Appendix to:

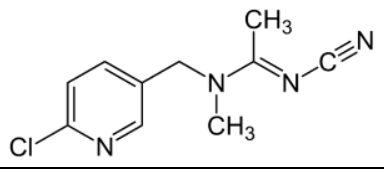
EFSA (European Food Safety Authority), 2016. Conclusion on the peer review of the pesticide risk assessment of the active substance acetamiprid. EFSA Journal 2016;14(11):4610, 91 pp. doi:10.2903/j.efsa.2016.4610

Appendix A – List of end points for the active substance and the representative formulation

Section 1 Identity, Physical and Chemical Properties, Details of Uses, Further Information (Regulation (EU) N° 283/2013, Annex Part A, points 1.3 and 3.2)

Active substance (ISO Common Name)	Acetamiprid
Function (e.g. fungicide)	Insecticide
Rapporteur Member State	The Netherlands
Co-rapporteur Member State	Spain

Identity (Regulation (EU) N° 283/2013, Annex Part A, point 1)

Chemical name (IUPAC)	(*E*)-N^1-[(6-Chloro-3-pyridyl)methyl]-N^2-cyano-N^1-methylacetamidine
Chemical name (CA)	(*E*)-*N*-[(6-Chloro-3-pyridinyl)methyl]-*N*'-cyano-*N*-methylethanimidamide
CIPAC No	649
CAS No	135410-20-7
EC No (EINECS or ELINCS)	Not allocated
FAO Specification (including year of publication)	None
Minimum purity of the active substance as manufactured	990 g/kg
Identity of relevant impurities (of toxicological, ecotoxicological and/or environmental concern) in the active substance as manufactured	None
Molecular formula	$C_{10}H_{11}ClN_4$
Molar mass	222.68 g/mol
Structural formula	

Physical and chemical properties (Regulation (EU) N° 283/2013, Annex Part A, point 2)

Melting point (state purity)	98.9 °C (99.7%, tech)
Boiling point (state purity)	No boiling point observed before decomposition (≥99.9%)
Temperature of decomposition (state purity)	> 200 °C (≥99.9%)
Appearance (state purity)	Fine white powder (≥99.9%, pure) Very pale yellow fine powder (99.9%, tech)
Vapour pressure (state temperature, state purity)	1.73×10^{-7} Pa at 50 °C (≥99%) The vapour pressure is expected to be less than 1×10^{-6} Pa at 25 °C. Acetamiprid is non-volatile
Henry's law constant (state temperature)	< 5.3×10^{-8} Pa m^3 mol^{-1} (25 °C)
Solubility in water (state temperature, state purity and pH)	Distilled water: 4.25 g/L at 25 °C 3.48 g/L at 25 °C (pH 5) (>99%) 2.95 g/L at 25 °C (pH 7) (>99%) 3.96 g/L at 25 °C (pH 9) (>99%)
Solubility in organic solvents (state temperature, state purity)	At 25 °C (>99%) hexane: 6.54 ppm xylene: 4.01 g/100 g benzene: 2.44 g/100 g dichloromethane: >20 g/100 g chloroform: >20 g/100 g methanol: >20 g/100 g ethanol: >20 g/100 g acetone: >20 g/100 g acetonitrile: >20 g/100 g tetrahydrofuran: >20 g/100 g carbon disulphide: 507 ppm The solubilities are expressed as weight of a.s. per weight of solvent. At 20 °C (>99%) Ethyl acetate 37.8 g/L
Surface tension (state concentration and temperature, state purity)	70.9 mN/m at 19.5 °C (1 g/L solution) (99.9%, tech)
Partition coefficient (state temperature, pH and purity)	log P_{OW} = 0.80 at 25 °C (neutral pH) (>99%)
Dissociation constant (state purity)	pKa = 0.7 at 25 °C (>99%)

UV/VIS absorption (max.) incl. ε (state purity, pH)	Neutral solution (CH_3OH/H_2O): λ_{max} (nm); ε (L mol^{-1} cm^{-1}) 247 1.97 x 10^4 217 1.21 x 10^4 Acidic solution (CH_3OH/HCl): λ_{max} (nm); ε (L mol^{-1} cm^{-1}) 248 1.96 x 10^4 215 1.22 x 10^4 Alkaline solution ($CH_3OH/NaOH$): λ_{max} (nm); ε (L mol^{-1} cm^{-1}) 246 1.91 x 10^4
Flammability (state purity)	Not classified as highly flammable (99.9%, tech) No self-ignition temperature was determined up to 450°C
Explosive properties (state purity)	No explosive properties (99.9%, tech)
Oxidising properties (state purity)	No oxidising properties (expert statement)

Summary of representative uses evaluated, for which all risk assessments needed to be completed (*name of active substance or the respective variant*)
(Regulation (EU) N° 284/2013, Annex Part A, points 3, 4)

Acetamiprid 20 SG		**Critical Uses – justification and GAP tables**	
PPP (product name/code)	ACETAMIRPID 20 SG	Formulation type:	SG
active substance 1	Acetamiprid	Conc. of as 1:	200 g/kg
active substance 2	Not applicable	Conc. of as 2:	Not applicable
active substance 3	Not applicable	Conc. of as:	Not applicable
safener	None	Conc. of safener:	Not applicable
synergist	None	Conc. of synergist:	Not applicable
Applicant:	Nippon Soda Co., Ltd	professional use	☒
Zone(s):	EU	non professional use	☐
Verified by MS:	Y		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/or situation (crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**			**Application rate**			**PHI** (days)	**Remarks:**
					Method / Kind	Timing / Growth stage of crop & season	Max. number (min. interval between applications) a) per use b) per crop/ season	kg 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		e.g. safener/synergist per ha e.g. recommended or mandatory tank mixtures
1	EU	Tomato	G	Aphids	Foliar	BBCH 61 – 89 (January-December)	a) 2 (7) b) 2 (7)	a) 0.5 b) 1.0	a) 0.100 b) 0.200	300 – 1500	3	Use in greenhouse is in permanent structure
2	EU	Pome fruit	F	Aphids	Foliar	BBCH 77 – 87 (June - September)	a) 2 (14) b) 2 (14)	a) 0.375 b) 0.750	a) 0.075 b) 0.150	300 – 1000	14	
3	EU	Potato	F	Colorado potato beetle / aphids	Foliar	BBCH 45 – 93 (May-October)	a) 3 (7) b) 3 (7)	a) 0.250 b) 0.750	a) 0.05 b) 0.150	400 – 600	7	

Summary of additional intended uses for which MRL applications have been made, that in addition to the uses above, have also been considered in the consumer risk assessment (name of active substance or the respective variant)
Regulation (EC) N° 1107/2009 Article 8.1(g))

Important note: efficacy, environmental risk and risk to humans by exposure other than via their diet have not been assessed for these uses

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
MRL Application (according to Article 8.1(g) of Regulation (EC) No 1107/2009)															

(a) For crops, the EU and Codex classifications (both) should be taken into account; where relevant, the use situation should be described (e.g. fumigation of a structure)
(b) Outdoor or field use (F), greenhouse application (G) or indoor application (I)
(c) *e.g.* biting and sucking insects, soil born insects, foliar fungi, weeds
(d) *e.g.* wettable powder (WP), emulsifiable concentrate (EC), granule (GR)
(e) CropLife International Technical Monograph no 2, 6th Edition. Revised May 2008. Catalogue of pesticide
(f) All abbreviations used must be explained
(g) Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench
(h) Kind, *e.g.* overall, broadcast, aerial spraying, row, individual plant, between the plant- type of equipment used must be indicated
(i) g/kg or g/L. Normally the rate should be given for the active substance (according to ISO) and not for the variant in order to compare the rate for same active substances used in different variants (e.g. fluoroxypyr). **In certain cases, where only one variant is synthesised, it is more appropriate to give the rate for the variant (e.g. benthiavalicarb-isopropyl).**
(j) Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including where relevant, information on season at time of application
(k) Indicate the minimum and maximum number of applications possible under practical conditions of use
(l) The values should be given in g or kg whatever gives the more manageable number (e.g. 200 kg/ha instead of 200 000 g/ha or 12.5 g/ha instead of 0.0125 kg/ha
(m) PHI - minimum pre-harvest interval

Further information, Efficacy

Effectiveness (Regulation (EU) N° 284/2013, Annex Part A, point 6.2)

It is considered that it has been established for or several representative uses that the plant protection product, consequent on application consistent with good plant protection practice and having regard to realistic conditions of use is sufficiently effective.

Adverse effects on field crops (Regulation (EU) N° 284/2013, Annex Part A, point 6.4)

The representative GAP is supported. No adverse effects are known from current registrations of the product.

Observations on other undesirable or unintended side-effects (Regulation (EU) N° 284/2013, Annex Part A, point 6.5)

The representative GAP is supported. No undesirable or unintended effects are expected based on existing registrations.

Groundwater metabolites: Screening for biological activity (SANCO/221/2000-rev.10-final Step 3 a Stage 1)

Activity against target organism	IM-1-5
	Information not available. Not required whilst this metabolite is considered toxicologically relevant based on the proposed classification Acute Tox 3 for IM-1-5; and on the proposed classification Carc cat 2 for acetamiprid.

Methods of Analysis

Analytical methods for the active substance (Regulation (EU) N° 283/2013, Annex Part A, point 4.1 and Regulation (EU) N° 284/2013, Annex Part A, point 5.2)

Technical a.s. (analytical technique)	HPLC-UV (255 nm) using methyl 4-hydorxybenzoate as internal standard
Impurities in technical a.s. (analytical technique)	HPLC-UV HSGC-FID
Plant protection product (analytical technique)	HPLC-UV (250 nm)

Analytical methods for residues (Regulation (EU) N° 283/2013, Annex Part A, point 4.2 & point 7.4.2)

Residue definitions for monitoring purposes

Food of plant origin		Acetamiprid
Food of animal origin		*N*-desmethyl-acetamiprid (IM-2-1), expressed as acetamiprid
Soil		Acetamiprid
Sediment		No residue definition provided
Water	surface	Acetamiprid
	drinking/ground	Acetamiprid, IM-1-5
Air		Acetamiprid
Body fluids and tissues		No residue definition provided, IM-2-1 and 6-chloronicotinic acid (IC-0) were the main residues identified in rat urine.

Monitoring/Enforcement methods

Food/feed of plant origin (analytical technique and LOQ for methods for monitoring purposes)	Multiresidue method (QuEChERS) HPLC-MS/MS (LOQ 0.01 mg/kg for apple, potato, whole orange, maize grain, sunflower seed and honey)
Food/feed of animal origin (analytical technique and LOQ for methods for monitoring purposes)	Multiresidue method (QuEChERS) HPLC-MS/MS (LOQ 0.01 mg/kg for IM-2-1, all matrices). (The same method was also validated with the same LOQ for acetamiprid, but it was not included in the monitoring residue definition)
Soil (analytical technique and LOQ)	HPLC-MS/MS (LOQ 0.002 mg/kg for acetamiprid and IM-1-5)

Water (analytical technique and LOQ)	Acetamiprid: HPLC-MS/MS (LOQ 0.1 µg/L in drinking, ground and surface water) IM-1-5: HPLC-MS/MS (LOQ 0.05 µg/L in drinking, ground and surface water).
Air (analytical technique and LOQ)	HPLC-MS/MS (LOQ 0.002 µg/m^3) for acetamiprid
Body fluids and tissues (analytical technique and LOQ)	HPLC-MS/MS (LOQ 0.05 mg/L in blood) for acetamiprid

Classification and labelling with regard to physical and chemical data (Regulation (EU) N° 283/2013, Annex Part A, point 10)

Substance	Acetamiprid
Harmonised classification according to Regulation (EC) No 1272/2008 and its Adaptations to Technical Process [Table 3.1 of Annex VI of Regulation (EC) No 1272/2008 as amended][1]:	No classification proposed based on physical and chemical data
Peer review proposal [2] for harmonised classification according to Regulation (EC) No 1272/2008:	No classification proposed based on physical and chemical data

[1] Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. OJ L 353, 31.12.2008, 1-1355.

[2] It should be noted that harmonised classification and labelling is formally proposed and decided in accordance with Regulation (EC) No 1272/2008. Proposals for classification made in the context of the evaluation procedure under Regulation (EC) No 1107/2009 are not formal proposals.

Section 2 Impact on Human and Animal Health

Absorption, distribution, metabolism and excretion (toxicokinetics) (Regulation (EU) N° 283/2013, Annex Part A, point 5.1)

Rate and extent of oral absorption/systemic bioavailability	Rapid and almost complete (> 96% at 24 h after single oral administration).
Toxicokinetics	<u>Single administration</u> Cmax: 1 ppm (low dose), 40.5 ppm (high dose) Tmax: 0.5 – 2 h (low dose), 3 - 7 h (high dose) $T_{1/2}$: 5.8 - 7.1 h (low dose), 8 – 15 h (high dose) <u>Repeated administration</u> Cmax: 0.8 µg/ml Tmax: 2.8 h $T_{1/2}$: 4.4 – 5.6 h
Distribution	Highest concentration after single administration in adrenal glands, thyroid, liver and kidney; after repeated administration in the GI tract, liver and kidney
Potential for bioaccumulation	Low potential for accumulation
Rate and extent of excretion	Rapid and higher than 90% at 96 h, mainly via urine, after single and repeated oral administrations, regardless of the dose level.
Metabolism in animals	Approximately > 90% metabolised. Main metabolites for the ring-labelled compound (rats): nicotinic acid derivative IC-0 and demethylated compound IM-2-1 (approx.. 50%) Main metabolites for the CN-labelled compound (rats): IM-2-1, IS-1-1 and IS-2-1 (approx. 70%) Metabolite IM-1-5 (4.5%) is detected in rat metabolism only by HPLC analysis of fresh urine samples.
In vitro metabolism	Data gap
Toxicologically relevant compounds (animals and plants)	Acetamiprid and IM-1-5
Toxicologically relevant compounds (environment)	Acetamiprid and IM-1-5

Acute toxicity (Regulation (EU) N° 283/2013, Annex Part A, point 5.2)

Rat LD_{50} oral	In water: 217 mg/kg bw (male) and 146 mg/kg bw (female) In corn oil: 195 mg/kg bw (male) and 140-200 mg/kg bw (female)	Acute Tox. 3 H301
Rat LD_{50} dermal	> 2000 mg/kg bw	
Rat LC_{50} inhalation	> 1.15 mg/L air /4h (highest attainable concentration, snout-only exposure)	
Skin irritation	Non-irritant	
Eye irritation	Non-irritant	
Skin sensitisation	Not sensitising (M&K)	
Phototoxicity	Not required	

Short-term toxicity (Regulation (EU) N° 283/2013, Annex Part A, point 5.3)

Target organ / critical effect	Rat and mouse: liver (increased liver weight, hepatocellular hypertrophy) Rat, mouse, dog: body weight decrease	
Relevant oral NOAEL	90-day rat: 12.4 mg/kg bw per day 90-day mouse:106.1 mg/kg bw per day 90-day dog: 13 mg/kg bw per day 1-year dog: 20 mg/kg bw per day Overall short-term dog: 13 mg/kg bw per day	
Relevant dermal NOAEL	21-day, rabbit: 1000 mg/kg bw per day	
Relevant inhalation NOAEL	No data - not required	

Genotoxicity (Regulation (EU) N° 283/2013, Annex Part A, point 5.4)

In vitro studies	Acetamiprid did not induce gene mutation in the Ames test and in the mammalian cell study (CHO/HPRT), and was inactive to induce DNA damage in the unscheduled DNA synthesis (UDS) test with rat liver cells. Acetamiprid was positive in a chromosomal aberration assay in CHO cells, with and without metabolic activation.	
In vivo studies	Acetamiprid did not induce DNA damage in the unscheduled DNA synthesis (UDS) test with rat liver cells *in vivo*, and did not induce any significant increase of chromosome aberrations in bone marrow of rats and was not mutagenic in the mouse bone marrow micronucleus test.	
Photomutagenicity	Not required	
Potential for genotoxicity	Acetamiprid is unlikely to be genotoxic *in vivo*	

Long-term toxicity and carcinogenicity (Regulation (EU) N°283/2013, Annex Part A, point 5.5)

Long-term effects (target organ/critical effect)	Decreased body weight and liver effects (vacuolation and centrilobular hypertrophy) (rats and mice) Amyloidosis in adrenal cortex and increased spleen weight (mice)	
Relevant long-term NOAEL	2-year, rat: 7.1 mg/kg bw per day 18-month, mouse: 20.3 mg/kg bw per day	
Carcinogenicity (target organ, tumour type)	Rat: increased incidence of adenocarcinoma in mammary gland Mouse: no tumours	Carc 2 H351
Relevant NOAEL for carcinogenicity	2-year, rat: 7.14 mg/kg bw per day; 18-month, mouse: 186.3 mg/kg bw per day	

Reproductive toxicity (Regulation (EU) N° 283/2013, Annex Part A, point 5.6)

Reproduction toxicity

Reproduction target / critical effect	Rat 2-generation study: Parental toxicity: reduced body weight Reproductive toxicity: no adverse effect Offspring's toxicity: reduced postnatal survival F2, decreased pup weight	
Relevant parental NOAEL	17.9 mg/kg bw per day	
Relevant reproductive NOAEL	51 mg/kg bw per day, highest tested dose	
Relevant offspring NOAEL	17.9 mg/kg bw per day	

Developmental toxicity

Developmental target / critical effect	Maternal toxicity: reduced bodyweight gain, decreased food consumption (rat and rabbit); increased liver weight (rat) Developmental toxicity: shortening of the 13th rib (rat); no adverse effect (rabbit)	
Relevant maternal NOAEL	Rat: 16 mg/kg bw per day Rabbit: 15 mg/kg bw per day	
Relevant developmental NOAEL	Rat: 16 mg/kg bw per day Rabbit: 30 mg/kg bw per day	

Neurotoxicity (Regulation (EU) N° 283/2013, Annex Part A, point 5.7)

Acute neurotoxicity	Rat NOAEL = 10 mg/kg bw, based on behavioural changes and reduced locomotor activity.	

Repeated neurotoxicity	13-week neurotoxicity study, rat: NOAEL (systemic toxicity) = 14.8 mg/kg bw per day, based on decreased food consumption and body weight. NOAEL (neurotoxicity) = 118 mg/kg bw per day (higest dose tested), no evidence of neurotoxicity.	
Additional studies (e.g. delayed neurotoxicity, developmental neurotoxicity)	Acute delayed neurotoxicity study (hens): No delayed neurotoxic potential in hens treated at the determined LD_{50} value of 129 mg/kg bw. Developmental neurotoxicity study (rat): NOAEL = 2.5 mg/kg bw per day, based on reduced auditory startle response and uncertainties and methodological drawbacks in the study.	

Other toxicological studies (Regulation (EU) N° 283/2013, Annex Part A, point 5.8)

Supplementary studies on the active substance	No immunotoxic potential in rats and mice (in 4-week studies): NOAEL 62.9 mg/kg bw per day in rats, and 128 mg/kg bw per day in mice
Endocrine disrupting properties	Unlikely to be endocrine disruptor
Studies performed on metabolites or impurities	IM-I-0 (IM-0): acute oral LD_{50} 1483 mg/kg bw (rat); Ames negative; 90-day NOAEL 48.9 mg/kg bw per day, 90-d rat study) IM-1-3: acute oral LD_{50} 900 mg/kg bw (rat); Ames negative IM-1-4: acute oral LD_{50} 926.84 mg/kg bw (rat); acute dermal LD_{50} > 2000 mg/kg bw (rat); not mutagenic (Ames, CHO/HGPRT) and not clastogenic (*in vivo* mouse micronucleus); 90-day NOAEL 112.2 mg/kg bw per day (rat study) IM-2-1: acute oral LD_{50} 1762 mg/kg bw (rat); Ames negative IM-2-3: acute oral LD_{50} 900 mg/kg bw (rat); Ames negative IM-1-2: acute oral LD_{50} > 5000 mg/kg bw (rat); Ames negative IS-1-1: acute oral LD_{50} 2420 mg/kg bw (rat); Ames negative IS-2-1: acute oral LD_{50} > 5000 mg/kg bw (rat); Ames negative IC-0: acute oral LD_{50} > 5000 mg/kg bw (rat); Ames negative IB-1-1: acute oral LD_{50} > 2000 mg/kg bw (rat); Ames negative IM-1-5: acute oral LD_{50} 141 mg/kg bw in males and 132 mg/kg bw in females (rat, administered in corn oil) ; not mutagenic (2 Ames, MLA)

Medical data (Regulation (EU) N° 283/2013, Annex Part A, point 5.9)

Medical surveillance on manufacturing personnel did not reveal any adverse effects related to acetamiprid exposure

Summary[3] (Regulation (EU) N°1107/2009, Annex II, point 3.1 and 3.6)

	Value (mg/kg bw (per day))	Study	Uncertainty factor
Acceptable Daily Intake (ADI)	0.025*	rat, developmental neurotoxicity study	100
Acute Reference Dose (ARfD)	0.025*	rat, developmental neurotoxicity study	100
Acceptable Operator Exposure Level (AOEL)	0.025*	rat, developmental neurotoxicity study	100
Acute Acceptable Operator Exposure Level (AAOEL)	0.025**	rat, developmental neurotoxicity study	100

* During the first review, the ADI and AOEL values were 0.07 mg/kg bw per day based on 2-year and multigeneration rat studies (UF 100) and the ARfD was 0.1 mg/kg bw based on the rat acute neurotoxicity study (UF 100)

** This value has been agreed by the experts but not used for non-dietary risk assessment

Dermal absorption (Regulation (EU) N° 284/2013, Annex Part A, point 7.3)

Representative formulation (Acetamiprid 20 SG, 200 g/kg)	0.6% and 8% for the concentrate and dilution of formulation EXP-60707B, respectively (chemically identical to Acetamiprid 20 SG) in an *in vitro* dermal penetration study in human skin

Exposure scenarios (Regulation (EU) N° 284/2013, Annex Part A, point 7.2)

Operators	Use: potatoes, tractor mounted equipment, application rate 0.05 kg a.s./ha Exposure estimates (model): % of AOEL UK POEM Without PPE 40 German model Without PPE 11 Use: pome fruit, tractor mounted air-assisted, application rate 0.075 kg a.s./ha Exposure estimates (model): % of AOEL UK POEM Without PPE 172 With PPE (gloves, RPE) 119 German model Without PPE 33 AOEM

3 If available include also reference values for metabolites

	Without PPE 22
	Use: tomato, greenhouse Exposure estimates (model): % of AOEL ECPA Southern greenhouse Without PPE 161 With PPE (gloves, impervious clothing) 9 Dutch greenhouse model Without PPE 97
Workers	Outdoor crops The estimated exposure is less than the AOEL for the worker wearing adequate work clothing but no PPE and assuming no dissipation of DFR between or following applications. Hand harvesting activities (pome fruit): 86% of AOEL (EUROPOEM II) or 74% (EFSA model). Indoor (protected) crops The estimated exposure is less than the AOEL for the worker wearing adequate work clothing but no PPE and assuming no dissipation of DFR between or following applications. Hand harvesting activities (tomato): 64% of AOEL (EUROPOEM II) or 55% (EFSA model).
Bystanders and residents	Field uses: 5 % of AOEL for adult bystander (EUROPOEM II). 6% for the bystander and 4% for the resident (German model, based on Martin et al. 2008). Greenhouse use: 6% adult bystander (EUROPOEM II); 4% for the bystander and resident (German model).

Classification with regard to toxicological data (Regulation (EU) N° 283/2013, Annex Part A, Section 10)

Substance:	Acetamiprid
Harmonised classification according to Regulation (EC) No 1272/2008 and its Adaptations to Technical Process [Table 3.1 of Annex VI of Regulation (EC) No 1272/2008 as amended][4]:	Acute Tox. 4; H302 Harmful is swallowed
Peer review proposal [5] for harmonised classification according to Regulation (EC) No 1272/2008:	Acute Tox. 3; H301 Toxic if swallowed Carc. 2; H351 Suspected of causing cancer

[4] Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. OJ L 353, 31.12.2008, 1-1355.

[5] It should be noted that harmonised classification and labelling is formally proposed and decided in accordance with Regulation (EC) No 1272/2008. Proposals for classification made in the context of the evaluation procedure under Regulation (EC) No 1107/2009 are not formal proposals.

Section 3 Residues in or on treated products food and feed

Metabolism in plants (Regulation (EU) N° 283/2013, Annex Part A, points 6.2.1, 6.5.1, 6.6.1 and 6.7.1)

Primary crops (Plant groups covered)	**Crop groups**	**Crops**	**Application(s)**	**DAT** (days)
	Fruit	Eggplant	1x 9 g/hl (dotting to surface)	7, 14
		Apple	1x 208 g/h (dotting to surface)	0, 7, 14, 28, 90
			1x 104 g/ha (dotting to surface)	0, 14, 28, 62
	Root	Carrot	2x 100 g/ha (foliar treatment)	14
	Leafy	Cabbage	1x 302 g/ha (foliar treatment)	0, 14, 28, 63
			1x 5940 g/ha (soil application)	7, 14 and 28
			1x 299 g/ha (foliar treatment)	0, 7, 14, 28, 63
	Cereals/grass	-		
	Pulses/Oilseeds	Cotton	4x 127 & 1230 g/ha (foliar)	14 and 28
	Miscellaneous	-		
	Acetamiprid main component of residues (almost 50 to 99 % TRR), except in cabbage head and cotton seeds after foliar application where metabolite IC-0 (6-chloronicotinic acid) was detected as major (*ca.* 46 and 24 % TRR respectively). IC-0 was also present in carrot root at 26% TRR but in this case parent was the major residue.			

Rotational crops (metabolic pattern)	**Crop groups**	**Crop(s)**	**PBI** (days)	**Comments**
	Root/tuber	Turnip	0	Since acetamiprid DT_{50} values in soil range between 0.8-7.9 days, study was conducted with metabolite IM-1-5 the most persistent soil metabolite (DT_{50} 319 to 663 days).
	Leafy	Spinach	0	
	Cereal	Wheat	0	
	Other	-		
Rotational crop and primary crop metabolism similar?	The only [^{14}C]-residue found in the crop commodities was IM-1-5 accounting for the entire extractable radioactive residue (≥ 76.8% TRR). No other metabolites or unidentified residues were observed in any crop commodity.			

Processed commodities (standard hydrolysis study)	**Conditions**	Acetamiprid (0.1 mg/kg) (% Applied Radioactivity)	Acetamiprid (1.0 mg/kg) (% Applied Radioactivity)
	20 min, 90°C, pH 4	95.6	93.3
	60 min, 100°C, pH 5	95.1	95.6
	20 min, 120°C, pH 6	98.1	97.6
Residue pattern in processed and raw commodities similar?	Acetamiprid stable under standard hydrolysis conditions. Pasteurisation, boiling and sterilisation are unlikely to result in any significant metabolites.		

Plant residue definition for monitoring (RD-Mo)	Acetamiprid
Plant residue definition risk assessment (RD-RA)	Acetamiprid
Conversion factor (monitoring to risk assessment)	not applicable

Metabolism in livestock (Regulation (EU) N° 283/2013, Annex Part A, points 6.2.2, 6.2.3, 6.2.4, 6.2.5 6.7.1)

Animals covered	Animal	Dose (mg/kg feed/d)	Duration (days)	N rate/comment
	Laying hen	1 and 10	14	
	Goat/Cow	1 and 10	7	
	Pig			Not required
	Fish			Not required
	Extensive elimination in the excreta (more than 95% of administered radioactivity) was observed for the two species. Acetamiprid extensively metabolised and only detected in milk. In all matrices residues identified as IM-2-1, except in goat muscle, where IM-2-2 was predominant, but at low levels (0.03 mg eq/kg)			
Time needed to reach a plateau concentration in milk and eggs (days)	4-8 days to reach a steady state in eggs 1-3 days to reach a steady state in milk			
Animal residue definition for monitoring (RD-Mo)	Metabolite IM-2-1 (N-desmethyl-acetamiprid), expressed as acetamiprid			
Animal residue definition for risk assessment (RD-RA)	Sum of acetamiprid and metabolite IM-2-1 (N-desmethyl-acetamiprid), expressed as acetamiprid			
Conversion factor (monitoring to risk assessment)	Milk: 1.3 Other mammalian products: 1.1 Poultry matrices: not required			
Metabolism in rat and ruminant similar (Yes/No)	Yes			
Fat soluble residues (Yes/No)	No			

Residues in succeeding crops (Regulation (EU) N° 283/2013, Annex Part A, point 6.6.2)

Confined rotational crop study (Quantitative aspect)	TRR in the range of 0.096 to 0.531 mg eq/kg in feed and of 0.004-0.100 mg eq/kg in food commodities. 77% to 94% of TRR extractable (acetonitrile:water), with IM-1-5 as the sole metabolite identified (0.09 to 0.41 mg eq/kg in feed and 0.01-0.09 mg eq/kg in food commodities).
Field rotational crop study	Field studies in NEU and SEU conducted at *ca.* 300 g/ha on bare soil. Acetamiprid, IM-1-4 and IM-1-5 residues: -<0.01 mg/kg in spinach (all PBIs and growth stages). -<0.01 mg/kg in turnip (all PBIs and growth stages when harvested at maturity). -0.04/0.15/0.03 mg/kg for acetamiprid/IM-1-4/IM-1-5 in immature whole plant at 360 day PBI. -<0.01 mg/kg in wheat, except forage at 30 d PBI in NEU with IM-1-4 at 0.013 mg/kg. Storage stability not available for IM-1-4 and IM-1-5. Since most of the samples were analysed for IM-1-5 within 36 days and since IM-1-5 was not included for the purpose of risk assessment, storage stability data are not required. Data on IM-1-4 are considered informative only.

Stability of residues (Regulation (EU) N° 283/2013, Annex Part A, point 6.1)

Plant products (Category)	Commodity	T (°C)	Stability (Months)		
			Acetamiprid		
High water	Cabbage, cucumber	-18	12		
	Apple, tomato,	-18	≤13		
	lettuce	-18	15		
High oil	Cotton seed, cotton oil, orange oil	-18	12		
High protein	Fodder peas	-18	12		
High starch	Potato tuber	-18	8		
High acid	Orange, orange juice	-18	12		
Processed commodities	Apple juice/wet pomace Cotton gin trash/hulls/meal Orange dried pulp	-18	12		
For high water- content matrices acetamiprid residues are concluded to be stable for up to 15 months					

Animal	Animal commodity	T (°C)	Stability (Month/Year)			
-	Muscle					
-	Liver					
-	Kidney					
-	Milk					
-	Egg					
Samples of the livestock feeding studies were stored for less than 1 month under freezer conditions. Storage stability studies are therefore not required.						

Summary of residues data from the supervised residue trials (Regulation (EU) N° 283/2013, Annex Part A, point 6.3)

Crop (GAP)	Region/ Indoor (a)	Residue levels (mg/kg) in the supervised residue trials relevant to the supported GAPs (b)	Recommendations/comments (OECD calculations)	MRL proposals (mg/kg)	HR (mg/kg) (c)	STMR (mg/kg) (d)
Representative uses						
Apple and pear (2x 75 g/ha, PHI 14 days)	NEU	0.010; 2x 0.020; 0.025; 0.026; 2x 0.030; 2x 0.031; 0.034; 0.040; 2x 0.056; 0.071	Trials not conducted according to the proposed GAP, since performed with intervals between applications of 28 to 49 days in NEU and of 45 to 49 days in SEU (instead of 14 days). MRL not proposed.	no proposal		
	SEU	<0.010; 0.015; 2x 0.017; 0.020; 2x 0.028; 0.031; 0.034; 0.044; 0.056				
Potato (3x 50 g/ha, PHI 7 days)	NEU	4x <0.01		0.01*	0.01	0.01
	SEU	4x <0.01				
Tomato (3x 50 g/ha, PHI 7 days)	Indoor	<u>0.01</u>; <u>0.015</u>; 0.06; 0.08; 0.081; 0.12; 0.13; 0.15; 0.21; 0.28 <u>underlined values:</u> Normal tomato (Other; cherry tomato)	Trials not conducted according to the proposed GAP, since performed with intervals between applications of 29 to 33 days (instead of 7 days). MRL not proposed.	no proposal		
Summary of data on residues in pollen and bee products (Regulation (EU) No 283/2013, Annex Part A, point 6.10.1)						
Residues studies in honey and pollen are not required.						

(a): **NEU** or **SEU** for northern or southern **outdoor** trials in EU member states (**N+SEU** if both zones), **Indoor** for glasshouse/protected crops, **Country** if non-EU location.
(b): Residue levels in trials conducted according to GAP reported in ascending order (*e.g.* 3x <0.01, 0.01, 6x 0.02, 0.04, 0.08, 3x 0.10, 2x 0.15, 0.17). When residue definition for monitoring and risk assessment differs, use **Mo/RA** to differentiate data expressed according to the residue definition for **Mo**nitoring and **R**isk **A**ssessment.
(c): **HR**: Highest residue. When residue definition for monitoring and risk assessment differs, HR according to residue definition for monitoring reported in brackets (HR_{Mo}).
(d): **STMR:** Supervised Trials Median Residue. When residue definition for monitoring and risk assessment differs, STMR according to definition for monitoring reported in brackets ($STMR_{Mo}$).

Inputs for animal burden calculations[(1)]

Feed commodity	Median dietary burden		Maximum dietary burden	
	(mg/kg)	Comment	(mg/kg)	Comment
Representative use				
Potato, culls	0.01	STMR	0.01	Highest residue
Potato, process waste	0.01	STMR extrapolated	0.01	STMR (extrapolated)
Potato, dried pulp	0.01	STMR extrapolated	0.01	STMR (extrapolated)

N/A= Not applicable (HR not relevant for by products, only STMR-p considered for calculations)
(1): Provisional calculation considering the identified data gap for the submission of residue trials on pome fruits.

Residues from livestock feeding studies (Regulation (EU) N° 283/2013, Annex Part A, points 6.4.1, 6.4.2, 6.4.3 and 6.4.4) [1]

MRL calculations	Ruminant				Pig/Swine		Poultry		Fish	
Highest expected intake (mg/kg bw/d) (mg/kg DM for fish)	Beef cattle	0.001	Ram/Ewe	0.002	Breeding	0.001	Broiler	0.001	Carp	Not required
	Dairy cattle	0.002	Lamb	0.001	Finishing	0.001	Layer	0.000	Trout	Not required
							Turkey	0.001	Fish intake >0.1 mg/kg DM	
Intake >0.004 mg/kg bw	No		No		No		No		N/A	
Feeding study submitted	Yes, Lactating cow, 28-day						Yes, Laying hens, 28-day		N/A	
Representative feeding level (mg/kg bw/d, mg/kg DM for fish) and **N rates**	Level	Beef: N Dairy: N	Level	Lamb: N Ewe: N	Level	N rate Breed/Finish	Level	B or T: N Layer: N	Level	N rate Carp/Trout
	Estimated HR[a] at 1N	**MRL** proposals	Estimated HR[a] at 1N	**MRL** proposals	Estimated HR[a] at 1N	**MRL** proposals	Estimated HR[a] at 1N	**MRL** proposals	Estimated HR[a] at 1N	**MRL** proposals
Muscle	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fat	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Meat[b]	N/A		N/A		N/A		N/A			
Liver	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Kidney	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Milk[a]	N/A	N/A	N/A	N/A						
Eggs							N/A	N/A		
Method of calculation[c]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

[a]: Estimated HR calculated at 1N level (**estimated mean level for milk**).
[b]: HR in meat calculated for mammalian on the basis of 20% fat + 80% muscle and 10% fat + 90% muscle for poultry
[c]: The OECD guidance document on residues in livestock (series on pesticides 73) recommends three different approaches to derive MRLs for animal products; by applying a transfer factor (Tf), by intrapolation (It) or by linear regression (Ln). Fill in method(s) considered to derive the MRL proposals.

STMR calculations	Ruminant				Pig/Swine		Poultry		Fish	
Median expected intake (mg/kg bw/d) (mg/kg DM for fish)	Beef cattle	0.001	Ram/Ewe	0.002	Breeding	0.001	Broiler	0.001	Carp	Not required
	Dairy cattle	0.002	Lamb	0.001	Finishing	0.001	Layer	0.000	Trout	Not required
							Turkey	0.001		
Representative feeding level (mg/kg bw/d, mg/kg DM for fish) and **N rates**	Level	Beef: N Dairy: N	Level	Lamb : N Ewe: N	Level	N rate Breed/Finish	Level	B or T: N Layer: N	Level	N rate Carp/Trout
	Mean level in feeding level	Estimated **STMR**[(b)] at 1N	Mean level in feeding level	Estimated **STMR**[(b)] at 1N	Mean level in feeding level	Estimated **STMR**[(b)] at 1N	Mean level in feeding level	Estimated **STMR**[(b)] at 1N	Mean level in feeding level	Estimated **STMR**[(b)] at 1N
Muscle	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fat	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Meat[(a)]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Liver	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Kidney	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Milk	N/A	N/A	N/A	N/A						
Eggs							N/A	N/A		
Method of calculation[(c)]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[(a)]: STMR in meat calculated for mammalian on the basis of 20% fat + 80% muscle and 10% fat + 90% muscle for poultry
[(b)]: When the mean level is set at the LOQ, the STMR is set at the LOQ.
[(c)]: The OECD guidance document on residues in livestock (series on pesticide 73) recommends three different approaches to derive MRLs for animal products; by applying a transfer factor (Tf), by intrapolation (It) or by linear regression (Ln). Fill in method(s) considered to derive the MRL proposals.

Processing factors (Regulation (EU) N° 283/2013, Annex Part A, points 6.5.2 and 6.5.3)

Crop (RAC)/Processed product	Number of studies[a]	Processing Factor (PF)		Conversion Factor (CF_P) for RA[b]
		Individual values	Median PF	
Apple, juice	2	0.73; 0.87	0.80	
Apple, wet pomace	2	1.23; 1.39	1.30	

[a]: Studies with residues in the RAC at or close to the LOQ should be disregarded (unless concentration)
[b]: When the residue definition for risk assessment differs from the residue definition for monitoring

Consumer risk assessment (Regulation (EU) N° 283/2013, Annex Part A, point 6.9)
Including all uses (representative uses and uses related to an MRL application)

	Representative uses (potato only, data gaps for residue trials on tomatoes and pome fruits)
ADI	**0.025 mg/kg bw per day**
TMDI according to EFSA PRIMo	Highest TMDI: <1% ADI (DE, child)
NTMDI, according to (to be specified)	
IEDI (% ADI), according to EFSA PRIMo	
NEDI (% ADI), according to (to be specified)	
Factors included in the calculations	
ARfD	**0.025 mg/kg bw**
IESTI (% ARfD), according to EFSA PRIMo	Highest IESTI: 6 % ARfD (UK infant)
NESTI (% ARfD), according to EFSA PRIMo	
Factors included in IESTI and NESTI	
	Existing uses Uses identified under Article 12 MRL review (EFSA, 2011b) and additional uses assessed in (EFSA, 2014, 2015, 2016)
ADI	**0.025 mg/kg bw per day**
TMDI according to EFSA PRIMo	Highest TMDI: 20% ADI (DE, child)
NTMDI, according to (to be specified)	
IEDI (% ADI), according to EFSA PRIMo	
Factors included in the calculations	
ARfD	**0.025 mg/kg bw**
IESTI (% ARfD), according to EFSA PRIMo rev.2	**Exceedance of the ARfD** (% ARfD): scarole (262%), apple (251%), spinach (233%), pear (233%), lettuce (204%), kale (197%), celery (143%), beet leaves (133%), peach (133%), purslane (115%), Chinese cabbage (108%) and head cabbage (105%) **Other food commodities:** <100% ARfD
NESTI (% ARfD), according to EFSA PRIMo	
Factors included in IESTI and NESTI	

Proposed MRLs (Regulation (EU) No 283/2013, Annex Part A, points 6.7.2 and 6.7.3)

Code[a]	Commodity/Group	MRL/Import tolerance[b] (mg/kg) and Comments	
Plant commodities			
0130000	Pome fruits	no proposal	NEU and SEU trials conducted according to the supported GAP are requested (data gap)
0211000	Potatoes	0.01*	NEU and SEU
0231010	Tomatoes	no proposal	Indoor trials conducted according to the supported GAP are requested (data gap)
Animal commodities			
			No MRLs required considering the representative use on potato only (estimated burden <0.004 mg/kg bw/d)

(a): Commodity code number, as listed in Annex I of Regulation (EC) No 396/2005
(b): MRLs proposed at the LOQ, should be annotated by an asterisk (*) after the figure.

Section 4 Environmental fate and behaviour

Route of degradation (aerobic) in soil (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.1.1)

Mineralisation after 100 days	9.6 -61.4 % after 112 - 120 d, [pyridine ring ^{14}C-labelled acetamiprid] (n[6]= 4)
Non-extractable residues after 100 days	17.5 - 32.3 % after 112-120 d, [pyridine ring ^{14}C-labelled acetamiprid] (n = 4)
Metabolites requiring further consideration - name and/or code, % of applied (range and maximum)	IM-1-2 55 % at 1 d (n= 5) IM-1-4 72 % at 14 d (n= 8) IC-0 11.3 % at 2 d (n= 8) IM-1-5 20 % at 13 d (n= 4) (only in calcareous soils) [pyridine ring ^{14}C-labelled acetamiprid]

Route of degradation (anaerobic) in soil (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.1.2)

Mineralisation after 100 days	0.25 % after 182 d, [pyridine ring ^{14}C-labelled acetamiprid] (n= 1)
Non-extractable residues after 100 days	12.13 % after 14 d, [pyridine ring ^{14}C-labelled acetamiprid] (n= 1)
Metabolites that may require further consideration for risk assessment - name and/or code, % of applied (range and maximum)	IM-1-4 46.7 % at 119 d (n= 1), [pyridine ring ^{14}C-labelled acetamiprid] (n= 1)

Route of degradation (photolysis) on soil (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.1.3)

Metabolites that may require further consideration for risk assessment - name and/or code, % of applied (range and maximum)	IM-1-4 46.5 % at 30 d irradiated samples (n= 1), [pyridine ring ^{14}C-labelled acetamiprid] (n= 1) IM-1-4 65.3 % at 30 d dark control samples (n= 1), [pyridine ring ^{14}C-labelled acetamiprid] (n= 1)
Mineralisation at study end	0.22 % at 30 d irradiated samples (n= 1), [pyridine ring ^{14}C-labelled acetamiprid] (n= 1) 0.24 % at 30 d dark control samples (n= 1), [pyridine ring ^{14}C-labelled acetamiprid] (n= 1)
Non-extractable residues at study end	13.41 % at 30 d irradiated samples (n= 1), [pyridine ring ^{14}C-labelled acetamiprid] (n= 1) 12.8 % at 30 d dark control samples (n= 1), [pyridine ring ^{14}C-labelled acetamiprid] (n= 1)

[6] n corresponds to the number of soils.

Rate of degradation in soil (aerobic) laboratory studies active substance (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.1.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.1)

Trigger endpoint

Parent	Dark aerobic conditions						
Soil type	***X*[7]**	**pH[a)]**	**t. °C / % MWHC**	**DT_{50} /DT_{90} (d)**	**Parameters bi-phasic models**	**St. (χ^2)**	**Method of calculation**
Collombey loamy sand, Morgenroth, 1997		7.6	20/50% pF2.5	1.4 / 4.7		7.7	SFO
Clay loam Burr, 1997		7.4	20/45% MWHC	5.4 / 54.5	k1:0.00806 k2:0.1628 g: 0.155	6.9	DFOP
Clay loam 10°C Burr, 1997		7.4	10/45% MWHC	7.9 / 49.3	k1:0.1057 k2:0.0065 g: 0.8686	3.7	DFOP
Sandy loam, Burr 1997		5.6	20/45% MWHC	2.5 / 14.3	α:1.744 β:5.212	4.6	FOMC
Silty Clay loam Burr, 1997		7.9-8.5	20/45% MWHC	0.8 / 2.8		9.5	SFO
Sandy loam Simmonds 2002		8.0	20/45% MWHC	1.1 / 5.2	α:2.278 β:3.000	8.4	FOMC
Clay Simmonds 2002		7.7	20/45% MWHC	1.1 / 3.8		9.3	SFO
Clay loam Simmonds 2002		7.9	20/45% MWHC	1 / 3.3		8.4	SFO

a) Measured in water

Modelling endpoints

Parent	Dark aerobic conditions						
Soil type	***X*[8]**	**pH[a)]**	**t. °C / % MWHC**	**DT_{50} /DT_{90} (d)**	**DT_{50} (d) 20 °C pF2/10kPa[b)]**	**St. (χ^2)**	**Method of calculation**
Collombey loamy sand, Morgenroth, 1997		7.6	20/50% pF2.5	1.4 / 4.7	1.2	7.7	SFO
Clay loam Burr, 1997		7.4	20/45% MWHC	4.7 / 15.8	4.7	11.8	SFO
Sandy loam, Burr 1997		5.6	20/45% MWHC	2.5 / 8.3	2.5	8.8	SFO
Silty Clay loam Burr, 1997		7.9-8.5	20/45% MWHC	0.8 / 2.8	0.8	9.5	SFO
Sandy loam Simmonds 2002		8.0	20/45% MWHC	1.1 / 3.7	1.1	9.9	SFO
Clay Simmonds 2002		7.7	20/45% MWHC	1.1 / 3.8	1.1	9.7	SFO
Clay loam Simmonds 2002		7.9	20/45% MWHC	1 / 3.2	1	8.6	SFO
Geometric mean (if not pH dependent)					1.45		
pH dependence, *No*							

a) Measured in water
b) Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7

[7] X This column is reserved for any other property that is considered to have a particular impact on the degradation rate. Column and this footnote may be removed if not used.

Rate of degradation in soil (aerobic) laboratory studies transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.1.2 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.1)

Trigger endpoint

IM-1-2	**Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was acetamiprid**						
Soil type	**X**	**pH[a)]**	**t. °C / % MWHC**	**DT_{50}/ DT_{90} (d)**	**Parameters bi-phasic models**	**St. (χ^2)**	**Method of calculation**
Sandy loam Simmonds 2002		8.0	20/45% MWHC	1.9 / 6.3		9.6	SFO[b]
Clay Simmonds 2002		7.7	20/45% MWHC	1.9 / 6.3		13.0	SFO
Clay loam Simmonds 2002		7.9	20/45% MWHC	1.6 / 5.3		12.3	SFO

[a)] Measured in water
[b)] Parent fitted with FOMC model

IM-1-4	**Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was IM-1-2**						
Soil type	**X**	**pH[a)]**	**t. °C / % MWHC**	**DT_{50}/ DT_{90} (d)**	**Parameters bi-phasic models**	**St. (χ^2)**	**Method of calculation**
Collombey loamy sand, Morgenroth, 1997		7.6	20/50% pF2.5	46.2 / 154		22.8	SFO
Clay loam Burr, 1997		7.4	20/45% MWHC	142 / 473		8.7	SFO[a]
Clay loam 10°C Burr, 1997		7.4	10/45% MWHC	171 / 569		5.3	SFO[a]
Sandy loam, Burr 1997		5.6	20/45% MWHC	146 / 483		6.2	SFO[b]
Silty Clay loam Burr, 1997		7.9-8.5	20/45% MWHC	3.7 / 12.3		9.1	SFO
Sandy loam Simmonds 2002		8.0	20/45% MWHC	4.2 / 14		22	SFO[b]
Clay Simmonds 2002		7.7	20/45% MWHC	2.3 / 7.8		18.1	SFO
Clay loam Simmonds 2002		7.9	20/45% MWHC	3 / 10		14.9	SFO

[a)] Parent kinetics DFOP
[b)] Parent kinetics FOMC

IC-0	Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was IM-1-4						
Soil type	**X[7]**	**pH[a)]**	**t. °C / % MWHC**	**DT_{50}/ DT_{90} (d)**	**Parameters bi-phasic models**	**St. (χ^2)**	**Method of calculation**
Silty Clay loam Burr, 1997		7.9-8.5	20/45% MWHC	3.6 / 11.8		32.6	SFO
Sandy loam Simmonds 2002		8.0	20/45% MWHC	1.2 / 4.1		4.3	SFO[b]
Clay Simmonds 2002		7.7	20/45% MWHC	2.7 / 8.9		11.6	SFO
Clay loam Simmonds 2002		7.9	20/45% MWHC	1.8 / 6.0		10.0	SFO
Sandy loam Lowden, 1997		6.7	20/45% MWHC	3.1 / 10.1		10	SFO
Silty Clay loam Lowden, 1997		7.8	20/45% MWHC	2.4 / 8.0		9.1	SFO
Clay loam Lowden, 1997		7.2	20/45% MWHC	5.6 / 18.5		9.8	SFO

a) Measured in water
b) Parent kinetics FOMC

IM-1-5	Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was acetamiprid						
Soil type	**X[7]**	**pH[a)]**	**t. °C / % MWHC**	**DT_{50}/ DT_{90} (d)**	**Parameters bi-phasic models**	**St. (χ^2)**	**Method of calculation**
Silty Clay loam Burr, 1997		7.9-8.5	20/45% MWHC	319 / 1059		5.1	SFO
Sandy loam Simmonds 2002		8.0	20/45% MWHC	-		-	SFO
Clay Simmonds 2002		7.7	20/45% MWHC	-		-	SFO
Clay loam Simmonds 2002		7.9	20/45% MWHC	486 / 1614		10.3	SFO
Loam (France) Jewkes 2014		7.5	78.4% pF2 moisture	663/2203		4.7	SFO
Loam (Hungary) Jewkes 2014		7.8	60.7% pF2 moisture	420/1395		3.5	SFO
Sandy Clay Loam Jewkes 2014		7.6	66.4% pF2 moisture	378/1254		2.8	SFO

a) Measured in water

Modelling endpoint

IM-1-2	Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was acetamiprid							
Soil type	**X**	**pH[a)]**	**t. °C / % MWHC**	**DT_{50}/ DT_{90} (d)**	**f. f. k_f / k_{dp}**	**DT_{50} (d) 20 °C pF2/10kPa [b)]**	**St. (χ^2)**	**Method of calculation**
Sandy loam Simmonds 2002		8.0	20/45% MWHC	1.6 / 5.3	0.97	1.6	12.3	SFO
Clay Simmonds 2002		7.7	20/45% MWHC	1.9 / 6.3	0.68	1.9	13.0	SFO
Clay loam Simmonds 2002		7.9	20/45% MWHC	1.6 / 5.3	0.66	1.6	12.3	SFO
Geometric mean (if not pH dependent)						1.7		
Arithmetic mean					0.77			
pH dependence, *No*								

[a)] Measured in water
[b)] Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7

IM-1-4	Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was IM-1-2							
Soil type	**X**	**pH[a)]**	**t. °C / % MWHC**	**DT_{50}/ DT_{90} (d)**	**f. f. k_f / k_{dp}**	**DT_{50} (d) 20 °C pF2/10kPa [b)]**	**St. (χ^2)**	**Method of calculation**
Collombey loamy sand, Morgenroth, 1997		7.6	20/50% pF2.5	46.2 / 154	0.56	40.0	22.8	SFO
Clay loam Burr, 1997		7.4	20/45% MWHC	169 / 560	0.61	169	10.5	SFO
Sandy loam, Burr 1997		5.6	20/45% MWHC	166 / 552.8	0.75	166	6.7	SFO
Silty Clay loam Burr, 1997		7.9-8.5	20/45% MWHC	3.7 / 12.3	1	3.7	9.1	SFO
Sandy loam Simmonds 2002		8.0	20/45% MWHC	4.8 / 16.1	0.44	4.8	22.3	SFO
Clay Simmonds 2002		7.7	20/45% MWHC	2.3 / 7.8	0.97	2.3	18.1	SFO
Clay loam Simmonds 2002		7.9	20/45% MWHC	3 / 10	0.71	3.0	14.9	SFO
Geometric mean (if not pH dependent)						14.6		
Arithmetic mean					0.72			
pH dependence, *No*								

[a)] Measured in water
[b)] Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7

IC-0	Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was IM-1-4							
Soil type	**X**	**pH[a)]**	**t. °C / % MWHC**	**DT_{50}/ DT_{90} (d)**	**f. f. k_f / k_{dp}**	**DT_{50} (d) 20 °C pF2/10kPa [b)]**	**St. (χ^2)**	**Method of calculation**
Silty Clay loam Burr, 1997		7.9-8.5	20/45% MWHC	3.6 / 11.8	0.3	3.6	32.6	SFO
Sandy loam Simmonds 2002		8.0	20/45% MWHC	1.4 / 4.6	1	1.4	5.1	SFO
Clay Simmonds 2002		7.7	20/45% MWHC	2.7 / 8.9	0.39	2.7	11.6	SFO
Clay loam Simmonds 2002		7.9	20/45% MWHC	1.8 / 6.0	1	1.8	11.9	SFO
Sandy loam Lowden, 1997		6.7	20/45% MWHC	3.1 / 10.1	-*	3.1	10	SFO
Silty Clay loam Lowden, 1997		7.8	20/45% MWHC	2.4 / 8.0	-*	2.4	9.1	SFO
Clay loam Lowden, 1997		7.2	20/45% MWHC	5.6 / 18.5	-*	5.6	9.8	SFO
Geometric mean (if not pH dependent)						2.7		
Arithmetic mean					0.67			
pH dependence, *No*								

[a)] Measured in water
[b)] Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7

IM-1-5	Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was acetamiprid							
Soil type	**X**	**pH[a)]**	**t. °C / % MWHC**	**DT_{50}/ DT_{90} (d)**	**f. f. k_f / k_{dp}**	**DT_{50} (d) 20 °C pF2/10kPa [b)]**	**St. (χ^2)**	**Method of calculation**
Silty Clay loam Burr, 1997		7.9-8.5	20/45% MWHC	319 / 1059	0.21	319	5.1	SFO
Sandy loam Simmonds 2002		8.0	20/45% MWHC	-	0.16[c)]	1000[d)]	-	SFO
Clay Simmonds 2002		7.7	20/45% MWHC	-	0.12[c)]	1000[d)]	-	SFO
Clay loam Simmonds 2002		7.9	20/45% MWHC	486 / 1614	0.12	486	10.3	SFO
Loam (France) Jewkes 2014		7.5	78.4% pF2 moisture	663/2203	-	559	4.7	SFO
Loam (Hungary) Jewkes 2014		7.8	60.7% pF2 moisture	420/1395	-	296	3.5	SFO
Sandy Clay Loam Jewkes 2014		7.6	66.4% pF2 moisture	378/1254	-	284	2.8	SFO
Geometric mean (if not pH dependent)						495		
Arithmetic mean					0.15			
pH dependence, *No*								

[a)] Measured in water
[b)] Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7
[c)] formation fraction based on maximum fraction of occurrence (persistent metabolite)
[d)] default DT50 value used as no decline of IM-1-5 was observed for this soil

Rate of degradation field soil dissipation studies (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.2.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.2.1)

Parent	Aerobic conditions								
Soil type (indicate if bare or cropped soil was used).	**Location (country or USA state).**	***X*[9]**	**pH**	**Depth (cm)**	**DT_{50} (d) actual**	**DT_{90}(d) actual**	**St. (χ^2)**	**DT_{50} (d) Norm[c].**	**Method of calculation**
Clay loam Wicks 1999	Italy		8.9 [a]	0 – 30	0.4	19.8	14.1		DFOP k1:4.122808 k2:0.071185 g: 0.589717
Sandy loam Wicks 1999	United Kingdom		5.9 [a]	0 – 30	3.7	22.7	19.5		FOMC α:1.544681 β:6.600352
Silty clay loam Wicks 1999	France		8.7 [a]	0 – 30	9.6	31.3	16.4		SFO
Sandy loam Wicks 1999	Spain		7 [a]	0 – 30	0.7	11.2	11.4		FOMC α:0.67159 β:0.374289
Loam Kellner 2012a	Spain		7.45 [b]	0 - 50	12.96	43.06	28.1		SFO
Loam Kellner 2012b	Southern France		7.36 [b]	0 – 50	2.26	7.52	13.0		SFO
Loam Kellner 2012c	Northern France		7.49 [b]	0 – 50	2.24	7.43	12.1		SFO
Loam Finger 2013	Hungary		8.06 [b]	0 - 50	2.14	15.32	25.9		FOMC α: and β:values not reported
pH dependence, No									

[a] Measured in 1 M KCl
[b] Measured in 0.01 M CaCl
[c] Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7

[9] X This column is reserved for any other property that is considered to have a particular impact on the degradation rate. Column and this footnote may be removed if not used.

Field study, metabolite maximum occurrence

Metabolite formation	Aerobic conditions, metabolite max. formation proportion of maximum measured parent.						
Soil type (indicate if bare or cropped soil was used).	**Location (country or USA state).**	***X*[10]**	**pH**	**Depth (cm)**	**IM-1-4**	**IM-1-2**	**IM-1-5**
Clay loam Wicks 1999	Italy		8.9 [a)]	0 – 10	50% after 28d	39% after 4d	Not analysed
Sandy loam Wicks 1999	United Kingdom		5.9 [a)]	0 – 10	50% after 30d	< 3.9% after 2-7d	Not analysed
Silty clay loam Wicks 1999	France		8.7 [a)]	0 – 10	73% after 28d	18% after 2d	Not analysed
Sandy loam Wicks 1999	Spain		7 [a)]	0 – 10	55% after 31d	9% after 2d	Not analysed
Loam Kellner 2012a	Spain		7.45 [b)]	0 - 10	Not analysed	Not analysed	60% after 28d
Loam Kellner 2012b	Southern France		7.36 [b)]	0 – 10	Not analysed	Not analysed	25% after 29d
Loam Kellner 2012c	Northern France		7.49 [b)]	0 – 10	Not analysed	Not analysed	45% after 7d
Loam Finger 2013	Hungary		8.06 [b)]	0 - 10	Not analysed	Not analysed	24% after 169d

[a)] Measured in 1 M KCl
[b)] Measured in 0.01 M CaCl

Soil accumulation (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.2.2 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.2.2)

Soil accumulation and plateau concentration	Studies Not required – plateau concentration of persistent metabolites obtained by modelling

Rate of degradation in soil (anaerobic) laboratory studies active substance (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.1.3 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.1)

Parent	Dark anaerobic conditions						
Soil type	***X*[11]**	**pHa)**	**t. oC / % MWHC**	**DT50 / DT90 (d)**	**DT50 (d) 20 °Cb)**	**St. (χ2)**	**Method of calculation**
Loam		7.4	20 / 100% MWHC	69.0 / 410.6		4.7	FOMC α:1.591 β:126.319

[a)] Measured in water
[b)] Normalised using a Q10 of 2.58

Rate of degradation on soil (photolysis) laboratory active substance (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.1.3

Parent	Soil photolysis					
Soil type	***X*[12]**	**pHa)**	**t. oC / % MWHC**	**DT50 (d) calculated continuous irradiation**	**St. (χ2)**	**Method of calculation**
Loamy sand			20 / 75% of 1/3 bar	17	unknown	SFO

[a)] Measured in unknown medium

[10] X This column is reserved for any other property that is considered to have a particular impact on the degradation rate. Column and this footnote may be removed if not used.
[11] X This column is reserved for any other property that is considered to have a particular impact on the degradation rate. Column and this footnote may be removed if not used.
[12] X This column is reserved for any other property that is considered to have a particular impact on the degradation rate. Column and this footnote may be removed if not used.

Soil adsorption active substance (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.3.1.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

Parent								
Soil Type		**OC %**	**Soil pH[a)]**	**K_d (mL/g)**	**K_{doc} (mL/g)**	**K_F (mL/g)**	**K_{Foc} (mL/g)**	**1/n**
I	Sand	0.43	5.7			0.60	138.39	0.842
II	Loamy sand	1.04	7.6			1.35	129.98	0.825
III	Sandy loam	1.57	7.1			1.12	71.09	0.893
IV	Silt loam	1.39	7.7			1.69	121.81	0.835
V	Silt loam	4.39	7.1			3.13	71.38	0.907
Arithmetic mean (if not pH dependent)							106.5	0.860
pH dependence, No								

a) Measured in unknown medium

Soil adsorption transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.3.1.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

IM-1-2							
Soil Type	**OC %**	**Soil pHa)**	**Kd (mL/g)**	**Kdoc (mL/g)**	**KF (mL/g)**	**KFoc (mL/g)**	**1/n**
Clay Loam 02/06	2.3	7.6			0.45	19	0.886
Sandy Loam 02/16	1.3	7.5			0.27	21	0.856
Clay Loam 01/24	3.8	6.1			3.60	95	0.927
Sandy Loam 02/18	0.2	7.4			0.16	80	0.944
Arithmetic mean (if not pH dependent)						54	0.903
pH dependence, No							

a) Measured in $CaCl_2$ medium

Soil adsorption transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.3.1.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

IM-1-4								
Soil Type		**OC %**	**Soil pH[a)]**	**K_d (mL/g)**	**K_{doc} (mL/g)**	**K_F (mL/g)**	**K_{Foc} (mL/g)**	**1/n**
I	Sand*	0.43	5.7			2.1	488	0.597
II	Loamy sand	1	7.6			2.24	223	0.714
III	Sandy loam	1.57	7.1			2.16	138	0.712
IV	Silt loam	1.39	7.7			2.67	192	0.816
V	Silt loam	4.39	7.1			5.79	132	0.813
Arithmetic mean (if not pH dependent)							171	0.764
pH dependence, No								

a) Measured in unknown medium

* Sand soil was excluded during the previous evaluation due to low 1/n value

Soil adsorption transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.3.1.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

IC-0								
Soil Type		**OC %**	**Soil pH[a)]**	**K_d (mL/g)**	**K_{doc} (mL/g)**	**K_F (mL/g)**	**K_{Foc} (mL/g)**	**1/n**
I	Sand	0.43	5.7			0.643	258	0.967
II	Loamy sand	2.54	7.6			1.027	70	1.007
III	Sandy loam	0.76	7.1			0.569	129	0.971
IV	Silt loam	2.05	7.7			0.833	70	0.894
V	Silt loam	1.41	7.1			0.69	84	0.926
Pond sediment*		4.32				2.121	85	0.867
Arithmetic mean (if not pH dependent)							122	0.953
pH dependence, No								

[a)] Measured in unknown medium
* Sediment excluded during the previous evaluation

Soil adsorption transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.3.1.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

IM-1-5							
Soil Type	OC %	**Soil pH[a)]**	**K_d (mL/g)**	**K_{doc} (mL/g)**	**K_F (mL/g)**	**K_{Foc} (mL/g)**	**1/n**
Spain (Canals)	3.3	7.6			5.70	173	0.8788
S France (Meauzac)	1.14	7.6			4.89	429	0.9030
Hungary	2.03	7.8			7.58	374	0.8454
N France (Meistratzheim)	2.04	8.3			6.60	324	0.9176
Arithmetic mean (if not pH dependent)						325	0.886
pH dependence, No							

[a)] Measured in $CaCl_2$

Mobility in soil column leaching active substance (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.4.1.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

Column leaching	no data submitted and no data required
	Leachate: 0.3-1.3 % total residues/radioactivity in leachate 0.06 % active substance, 0.84 % IM-1-4 88.9- 93.7 % total residues/radioactivity retained in the four upper soil layers

Mobility in soil column leaching transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.4.1.2 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

Column leaching	Elution (mm): 1038 mm Time period (d): 20 d
	Leachate: 4.14 – 22.22 % total residues/radioactivity in leachate, all associated with metabolite IC-0 4.5 - 5.3 % total residues/radioactivity retained in top 6 cm

Lysimeter / field leaching studies (Regulation (EU) N° 283/2013, Annex Part A, points 7.1.4.2 / 7.1.4.3 and Regulation (EU) N° 284/2013, Annex Part A, points 9.1.2.2 / 9.1.2.3)

Lysimeter/ field leaching studies	no data submitted and no data required

Hydrolytic degradation (Regulation (EU) N° 283/2013, Annex Part A, point 7.2.1.1

Hydrolytic degradation of the active substance and metabolites > 10 %	Acetamiprid: stable at pH 4, 5 and 7 at temperatures 22, 35 and 45ºC
	pH 9: 420 days at 25 °C pH 9: 52.9 days at 35 °C pH 9: 13 days at 45 °C (calculated from Arrhenius plot)

Aqueous photochemical degradation (Regulation (EU) N° 283/2013, Annex Part A, points 7.2.1.2 / 7.2.1.3)

Photolytic degradation of active substance and metabolites above 10 %	DT_{50} : 34 days (irradiated samples) no photodegradation in dark samples IB-1-1: 35%AR (30 d)
Quantum yield of direct phototransformation in water at λ > 290 nm	Φdc of 0.10

'Ready biodegradability' (Regulation (EU) N° 283/2013, Annex Part A, point 7.2.2.1)

Readily biodegradable (yes/no)	No

Aerobic mineralisation in surface water (Regulation (EU) N° 283/2013, Annex Part A, point 7.2.2.2 and Regulation (EU) N° 284/2013, Annex Part A, point 9.2.1)

Parent										
System identifier (indicate fresh, estuarine or marine)	**pH water phase**	**pH sed** [a]	**t. °C**[b]	**DT_{50} /DT_{90} whole sys. (suspended sediment test)**		**St. (χ^2)**	**DT_{50} /DT_{90} Water (pelagic test)**		**St. (χ^2)**	**Method of calculation**
				At study temp	Normalised to *x* °C[c]		At study temp	DT_{50} at 12 °C[c]		
Kolbenwoog low dose system (2 µg/L)	5.41		20				2.4 / 36.9	5.1	4.2	DFOP
Kolbenwoog high dose system (10 µg/L)	5.41		20				6.8 / 87.8	14.5	7.1	FOMC

[a] Measured in [medium to be stated, usually calcium chloride solution or water]
[b] Temperature of incubation=temperature that the environmental media was collected or std temperature of 20°C
[c] Normalised using a Q10 of 2.58 to the temperature of the environmental media at the point of sampling

Mineralisation and non extractable residues (for parent dosed experiments)					
System identifier (indicate fresh, estuarine or marine)	**pH water phase**	**pH sed**	**Mineralisation *x* % after *n* d. (end of the study).**	**Non-extractable residues. max *x* % after *n* d (suspended sediment test)**	**Non-extractable residues. max *x* % after *n* d (end of the study) (suspended sediment test)**
Kolbenwoog low dose system (2 µg/L)	5.41		0.35 %, 59 d	n.r.	n.r.
Kolbenwoog high dose system (10 µg/L)	5.41		0.16 %, 59 d	n.r.	n.r.

Water / sediment study (Regulation (EU) N° 283/2013, Annex Part A, point 7.2.2.3 and Regulation (EU) N° 284/2013, Annex Part A, point 9.2.2)

Parent	**Distribution (*max in water101.42% after0 d. Max. sed 39.05 % after14 d*)**									
Water / sediment system	**pH water phase**	**pH sed** [a]	**t. °C**	**DT_{50} /DT_{90} whole sys.**	**St. (χ^2)**	**DT_{50} /DT_{90} water**	**St. (χ^2)**	**DT_{50} /DT_{90} sed**	**St. (χ^2)**	**Method of calculation**
Manningtree	6.37/5.9	n.r.	20	23.1	7.6	4.9	8.3	n.c.		SFO/DFOP
Ongar	7.58/7.3	n.r.	20	31.6	6.7	6.1	5.9	n.c.		SFO/DFOP
Geometric mean at 20°C[b]				27						

[a] Measured in unknown medium
[b] Normalised using a Q10 of 2.58

Metabolite IM-1-2	Distribution (*max in water10.96 % after7 d. Max. sed 3.93 % after14 d*). Max in total system 13.4 % after 7 days No acceptable fit possible
Metabolite IM-1-4	Distribution (*max in water12.33 % after30 d. Max. sed 30.71 % after30 d*). Max in total system 43 % after 30 days; Max 81.5% in aerobic mineralisation study No acceptable fit possible
Metabolite IC-0	Distribution (*max in water26.15 % after62 d. Max. sed. 5.61 % after100 d*). Max in total system 29.5 % after 62 days No acceptable fit possible

Mineralisation and non extractable residues (from parent dosed experiments)					
Water / sediment system	pH water phase	pH sed	Mineralisation x % after n d. (end of the study).	Non-extractable residues in sed. max x % after n d	Non-extractable residues in sed. max x % after n d (end of the study)
Manningtree	6.37/5.9	n.r.	10.03 %, 155 d	40.65%, 155 d	40.65%, 155 d
Ongar	7.58/7.3	n.r.	28.31 %, 155 d	21.12%, 155 d	21.12%, 155 d

Fate and behaviour in air (Regulation (EU) N° 283/2013, Annex Part A, point 7.3.1)

Direct photolysis in air	Not studied - no data requested
Photochemical oxidative degradation in air	Overall rate constant:76.435 cm^3 x $molecule^{-1}$ x sec^{-1} DT_{50} of 0.140 days, derived by the Atkinson model (version 1.70) assuming a OH (12 h)

	concentration of $1.5x10^6$ OH/cm^3
Volatilisation	from plant surfaces (BBA guideline): <1 % after 24 hours
	from soil surfaces (BBA guideline): negligible after24 hours
Metabolites	No data

Residues requiring further assessment (Regulation (EU) N° 283/2013, Annex Part A, point 7.4.1)

Environmental occurring residues requiring further assessment by other disciplines (toxicology and ecotoxicology) and or requiring consideration for groundwater exposure	Soil: Acetamiprid, IM-1-2, IM-1-4, IC-0, IM-1-5 Surface water: Acetamiprid, IM-1-2, IM-1-4, IC-0, IB-1-1 (photolysis), IM-1-5 (via soil) Sediment: Acetamiprid, IM-1-2, IM-1-4, IC-0, IB-1-1 (photolysis), IM-1-5 (via soil) Ground water: Acetamiprid, IM-1-2, IM-1-4, IC-0, IM-1-5 Air: Acetamiprid

Definition of the residue for monitoring (Regulation (EU) N° 283/2013, Annex Part A, point 7.4.2)

See section 5, Ecotoxicology

Monitoring data, if available (Regulation (EU) N° 283/2013, Annex Part A, point 7.5

Soil (indicate location and type of study)	None available
Surface water (indicate location and type of study)	None available
Ground water (indicate location and type of study)	None available
Air (indicate location and type of study)	None available

PEC soil (Regulation (EU) N° 284/2013, Annex Part A, points 9.1.3 / 9.3.1)

Parent Method of calculation	DT_{50} (d): 12.96 days Kinetics: SFO Field or Lab: maximum field dissipation half-life.
Application data	Crop: pome fruit Depth of soil layer: 5cm Soil bulk density: 1.5g/cm^3 % plant interception:80% Number of applications:2x Interval (d):14 Application rate(s): 75 g a.s./ha

PEC(s) (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.029	
Short term	24h			0.028	0.029
	2d			0.026	0.028
	4d			0.024	0.027
Long term	7d			0.020	0.025
	28d			0.007	0.015
	50d			0.002	0.010
	100d			0.000	0.005
Plateau concentration					

Metabolite IM-1-2 Method of calculation	Molecular weight relative to the parent: 1.08 DT_{50} (d): 1.9 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 44.6 g/ha (assumed IM-1-2 is formed at a maximum of 55 % of the applied dose)

PEC(s) (mg/kg)		Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average	Single application Time weighted average
Initial				0.012	
Short term	24h			0.008	0.010
	2d			0.006	0.008
	4d			0.003	0.006
Long term	7d			0.001	0.004
	28d			0.000	0.001
	50d			0.000	0.001
	100d			0.000	0.000
Plateau concentration					

Metabolite IM-1-4 Method of calculation	Molecular weight relative to the parent: 0.70 DT_{50} (d): 146 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 38.0 g/ha (assumed IM-1-4 is formed at a maximum of 72 % of the applied dose)

PEC$_{(s)}$ (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.020	
Short term	24h			0.020	0.020
	2d			0.019	0.020
	4d			0.019	0.019
Long term	7d			0.019	0.019
	28d			0.017	0.018
	50d			0.015	0.017
	100d			0.012	0.016
Plateau concentration		0.024 mg/kg after x yr (based on soil depth of 5 cm)			

Metabolite IC-0 Method of calculation	Molecular weight relative to the parent: 0.70 DT_{50} (d): 5.6 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 6.0 g/ha (assumed IC-0 is formed at a maximum of 11.3 % of the applied dose)

PEC$_{(s)}$ (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.002	
Short term	24h			0.002	0.002
	2d			0.001	0.002
	4d			0.001	0.001
Long term	7d			0.001	0.001
	28d			0.000	0.001
	50d			0.000	0.000
	100d			0.000	0.000
Plateau concentration					

Metabolite IM-1-5 Method of calculation	Molecular weight relative to the parent: 0.89 DT_{50} (d): 1000 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 13.3 g/ha (assumed IM-1-5 is formed at a maximum of 20 % of the applied dose)

PEC(s) (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.007	
Short term	24h			0.007	0.007
	2d			0.007	0.007
	4d			0.007	0.007
Long term	7d			0.007	0.007
	28d			0.007	0.007
	50d			0.007	0.007
	100d			0.007	0.007
Plateau concentration		0.032 mg/kg after x yr (based on soil depth of 5 cm)			

Parent Method of calculation	DT_{50} (d): 5.4 days Kinetics: DFOP Field or Lab: worst case from lab studies.
Application data	Crop: potato Depth of soil layer: 5cm Soil bulk density: 1.5g/cm^3 % plant interception: 80% Number of applications: 3x Interval (d):7 Application rate(s): 50 g a.s./ha

PEC(s) (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.029	
Short term	24h			0.027	0.028
	2d			0.026	0.027
	4d			0.023	0.026
Long term	7d			0.020	0.024
	28d			0.006	0.015
	50d			0.002	0.010
	100d			0.000	0.005
Plateau concentration					

Metabolite IM-1-2 Method of calculation	Molecular weight relative to the parent: 1.08 DT_{50} (d): 1.9 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 29.7 g/ha (assumed IM-1-2 is formed at a maximum of 55 % of the applied dose)

$PEC_{(s)}$ (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.009	
Short term	24h			0.006	0.007
	2d			0.004	0.006
	4d			0.002	0.005
Long term	7d			0.001	0.003
	28d			0.000	0.001
	50d			0.000	0.000
	100d			0.000	0.000
Plateau concentration					

Metabolite IM-1-4 Method of calculation	Molecular weight relative to the parent: 0.70 DT_{50} (d): 146 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 25.3 g/ha (assumed IM-1-4 is formed at a maximum of 72 % of the applied dose)

$PEC_{(s)}$ (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.020	
Short term	24h			0.020	0.020
	2d			0.019	0.020
	4d			0.019	0.019
Long term	7d			0.019	0.019
	28d			0.017	0.018
	50d			0.015	0.017
	100d			0.012	0.016
Plateau concentration		0.021 mg/kg after x yr (based on soil depth of 20 cm)			

Metabolite IC-0 Method of calculation	Molecular weight relative to the parent: 0.70 DT_{50} (d): 5.6 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 4.0 g/ha (assumed IC-0 is formed at a maximum of 11.3 % of the applied dose)

$PEC_{(s)}$ (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.002	
Short term	24h			0.002	0.002
	2d			0.001	0.002
	4d			0.001	0.001
Long term	7d			0.001	0.001
	28d			0.000	0.000
	50d			0.000	0.000
	100d			0.000	0.000
Plateau concentration					

Metabolite IM-1-5 Method of calculation	Molecular weight relative to the parent: 0.89 DT_{50} (d): 1000 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 8.9 g/ha (assumed IM-1-5 is formed at a maximum of 20 % of the applied dose)

$PEC_{(s)}$ (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.007	
Short term	24h			0.007	0.007
	2d			0.007	0.007
	4d			0.007	0.007
Long term	7d			0.007	0.007
	28d			0.007	0.007
	50d			0.007	0.007
	100d			0.007	0.007
Plateau concentration		0.013 mg/kg after x yr (based on soil depth of 20 cm)			

Parent Method of calculation	DT_{50} (d): 5.4 days Kinetics: DFOP Field or Lab: worst case from lab studies.
Application data	Crop: tomato (glasshouse) Depth of soil layer: 5cm Soil bulk density: 1.5g/cm^3 % plant interception: 80% Number of applications: 2x Interval (d):7 Application rate(s): 100 g a.s./ha

PEC(s) (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.045	
Short term	24h			0.043	0.044
	2d			0.040	0.043
	4d			0.036	0.041
Long term	7d			0.031	0.038
	28d			0.010	0.023
	50d			0.003	0.016
	100d			0.000	0.008
Plateau concentration					

Metabolite IM-1-2 Method of calculation	Molecular weight relative to the parent: 1.08 DT_{50} (d): 1.9 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 59.5 g/ha (assumed IM-1-2 is formed at a maximum of 55 % of the applied dose)

PEC(s) (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.017	
Short term	24h			0.012	0.014
	2d			0.008	0.012
	4d			0.004	0.009
Long term	7d			0.001	0.006
	28d			0.000	0.002
	50d			0.000	0.001
	100d			0.000	0.000
Plateau concentration					

Metabolite IM-1-4 Method of calculation	Molecular weight relative to the parent: 0.70 DT_{50} (d): 146 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 50.6 g/ha (assumed IM-1-4 is formed at a maximum of 72 % of the applied dose)

PEC(s) (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.027	
Short term	24h			0.026	0.027
	2d			0.026	0.026
	4d			0.026	0.026
Long term	7d			0.026	0.026
	28d			0.023	0.025
	50d			0.021	0.024
	100d			0.017	0.021
Plateau concentration		0.028 mg/kg after x yr (based on soil depth of 20 cm)			

Metabolite IC-0 Method of calculation	Molecular weight relative to the parent: 0.70 DT_{50} (d): 5.6 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 8.0 g/ha (assumed IC-0 is formed at a maximum of 11.3 % of the applied dose)

PEC(s) (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.003	
Short term	24h			0.003	0.003
	2d			0.002	0.003
	4d			0.002	0.002
Long term	7d			0.001	0.002
	28d			0.000	0.001
	50d			0.000	0.000
	100d			0.000	0.000
Plateau concentration					

Metabolite IM-1-5 Method of calculation	Molecular weight relative to the parent: 0.89 DT_{50} (d): 1000 days Kinetics: SFO Field or Lab: worst case from lab studies.
Application data	Application rate assumed: 17.8 g/ha (assumed IM-1-5 is formed at a maximum of 20 % of the applied dose)

$PEC_{(s)}$ (mg/kg)		Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial				0.009	
Short term	24h			0.009	0.009
	2d			0.009	0.009
	4d			0.009	0.009
Long term	7d			0.009	0.009
	28d			0.009	0.009
	50d			0.009	0.009
	100d			0.009	0.009
Plateau concentration		0.018 mg/kg after x yr (based on soil depth of 20 cm)			

PEC ground water (Regulation (EU) N° 284/2013, Annex Part A, point 9.2.4.1)

Method of calculation and type of study (*e.g.* modelling, field leaching, lysimeter)	For FOCUS gw modelling, values used – Modelling using FOCUS model(s), with appropriate FOCUSgw scenarios, according to FOCUS guidance. Model(s) used: FOCUS PEARL 4.4.4, FOCUS PELMO 4.4.3 Crop: apples, potato, tomato (winter cereals as surrogate for tomato at H, J, K and N scenarios) Crop uptake factor: 0 Water solubility (mg/L): 2950 at pH 7 and 25°C Vapour pressure: 1 x 10^{-6} Pa at 20°C Geometric mean parent $DT_{50\ lab}$ 1.6 d (normalisation to 10kPa or pF2, 20 °C with Q10 of 2.58 and Walker equation coefficient 0.7). *Note that the correct geomean lab DT_{50} value is 1.45 days* K_{OC}: arithmetic mean 106.5 mL/g, arithmetic mean $^{1}/_{n}$=0.86. Metabolites: IM-1-2 Crop uptake factor: 0 Water solubility (mg/L): 1 x 10^{6} at pH 7 and 25°C Vapour pressure: 1 x 10^{-8} Pa at 20°C Geometric mean $DT_{50\ lab}$ 1.7 d (normalisation to 10kPa or pF2, 20 °C with Q10 of 2.58 and Walker equation coefficient 0.7). K_{OC}: arithmetic mean 54 mL/g, arithmetic mean $^{1}/_{n}$=0.90. formation fraction:0.77 (from parent) IM-1-4 Crop uptake factor: 0

	Water solubility (mg/L): 1 x 10^6 at pH 7 and 25°C Vapour pressure: 1 x 10^{-8} Pa at 20°C Geometric mean $DT_{50\ lab}$ 17.6 d (normalisation to 10kPa or pF2, 20 °C with Q10 of 2.58 and Walker equation coefficient 0.7). *Note the that correct geomean lab DT_{50} value is 14.6 days* K_{OC}: arithmetic mean 171 mL/g, arithmetic mean $^1/_n$=0.764. formation fraction:0.74 (from IM-1-2) *Note that the correct arithmetic mean ff value is 0.72* IC-0 Crop uptake factor: 0 Water solubility (mg/L): 1 x 10^6 at pH 7 and 25°C Vapour pressure: 1 x 10^{-8} Pa at 20°C Geometric mean $DT_{50\ lab}$ 2.7 d (normalisation to 10kPa or pF2, 20 °C with Q10 of 2.58 and Walker equation coefficient 0.7). K_{OC}: arithmetic mean 122 mL/g, arithmetic mean $^1/_n$=0.953. formation fraction:0.67 (from IM-1-4) IM-1-5 Crop uptake factor: 0.5 Water solubility (mg/L): 1 x 10^6 at pH 7 and 25°C Vapour pressure: 1 x 10^{-8} Pa at 20°C Geometric mean $DT_{50\ lab}$ 495 d (normalisation to 10kPa or pF2, 20 °C with Q10 of 2.58 and Walker equation coefficient 0.7). K_{OC}: arithmetic mean 325 mL/g, arithmetic mean $^1/_n$=0.886. formation fraction:0.15 (from parent)
Application rate	Apples: Gross application rate: 75 g/ha. Crop growth stage: BBCH 77 – 87 (July - September) Canopy interception %: 80% Application rate net of interception: 15 g/ha. No. of applications: 2 Time of application (absolute or relative application dates): 1 July, 15 July Potato: application every third year Gross application rate: 50 g/ha. Crop growth stage: BBCH 45 – 93 (May - September) Canopy interception %: 80%

Application rate net of interception: 10 g/ha. No. of applications: 3 Time of application (absolute or relative application dates): 15 May, 22 May, 29 May (spring application) 1 September, 8 September, 15 September (autumn application: Hamburg, Jokioinen, Kremsmünster) 27 August, 3 September, 10 September (autumn application Piacenza) Tomato: (glasshouse application) Gross application rate: 100 g/ha. Crop growth stage: BBCH 61 – 89 (January - December) Canopy interception %: 80% Application rate net of interception: 20 g/ha. No. of applications: 2 Time of application (absolute or relative application dates): 25 May, 1 June

* Only relevant after implementation of the published EFSA guidance.

PEC(gw) - FOCUS modelling results (80th percentile annual average concentration at 1m)

	Scenario	**Parent (µg/L)**	**Metabolite (µg/L)**			
			IM-1-2	**IM-1-4**	**IC-0**	**IM-1-5**
FOCUS PEARL 4.4.4 /apples	Chateaudun	0.000	0.000	0.000	0.000	0.090
	Hamburg	0.000	0.000	0.000	0.000	0.098
	Jokioinen	0.000	0.000	0.000	0.000	0.000
	Kremsmunster	0.000	0.000	0.000	0.000	0.068
	Okehampton	0.000	0.000	0.000	0.000	0.085
	Piacenza	0.000	0.000	0.000	0.000	0.076
	Porto	0.000	0.000	0.000	0.000	0.049
	Sevilla	0.000	0.000	0.000	0.000	0.056
	Thiva	0.000	0.000	0.000	0.000	0.082

	Scenario	Parent (µg/L)	Metabolite (µg/L)			
			IM-1-2	IM-1-4	IC-0	IM-1-5
FOCUS PELMO 4.4.3 /apples	Chateaudun	0.000	0.000	0.000	0.000	0.078
	Hamburg	0.000	0.000	0.000	0.000	0.072
	Jokioinen	0.000	0.000	0.000	0.000	0.000
	Kremsmunster	0.000	0.000	0.000	0.000	0.058
	Okehampton	0.000	0.000	0.000	0.000	0.088
	Piacenza	0.000	0.000	0.000	0.000	0.076
	Porto	0.000	0.000	0.000	0.000	0.048
	Sevilla	0.000	0.000	0.000	0.000	0.017
	Thiva	0.000	0.000	0.000	0.000	0.05

	Scenario	Parent (µg/L)	Metabolite (µg/L)			
			IM-1-2	IM-1-4	IC-0	IM-1-5
FOCUS PEARL 4.4.4 /potato spring	Chateaudun	0.000	0.000	0.000	0.000	0.010
	Hamburg	0.000	0.000	0.000	0.000	0.018
	Jokioinen	0.000	0.000	0.000	0.000	0.004
	Kremsmunster	0.000	0.000	0.000	0.000	0.014
	Okehampton	0.000	0.000	0.000	0.000	0.018
	Piacenza	0.000	0.000	0.000	0.000	0.013
	Porto	0.000	0.000	0.000	0.000	0.008
	Sevilla	0.000	0.000	0.000	0.000	0.001
	Thiva	0.000	0.000	0.000	0.000	0.004

	Scenario	Parent (µg/L)	Metabolite (µg/L)			
			IM-1-2	IM-1-4	IC-0	IM-1-5
FOCUS PELMO 4.4.3 / potato spring	Chateaudun	0.000	0.000	0.000	0.000	0.006
	Hamburg	0.000	0.000	0.000	0.000	0.014
	Jokioinen	0.000	0.000	0.000	0.000	0.004
	Kremsmunster	0.000	0.000	0.000	0.000	0.011
	Okehampton	0.000	0.000	0.000	0.000	0.017
	Piacenza	0.000	0.000	0.000	0.000	0.012
	Porto	0.000	0.000	0.000	0.000	0.009
	Sevilla	0.000	0.000	0.000	0.000	0.000
	Thiva	0.000	0.000	0.000	0.000	0.006

	Scenario	Parent (µg/L)	Metabolite (µg/L)			
			IM-1-2	IM-1-4	IC-0	IM-1-5
FOCUS PEARL 4.4.4 /potato autumn	Hamburg	0.000	0.000	0.000	0.000	0.019
	Jokioinen	0.000	0.000	0.000	0.000	0.005
	Kremsmunster	0.000	0.000	0.000	0.000	0.014
	Piacenza	0.000	0.000	0.000	0.000	0.014

	Scenario	Parent (µg/L)	Metabolite (µg/L)			
			IM-1-2	IM-1-4	IC-0	IM-1-5
FOCUS PELMO 4.4.3 / potato autumn	Hamburg	0.000	0.000	0.000	0.000	0.015
	Jokioinen	0.000	0.000	0.000	0.000	0.004
	Kremsmunster	0.000	0.000	0.000	0.000	0.011
	Piacenza	0.000	0.000	0.000	0.000	0.013

	Scenario	Parent (µg/L)	Metabolite (µg/L)			
			IM-1-2	IM-1-4	IC-0	IM-1-5
FOCUS PEARL 4.4.4 /tomato	Chateaudun	0.000	0.000	0.000	0.000	0.062
	Hamburg	0.000	0.000	0.000	0.000	0.106
	Jokioinen	0.000	0.000	0.000	0.000	0.000
	Kremsmunster	0.000	0.000	0.000	0.000	0.079
	Okehampton	0.000	0.000	0.000	0.000	0.113
	Piacenza	0.000	0.000	0.000	0.000	0.082
	Porto	0.000	0.000	0.000	0.000	0.051
	Sevilla	0.000	0.000	0.000	0.000	0.002
	Thiva	0.000	0.000	0.000	0.000	0.024

	Scenario	Parent (µg/L)	Metabolite (µg/L)			
			IM-1-2	IM-1-4	IC-0	IM-1-5
FOCUS PELMO 4.4.3 / tomato	Chateaudun	0.000	0.000	0.000	0.000	0.027
	Hamburg	0.000	0.000	0.000	0.000	0.085
	Jokioinen	0.000	0.000	0.000	0.000	0.000
	Kremsmunster	0.000	0.000	0.000	0.000	0.073
	Okehampton	0.000	0.000	0.000	0.000	0.107
	Piacenza	0.000	0.000	0.000	0.000	0.076
	Porto	0.000	0.000	0.000	0.000	0.049
	Sevilla	0.000	0.000	0.000	0.000	0.000
	Thiva	0.000	0.000	0.000	0.000	0.015

PEC surface water and PEC sediment (Regulation (EU) N° 284/2013, Annex Part A, points 9.2.5 / 9.3.1)

Parent Parameters used in FOCUSsw step 1 and 2	Version control no. of FOCUS calculator: 2.1 Molecular weight (g/mol):223 K_{OC} (mL/g): 106.5 DT_{50} soil (d): 1.45 DT_{50} water/sediment system (d): 27 d (geomean from sediment water studies if not pH dependent) DT_{50} water (d): 27 (system value) DT_{50} sediment (d): 27 (system value) Crop interception (%): Apples: 70% (full canopy) Potato: 70% (full canopy) Tomato (glasshouse use): Step 2 simulation based on an overall emission percentage of 0.1% (simulated as spray drift) no interception; no drainage/runoff crop type: appln aerial (33.2% drift) PEC-values divided by 332 to obtain PEC-values based on 0.1% drift.
Parameters used in FOCUSsw step 3 (if performed)	Version control no.'s of FOCUS software: SWASH v3.1, FOCUS PRZM v3.1.1, FOCUS MACRO v 5.5.3, FOCUS TOXSWA v3.3.1 Water solubility (mg/L): 2950 Vapour pressure: 1×10^{-6} Pa at 20°C Kom/Koc (mL/g): 106.5 (arithmetic mean) 1/n: 0.86 (Freundlich exponent general or for soil, susp. solids or sediment respectively) DT_{50} water (d): 27 DT_{50} sediment (d): 1000 (default) Q10=2.58, Walker equation coefficient 0.7 Crop uptake factor: 0.5 (a value of 0 should have been used as root systemicity has not been demonstrated)
Application rate	Pome fruit: Crop and growth stage: apples BBCH 77 – 87 (July - September) Number of applications: 2 Interval (d): 14 Application rate(s): 75 g a.s./ha Application window: late application Potato: Crop and growth stage: potato BBCH 45 – 93 (May - October)

	Number of applications: 3 Interval (d): 7 Application rate(s): 50 g a.s./ha Application window:
Main routes of entry	Spray drift, runoff

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Pome fruit Northern EU June – Sept	0 h	4.9668		4.2909	
	24 h	4.5969	4.7818	4.1821	4.2365
	2 d	4.4706	4.6578	4.0761	4.1828
	4 d	4.3286	4.518	3.8721	4.0782
	7 d	3.8454	4.3075	3.5851	3.9277
	14 d	3.2129	3.9137	2.9954	3.6046
	21 d	2.6844	3.5894	2.5027	3.317
	28 d	2.2429	3.3064	2.0911	3.0605
	42 d	1.5657	2.8323	1.4598	2.6259
Pome fruit Southern EU June - Sept	0 h	4.9668		4.3333	
	24 h	4.5969	4.7818	4.2235	4.2784
	2 d	4.4706	4.6578	4.1165	4.2242
	4 d	4.3696	4.5231	3.9104	4.1185
	7 d	3.8834	4.3274	3.6206	3.9665
	14 d	3.2447	3.941	3.025	3.6403
	21 d	2.711	3.6174	2.5275	3.3498
	28 d	2.2651	3.3334	2.1118	3.0908
	42 d	1.5812	2.8565	1.4742	2.6518

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Potato Northern EU June – Sept	0 h	0.8101		0.7552	
	24 h	0.7624	0.7863	0.736	0.7456
	2 d	0.742	0.7693	0.7174	0.7361
	4 d	0.76	0.7532	0.6815	0.7177
	7 d	0.6768	0.734	0.631	0.6912
	14 d	0.5654	0.6767	0.5272	0.6344
	21 d	0.4724	0.6237	0.4405	0.5838
	28 d	0.3947	0.5759	0.368	0.5386
	42 d	0.2756	0.4944	0.2569	0.4621
Potato Southern EU June - Sept	0 h	0.8101		0.7837	
	24 h	0.7624	0.7863	0.7638	0.7737
	2 d	0.742	0.7693	0.7445	0.7639
	4 d	0.7876	0.7566	0.7072	0.7448
	7 d	0.7023	0.7473	0.6548	0.7173
	14 d	0.5868	0.6951	0.5471	0.6583
	21 d	0.4903	0.6424	0.4571	0.6058
	28 d	0.4096	0.594	0.3819	0.559
	42 d	0.286	0.5107	0.2666	0.4796

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Tomato glasshouse No draianage/runoff	0 h	0.0588		0.0376	
	24 h	0.0546	0.0567	0.0375	0.0376
	2 d	0.0531	0.0553	0.0366	0.0373
	4 d	0.0505	0.0535	0.0348	0.0365
	7 d	0.0467	0.0514	0.0322	0.0352
	14 d	0.0390	0.0471	0.0269	0.0323
	21 d	0.0326	0.0433	0.0225	0.0297
	28 d	0.0272	0.0399	0.0188	0.0275
	42 d	0.0190	0.0343	0.0131	0.0236

The maximum Step 3 PEC_{SW} and PEC_{SED} values obtained for acetamiprid for the use pome fruit (late application)

Scenario	Application dates	PECsw (µg/l)	PECsed* (µg/kg)	Dominant Entry route to SW	Application regime**
D3 Ditch	30 Jun, 24 Jul	2.756	0.947	Drift	Respective Single
D4 Pond	4 Jul, 27 Aug	0.132	0.332	Drift	Multiple
D4 Stream	4 Jul, 27 Aug	2.762	0.361	Drift	Respective Single
D5 Pond	19 Jul, 4 Aug	0.170	0.322	Drift	Multiple
D5 Stream	19 Jul, 4 Aug	2.985	0.480	Drift	Respective Single
R1 Pond	11, 28 Jul	0.165	0.300	Drift	Multiple
R1 Stream	11, 28 Jul	2.074	0.160	Drift	Respective Single
R2 Stream	31 Jul, 14 Aug	2.837***	0.184	Drift	Respective Single
R3 Stream	31 Jul, 14 Aug	2.983	0.471	Drift	Respective Single
R4 Stream	3, 17 Jul	2.116	0.237	Drift	Respective Single

* worst case PECsed always from single applications, except for the value for D3, D4 pond, D5 pond and R1 pond
** in the case of the respective single application, the first date stated is the date of application, except
*** = 5 Aug

The maximum Step 4 PEC_{SW} and PEC_{SED} values obtained for acetamiprid for the use pome fruit (late application)

Scenario	Application dates	PECsw (µg/l)	PECsed* (µg/kg)	Dominant Entry route to SW	Application regime**
20m buffer zone (spray drift and runoff mitigated)					
D3 Ditch	30 Jun, 24 Jul	0.256	0.105	drift	Respective Single
D4 Pond	4 Jul, 27 Aug	0.0356	0.0913	drift	Respective Single
D4 Stream	4 Jul, 27 Aug	0.297	0.0425	drift	Respective Single
D5 Pond	19 Jul, 4 Aug	0.0442	0.0914	drift	Multiple
D5 Stream	19 Jul, 4 Aug	0.321	0.0574	drift	Respective Single
R1 Pond	11, 28 Jul	0.0429	0.0852	drift	Multiple
R1 Stream	11, 28 Jul	0.223	0.0181	drift	Respective Single
R2 Stream	31 Jul, 14 Aug	0.305***	0.021	drift	Respective Single
R3 Stream	31 Jul, 14 Aug	0.321	0.0562	drift	Respective Single
R4 Stream	3, 17 Jul	0.228	0.0278	drift	Respective Single

* worst case PECsed always from single applications, except for the value for D3, D4 pond, D5 pond, R1 pond and R4 stream
** in the case of the respective single application, the first date stated is the date of application, except
*** = 5 Aug

The maximum Step 3 PEC_{SW} and PEC_{SED} values obtained for acetamiprid for the use potato (early & late application)

Scenario	Application dates	PECsw (µg/l)	PECsed (µg/kg)	Dominant Entry route to SW	Application regime*
D3 Ditch	4, 14, 24 May	0.262	0.0908	Drift	Respective Single
D4 Pond	17, 24, 31 May	0.0193	0.0462	Drift	Multiple
D4 Stream	17, 24, 31 May	0.217	0.0108	Drift	Respective Single
D6 Ditch (1)	1, 23 Aug, 4 Sept	0.264	0.183	Drift	Respective Single
D6 Ditch (2)	4, 13, 21, Sept	0.257	0.0443	Drift	Respective Single
R1 Pond	2, 9, May, 13 June	0.0232	0.0659	Run-off	Multiple
R1 Stream	2, 9, May, 13 June	0.271	0.0742	Run-off	Multiple
R2 Stream	7, 20, 27 May	0.244	0.0364	Drift	Respective Single
R3 Stream	18 May, 1, 11 June	0.299	0.0851	Run-off	Multiple

* In all cases the PECsed value came from the multiple application; in the case of the respective single application, the first date stated is the date of application

The maximum Step 4 PEC_{SW} and PEC_{SED} values obtained for acetamiprid for the use potato (early & late application)

Scenario	Application dates	PECsw (µg/l)	PECsed* (µg/kg)	Dominant Entry route to SW	Application regime**
10 m buffer zone (spray drift and runoff mitigated)					
D3 Ditch	4, 14, 24 May	0.0457	0.017	Drift	Respective single
D4 Pond	17, 24, 31 May	0.0122	0.0301	Drift	Multiple
D4 Stream	27 Aug, 10, 28 Sept	0.0483	0.0287	Drift	Respective single
D6 Ditch (1)	3, 17, 24 May	0.0461	0.0357	Drift	Respective single
D6 Ditch (2)	4, 13, 21 Sept	0.0449	0.00813	Drift	Respective single
R1 Pond	2, 9 May, 13 June	0.0119	0.0368	Run-off	Multiple
R1 Stream	2, 9 May, 13 June	0.111	0.031	Run-off	Multiple
R2 Stream	7, 20, 27 May	0.0544	0.0149	Drift	Respective single
R3 Stream	18 May, 1, 11 June	0.136	0.0375	Run-off	Multiple

* worst case PECsed always from multiple applications, except for the value for R2 stream
** In the case of the respective single application, the first date stated is the date of application

Metabolite IM-1-2

Parameters used in FOCUSsw step 1 and 2

Molecular weight: 240.69
Soil or water metabolite: soil and water
Koc (mL/g): arithmetic mean 54 mL/g, arithmetic mean $^1/_n$=0.90
DT_{50} soil (d): 1.7
DT_{50} water/sediment system (d): 1000 (default)
DT_{50} water (d): 1000 (default)
DT_{50} sediment (d): 1000 (default)
Crop interception (%):
Apples: 70% (full canopy)
Potato: 70% (full canopy)

Maximum occurrence observed (% molar basis with respect to the parent)
Total Water and Sediment: 13.4%
Soil: 55%

	Tomato (glasshouse use): Step 2 simulation based on an overall emission percentage of 0.1% (simulated as spray drift); no interception; no drainage/runoff crop type: appln aerial (33.2% drift) PEC-values divided by 332 to obtain PEC-values based on 0.1% drift.
Parameters used in FOCUSsw step 3 (if performed)	
Application rate	Pome fruit: Crop and growth stage: apples BBCH 77 – 87 (July - September) Number of applications: 2 Interval (d): 14 Application rate(s): 75 g a.s./ha Application window: late application Potato: Crop and growth stage: potato BBCH 45 – 93 (May - October) Number of applications: 3 Interval (d): 7 Application rate(s): 50 g a.s./ha Application window:
Main routes of entry	-

FOCUS STEP 2 Scenario	**Day after overall maximum**	**PEC_{SW} (µg/L)**		**PEC_{SED} (µg/kg)**	
		Actual	**TWA**	**Actual**	**TWA**
Pome fruit Northern EU June – Sept	0 h	0.8591		0.4538	
	24 h	0.8405	0.8498	0.4535	0.4537
	2 d	0.8399	0.845	0.4532	0.4535
	4 d	0.8387	0.8421	0.4526	0.4532
	7 d	0.837	0.8403	0.4516	0.4527
	14 d	0.8329	0.8376	0.4495	0.4516
	21 d	0.8289	0.8354	0.4473	0.4506
	28 d	0.8249	0.8333	0.4451	0.4495
	42 d	0.8169	0.8291	0.4408	0.4473
Pome fruit Southern EU June – Sept	0 h	0.8851		0.4679	
	24 h	0.8664	0.8758	0.4676	0.4677
	2 d	0.8658	0.871	0.4672	0.4676
	4 d	0.8646	0.8681	0.4666	0.4672
	7 d	0.8628	0.8662	0.4656	0.4667
	14 d	0.8587	0.8635	0.4634	0.4656
	21 d	0.8545	0.8612	0.4611	0.4645
	28 d	0.8504	0.859	0.4589	0.4634
	42 d	0.8422	0.8548	0.4545	0.4611

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Potato Northern EU June – Sept	0 h	0.1696	---	0.0899	---
	24 h	0.1665	0.1681	0.0898	0.0899
	2 d	0.1664	0.1672	0.0898	0.0898
	4 d	0.1661	0.1668	0.0897	0.0898
	7 d	0.1658	0.1664	0.0895	0.0897
	14 d	0.165	0.1659	0.089	0.0895
	21 d	0.1642	0.1655	0.0886	0.0893
	28 d	0.1634	0.1651	0.0882	0.089
	42 d	0.1618	0.1642	0.0873	0.0886
Potato Southern EU June – Sept	0 h	0.1871	---	0.0993	---
	24 h	0.1839	0.1855	0.0993	0.0993
	2 d	0.1838	0.1847	0.0992	0.0993
	4 d	0.1836	0.1842	0.0991	0.0992
	7 d	0.1832	0.1838	0.0989	0.0991
	14 d	0.1823	0.1833	0.0984	0.0989
	21 d	0.1814	0.1828	0.0979	0.0986
	28 d	0.1805	0.1824	0.0974	0.0984
	42 d	0.1788	0.1815	0.0965	0.0979

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Tomato glasshouse No draianage/runoff	0 h	0.0091		0.0032	
	24 h	0.0089	0.0090	0.0032	0.0032
	2 d	0.0089	0.0090	0.0032	0.0032
	4 d	0.0089	0.0089	0.0032	0.0032
	7 d	0.0089	0.0089	0.0032	0.0032
	14 d	0.0088	0.0089	0.0032	0.0032
	21 d	0.0088	0.0089	0.0032	0.0032
	28 d	0.0087	0.0088	0.0031	0.0032
	42 d	0.0087	0.0088	0.0031	0.0032

Metabolite IM-1-4

Parameters used in FOCUSsw step 1 and 2

Molecular weight: 156.61

Soil or water metabolite: soil and water

K_{OC}: arithmetic mean 171 mL/g, arithmetic mean $^1/_n$=0.764.

DT_{50} soil (d): 17.6 *Note the that correct geomean lab DT_{50} value is 14.6 days*

DT_{50} water/sediment system (d): 1000 (default)

DT_{50} water (d): 1000 (default)

DT_{50} sediment (d): 1000 (default)

Crop interception (%):

Apples: 70% (full canopy)

Potato: 70% (full canopy)

Maximum occurrence observed (% molar basis with respect to the parent)

Total Water and Sediment: 81.5 % (aerobic

	mineralisation study) Soil: 72% Tomato (glasshouse use): Step 2 simulation based on an overall emission percentage of 0.1% (simulated as spray drift); no interception; no drainage/runoff crop type: appln aerial (33.2% drift) PEC-values divided by 332 to obtain PEC-values based on 0.1% drift.
Parameters used in FOCUSsw step 3 (if performed)	
Application rate	Pome fruit: Crop and growth stage: apples BBCH 77 – 87 (July - September) Number of applications: 2 Interval (d): 14 Application rate(s): 75 g a.s./ha Application window: late application Potato: Crop and growth stage: potato BBCH 45 – 93 (May - October) Number of applications: 3 Interval (d): 7 Application rate(s): 50 g a.s./ha Application window:
Main routes of entry	-

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Pome fruit Northern EU June – Sept	0 h	3.7953		6.1710	
	24 h	3.6088	3.7021	6.1668	6.1689
	2 d	3.6063	3.6548	6.1625	6.1668
	4 d	3.6013	3.6293	6.1540	6.1625
	7 d	3.5938	3.6157	6.1412	6.1561
	14 d	3.5764	3.6004	6.1115	6.1412
	21 d	3.5591	3.5895	6.0819	6.1264
	28 d	3.5419	3.5798	6.0524	6.1115
	42 d	3.5077	3.5614	5.9940	6.0821
Pome fruit Southern EU June – Sept	0 h	4.2062		6.8731	
	24 h	4.0193	4.1128	6.8683	6.8707
	2 d	4.0166	4.0654	6.8636	6.8683
	4 d	4.0110	4.0396	6.8541	6.8636
	7 d	4.0027	4.0255	6.8398	6.8564
	14 d	3.9833	4.0093	6.8067	6.8398
	21 d	3.9640	3.9974	6.7738	6.8233
	28 d	3.9448	3.9866	6.7410	6.8068
	42 d	3.9067	3.9663	6.6759	6.7740

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Potato Northern EU June – Sept	0 h	1.3071		2.1811	
	24 h	1.2755	1.2913	2.1796	2.1804
	2 d	1.2746	1.2832	2.1781	2.1796
	4 d	1.2729	1.2785	2.1751	2.1781
	7 d	1.2702	1.2755	2.1706	2.1758
	14 d	1.2641	1.2713	2.1601	2.1706
	21 d	1.2579	1.2679	2.1496	2.1653
	28 d	1.2519	1.2646	2.1392	2.1601
	42 d	1.2398	1.2584	2.1185	2.1497
Potato Southern EU June – Sept	0 h	1.7125		2.8739	
	24 h	1.6807	1.6966	2.8719	2.8729
	2 d	1.6795	1.6883	2.8700	2.8719
	4 d	1.6772	1.6833	2.8660	2.8700
	7 d	1.6737	1.6800	2.8600	2.8670
	14 d	1.6656	1.6748	2.8462	2.8600
	21 d	1.6575	1.6704	2.8324	2.8531
	28 d	1.6495	1.6662	2.8187	2.8462
	42 d	1.6336	1.6580	2.7915	2.8325

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Tomato glasshouse No draianage/runoff	0 h	0.0354		0.0374	
	24 h	0.0330	0.0342	0.0374	0.0374
	2 d	0.0328	0.0335	0.0373	0.0374
	4 d	0.0328	0.0332	0.0373	0.0373
	7 d	0.0327	0.0330	0.0372	0.0373
	14 d	0.0325	0.0328	0.0370	0.0372
	21 d	0.0324	0.0327	0.0368	0.0371
	28 d	0.0322	0.0326	0.0367	0.0370
	42 d	0.0319	0.0324	0.0363	0.0368

Metabolite IC-0 Parameters used in FOCUSsw step 1 and 2	Molecular weight: 157.55 Soil or water metabolite: soil and water K_{OC}: arithmetic mean 122 mL/g, arithmetic mean $^1/_n$=0.953. DT_{50} soil (d): 2.7 DT_{50} water/sediment system (d): 1000 (default) DT_{50} water (d): 1000 (default) DT_{50} sediment (d): 1000 (default) Crop interception (%): Apples: 70% (full canopy) Potato: 70% (full canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 29.5% Soil: 11.3% Tomato (glasshouse use): Step 2 simulation based on an overall emission percentage of 0.1% (simulated as spray drift); no interception; no drainage/runoff crop type: appln aerial (33.2% drift) PEC-values divided by 332 to obtain PEC-values based on 0.1% drift.
Parameters used in FOCUSsw step 3 (if performed)	
Application rate	Pome fruit: Crop and growth stage: apples BBCH 77 – 87 (July - September) Number of applications: 2 Interval (d): 14 Application rate(s): 75 g a.s./ha Application window: late application Potato: Crop and growth stage: potato BBCH 45 – 93 (May - October) Number of applications: 3 Interval (d): 7 Application rate(s): 50 g a.s./ha Application window:
Main routes of entry	-

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Pome fruit Northern EU June – Sept	0 h	1.1775		1.3251	
	24 h	1.1187	1.1481	1.3242	1.3247
	2 d	1.1153	1.1326	1.3233	1.3242
	4 d	1.1389	1.1266	1.3215	1.3233
	7 d	1.0847	1.1128	1.3187	1.3219
	14 d	1.0794	1.0974	1.3123	1.3187
	21 d	1.0742	1.0906	1.3060	1.3155
	28 d	1.0690	1.0858	1.2997	1.3124
	42 d	1.0587	1.0785	1.2871	1.3060
Pome fruit Southern EU June – Sept	0 h	1.1775		1.3405	
	24 h	1.1187	1.1481	1.3396	1.3401
	2 d	1.1153	1.1326	1.3387	1.3396
	4 d	1.1515	1.1282	1.3368	1.3387
	7 d	1.0973	1.1192	1.3341	1.3373
	14 d	1.0920	1.1069	1.3276	1.3341
	21 d	1.0867	1.1010	1.3212	1.3308
	28 d	1.0814	1.0968	1.3148	1.3276
	42 d	1.0710	1.0899	1.3021	1.3212

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Potato Northern EU June – Sept	0 h	0.2042		0.2383	
	24 h	0.1954	0.1998	0.2382	0.2383
	2 d	0.1952	0.1975	0.238	0.2382
	4 d	0.195	0.1963	0.2377	0.238
	7 d	0.1945	0.1956	0.2372	0.2378
	14 d	0.1936	0.1949	0.236	0.2372
	21 d	0.1927	0.1943	0.2349	0.2366
	28 d	0.1917	0.1938	0.2338	0.236
	42 d	0.1899	0.1928	0.2315	0.2349
Potato Southern EU June – Sept	0 h	0.2133		0.2495	
	24 h	0.2045	0.2089	0.2493	0.2494
	2 d	0.2044	0.2067	0.2492	0.2493
	4 d	0.2041	0.2055	0.2488	0.2492
	7 d	0.2037	0.2048	0.2483	0.2489
	14 d	0.2027	0.204	0.2471	0.2483
	21 d	0.2017	0.2034	0.2459	0.2477
	28 d	0.2007	0.2028	0.2447	0.2471
	42 d	0.1988	0.2018	0.2424	0.2459

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Tomato glasshouse No draianage/runoff	0 h	0.0130	---	0.0100	---
	24 h	0.0123	0.0127	0.0100	0.0100
	2 d	0.0123	0.0125	0.0100	0.0100
	4 d	0.0123	0.0124	0.0100	0.0100
	7 d	0.0122	0.0123	0.0099	0.0100
	14 d	0.0122	0.0123	0.0099	0.0099
	21 d	0.0121	0.0122	0.0098	0.0099
	28 d	0.0121	0.0122	0.0098	0.0099
	42 d	0.0120	0.0121	0.0097	0.0098

Metabolite IM-1-5 Parameters used in FOCUSsw step 1 and 2	Molecular weight: 197.66 Soil or water metabolite: soil K_{OC}: arithmetic mean 325 mL/g, arithmetic mean $^1/_n$=0.886. DT_{50} soil (d): 495 DT_{50} water/sediment system (d): 1000 (default) DT_{50} water (d): 1000 (default) DT_{50} sediment (d): 1000 (default) Crop interception (%): Apples: 70% (full canopy) Potato: 70% (full canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: - Soil: 20% Tomato (glasshouse use): Step 2 simulation based on an overall emission percentage of 0.1% (simulated as spray drift); no interception; no drainage/runoff crop type: appln aerial (33.2% drift) PEC-values divided by 332 to obtain PEC-values based on 0.1% drift.
Parameters used in FOCUSsw step 3 (if performed)	
Application rate	Pome fruit: Crop and growth stage: apples BBCH 77 – 87 (July - September) Number of applications: 2 Interval (d): 14 Application rate(s): 75 g a.s./ha Application window: late application Potato: Crop and growth stage: potato BBCH 45 – 93 (May - October) Number of applications: 3 Interval (d): 7 Application rate(s): 50 g a.s./ha Application window:
Main routes of entry	-

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Pome fruit Northern EU June – Sept	0 h	0.3641	---	1.1833	---
	24 h	0.3638	0.3640	1.1825	1.1829
	2 d	0.3636	0.3638	1.1816	1.1825
	4 d	0.3631	0.3636	1.1800	1.1816
	7 d	0.3623	0.3632	1.1776	1.1804
	14 d	0.3606	0.3623	1.1719	1.1776
	21 d	0.3588	0.3615	1.1662	1.1747
	28 d	0.3571	0.3606	1.1605	1.1719
	42 d	0.3536	0.3588	1.1493	1.1662
Pome fruit Southern EU June – Sept	0 h	0.5461	---	1.7749	---
	24 h	0.5458	0.5459	1.7737	1.7743
	2 d	0.5454	0.5458	1.7725	1.7737
	4 d	0.5446	0.5454	1.7700	1.7725
	7 d	0.5435	0.5448	1.7663	1.7706
	14 d	0.5409	0.5435	1.7578	1.7663
	21 d	0.5382	0.5422	1.7493	1.7621
	28 d	0.5356	0.5409	1.7408	1.7578
	42 d	0.5305	0.5383	1.7240	1.7493

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Potato Northern EU June – Sept	0 h	0.3641	---	1.1832	---
	24 h	0.3638	0.3639	1.1824	1.1828
	2 d	0.3636	0.3638	1.1816	1.1824
	4 d	0.3631	0.3636	1.1800	1.1816
	7 d	0.3623	0.3632	1.1775	1.1804
	14 d	0.3606	0.3623	1.1718	1.1775
	21 d	0.3588	0.3614	1.1661	1.1747
	28 d	0.3571	0.3606	1.1605	1.1718
	42 d	0.3536	0.3588	1.1493	1.1662
Potato Southern EU June – Sept	0 h	0.5461	---	1.7749	---
	24 h	0.5457	0.5459	1.7736	1.7742
	2 d	0.5454	0.5457	1.7724	1.7736
	4 d	0.5446	0.5454	1.7699	1.7724
	7 d	0.5435	0.5448	1.7663	1.7706
	14 d	0.5408	0.5435	1.7577	1.7663
	21 d	0.5382	0.5422	1.7492	1.7620
	28 d	0.5356	0.5408	1.7407	1.7577
	42 d	0.5304	0.5382	1.7239	1.7493

Metabolite IB-1-1 Parameters used in FOCUSsw step 1 and 2	Molecular weight: 204.23 Soil or water metabolite: water (photolytic metabolite) K_{OC}: 0 (default). DT_{50} soil (d): - DT_{50} water/sediment system (d): 1000 (default) DT_{50} water (d): 1000 (default) DT_{50} sediment (d): 1000 (default) Crop interception (%): Apples: 70% (full canopy) Potato: 70% (full canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 35% Soil: - Tomato (glasshouse use): Step 2 simulation based on an overall emission percentage of 0.1% (simulated as spray drift); no interception; no drainage/runoff crop type: appln aerial (33.2% drift) PEC-values divided by 332 to obtain PEC-values based on 0.1% drift.
Parameters used in FOCUSsw step 3 (if performed)	
Application rate	Pome fruit: Crop and growth stage: apples BBCH 77 – 87 (July - September) Number of applications: 2 Interval (d): 14 Application rate(s): 75 g a.s./ha Application window: late application Potato: Crop and growth stage: potato BBCH 45 – 93 (May - October) Number of applications: 3 Interval (d): 7 Application rate(s): 50 g a.s./ha Application window:
Main routes of entry	-

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Pome fruit Northern EU June – Sept	0 h	1.9288		0.1905	
	24 h	1.9189	1.9239	0.1904	0.1905
	2 d	1.9176	1.9211	0.1903	0.1904
	4 d	1.9149	1.9187	0.1900	0.1903
	7 d	1.9026	1.9132	0.1896	0.1901
	14 d	1.8934	1.9056	0.1887	0.1896
	21 d	1.8842	1.9000	0.1878	0.1891
	28 d	1.8751	1.8949	0.1869	0.1887
	42 d	1.8570	1.8853	0.1851	0.1878
Pome fruit Southern EU June – Sept	0 h	1.9288		0.1905	
	24 h	1.9189	1.9239	0.1904	0.1905
	2 d	1.9176	1.9211	0.1903	0.1904
	4 d	1.9149	1.9187	0.1900	0.1903
	7 d	1.9026	1.9132	0.1896	0.1901
	14 d	1.8934	1.9056	0.1887	0.1896
	21 d	1.8842	1.9000	0.1878	0.1891
	28 d	1.8751	1.8949	0.1869	0.1887
	42 d	1.8570	1.8853	0.1851	0.1878

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Potato Northern EU June – Sept	0 h	0.3214	---	0.0318	---
	24 h	0.3202	0.3208	0.0318	0.0318
	2 d	0.3200	0.3205	0.0317	0.0318
	4 d	0.3196	0.3201	0.0317	0.0317
	7 d	0.3175	0.3192	0.0316	0.0317
	14 d	0.3160	0.3180	0.0315	0.0316
	21 d	0.3144	0.3170	0.0313	0.0316
	28 d	0.3129	0.3162	0.0312	0.0315
	42 d	0.3099	0.3146	0.0309	0.0313
Potato Southern EU June – Sept	0 h	0.3214	---	0.0318	---
	24 h	0.3202	0.3208	0.0318	0.0318
	2 d	0.3200	0.3205	0.0317	0.0318
	4 d	0.3196	0.3201	0.0317	0.0317
	7 d	0.3175	0.3192	0.0316	0.0317
	14 d	0.3160	0.3180	0.0315	0.0316
	21 d	0.3144	0.3170	0.0313	0.0316
	28 d	0.3129	0.3162	0.0312	0.0315
	42 d	0.3099	0.3146	0.0309	0.0313

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Tomato glasshouse No draianage/runoff	0 h	0.0214	---	0.0000	---
	24 h	0.0214	0.0214	0.0000	0.0000
	2 d	0.0214	0.0214	0.0000	0.0000
	4 d	0.0213	0.0214	0.0000	0.0000
	7 d	0.0213	0.0213	0.0000	0.0000
	14 d	0.0212	0.0213	0.0000	0.0000
	21 d	0.0211	0.0212	0.0000	0.0000
	28 d	0.0210	0.0212	0.0000	0.0000
	42 d	0.0208	0.0211	0.0000	0.0000

Estimation of concentrations from other routes of exposure (Regulation (EU) N° 284/2013, Annex Part A, point 9.4)

Method of calculation	No other relevant routes of exposure

PEC

Maximum concentration	-

Section 5 Ecotoxicology

Effects on birds and other terrestrial vertebrates (Regulation (EU) N° 283/2013, Annex Part A, point 8.1 and Regulation (EU) N° 284/2013, Annex Part A, point 10.1)

Species	Test substance	Time scale	End point	Toxicity (mg/kg bw per day)
Birds				
Anas platyrhynchos (mallard duck)	a.s.	Acute	LD_{50}	98
Colinus virginianus (bobwhite quail)	a.s.	Acute	LD_{50}	>100
Poephila guttata (zebra finch)	a.s.	Acute	LD_{50}	5.7
Geometric mean	a.s.	Acute	LD_{50}	38.2
	a.s.	Long-term	LD_{50}/10	3.8
Anas platyrhynchos (mallard duck)	a.s.	Long-term	NOAEL	9.5
Mammals				
Rat	a.s.	Acute	LD_{50}	146
	Preparation EXP 60707B	Acute	LD_{50}	1065 mg /kg bw ♀ 1000 – 2000 mg /kg bw ♂
Rat	a.s.	Long-term [90-d study]	NOAEL	12.4
Rat	a.s.	Long-term [developmental neurotoxicity study]	NOAEL	2.5
Endocrine disrupting properties (Annex Part A, points 8.1.5) The mammalian toxicology data was considered, along with the amphibian metamorphosis assay and the fish early life-stage test. These data do not indicate an endocrine-system-specific pathway of toxicity.				
Additional higher tier studies (Annex Part A, points 10.1.1.2): Radiotracking study in orchards in UK, determining PT data for four bird species.				
Terrestrial vertebrate wildlife (birds, mammals, reptile and amphibians) (Annex Part A, points 8.1.4, 10.1.3): No data.				

Toxicity/exposure ratios for terrestrial vertebrates (Regulation (EU) N° 284/2013, Part A, Annex point 10.1)

Pome fruit at 2x 75 g a.s./ha, interval 14 d

Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Birds)					
All	small insectivorous bird	Acute	4.21	**9.1**	10
		Long-term	1.01	**3.8**	5
Tier 1 (Birds)					
Spring/summer	small insectivorous bird	Acute	4.21	**9.1**	10
		Long-term	1.01	**3.8**	5
Crop directed, BBCH ≥ 40	small insectivorous/worm feeding bird	Acute	0.20	193	10
		Long-term	0.04	86	5
Crop directed, BBCH ≥ 40	small granivorous bird	Acute	0.74	52	10
		Long-term	0.21	18	5
Higher tier (birds):					
For acute RA a quantitative risk assessment refinement was considered necessary (data gap). Chronic RA: Radiotracking study in orchards in UK, determining PT data for four bird species. Uncertainties: 1) the PT is averaged over a large period and may be higher in part of that period; 2) and furthermore the data for focal species and PT may not be representative for the whole of Europe. With blue tit as focal species and a PT=0.79, the TER was **4.**8 (data gap was identified for further refinement)					
Screening Step (Mammals)					
All	small herbivorous mammal	Acute	12.3	11.9	10
		Long-term	4.02	**0.62**	5
Tier 1 (Mammals)					
Crop directed, BBCH ≥ 40	small herbivorous mammal	Long-term	4.02	**2.07**	5
Crop directed, BBCH ≥ 40	large herbivorous mammal	Long-term	0.24	10.4	5
Crop directed, BBCH ≥ 40	small omnivorous mammal	Long-term	0.13	19.2	5
Higher tier (Mammals): [*in higher tier refinement provide brief details of any refinements used (e.g., residues, PT, PD or AV)]* Refinements include a discussion of the default deposition factors (no change in risk assessment), refined residues for dicotic portions of the diet (DT_{50} = 2.3 days, fTWA = 0.16), and a discussion of the relevance of vole in orchards. The RMS calculated a refined TER of **3.4** for the use in orchards and did not consider arguments about the relevance of voles in orchards acceptable. A risk to small herbivorous mammal in orchards remains (data gap).					

Potatoes at 3x 50 g a.s./ha, interval 7 d

Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Birds)					
All	small omnivorous bird	Acute	12.7	**3.0**	10
All	small omnivorous bird	Long-term	3.43	**1.1**	5
Tier 1 (Birds)					
BBCH ≥ 40	small omnivorous/worm feeding bird	Acute	0.58	66	10
		Long-term	0.17	22	5
BBCH ≥ 20	small insectivorous bird	Acute	2.02	19	10
		Long-term	0.51	7.4	5
Higher tier (birds): not required					
-					
Screening Step (Mammals)					
All	small herbivorous mammal	Acute	9.47	15.4	10
		Long-term	2.55	**0.98**	5
Tier 1 (Mammals)					
BBCH ≥ 40	small herbivorous mammal	Long-term	1.15	**2.17**	5
BBCH ≥ 40	Frugivorous mammals	Long-term	1.2	**2.0**	5
BBCH ≥ 40	large herbivorous mammal	Long-term	0.23	10.9	5
BBCH ≥ 40	small omnivorous mammal	Long-term	0.12	20.8	5
BBCH ≥ 20	small insectivorous mammal	Long-term	0.10	25[2]	5

Higher tier (Mammals): Refinements include a discussion of the default deposition factors (no change in risk assessment), refined residues for dicotic portions of the diet (DT_{50} = 2.3 days, fTWA = 0.16), and a discussion of the relevance of vole in orchards. The RMS calculated a refined TER of **3.7** for the use in potatoes but considered the field study evidence presented sufficient to suggest that voles are unlikely to spend > 74% of their time foraging in potato fields (only at 74% or greater PT is a risk likely). Thus, the use in potatoes is considered acceptable based on a weight of evidence conclusion.

Risk from bioaccumulation and food chain behaviour

not relevant, Log kow≤3

Risk from consumption of contaminated water

Puddle scenario, Screening step

Application rate (g a.s./ha)/relevant endpoint <50 (koc<500 L/kg) for both field uses, TER calculation not needed.

Toxicity data for all aquatic tested species (Regulation (EU) N° 283/2013, Annex Part A, points 8.2 and Regulation (EU) N° 284/2013 Annex Part A, point 10.2)

* This section does not yet reflect the new EFSA Guidance Document on aquatic organisms which has been noted in the meeting of the Standing Committee on Plants, Animals, Food and Feed on 11 July 2014.

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Laboratory tests				
Fish				
Oncorhynchus mykiss	a.s.	Acute 96 hr (static)	Mortality, LC_{50}	>100 mg a.s./L (nom)
Lepomis macrochirus	a.s.	Acute 96 hr (flow through)	Mortality, LC_{50}	>119.3 mg a.s./L (mm)
Cyprinodon variegatus	a.s	Acute 96 hr (flow through)	Mortality, LC_{50}	100 mg a.s./L (nom)
Pimephales promelas	a.s.	Chronic 35 days (flow-through)	Hatchability	$NOEC_{hatch}$ = 9.4 mg a.s./L (mm) $EC10_{hatch}$ = >150 mg a.s./$L_{(mm)}$
Oncorhynchus mykiss	Metabolite IM-1-4	96 hr (semi-static)	Mortality, LC_{50}	>98.1 mg a.s./L (mm)
Amphibians				
Xenopis laevis	a.s.	21 days (flow-through)	growth	2.6 mg a.s./$L_{(mm)}$
Aquatic invertebrates				
Daphnia magna	a.s.	48 h (static)	Mortality, EC_{50}	49.8 mg a.s./L (mm)
Chironomus riparius	a.s.	48-h (static)	Mortality, EC_{50}	0.0207 mg a.s./L (mm)
Gammarus fasciatus	a.s.	96-h (static)	Mortality, EC_{50}	0.1 mg a.s./L (mm)
Mysidopsis bahia	a.s.	96-h (flow-through)	Mortality, EC_{50}	0.066 mg a.s./L (mm)
Gammarus pulex	a.s.	96-h (static)	Mortality, EC_{50}	0.050 mg a.s./L (mm)
Simulium latigonium	a.s.	96-h (static)	Mortality, EC_{50}	0.0037 mg a.s./L (mm)
Geometric mean aquatic insects	a.s.		Mortality, EC50	0.0085 mg a.s./L (mm)
Daphnia magna	EXP60707A	48 h (static)	Mortality, EC_{50}	>31.8 mg a.s./$L_{((mm)}$)
Chironomus riparius	Acetamiprid 20% SP	48-h (static)	Mortality, EC_{50}	0.0196 mg a.s./$L_{((mm)}$)
Daphnia magna	a.s.	21 d (semi-static)	Reproduction or development,	NOEC = 5 mg a.s./$L_{(mm)}$ EC10 = 2.96 mg a.s./$L_{(mm)}$
Daphnia magna	Metabolite IM-1-2	48 h (semi-static)	Mortality, EC_{50}	>99.8 mg pm/L
Chironomus riparius	Metabolite IM-1-2	48 h (static)	Mortality, EC_{50}	15.0 mg pm/L
Daphnia magna	Metabolite IM-1-4	48 h (semi-static)	Mortality, EC_{50}	43.9 mg pm/L
Mysidopsis bahia	Metabolite IM-1-4	48 h (static)	Mortality, EC_{50}	19 mg pm/L

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Chironomus riparius	Metabolite IM-1-4	48 h (static)	Mortality, EC_{50}	76.0 mg pm/L
Daphnia magna	Metabolite IM-1-5	48 h (static)	Mortality, EC_{50}	25 mg pm/L
Chironomus riparius	Metabolite IM-1-5	48 h (static)	Mortality, EC_{50}	68 mg pm/L
Daphnia magna	Metabolite IM-1-5	21-d (semi-static)	Reproduction or development, NOEC	26 mg pm/L
Daphnia magna	Metabolite IC-0	48 h (semi-static)	Mortality, EC_{50}	>95.1 mg pm/L
Chironomus riparius	Metabolite IC-0	48 h (static)	Mortality, EC_{50}	>100 mg pm/L
Daphnia magna	Metabolite IB-1-1	48 h (semi-static)	Mortality, EC_{50}	>100.8 mg pm/L
Chironomus riparius	Metabolite IB-1-1	48 h (static)	Mortality, EC_{50}	>100 mg pm/L
Sediment-dwelling organisms				
Chironomus riparius	a.s.	28 d (static)	Emergence	NOEC = 0.00096 mg a.s./L $_{(mm)}$; EC10 = 0.000235 mg a.s./L $_{(mm)}$
Algae				
Scenedesmus subspicatus	a.s	72 h (static)	Biomass: E_bC_{50} & growth rate: ErC50	>98.3 mg a.s./L $_{(mm)}$
Anabaena flos-aquae	a.s.	120-h (static)	EC50	>1.3 mg a.s./L $_{(mm)}$
Scenedesmus subspicatus	Acetamiprid 20% SP	72 h (static)	Biomass: E_bC_{50}	>19.6 mg a.s./L $_{(mm)}$
Higher plant				
Lemna gibba	a.s.	14 d(static)	Fronds number, EC_{50}	>1.0 mg a..s./L$_{(mm)}$
Further testing on aquatic organisms Outdoor mesocosm study: Effect assessment on macroinvertebrates, zooplankton, phytoplankton, periphyton and macrophytes in outdoor mesocosms. Test substance: Acetamiprid 20 SG (Mospilan 20 SG). 2 applications with a 14 day interval. Study duration: 82 days. Treatment rates: 0.5, 1.1, 2.6 and 6.0 µg a.s./L. Endpoints: NOEC and NOEAEC <0.5 µg/L based on class 5B effects on Naididae at 0.5-6.0 µg/L . Considering however the uncertainty associated with the findings for Naididae (not expected to be more sensitive than insects based on mode of action; relatively low numbers in control, although MDD was low) the reported conclusion by the study author NOEC based on class 2 effects to derive the ETO-RAC 1.1 µg/L; NOEAEC to derive ERO-RAC 1.1 µg/L based on class 5B effects on *Cloeon dipterum* at 2.6 µg/L) could be acceptable in case the findings for Naididae in the present study are negated by prolonged toxicity laboratory studies (e.g. at least 28 days duration) with representative taxa of Naididae.				
Potential endocrine disrupting properties (Annex Part A, point 8.2.3) The mammalian toxicology data was considered, along with the amphibian metamorphosis assay and the fish early life-stage test. These data do not indicate an endocrine-system-specific pathway of toxicity (i.e. systemic toxicity is indicated, as opposed to direct interaction with estrogen, androgen or thyroidal systems).				

[1] ($_{nom}$) nominal concentration; ($_{mm}$) mean measured concentration; prep.: preparation; a.s.: active substance

Bioconcentration in fish (Annex Part A, point 8.2.2.3)

	Active substance	Metabolite 1	Metabolite 2	Metabolite 3
$logP_{O/W}$	0.80			
Steady-state bioconcentration factor (BCF) (total wet weight/normalised to 5% lipid content)	X*			
Uptake/depuration kinetics BCF (total wet weight/normalised to 5% lipid content)				
Annex VI Trigger for the bioconcentration factor				
Clearance time (days) (CT_{50})				
(CT_{90})				
Level and nature of residues (%) in organisms after the 14 day depuration phase				
Higher tier study				

* based on total ^{14}C or on specific compounds

Toxicity/exposure ratios for the most sensitive aquatic organisms (Regulation (EU) N° 284/2013, Annex Part A, point 10.2)

$FOCUS_{sw}$ step 1-2 - TERs for for acetamiprid – pome fruit at 75 g a.s./ha x 2 (14 d interval) (most critical use)

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	Amphibians
		Cyprinodon variegatus	*Pimephales promelas*	*Geomean of EC50 of 2 aquatic insect species***	*Daphnia magna*	*Anabaena flos-aquae*	*Lemna gibba*	*Chironomus riparius*	
		LC_{50}	NOEC	EC_{50}	NOEC	EC_{50}	EC_{50}	NOEC	NOEC
		100000 µg/L	9400 µg/L	8.5 µg/L	2960 µg/L	>1300 µg/L	>1000 µg/L	0.235 µg/L	2600 µg/L
FOCUS Step 1									
FOCUS Step 2									
North Europe	4.9668	>1000	>1000	**1.7**	596	>262	>201	**0.047**	523
South Europe									
FOCUS Step 3*									
D3 Ditch	2.756			**3.1**				**0.1**	
D4 Pond	0.132			**64.4**				**1.8**	
D4 Stream	2.762			**3.1**				**0.1**	
D5 Pond	0.170			**50.0**				**1.4**	
D5 Stream	2.985			**2.8**				**0.1**	
R1 pond	0.165			**51.2**				**1.4**	
R1 Stream	2.074			**4.1**				**0.1**	
R2 Stream	2.837			**3.0**				**0.1**	
R3 Stream	2.983			**2.8**				**0.1**	
R4 Stream	2.116			**4.0**				**0.1**	
Trigger**		100	10	100	10	10	10	10	10

*[Only scenarios where the trigger is not met at FOCUSsw step 1-2 should be included in step 3.]
**Daphnia magna excluded, because the endpoint is considered as an outlier
**[If the Trigger value has been adjusted during the risk assessment, it should always be clear on what basis the risk assessment has been performed, i.e. what the AF value is and for which organism and endpoint it refers.]

FOCUS$_{sw}$ step 1-3 TERs for acetamiprid based on mesocosm endpoint– pome fruit at 75 g a.s./ha x 2 (14 d interval) (most critical use)

Scenario	PEC global max (µg L)	Mesocosm
		NOEC/NOEAEC: 1.1 µg as/L
FOCUS Step 1		
FOCUS Step 2		
North Europe	4.9668	**0.22**
South Europe		
FOCUS Step 3*		
D3 Ditch	2.756	**0.40**
D4 Pond	0.132	8.33
D4 Stream	2.762	**0.40**
D5 Pond	0.170	6.47
D5 Stream	2.985	**0.37**
R1 pond	0.165	6.63
R1 Stream	2.074	**0.53**
R2 Stream	2.837	**0.39**
R3 Stream	2.983	**0.37**
R4 Stream	2.116	**0.52**
Trigger		3

FOCUS$_{sw}$ step 1-3 - TERs for acetamiprid – potatoes at 50 g a.s./ha x 3 (7 d interval)

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	Amphi-bians
		Cyprinodon variegatus	*Pimephales promelas*	*Geomean of EC50 of 2 aquatic insect species***	*Daphnia magna*	*Anabaena flos-aquae*	*Lemna gibba*	*Chironomus riparius*	
		LC_{50}	NOEC	EC_{50}	NOEC	EC_{50}	EC_{50}	NOEC	NOEC
		100000 µg/L	9400 µg/L	8.5 µg/L	2960 µg/L	>1300 µg/L	>1000 µg/L	0.235 µg/L	2600 µg/L
FOCUS Step 1									
FOCUS Step 2									
North Europe	0.8101	>1000	>1000	**1.7**	>1000	>262	>201	**0.29**	523
South Europe									
FOCUS Step 3*									
D3 Ditch	0.262			**32.4**				**0.9**	
D4 Pond	0.0193			440				12.2	
D4 Stream	0.217			**39.2**				**1.1**	
D6 Ditch 1	0.264			**32.2**				**0.9**	
D6 Ditch 2	0.257			**33.1**				**0.9**	
R1 pond R1 Stream R2 Stream R3 Stream	 0.0473 0.463 0.224 0.706			 180 **18.4** **37.9** **12.0**				 **5.0** **0.5** **1.0** **0.3**	
Trigger**		100	10	100	10	10	10	10	10

*[Only scenarios where the trigger is not met at FOCUSsw step 1-2 should be included in step 3.]

FOCUS$_{sw}$ step 1-3 – TERs for acetamiprid – tomatoes at 100 g a.s./ha x 2 (7 d interval) (permanent greenhouse)

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	Amphibians
		Cyprinodon variegatus	*Pimephales promelas*	*Geomean of EC50 of 2 aquatic insect species***	*Daphnia magna*	*Anabaena flos-aquae*	*Lemna gibba*	*Chironomus riparius*	
		LC_{50}	NOEC	EC_{50}	NOEC	EC_{50}	EC_{50}	NOEC	NOEC
		100000 µg/L	9400 µg/L	8.5 µg/L	2960 µg/L	>1300 µg/L	>1000 µg/L	0.235 µg/L	2600 µg/L
FOCUS Step 1									
FOCUS Step 2									
North Europe	0.0588	>1000	>1000	145	>1000	>1000	>1000	**4.0**	>1000
South Europe									
Trigger		100	10	100	10	10	10	10	10

FOCUS$_{sw}$ step 4 - TERs for acetamiprid – pome fruit at 75 g a.s./ha x 2 (14 d interval) (most critical use)

Organisms *:* *mesocosm study: aquatic invertebrates**					
Toxicity endpoint: NOEC/NOEAEC: 1.1 µg as/L					
Mitigation options	**20 m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)**	**5 m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)**	**PECsw (x.xx µg/L)**	**TER**	**trigger**
FOCUS Step 4*					
D3 / ditch	X		0.256	4.3	3
D4 / pond	X		0.0356	30.9	
D4 / stream	X		0.297	3.7	
D5 / pond	X		0.0442	24.9	
D5 / stream	X		0.321	3.4	
R1 / pond	X	X	0.0429	25.6	
R1 / stream	X	X	0.223	4.9	
R2 / stream	X	X	0.305	3.6	
R3 / stream	X	X	0.321	3.4	
R4 / stream	X	X	0.228	4.8	

*Only the risk assessment is included for aquatic invertebrates, because this is the most critical group

Metabolites

	IM-1-2 PECsw FOCUS step2 (µg/L) tox endpoint 15000 µg/L	TER	IM-1-4 PECsw FOCUS step2 (µg/L) tox endpoint 19000 µg/L	TER	IC-0 PECsw FOCUS step2 (µg/L) tox endpoint 95100 µg/L	TER	IM-1-5 PECsw FOCUS step2 (µg/L) tox endpoint 25000 µg/L		IB-1 PECsw FOCUS step2 (µg/L) tox endpoint 100000 µg/L	TER
pome fruit	0.8851	16947	4.2062	4517	1.1775	80764	0.5461	45779.16133	1.9288	51846
potatoes	0.1871	80171	1.7125	11095	0.2133	445851	0.5461	45779.16133	0.3214	311139
tomatoes	0.0091	1648352	0.0354	536723	0.013	7315385	n.a.		0.0214	4672897

Effects on bees (Regulation (EU) N° 283/2013. Annex Part A, point 8.3.1 and Regulation (EU) N° 284/2013 Annex Part A, point 10.3.1)

* This section does reflect the new EFSA Guidance Document on bees which has not yet been noted by the Standing Committee on Plants, Animals, Food and Feed.

Species	Test substance	Time scale/type of endpoint	End point	toxicity
Bombus terrestris	preparation EXP 60707A	Acute	Contact toxicity (LD_{50})	>100 µg a.s./bee
Apis mellifera	preparation EXP 60707A	Acute	Oral toxicity (LD_{50})	8.85 µg a.s./bee
Apis mellifera	preparation EXP 60707A	Acute	Contact toxicity (LD_{50})	9.26 µg a.s./bee
Apis mellifera	a.s.	Chronic	10 d-LC50	11.7 µg a.s./bee/day
Apis mellifera	a.s.	Bee brood development	EC10larvae	1.3 µg/larva/developmental period (total dose over 6 days feeding)
	a.s.	Sub-lethal effects (behavioural and reproductive)	NOEC hypopharyngeal glands	not available

Semi-field test (Cage and tunnel test)

Five acceptable semi-field studies. Application during full flowering and bee flight at 1x 100-120 g a.s./ha, one study had an additional application one week before introduction of the bees. Generally, transient reduced foraging activity was seen. No increased mortality. No clear brood effects. Details per study are shown below:

Due to concerns identified regarding the robustness and reliability of the semi-field and field studies, they could not be used to draw any conclusion, and in particular to exclude potential chronic effects and effects on the brood development.

Species	Test substance	Nature of the study	Results
Apis mellifera	Acetamiprid 20 SG	Spray during bee flight on full-flowering Phacelia crop, preceded by one spraying event 8 days earlier. Test rate 2x and 100 g a.s./ha. Location: S-DE	No effects on bee mortality, number of bees, behaviour and brood development. Reduction of flight intensity on DALA0-7 (statistically significant at DALA0 and DALA1 and in overall period 0-7).
Apis mellifera	Acetamiprid 20 SP	Spray during bee flight on full-flowering Phacelia crop. Test rate 1x 120 g a.s./ha. Location: S-DE	No effects on number of bees and behaviour (evaluated for 8 days after the last treatment). Reduction of flight intensity on DAA0-5 (not statistically analysed). Results for mortality cannot be evaluated due to unexplained effects in one colony. Results for brood are inconclusive due to the short study duration.
Apis mellifera	Acetamiprid 20 SP	Spray during bee flight on full-flowering Phacelia crop. Test rate 1x 100 g a.s./ha. Location: S-DE	No effects on bee mortality and behaviour. Reduction of flight intensity on DAA0 (statistically significant). Results for brood are inconclusive due to the short study duration.
Apis mellifera	Acetamiprid 20 SP	Spray during bee flight on full-flowering Phacelia crop. Test rate 1x 100 g a.s./ha. Location: N-DE	No effects on bee mortality and behaviour. Reduction of flight intensity on DAA0 (statistically significant). Decrease in brood area cannot be excluded, but results for brood are inconclusive due to the short study duration.
Apis mellifera	EXP60707A: Acetamiprid 20% SP	Spray during bee flight on full-flowering Phacelia crop. Test rate 1x 100 g a.s./ha. Location: S-DE	No effects on bee mortality, flight intensity and behaviour. Effect on brood termination rate cannot be excluded.
Apis mellifera	Acetamiprid 20 Sg	Spray during bee flight on full-flowering oilseed rape crop. Test rate 1x 50 g a.s./ha (alone or with 175 g prothioconazole/ha or 175 g tebuconazole/ha). Location: S-DE	All treatments: No effects on number of bees and brood development. No effects on flight intensity on DAA0 and 4-7, but not measured on DAA1-3. Some intoxication symptoms on DAA0. Acetamiprid alone or in combination with prothioconozole caused no effects on mortality. Acetamiprid in combination with tebuconazole caused increased mortality on DAA0.

Field tests
Two acceptable field studies (one on two locations). Application during full flowering and bee flight at 1x 50-75 g a.s./ha. Transient reduced foraging activity in one study. Transient increased mortality. No brood effects. Details per study are shown below:

Species	Test substance	Nature of the study	Results
Apis mellifera	Acetamiprid 20 SG	Spray during bee flight on full-flowering oilseed rape crop. Test rate 1x 50 g a.s./ha. Location: S-DE	Increase of mortality on DAA1 cannot be excluded. Clear effect (not statistically analysed) on flight intensity on DAA0 and 1, not measured on DAA3 and 4. No effects on number of bees and brood development. Some intoxication symptoms on DAA0.
Apis mellifera	Acetamiprid 20 SG	Spray during bee flight on	Clear increase of mortality on DAA4-

		full-flowering oilseed rape crop. Test rate 1x 50 g a.s./ha. Location: N-DE	7 (not statistically analysed). No apparent effect (not statistically analysed) on flight intensity, but not measured on DAA1 and 2. No effects on number of bees, behaviour and brood development.
Apis mellifera	Acetamiprid 20 SG	Spray during bee flight on full-flowering Phacelia crop: test rate 1x 75 g a.s./ha (alone (T1) or with 375 g prothioconazole/ha (T2). Spray after bee flight on full-flowering Phacelia crop: test rate 1x 75 g a.s./ha with 375 g prothioconazole/ha (T3). Location: C-DE	Bee mortality: T1: Sign.increase on DAT1, 3, 4, 6 and 7 and DAT0-7. T2: Sign.increase on DAT1. T3: Sign.increase on DAT3, 4 and 7. Flight intensity: T1: No effect. T2: Sign. decrease on DAA0aa T3: Sign. decrease on DAA4 All treatments: No effects on flight intensity, number of bees and brood development. No effects on behaviour apart from two intensively cleaning foragers in T2 one hour after application. Study setup not worst case due to alternative forage (weeds) in surroundings.

Risk assessment according to European Commission (2002a)

Risk assessment for pome fruit at 2x 75 g a.s./ha

Species	Test substance	Risk quotient	HQ	Trigger
Apis mellifera	preparation	HQoral	8.47	50
Apis mellifera	preparation	HQcontact	8.10	50

Risk assessment for potato at 3x 50 g a.s./ha

Species	Test substance	Risk quotient	HQ	Trigger
Apis mellifera	preparation	HQoral	5.65	50
Apis mellifera	preparation	HQcontact	5.40	50

Risk assessment for tomato at 2x 100 g a.s./ha (indoor use)

Species	Test substance	Risk quotient	HQ/ETR	Trigger
Apis mellifera	preparation	HQoral	11.3	50
Apis mellifera	preparation	HQcontact	10.8	50

Risk Assessment to bees performed by EFSA, according to EFSA (2013)

Risk assessment for potato at 3x 50 g a.s./ha

Contact route of exposure –screening assessment

Species	Test substance	Risk quotient	HQ/ETR	Trigger
Apis mellifera	preparation	HQcontact	5.4	42
Bumble bee	prepraration	HQcontact	0.5	7

Oral route of exposure –tier 1 risk assessment

category	scenario	BBCH	Honeybee	
			ETR	trigger
acute	treated crop	40 - 69	0.01	0.2
acute	treated crop	≥ 70	0.00	0.2
acute	weeds	40 - 69	0.01	0.2
acute	weeds	≥ 70	0.01	0.2
acute	field margin	40 - 69	0.00	0.2
acute	field margin	≥ 70	0.00	0.2
acute	adjacent crop	40 - 69	0.00	0.2
acute	adjacent crop	≥ 70	0.00	0.2
acute	next crop	40 - 69	0.00	0.2
acute	next crop	≥ 70	0.00	0.2
chronic	treated crop	40 - 69	0.00	0.03
chronic	treated crop	≥ 70	0.00	0.03
chronic	weeds	40 - 69	0.00	0.03
chronic	weeds	≥ 70	0.00	0.03
chronic	field margin	40 - 69	0.00	0.03
chronic	field margin	≥ 70	0.00	0.03
chronic	adjacent crop	40 - 69	0.00	0.03
chronic	adjacent crop	≥ 70	0.00	0.03
chronic	next crop	40 - 69	0.00	0.03
chronic	next crop	≥ 70	0.00	0.03
larva	treated crop	40 - 69	0.00	0.2
larva	treated crop	≥ 70	0.00	0.2
larva	weeds	40 - 69	0.02	0.2
larva	weeds	≥ 70	0.02	0.2
larva	field margin	40 - 69	0.00	0.2
larva	field margin	≥ 70	0.00	0.2
larva	adjacent crop	40 - 69	0.00	0.2
larva	adjacent crop	≥ 70	0.00	0.2
larva	next crop	40 - 69	0.01	0.2
larva	next crop	≥ 70	0.01	0.2

Risk assessment for potato at 2x 75 g a.s./ha

Contact route of exposure –screening assessment

Species	Test substance	Risk quotient	HQ/ETR	Trigger
Apis mellifera	preparation	HQcontact	8.1	42
Bumble bee	prepraration	HQcontact	0.8	7

Oral route of exposure –tier 1 risk assessment

category	scenario	BBCH	Honeybee	
			ETR	trigger
acute	treated crop	≥ 70	0.00	0.2
acute	weeds	≥ 70	0.01	0.2
acute	field margin	≥ 70	0.00	0.2
acute	adjacent crop	≥ 70	0.00	0.2
acute	next crop	≥ 70	0.01	0.2
chronic	treated crop	≥ 70	0.00	0.03
chronic	weeds	≥ 70	0.00	0.03
chronic	field margin	≥ 70	0.00	0.03
chronic	adjacent crop	≥ 70	0.00	0.03
chronic	next crop	≥ 70	0.00	0.03
larva	treated crop	≥ 70	0.00	0.2
larva	weeds	≥ 70	0.03	0.2
larva	field margin	≥ 70	0.01	0.2
larva	adjacent crop	≥ 70	0.01	0.2
larva	next crop	≥ 70	0.02	0.2

Effects on other arthropod species (Regulation (EU) N° 283/2013. Annex Part A, point 8.3.2 and Regulation (EU) N° 284/2013 Annex Part A, point 10.3.2)

Laboratory tests with standard sensitive species (Tier 1)

Species	Test Substance	End point	Toxicity
Typhlodromus pyri	Preparation (EXP 60707A)	Mortality Reproduction	100% at 0.09 and 0.18 kg as/ha) No eggs
Aphidius rhopalosiphi	preparation (EXP 60707A)	Mortality Reproduction	100% at 0.2 and 0.4 kg as/ha) No fecundity
Additional species			
Coccinella septempunctata	Preparation (EXP 60707A)	Mortality Reproduction	100% at 0.09 and 0.18 kg as/ha) No fecundity
Poecilus cupreus	preparation (EXP 60707A)	Mortality Feeding rate	3.3% at 0.2 and 0.4 kg as/ha 0.17%

First tier risk assessment for – all uses: no appropriate first tier risk assessment is possible, because 100% mortality was observed at the lowest tested dose rates.

Test substance	Species	Effect (LR_{50} kg/ha)	HQ in-field	HQ off-field[1]	Trigger
EXP 60707A	*Typhlodromus pyri*				2
EXP 60707A	*Aphidius rhopalosiphi*				2

[1]indicate distance assumed to calculate the drift rate

Extended laboratory tests, aged residue tests

Species	Life stage	Test substance, substrate	Time scale	Dose (kg as/ha)[1,2]	End point	% effect[3]	LR_{50}
Extended laboratory tests							
Typhlodromus pyri	protonymphs	EXP 60707A, leaves (2-D)	14 d	0.01 0.018 0.032 0.057 0.1	Mortality Reproduction	20.5 43.8 34.1 82.6 94.2 No statistically significant effects on the reproductive performance at rates up to 0.032 kg as/ha	0.0297 kg as/ha
Aphidius rhopalosiphi	adult	EXP 60707A, Potted barley plants (3-D)	48 h	0.000207 0.000621 0.00186 0.00559 0.0168	Mortality Reproduction	0.0 9.4 53.1 87.5 93.8 No statistically significant effects on the reproductive performance at rates up to 0.00186 kg as/ha	0.0020 kg as/ha
Aged residue tests							
Typhlodromus pyri	protonymphs	EXP 60707A, Apple trees (3-D)	14 d	0.013 0.1	Mortality Reproduction Mortality Reproduction	-1.1 (day 0) 6.2 39.1 (day 0) n.a. (day 0) -1.1 (day 7)	
Aphidius rhopalosiphi	adult	EXP 60707A, Apple trees (3-D)	21 d	0.013 0.1	Mortality Reproduction Mortality Reproduction	90 (day 0) 10.3 (day 7) n.a. (day 0) 42.4 (day 7) 70 (day 0) 31.6 (day 14) 54.7 (day 7) 20.7 (day 14)	
Coccinella septempunctata	Larvae	EXP 60707A, Apple trees (3-D)	28 d	0.013 0.1	Mortality Reproduction Mortality Reproduction	42.9 (day 0) n.a. (day 0) -16.4 (day 7) 95.9 (day 0) 45.8 (day 7) 14.4 (day 28)	
Chrysoperla carnea	larvae	EXP 60707A, Apple trees (3-D)	14 d	0.013 0.1	Mortality Reproduction Mortality Reproduction	2.3 (day 0) 2.4. (day 0) 16.3 (day 0) 6.6. (day 0)	

Species	Life stage	Test substance, substrate	Time scale	Dose (kg as/ha)[1,2]	End point	% effect[3]	LR_{50}
Extended laboratory tests							
Aphidius rhopalosiphi	adult	Acetamiprid 20SG, Apple trees (3-D)	56 d	0.0206 0.170	Mortality Reproduction Mortality Reproduction	100 (day 0) 17.2 (day 14) 56.8 (day 14) 17.3 (day 21) 100 (day 0) 26.7 (day 49) 24.6 (day 49)	
Coccinella septempunctata	larvae	Acetamiprid 20SG, Apple trees (3-D)	49 d	0.0206 0.170	Mortality Reproduction Mortality Reproduction	53.1 (day 0) 11.4 (day 14) 0 (day 14) 100 (day 0) 0 (day 42) 0 (day 14) 0 (day 42)	

[1] indicate whether initial or aged residues
[2] for preparations indicate whether dose is expressed in units of a.s. or preparation
[3] indicate if positive percentages relate to adverse effects or not

Risk assessment for – pome fruit at 75 g a.s./ha x 2 (14 days interval) : based on extended lab test and aged residue tests

Species	$L(E)R_{50}$ (g/ha)	In-field rate	Off-field rate	HQin-field (trigger is 1)*	HQoff-field (trigger is 1)**
Typhlodromus pyri	29.7	128	7.73 (2-D)	**4.3**	**0.26**
Aphidius rhopalosiphi	2.0	128	77.3 (3-D)	**64**	**38.7**

*the aged residue studies for both indicator organisms showed that potential recovery/recolonisation is possible within an acceptable period; hence, the in-field risk is considered to be acceptable
**the off-field risk for *A. rhopalosiphi* can be reduced to an acceptable level by applying a buffer zone of at least 40 meters. However, this is more than 95% reduction, which is not considered acceptable.

Risk assessment for – potatoes at 50 g a.s./ha x 3 (7 days interval): based on extended lab test and aged residue tests

Species	$L(E)R_{50}$ (g/ha)	In-field rate	Off-field rate	HQin-field (trigger is 1)*	HQoff-field (trigger is 1)**
Typhlodromus pyri	29.7	115	1.16 (2-D)	**3.9**	0.04
Aphidius rhopalosiphi	2.0	115	11.6 (3-D)	**57.5**	**5.8**

*the aged residue studies for both indicator organisms showed that potential recovery/recolonisation is possible within an acceptable period; hence, the in-field risk is considered to be acceptable
**the off-field risk for *A. rhopalosiphi* can be reduced to an acceptable level by applying a buffer zone of at least 10 meters.

Effects on non-target soil meso- and macro fauna; effects on soil nitrogen transformation (Regulation (EU) N° 283/2013. Annex Part A, points 8.4. 8.5, and Regulation (EU) N° 284/2013 Annex Part A points 10.4, 10.5)

Test organism	Test substance	Application method of test a.s./ OM1	Time scale	End point	Toxicity
Earthworms					
Eisenia foetida	IM-1-5	Homogenous mixing	Chronic	Growth, reproduction and behaviour	NOEC = 62.5 mg metabolite/kg d.w. soil E/LC_{10} = > 62.5
Considering the similar acute toxicity as IM-1-5, the much lower persistence than IM-1-5, and the fact that IM-1-4 is structurally farther removed from the parent acetamiprid, IM-1-4 is not expected to be more toxic to earthworms than metabolite IM-1-5 or the parent acetamiprid. In addition, metabolites IM-1-2 and IC-0 also show similar acute toxicity as IM-1-5 and are less persistent. All of these metabolites are expected to have formed in the field study (discussed below).					
Other soil macroorganisms					
Folsomia candida	Acetamiprid 20 SG	Homogenous mixing; 5% OM	28 days	Mortality and reproduction	$NOEC_{mortality}$ = 0.49 mg a.s./kg soil d.w. LC_{10} = 0.82 mg a.s./kg soil d.w. $NOEC_{reproduction}$ = 0.27 mg a.s./kg soil d.w. EC_{10} = 0.47 mg a.s./kg soil d.w.
Folsomia candida	IM-1-5	Homogenous mixing	28 days	Mortality and reproduction	$NOEC_{mortality}$ = 62.7 mg/kg dw soil No EC values could be calculated as there were no effects below the highest tested value. $NOAEC_{reproduction}$ = 12.5 mg/kd dw soil No EC values were calculated as the data were not appropriate for modelling.
Hypoaspis aculeifer	Acetamiprid 20 SG	Homogenous mixing; 5% OM	14 days	Mortality and reproduction	$NOEC_{mortality\ and\ reproduction}$ = 180 mg a.s./kg soil d.w. LC_{50} = > 180 mg a.s./kg soil d.w. EC_{10} = 50.8

[1]To indicate whether the test substance was over-sprayed/to indicate the organic content of the test soil (e.g. 5 % or 10 %).

Higher tier testing (e.g. modelling or field studies)

An earthworm field study was performed with the formulation Acetamiprid 20 SG. Two applications of 25, 50 and 80 g a.s./ha with a 7 day interval were sprayed onto bare soil in Althen, Germany. 20 plots of 10 x 10m, separated by 2m strips, with 4 replicates, were used. A toxic reference (Nutdazim 50 Flow, 500 g/L carbendazim nominal) was applied to the reference plot(s) at the same time as the first test substance application (28 April 2009). The temperature during first application was 20-23 ºC and in the 3 days after the first application 6 mm rainfall occurred. The temperature during second application was 8-11 ºC, and 5.5 mm rainfall occurred in the 3 days post application. Temperatures varied from 8.7 to 17.4 ºC and soil moisture was 10.7 – 16.8% during soil sampling. Analytical sampling occurred after application and before irrigation. 5 subsamples of soil were taken per plot, which were pooled to one specimen. The analytical method was acceptable. Earthworm sampling took place 2 weeks before application (14 April 2009), 1 month after first application (1 May 2009), 6 months after first application (12 October 2009) and 1 year after first application (26 April 2010). On each sampling occasion the soil surface was monitored to check for dead earthworms, in two 1m strips in the middle of a plot. 4 sub-plots of 0.25m2 per plot were sampled in the middle 6 x 6m of the plots, to a depth of 20 cm per sample.

The results show that none of the acetamiprid treatments cause significant effects (>50%) on total abundance or biomass, as compared to the control. In the middle and high acetamiprid treatments of 50 and 80 g a.s./ha, a decline in abundance and biomass is present at the 1st sampling after application, both when compared to the control and to pre-treatment sampling. This effect is generally <50% as compared to the control and no dose-related differences are seen 6 months and 1 year after treatment. Individual species show occasional significant decreases in biomass at either 1 or 6 months, but the differences are no longer present after 1 year. **Acetamiprid 20 SG at rates up to 80 g a.s./ha did not cause any adverse effects >50% on total earthworm abundance and biomass.**

Nitrogen transformation	Acetamiprid 20 SG		<25% effect at day 28 at 0.2 kg a.s./ha

Toxicity/exposure ratios for soil organisms

Use in pome fruit 75 g a.s./ha x 2 (14 day interval)

Test organism	Test substance	Time scale	Soil PEC[1]	TER	Trigger
Earthworms					
Eisenia foetida	IM-1-5	Chronic	0.032 mg/kg soil dw (plateau)	1953	5
Other soil macroorganisms					
Folsomia candida	Acetamiprid 20 SG	Chronic	0.045 mg/kg soil dw (init)	6	5
Folsomia candida	IM-1-5	Chronic	0.032 mg/kg soil dw (plateau)	391	5
Hypoapsis aculeifer	Acetamiprid 20 SG	Chronic	0.045 mg/kg soil dw (init)	1129	5

[1]indicate which PEC soil was used (e.g. plateau PEC)

Effects on terrestrial non target higher plants (Regulation (EU) N° 283/2013. Annex Part A, point 8.6 and Regulation (EU) N° 284/2013 Annex Part A, point 10.6)

Screening data
Not required for herbicides or plant growth regulators as ER50 tests should be provided

Laboratory dose response tests

Species	Test substance	ER_{50} (g a.s./ha)[2] vegetative vigour	ER_{50} (g a.s./ha)[2] emergence	Exposure[1] (g/ha)[2]	TER[3]	Trigger
Cucumber	Acetamiprid 20G	>500	650	11.8	55.1	5
Cabbage, corn, lettuce, oat, onion, perennial ryegrass, soybean, tomato, turnip	Acetamiprid 20G	>500	>700			
Extended laboratory studies: Semi-field and field test:						

[1] exposure estimated based on Ganzelmeier drift data for the worst-case use in pome fruit
[2] for preparations indicate whether dose is expressed in units of a.s. or preparation
3 Based on most sensitive endpoint and only calculated for most sensitive species

Effects on biological methods for sewage treatment (Regulation (EU) N° 283/2013, Annex Part A, point 8.8)

Test type/organism	end point
Activated sludge	EC_{50} > 1000 mg a.s./L (extrapolated 1500 mg a.s./L)
Pseudomonas sp	not available

Monitoring data (Regulation (EU) N° 283/2013, Annex Part A, point 8.9 and Regulation (EU) N° 284/2013, Annex Part A, point 10.8)

Available monitoring data concerning adverse effect of the a.s.	Not available
Available monitoring data concerning effect of the PPP.	Not available

Definition of the residue for monitoring (Regulation (EU) N° 283/2013, Annex Part A, point 7.4.2) Ecotoxicologically relevant compounds[1]

Compartment	
soil	Acetamiprid
water	Acetamiprid
sediment	Acetamiprid
groundwater	Acetamiprid

[1] metabolites are considered relevant when, based on the risk assessment, they pose a risk comparable or higher than the parent

Classification and labelling with regard to ecotoxicological data (Regulation (EU) N° 283/2013, Annex Part A, Section 10)

Substance	acetamiprid

Harmonised classification according to Regulation (EC) No 1272/2008 and its Adaptations to Technical Process [Table 3.1 of Annex VI of Regulation (EC) No 1272/2008 as amended][13]:	Hazard category: Aquatic Acute 1 and Aquatic Chronic 1 Symbol: GHS09; Signal word: danger Hazard statement: H400/H410: Very toxic to aquatic life with long lasting effects M-factor acute: 100 M-factor chronic: 10 Precautionary statement: P391 and P501
Peer review proposal[14] for harmonised classification according to Regulation (EC) No 1272/2008:	Hazard category: Aquatic Acute 1 and Aquatic Chronic 1 Symbol: GHS09; Signal word: danger Hazard statement: H400/H410: Very toxic to aquatic life with long lasting effects Precautionary statement: P391 and P501

[13] Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. OJ L 353, 31.12.2008, 1-1355.

[14] It should be noted that harmonised classification and labelling is formally proposed and decided in accordance with Regulation (EC) No 1272/2008. Proposals for classification made in the context of the evaluation procedure under Regulation (EC) No 1107/2009 are not formal proposals.

Abbreviations

1/*n*	slope of Freundlich isotherm
λ	wavelength
ε	decadic molar extinction coefficient
a.s.	active substance
AChE	acetylcholinesterase
ADE	actual dermal exposure
ADI	acceptable daily intake
AF	assessment factor
AAOEL	acute acceptable operator exposure level
AOEL	acceptable operator exposure level
AP	alkaline phosphatase
AR	applied radioactivity
ARfD	acute reference dose
AST	aspartate aminotransferase (SGOT)
AUC	area under the blood concentration/time curve
AV	avoidance factor
BCF	bioconcentration factor
BUN	blood urea nitrogen
bw	body weight
CAS	Chemical Abstracts Service
CFU	colony-forming units
ChE	cholinesterase
CI	confidence interval
CIPAC	Collaborative International Pesticides Analytical Council Limited
CL	confidence limits
Cmax	concentration achieved at peak blood level
DAA	days after application
DAT	days after treatment
DDD	daily dietary dose
DM	dry matter
DT_{50}	period required for 50% dissipation (define method of estimation)
DT_{90}	period required for 90% dissipation (define method of estimation)
dw	dry weight
EbC_{50}	effective concentration (biomass)
EC_{50}	effective concentration
ECHA	European Chemicals Agency
EEC	European Economic Community

EMDI	estimated maximum daily intake
ER_{50}	emergence rate/effective rate, median
ErC_{50}	effective concentration (growth rate)
ETR	exposure toxicity ratio
ETR_{acute}	exposure toxicity ratio for acute exposure
ETR_{larvae}	exposure toxicity ratio for chronic exposure
ETR_{larvae}	exposure toxicity ratio for larvae
ETR_{HPG}	exposure toxicity ratio for effects on honeybee hypopharygeal glands
EU	European Union
EUROPOEM	European Predictive Operator Exposure Model
f(twa)	Time-weighted average factor
FAO	Food and Agriculture Organization of the United Nations
FID	flame ionisation detector
FIR	food intake rate
FOB	functional observation battery
FOCUS	Forum for the Co-ordination of Pesticide Fate Models and their Use
GAP	Good Agricultural Practice
GC	gas chromatography
GCPF	Global Crop Protection Federation (formerly known as International Group of National Associations of Manufacturers of Agrochemical Products; GIFAP)
GGT	gamma glutamyl transferase
GM	geometric mean
GS	growth stage
GSH	glutathione
Hb	haemoglobin
Hct	haematocrit
HPLC	high-pressure liquid chromatography or high-performance liquid chromatography
HPLC-MS	high-pressure liquid chromatography–mass spectrometry
HPG	hypopharygeal glands
HQ	hazard quotient
$HQ_{contact}$	hazard quotient for contact exposure
HR	hazard rate
IEDI	international estimated daily intake
IESTI	international estimated short-term intake
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
iv	intravenous

JMPR	Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Expert Group on Pesticide Residues (Joint Meeting on Pesticide Residues)
K_{doc}	organic carbon linear adsorption coefficient
K_{Foc}	Freundlich organic carbon adsorption coefficient
LC	liquid chromatography
LC_{50}	lethal concentration, median
LC-MS	liquid chromatography–mass spectrometry
LC-MS-MS	liquid chromatography with tandem mass spectrometry
LD_{50}	lethal dose, median; dosis letalis media
LDD_{50}	lethal dietary dose; median
LDH	lactate dehydrogenase
LOAEL	lowest observable adverse effect level
LOD	limit of detection
LOQ	limit of quantification
M/L	mixing and loading
MAF	multiple application factor
MCH	mean corpuscular haemoglobin
MCHC	mean corpuscular haemoglobin concentration
MCV	mean corpuscular volume
mm	millimetre (also used for mean measured concentrations)
mN	milli-newton
MRL	maximum residue level
MS	mass spectrometry
MSDS	material safety data sheet
MTD	maximum tolerated dose
MWHC	maximum water-holding capacity
NESTI	national estimated short-term intake
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
NPD	nitrogen–phosphorus detector
OECD	Organisation for Economic Co-operation and Development
OM	organic matter content
Pa	pascal
PD	proportion of different food types
PEC	predicted environmental concentration

PEC_{air}	predicted environmental concentration in air
PEC_{gw}	predicted environmental concentration in groundwater
PEC_{sed}	predicted environmental concentration in sediment
PEC_{soil}	predicted environmental concentration in soil
PEC_{sw}	predicted environmental concentration in surface water
PHED	pesticide handler's exposure data
PHI	pre-harvest interval
PIE	potential inhalation exposure
pK_a	negative logarithm (to the base 10) of the dissociation constant
P_{ow}	partition coefficient between *n*-octanol and water
PPE	personal protective equipment
ppm	parts per million (10^{-6})
PT	proportion of diet obtained in the treated area
PTT	partial thromboplastin time
QSAR	quantitative structure–activity relationship
r^2	coefficient of determination
RPE	respiratory protective equipment
RUD	residue per unit dose
SC	suspension concentrate
SD	standard deviation
SFO	single first-order
SMILES	simplified molecular-input line-entry system
SPG	specific protection goal
SSD	species sensitivity distribution
STMR	supervised trials median residue
$t_{1/2}$	half-life (define method of estimation)
TER	toxicity exposure ratio
TER_A	toxicity exposure ratio for acute exposure
TER_{LT}	toxicity exposure ratio following chronic exposure
TER_{ST}	toxicity exposure ratio following repeated exposure
TK	technical concentrate
TLV	threshold limit value
Tmax	time until peak blood levels achieved
TMDI	theoretical maximum daily intake
TRR	total radioactive residue
TSH	thyroid-stimulating hormone (thyrotropin)
TWA	time-weighted average
UDS	unscheduled DNA synthesis

UF	uncertainty factor
UV	ultraviolet
W/S	water/sediment
w/v	weight per unit volume
w/w	weight per unit weight
WBC	white blood cell
WG	water-dispersible granule
WHO	World Health Organization