stream) 0.107 0.106 0.382 0.380	0.379	0.378
R3 (stream) 0.440 0.434 0.432 0.430 0.438 0.434	0.431	0.430
SD and to denote spray, If it and Ronoff buffer &		
D5 (stream)		

### **CP 9.3** Fate and behaviour in air

For information on the fate and behaviour in air please refer to MCA Section 7, data point 7.3.

## **CP 9.3.1**

... point 7.3.
... atransport via air
... air and transport via air please refer to MCA.
... and short half-life in air no PEC calculations are required.

Estimation of concentrations for other routes of exposure the routes of exposure if the product is used according to good agriculations are considered necessary. For information on route and rate of degradation in air and transport via air please refer to Nection 7, data points 7.3.1 and 7.3.2.

Due to the low volatility and short half-life in air no PC calculations are required

### **CP 9.4**

There are no other routes of exposure if the products used according to food a ficultiful product. Therefore no further estimations are considered necessary.