Appendix to:

EFSA (European Food Safety Authority), 2021. Conclusion on the peer review of the pesticide risk assessment of the active substance phosmet. EFSA Journal 2021;19(3):6237, 134 pp. doi:10.2903/j.efsa.2021.6237

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

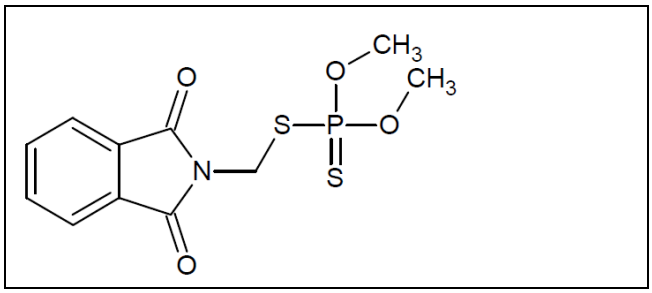
Identity, Physical and Chemical Properties, Details of Uses, Further Information (Regulation (EU) N° 283/2013, Annex Part A, points 1.3 and 3.2)

Active substance (ISO Common Name)	Phosmet
Function (*e.g.* fungicide)	Insecticide
Rapporteur Member State	Spain
Co-rapporteur Member State	Greece

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

Chemical name (IUPAC)	*O*,*O*-dimethyl *S*-phthalimidomethyl phosphorodithioate or *N*-{[(dimethoxyphosphinothioyl)thio]methyl}phthalimide
Chemical name (CA)	*S*-[(1,3-dihydro-1,3-dioxo-2*H*-isoindol-2-yl)methyl]*O*,*O*-dimethyl phosphorodithioate
CIPAC No	318
CAS No	732-11-6
EC No (EINECS or ELINCS)	211-987-4
FAO Specification (including year of publication)	Not available (evaluation report FAO/WHO 318/2019)
Minimum purity of the active substance as manufactured	950 g/kg
Identity of relevant impurities (of toxicological, ecotoxicological and/or environmental concern) in the active substance as manufactured	Toluene: not more than 1 g/kg
Molecular formula	$C_{11}H_{12}NO_4PS_2$
Molar mass	317.33 g/mol

Structural formula



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

Melting point (state purity)	72°C (100%)
Boiling point (state purity)	Decomposition of phosmet was observed before boiling at 208.5°C (100%).
Temperature of decomposition (state purity)	208.5°C (100%)
Appearance (state purity)	White, crystalline solid (99.7% and 97.0%)
Spectra (UV/VIS, IR, NMR, MS), molar extinction at relevant wavelengths, optical purity	UV/VIS: Solution: Methanol: λ_{max} 221.9 nm, ε 44668 L mol^{-1} cm^{-1}; 294.6 nm, 1259 Acidic methanol: 222.6 nm, 42658; 295.6 nm, 2399 Basic methanol: 218.5 nm, 16595 (97%)
Vapour pressure (state temperature, state purity)	6.5 * 10^{-5} Pa at 25°C (99.8%)
Henry's law constant	1.36 * 10^{-3} Pa m^3 mol^{-1} (25°C)
Solubility in water (state temperature, state purity and pH)	15.2 ± 0.68 mg/L at 20°C (pH 4.4)
Solubility in organic solvents (state temperature, state purity)	xylene: 50-57 g/L at 20°C (97%) ethyl acetate: 57-67 g/L at 20°C (97%) acetone: 143-167 g/L at 20°C (97%) 1,2-dichloroethane: 400-500 g/L at 20°C (97%) methanol: 29.2 g/L at 20°C (97%) heptane: 1.04 g/L at 20°C (97%)
Surface tension (state concentration and temperature, state purity)	71.8 mN/m at 20°C (90 % saturated solution) (97%)
Partition coefficient (state temperature, pH and purity)	log P_{OW} = 2.8 at 20°C (pH 7.5) (99.7%)
Dissociation constant (state purity)	Not required. Phosmet does not dissociate in water
Flammability (state purity)	Non-flammable (97.0%)
Explosive properties (state purity)	Non-explosive (97.0%)
Oxidising properties (state purity)	Non-oxidising properties

Summary of representative uses evaluated, for which all risk assessments needed to be completed (*Phosmet*)

(Regulation (EU) N° 284/2013, Annex Part A, points 3, 4)

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)		
Citrus fruits (0110000; FC 0001)	SEZ	Imidan 50 WP	F	*Ceratitis capitata* (CERTCA)	WP	500 g/kg	Foliar spray	90 % of final fruit size to fruit ripe for consumption (BBCH 79-89)	1	nr	0.025	2000	0.5	14	
Pome fruits (0130000; FP 0009)	SEZ	Imidan 50 WP	F	*Cydia pomonella* (CARPPO)	WP	500 g/kg	Foliar spray	Flowers fading to advanced fruit ripening (BBCH 67-85)	2	20	0.075	1000	0.75	28	
Pome fruits (0130000; FP 0009)	CEZ	Imidan 50 WP	F	*Cydia pomonella* (CARPPO)	WP	500 g/kg	Foliar spray	Flowers fading to advanced fruit ripening (BBCH 67-85)	2	20	0.05	1000	0.5	28	
Peaches/Nectarines (*Persica vulgaris;* 0140030; FS 0245, FS 0247)	SEZ	Imidan 50 WP	F	*Ceratitis capitata* (CERTCA) *Anarsia lineatella* (ANARLI)	WP	500 g/kg	Foliar spray	Fruit development to advanced fruit colouring (BBCH 71-85)	2	10	0.07	1000	0.7	14	

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)		
Potatoes (*Solanum tuberosum subsp. tuberosum*, 0211000, VR 0589)	CEZ	Imidan 50 WP	F	*Leptino-tarsa decemlineata* (LPTNDE)	WP	500 g/kg	Foliar spray	Tuber formation (BBCH 40 - 49)	1	nr	0.1	500	0.5	7	

(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

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 (*active substance: Phosmet*)

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)															
Not applicable															

(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).**
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(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

All uses presented in this dossier are representative uses and registered at country level. Phosmet-based PPP's products, according to the proposed and subsequently authorized GAPs, showed a target pests control at least equivalent to any reference product used in the GAP efficacy registration trials.

Adverse effects on field crops

No adverse effects observed on representetive crops – there are no reported selectivity or negative effects related to exposure of plants and produced fruits (fresh or processed) treated with phosmet PPP's.

Observations on other undesirable or unintended side-effects

There are no reported selectivity or negative effects on adjacent or succeeding crops, nor on plant organs used for propagation treated with phosmet PPP's or on non-target organisms.

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

Activity against target organism	Not relevant.

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 Confirmation by HPLC-PDA and LC-MS
Impurities in technical a.s. (analytical technique)	HPLC-UV Confirmation by HPLC-PDA and LC-MS
Plant protection product (analytical technique)	Phosmet: HPLC-UV Relevant impurities: Toluene: GC-FID (MT 198)

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		Phosmet
Food of animal origin		Phosmet, open
Soil		Phosmet
Sediment		Phosmet
Water	surface	Phosmet
	drinking/ground	Phosmet
Air		Phosmet
Body fluids and tissues		Phosmet and phosmet-oxon

Monitoring/Enforcement methods

Food/feed of plant origin (analytical technique and LOQ for methods for monitoring purposes)	HPLC-MS/MS LOQ: 0.01 mg/kg phosmet and phosmet-oxon
Food/feed of animal origin (analytical technique and LOQ for methods for monitoring purposes)	HPLC-MS/MS LOQ: 0.01 mg/kg phosmet and phosmet-oxon
Soil (analytical technique and LOQ)	HPLC-MS/MS LOQ: 0.01 mg/kg phosmet
Water (analytical technique and LOQ)	HPLC-MS/MS LOQ: 0.05 µg/L phosmet
Air (analytical technique and LOQ)	GC-NPD LOQ: 0.3 µg/m³ phosmet

Body fluids and tissues (analytical technique and LOQ)	Phosmet in body fluids: HPLC-MS/MS LOQ: 0.05 mg/L phosmet For phosmet in body tissues please refer to food/feed of animal origin. Phosmet-oxon in body fluids and tissues: HPLC-MS/MS LOQ: 0.01 mg/L phosmet-oxon (body fluids) LOQ: 0.1 mg/kg phosmet-oxon (body tissues)

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

Substance	Phosmet
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]:	none
According to the Peer review, the criteria for classification may be met for:	none

[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.

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 (84 % within 24 h) after single dose application.
Toxicokinetics	Cmax (µg-eq/g): 524.6 and 9699.3, single administration of 1 or 25 mg/kg bw, respectively. Tmax (hours): 0.5h Half-lives ($t_{1/2}$) distribution phase: 0.2 to 6.0 h Half-lives ($t_{1/2}$) elimination phase: 41 to 1543 h
Distribution	Widely distributed.Highest levels in whole blood (Rat).
Potential for bioaccumulation	No evidence of accumulation (rat)
Rate and extent of excretion	Mainly via urine (70 - 80 % at 24 h) but also via faeces (5 - 10 % at 24 h). Biliary excretion not measured (due to almost complete oral absorption and predominantly urinary excretion).
Metabolism in animals	Involved thiophosphoryl hydrolysis, S-methylation, oxidation of the sulfur to the sulfoxide (U3) and to the sulfone (U6), hydrolysis of the phthalimide ring to the respective phthalimide acid. Two major metabolites were identified in urine: N-(methylsulfinylmethyl)-phthalamic acid (PaAMS(O)M) and the corresponding sulfoxide N-(methylsulfonylmethyl)-phthalamic acid (PaAMS(O2)M).
In vitro metabolism	After incubation to rat liver microsomes [^{14}C] Phosmet was rapidly metabolised. The major metabolite fraction was identified as Phosmet-oxon. All metabolites found in human (including Phosmet-oxon) were also detected in rat, dog and mouse hepatocytes. Unique human metabolites were not identified were not identified.
Toxicologically relevant compounds (animals and plants)	Phosmet and phosmet-oxon
Toxicologically relevant compounds (environment)	Phosmet

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

Rat LD_{50} oral	230 mg/kg bw 113 mg/kg bw	Acute Tox. 3 H301
Rat LD_{50} dermal	> 1000 mg/kg bw	
Rabbit LD_{50} dermal	> 5000 mg/kg bw	

Rat LC_{50} inhalation	> 0.152 mg/L air / 4h (whole body exposure)	Acute Tox. 4 H332
Skin irritation	Non-irritant	
Eye irritation	Moderate irritant	
Skin sensitisation	Non-sensitising (modified Buehler test, 10 induction applications)	
Phototoxicity	No phototoxic potential	

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

Target organ / critical effect	Plasma, RBC and brain: inhibition of cholinesterase (ChE) activity	
Relevant oral NOAEL	Overall NOAEL: 1.88 mg/kg bw per day (90 day rat, 28-day mouse and 90-day dog)	
Relevant dermal NOAEL	22.5 mg/kg bw per day (rat 21-days)	
Relevant inhalation NOAEL	No data. No required	

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

In vitro studies	Positive *in* bacterial reverse mutation and mammalian forward mutation studies without S9B. Negative in mammalian forward mutation studies with S9B	
In vivo studies	*In vivo* micronucleus and UDS tests negative.	
Photomutagenicity	Not necessary	
Potential for genotoxicity	Weight of evidence indicates that phosmet 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)	Reductions of RBC and brain AChE activity Mice: convulsions (males), liver/ cytoplasmic hepatocellular vacuolated degeneration and hepatocellular adenomas	
Relevant long-term NOAEL	Rat: 1.8 mg/kg bw per day (2-yr, supportive) Mouse: 4 mg/kg bw per day (2-yr)	
Carcinogenicity (target organ, tumour type)	Negative in rats. Increased liver tumours at 14 mg/kg bwper day (highest dose level) in mice.	
Relevant NOAEL for carcinogenicity	Rat : 9.4 mg/kg bw per day (2-yr) Mouse: 4 mg/kg bw per day (2-yr)	

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

Reproduction target / critical effect	Parental toxicity: inhibition RBC AChE activity (40%), decreased body weight and [redacted] Reproductive toxicity: [redacted] Offspring toxicity: Pup survival reduction and the mean pup bodyweight decreased at maternal toxic dose.	
Relevant parental NOAEL	[redacted]	
Relevant reproductive NOAEL	[redacted]	[redacted]
Relevant offspring NOAEL	80 ppm (equivalent to 4.2-mg/kg bw per day)	

Developmental toxicity

Developmental target / critical effect	Maternal toxicity : Rat/Rabbit : decreased bodyweight gain in the dams (by 20%). Developmental toxicity : Rat/Rabbit : decreased foetus weight. Increased incidence of variations (rabbit) Not teratogenic in rat / rabbit	
Relevant maternal NOAEL	Rat/Rabbit : 5 mg/kg bw per day	
Relevant developmental NOAEL	Rat : 10 mg/kg bw per day Rabbit : 5 mg/kg bw per day	

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

Acute neurotoxicity	Decreased plasma, RBC and brain cholinesterase activity NOAEL = 4.5 mg/kg bw Classification STOT SE 1 proposed	
Repeated neurotoxicity	Decreased RBC AChE Activity NOAEL = 1.5mg/kg bw per day	
Additional studies (e.g. delayed neurotoxicity, developmental neurotoxicity)	No potential to produce delayed neurotoxicity in the acute study in hens. [redacted]	
Other studies	1.Comparative inhibition of ChE between adults and pups rats : Pups (postnatal day 11) were more sensitive than adult rats after a single or repeated (7 days) phosmet	

administration ; sex were not determinant for ChE depression ; 2. Plasma/RBC ChE activity were more sensitive than Brain AchE to phosmet exposure. 3. RBC AchE depression: -NOAEL single admin = 2.5 and 5 mg/kg bw for pups and adults, respectively -LOAEL repeated admin. = 1.25 mg/kg bw/day. 4.Comparative cholinesterase study of phosmet technical in pregnant rat dams and their fetuses Following gavage administration to dams - once daily by gavage on DG 6 through DG 20- in rats, mothers were more sensitive than their fetuses to phosmet effects on ChEs, RBC AchE depression: LOAEL mothers = 1.5 mg/kg bw per day NOAEL-fetuses = 1.5 mg/kg bw per day	

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

Supplementary studies on the active substance	No immunotoxic potential in the available data In vitro ChE inhibition: In mice, RBC AChE activity showed to be more inhibited than brain AChE activity after phosmet exposure. Rat RBC AChE activity was slightly more depressed than human RBC AChE activity after in vitro exposure to phosmet, therefore, the interspecies factor can be reduced when reference doses are set.

Endocrine disrupting properties	Endocrine disrupting properties ER Binding Assay (Rat uterine cytosol): classified as "non-interacting". ERα Transcriptional Activation Assay (Human cell line HeLa 9903): was not an agonist of human estrogen receptor alpha (hERα) in the HeLa-9903 model system. AR Binding Assay (Rat prostate cytosol): classified as a "binder". Aromatase Assay (Human recombinant microsomes): classified as an inhibitor of aromatase activity. Steroidogenesis Assay (Human cell line H295R): not considered to be an inducer or inhibitor of estradiol or testosterone. Hershberger Assay (Rat): negative for androgenic activity and positive for anti-androgenicity (at a dose that resulted in overt toxicity) Uterotrophic Assay (Rat): negative in the uterotrophic assay (no statistically significant changes were seen in uterine weight). Pubertal Male and Female Assay (Rat): Oral administration up to 20 mg/kg bw/d did not evoke a disruption in pubertal development or thyroid function in both sexes (highest dose met, but not exceeded the MTD) Results of the Tier 1 screening assays: Phosmet is not considered to display the potential to act as an endocrine disruptor via the estrogen, androgen or T-hormone pathways. Based on short-term and long-term studies, sex organs or the thyroid gland were not identified as targets of phosmet-related toxicity. No phosmet-related changes in relevant organ weights (m/f sex organs, thyroid gland) or macroscopic and/or microscopic findings in the potential target organs that would be indicative of ED effects. According to the ECHA/EFSA (2018) Guidance for the identification of endocrine disruptors in the context of Regulations (EU) No 528/2012 and (EC) No 1107/2009, the ED criteria for humans are not met for phosmet. Phosmet seems to have no potential to interact with the estrogen androgen or thyroid pathways. Effects on Non-EAT pathways, atypical EAT pathways and neuroendocrine pathways were not assessed.

Studies performed on metabolites or impurities	Results QSAR Toolbox3 for a.s. and related metabolites: **Phthalimide** : the same alert as phosmet for *in vivo* mutagenicity (Micronucleus) and Keratinocyte gene expression. Different alert from phosmet in developmental and reproductive toxicity. **Phthalamic acid**: the same alert as phosmet for *in vivo* mutagenicity (Micronucleus). Different alert from phosmet for chromosomal aberration. **Phthalic acid**: the same alert as phosmet for *in vivo* mutagenicity (Micronucleus). Different alert from phosmet for non genotoxic carcinogenicity. Results from QSAR Tooltree v.3.1.0, VEGA v.1.2.4 and v.1.1.4, U.S. EPA T.E.S.T. v.4.1 and Derex Nexus v. 6.0.1 : **Phosmet-oxon**: Toxtree predicted DNA and protein binding alerts (as for Phosmet for which was discarded). In Vega tool, Ames test lower than Phosmet. Equivocal for mutagenicity in a Derek Nexus analysis, due to an alkyl ester structure of phosphoric or phosphonic acid (as for Phosmet). **Desmethyl-phosmet** : In Vega tool, Ames test prediction is lower than to Phosmet. **Phthalimide:** Vega tool in most cases negative for mutagenicity (one case positive, out of domain). Negative for genotoxicity with all four U.S. EPA T.E.S.T modules. **Phthtalic acid:** All five Vega modules contain a negative experimental Ames test result for Phthalic acid. negative for genotoxicity with all four U.S. EPA T.E.S.T modules. **Phthalamic acid** : as for phthalimide. Conclusions for the metabolites[3] : [redacted] **Phthalimide:** unlikely to be genotoxic. Same reference values of folpet. **Phthalamic acid** : unlikely to be genotoxic. Same reference values of folpet. [redacted]

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

There were no incidents, illness, side effects or deaths reported during phosmet production in manufacturing plant personnel. However, many cases of accidental poisonings were reported from several databases. Symptoms of poisoning were typical of ChE inhibition. As soon as possible, pharmacological treatment should be carried out with atropine sulfate as antidote.

Summary[2] (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)	[redacted]	[redacted]	[redacted]
Acute Reference Dose (ARfD)	[redacted]	[redacted]	[redacted]
Acceptable Operator Exposure Level (AOEL)	[redacted]	[redacted]	[redacted]
Acute Acceptable Operator Exposure Level (AAOEL)	[redacted]	[redacted]	[redacted]

[3]Pesticide Peer Review Meeting 22: Reference value for Phthalimide and Phthalamic acid: same of a.s Folpet (ADI = 0,1 mg/Kg bw/d ; ARfD= 0.6 mg/Kg bw/d). [redacted]

[4]Pesticide Peer Review Meeting 22 : [redacted] and were taken into consideration when setting the reference values with an [redacted]

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

Representative formulation: Imidan 50 WP (WP formulation containing 500 g/kg Phosmet)	Concentrate: 0.7% Spray dilution : 4.0 % for pome/stone fruits, potatoes 8% for citrus fruits

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

Operators	**Use: citrus fruits, application rate 500 g a.s./ha (1x); Tractor mounted equipment, upward spraying**: Exposure estimates (model): % of AOEL EFSA model [long-term] With work wear: [redacted]

[2] If available include also reference values for metabolites

	With PPE (personal protective equipment: gloves), and RPE (respiratory protective equipment) during M/L (mixing/loading)~~;~~ and A (application): [redacted] With PPE and mitigation measures (water soluble bags, closed cabin): [redacted] **Use: pome fruits, application rate 750 g a.s./ha (2x); Tractor mounted equipment, upward spraying:** Exposure estimates (model): % of AOEL EFSA model [long-term] With work wear: [redacted] With PPE (gloves) and RPE during M/L and A [redacted] With PPE and mitigation measures (water soluble bags, closed cabin): [redacted] **Use: stone fruits, application rate 700 g a.s./ha (2x); Tractor mounted equipment, upward spraying:** Exposure estimates (model): % of AOEL EFSA model [long-term] With work wear: [redacted] With PPE (gloves) and RPE during M/L and A: [redacted] With PPE and mitigation measures (water soluble bags, closed cabin): [redacted] **Use: potatoes, application rate 500 g a.s./ha (1x); Tractor mounted equipment, downward spraying**: Exposure estimates (model): % of AOEL EFSA model [long-term] With work wear: [redacted] With PPE (gloves) and RPE during M/L and A: [redacted] With PPE and mitigation measures (drift reduction, water soluble bags, closed cabin): [redacted]
Workers	**Use: citrus fruits, application rate 500 g a.s./ha (1x); with PPE / with refinement (experimental DFR value for direct re-entry):** Exposure estimates (EFSA model): % of AOEL Without PPE (work wear as basis): [redacted] With PPE (gloves): [redacted] **Use: pome fruits, application rate 750 g a.s./ha (2x); with refinement (experimental DFR value for direct re-entry):** Exposure estimates (EFSA model): % of AOEL Without PPE (work wear as basis): [redacted] With PPE (gloves): [redacted]

	Use: stone fruits, application rate 700 g a.s./ha (2x); with refinement (experimental DFR value for direct re-entry): Exposure estimates (EFSA model): % of AOEL Without PPE (work wear as basis): [redacted] With PPE (gloves): [redacted] **Use: potatoes, application rate 500 g a.s./ha (1x);** Exposure estimates (EFSA model): % of AOEL Without PPE (work wear as basis): [redacted]
Bystanders and residents	**Use: citrus fruits, application rate 500 g a.s./ha (1x); Tractor application, buffer zone 10 m** Bystander: Exposure estimates (EFSA model): % of AAOEL Adult (spray drift): [redacted] Adult (vapour): [redacted] Adult (surface deposits): [redacted] Adult (entry into crops): [redacted] Child (spray drift): [redacted] Child (vapour): [redacted] Child (surface deposits): [redacted] Child (entry into crops): [redacted] Resident: Exposure estimates (EFSA model): % of AOEL Adult (all pathways): [redacted] Child (all pathways): [redacted] **Use: pome fruits, application rate 750 g a.s./ha (2x); Tractorapplication, buffer zone 10 m:** Bystander: Exposure estimates (EFSA model): % of AAOEL Adult (spray drift): [redacted] Adult (vapour): [redacted] Adult (surface deposits): [redacted] Adult (entry into crops): [redacted] Child (spray drift): [redacted] Child (vapour): [redacted] Child (surface deposits): [redacted] Child (entry into crops): [redacted] Resident: Exposure estimates (EFSA model): % of AOEL Adult (all pathways): [redacted] [redacted] Child (all pathways): [redacted] [redacted] **Use: stone fruits, application rate 700 g a.s./ha (2x); Tractor, buffer zone 10 m:** Bystander: Exposure estimates (EFSA model): % of AAOEL

Adult (spray drift):	[redacted]
Adult (vapour):	[redacted]
Adult (surface deposits):	[redacted]
Adult (entry into crops):	[redacted]
Child (spray drift):	[redacted]
Child (vapour):	[redacted]
Child (surface deposits):	[redacted]
Child (entry into crops):	[redacted]
Resident:	
Exposure estimates (EFSA model):	% of AOEL
Adult (all pathways):	[redacted]
Child (all pathways):	[redacted]

Use: potatoes, application rate 500 g a.s./ha; Tractor buffer zone 10 m:	
Bystander:	
Exposure estimates (EFSA model):	% of AAOEL
Adult (spray drift):	[redacted]
Adult (vapour):	[redacted]
Adult (surface deposits):	[redacted]
Adult (entry into crops):	[redacted]
Child (spray drift):	[redacted]
Child (vapour):	[redacted]
Child (surface deposits):	[redacted]
Child (entry into crops):	[redacted]
Resident:	
Exposure estimates (EFSA model):	% of AOEL
Adult (all pathways):	[redacted] [redacted]
Child (all pathways):	[redacted] [redacted]

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

Substance :	Phosmet
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][3] :	Acute Tox. 4, H302 "Toxic if swallowed" Acute Tox. 4, H312 "Harmful in contact with skin" [redacted]
According to the Peer review, the criteria for classification may be met for:	Acute Tox. 3, H301 "Toxic if swallowed" Acute Tox. 4, H332 "Harmful if inhaled" STOT SE 1 H372 (nervous system) [redacted]

[3] 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.

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) OECD Guideline 501	**Crop groups**	**Crop(s)**	**Application(s)**	**DAT** (days)
	Fruit	Cherries	Foliar 1x 0.42 kg a.s./hL (~6-8N)	0, 7, 14
		Apples	Foliar 2x 0.8 a.s./ha (~1N) (BBCH 75 – 76 and BBCH 78)	0, 14, 28
	Root crops	Potatoes	Foliar 4 x max. 2 kg a.s./ha (~3-4N) (days 0, 40, 60 and 88)	1st treatment: 40 2nd treatment: 60 3rd treatment: 7 4th treatment: 7
	Cereal/ Grass crops	Maize	Foliar 2 x 1.12 kg a.s./ha (silk stage, and 14 days before final harvest)	1st treatment: 28, 76 2nd treatment: 14
	The metabolism was investigated [redacted] Information on the storage time intervals and conditions of the samples in the metabolism studies of cherry potato and maize was not available **(data gap).**			

Rotational crops (metabolic pattern) OECD Guideline 502	**Crop groups**	**Crop(s)**	**PBI** (days)	**Comments**
	Root/tuber crops			Not required as phosmet DT_{90} <100 days and relevant metabolites in soil were not found.
	Leafy crops			
	Cereal (small grain)			
	Other			
Rotational crop and primary crop metabolism similar?	Not applicable			

Processed commodities OECD Guideline 507	**Conditions**	Phosmet	Desmethyl-phosmet	Phthali-mide	Phthalamic acid	Phthalic acid	N-hydroxymethyl Phthalamic acid
Study 1	20 min, 90°C, pH 4	83.6%	(b)	3.9%	(a)	(a)	(a)
	60 min, 100°C, pH 5	41.9%	(b)	29.9 %	(a)	(a)	(a)
	20 min, 120°C, pH 6	2.1%	(b)	11.8%	19.5%	15.4%	50.6%

Study 2	20min, 90°C, pH 4	84.2%	5.4%	1.2%	3.4%	5.8%	(b)
	60 min, 100°C, pH 5	21.3%	14.5%	10.1%	13.9%	40.2%	(b)
	20 min, 120°C, pH 6	(a)	(a)	(a)	1.4%	98.6%	(b)

Residue pattern in processed commodities similar to residue pattern in raw commodities?	Two standard hydrolysis studies were submitted showing that degradation products were either different or occured in noteably different amounts. Scientific justification to clarify the discrepancy between the results or confirmatory investigations are necessary **(data gap)**.
Plant residue definition for monitoring (RD-Mo) **OECD Guidance, series on pesticides No 31**	Phosmet
Plant residue definition for risk assessment (RD-RA)	Phosmet, phosmet-oxon, [redacted]
Conversion factor (monitoring to risk assessment)	Not concluded

(a) Not detected upon analysis.
(b) Not reported.

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)

OECD Guideline 503 and **SANCO/11187/2013 rev. 3** (fish)

Animals covered

Animal	**Dose** (mg/kg bw/d)	**Duration** (days)	**N rate/comment**
Laying hen	0.73 mg/kg bw/d	7 days	365N, carbonyl-labelled
Goat/Cow	0.3 mg/kg bw/d	4 days	43N, carbonyl-labelled
Pig	Not relevant as metabolism in rat and ruminant is similar.		
Fish	Not needed, as the log Pow is < 3 (2.8).		
The available studies have shortcomings and their suitability to assess the relevance of residues in animal commodities is pending finalisation of the assessment of residues in feed items and the dietary burden. Studies with [redacted] Study not triggered for poultry from representative uses.			

Time needed to reach a plateau concentration in milk and eggs (days)	Eggs: Yolk: 5 days; White: 3 days Whole milk (goat): within the 4 days
Animal residue definition for monitoring (RD-Mo) **OECD Guidance, series on pesticides No 31**	Pending

Animal residue definition for risk assessment (RD-RA)	Pending
Conversion factor (monitoring to risk assessment)	Pending
Metabolism in rat and ruminant similar (Yes/No)	Yes (provisonal)
Fat soluble residues (Yes/No) **(FAO, 2009)**	No, (log P_{ow}: 2.8)

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

Confined rotational crop study (Quantitative aspect) **OECD Guideline 502**	Not required as phosmet DT_{90} <100 days and relevant metabolites in soil were not found.
Field rotational crop study **OECD Guideline 504**	Not triggered.

Stability of residues (Regulation (EU) N° 283/2013, Annex Part A, point 6.1)
OECD Guideline 506

Plant products (Category)	Commodity	T (°C)	Stability (months)		
			Phosmet	Phosmet-oxon	Phthalimide
High water content	Fruiting vegetables (pepper)	-20°C	30	-	-
	Pome fruit (apples)	≤ -18°C	41	39	13
	Stone fruit (peaches)	-20°C	28	6	-
High oil content	Oilseeds (soybean)	-20°C	41	-	-
	Oilseeds (rape seeds)	≤ -18°C	12	12	-
	Tree nuts (almonds)	-20°C	41	-	-
High starch content	Starchy roots (potatoes)	≤ -18°C	30	12	12
	Cereal grain (wheat)	-20°C	30	-	-
High acid content	Citrus fruit (unspecified)	≤ -18°C	12	6	12
	Citrus fruit (orange)	- 20ºC	30	-	-
Others	Alfalfa (hay)	-20°C	30	-	-
	Wheat (straw)	-20°C	30	-	-
	Corn (ears)	-20°C	30	-	-
Processed commodities	Apple juice	-20°C	39	39	-
	Apple dry pomace	-20°C	39	39	-
	Apple sauce	-20°C	28	28	-
	Canned peaches	-20°C	12	28	-

	Dried peaches	-20°C	1	1	-
Further studies with incurred residues in grape and grape products, and in pea hay could not be used as the study information is not compliant with OECD 506 requirements.					

Animal	**Animal commodity**	**T** (°C)			
-	Muscle	-	-	-	-
-	Liver	-	-	-	-
-	Kidney	-	-	-	-
-	Milk	-	-	-	-
-	Egg	-	-	-	-

Summary of residues data from the supervised residue trials (Regulation (EU) N° 283/2013, Annex Part A, point 6.3) OECD Guideline 509, OECD Guidance, series on pesticides No 66 and OECD MRL calculator

Crop	**Region/ Indoor** (a)	**Residue levels** (mg/kg) **observed 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 **Residue definition for monitoring/enforcement (Mo): Phosmet** **Residue definition for risk assessment (RA): Phosmet, phosmet oxon, phthalic acid (provisional)**						
Residue definition in accordance with RD-Mo						
Citrus	SEU	*Oranges (whole fruit):* 0.05, 0.06, 0.10, 0.12, 0.13 (x2), 0.14, 0.17, 0.20, 0.22	The calculated MRL from available dataset is 0.4 mg/kg. [redacted] Due to missing trials additional in mandarins, dataset insufficient to support the representative use in citrus with extrapolation to the entire crops group.	[redacted]	[redacted]	[redacted]
		Mandarins (whole fruit): 0.24, 0.34	Only two independent trials were available. Dataset insufficient to support the representative use in citrus with extrapolation to the entire crops group (**data gap** for additional trials according to guideline applicable at the time of application)	none	-	-
Pome fruit	SEU	*Apples:* 0.05, 0.09, 0.11, 0.14, 0.25	Only five independent trials were available (**data gap** for additional trials); the tentatively calculated MRL based on the incomplete dataset is 0.5 mg/kg.	none	-	-

Crop	Region/ Indoor (a)	Residue levels (mg/kg) observed 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)
			The provisional RA identified an acute consumer risk and an MRL was not proposed.			
Pome fruit	NEU	*Apples:* 0.01*, 0.01, 0.02, 0.07, 0.08*(2x), 0.08, 0.24	The calculated MRL from available dataset is 0.4 mg/kg. [redacted]	[redacted]	[redacted]	[redacted]
Peaches (including nectarines)	SEU	0.07, 0.14, 0.15, 0.25, 0.37, 0.48, 0.54, 0.68	The calculated MRL from available dataset is 1.5 mg/kg. [redacted]	[redacted]	[redacted]	[redacted]
Potato	NEU	< 0.01 (6x)	The OECD calculated MRL from available dataset is 0.01* mg/kg. [redacted]	[redacted]	[redacted]	[redacted]
Residue definition in accordance with RD-RA (provisional)						
Oranges	SEU	*Peel* • Phosmet: 0.15, 0.22, 0.36, 0.39, 0.51, 0.54, 0.62, 0.76, 1.15, 1.47 • Phosmet-oxon:< 0.01 (10x) • Sum of Phosmet and Phosmet-oxon, expressed as Phosmet[(e)]: 0.16, 0.23, 0.37, 0.40, 0.52, 0.55, 0.63, 0.77, 1.16, 1.48 • [redacted]	**Data gap** to address [redacted] Due to missing additional trials in mandarins, dataset insufficient to support the representative use in citrus with extrapolation to the entire crops group.	[redacted]	1.48[(e)]	0.54[(e)]

Crop	Region/ Indoor (a)	Residue levels (mg/kg) observed 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)
		Pulp • Phosmet: < 0.01 (5x), 0.01, 0.02 (3x), 0.03, 0.04 mg/kg • Phosmet-oxon: < 0.01 (16x) • Sum of Phosmet and Phosmet-oxon, expressed as Phosmet$^{(e)}$: < 0.02 (5x), 0.02, 0.03 (3x), 0.04, 0.05 • [redacted]	**Data gap** to address [redacted] Due to missing additional trials in mandarins, dataset insufficient to support the representative use in citrus with extrapolation to the entire crops group.	[redacted]	0.05$^{(e)}$	0.02$^{(e)}$
Mandarins	SEU	*Peel* • Phosmet: 1.15, 1.48 • Phosmet oxon: <0.01(2x) • Sum of Phosmet and Phosmet-oxon, expressed as Phosmet$^{(e)}$: 1.16, 1.49 • [redacted]	Only two independent trials were available. Dataset insufficient to support the representative use in citrus with extrapolation to the entire crops group (**data gap** for additional trials according to guideline applicable at the time of application) **Data gap** to address [redacted].	[redacted]	1.49$^{(e)}$	1.32$^{(e)}$
		Pulp • Phosmet : 0.01 (2x) • Phosmet oxon: <0.01 (2x) • Sum of Phosmet and Phosmet-oxon, expressed as Phosmet$^{(e)}$: 0.02 (2x) • [redacted]	Only two independent trials were available. Dataset insufficient to support the representative use in citrus with extrapolation to the entire crops group (**data gap** for additional trials according to guideline applicable at the time of application) **Data gap** to address [redacted]	[redacted]	0.02$^{(e)}$	0.02$^{(e)}$
Apples	SEU	• Phosmet: 0.05, 0.09, 0.11, 0.14, 0.25 • Phosmet-oxon: <0.01 (4x), 0.01	Only five independent trials were available (**data gap** for additional trials)	[redacted]	0.26$^{(e)}$	0.12$^{(e)}$

Crop	Region/ Indoor (a)	Residue levels (mg/kg) observed 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)
		• Sum of Phosmet and Phosmet-oxon, expressed as Phosmet[(e)]: 0.06, 0.10, 0.12, 0.15, 0.26 • [redacted]	**Data gap** to address [redacted]			
	NEU	• Phosmet: 0.01*, 0.01, 0.02, 0.07, 0.08*, (2x) 0.08, 0.24 • Phosmet-oxon < 0.01 (8x) • Sum of Phosmet and Phosmet-oxon, expressed as Phosmet[(e)]: 0.02*, 0.02, 0.03, 0.08, 0.09*, (2x) 0.09, 0.25 • [redacted]	Extrapolation to entire group of Pome fruit. **Data gap** to address [redacted]	[redacted]	0.25[(e)]	0.09[(e)]
Potatoes	NEU	• Phosmet: < 0.01 (6x) • Phosmet-oxon: < 0.01 (6x) • Sum of Phosmet and Phosmet-oxon, expressed as Phosmet[(e)]: < 0.02 (6x) • [redacted]	**Data gap** to address [redacted]	[redacted]	0.02[(e)]	0.02[(e)]
Peaches (include nectarines)	SEU	• Phosmet: 0.07, 0.14, 0.15, 0.25, 0.37, 0.48, 0.54, 0.68 • Phosmet-oxon: < 0.01 (4x) **(data gap)** • Sum of Phosmet and Phosmet-oxon, expressed as Phosmet[(e)]: 0.15, 0.26, 0.38, 0.49 • [redacted]	Only four trials were available for with analysis of phosmet-oxon within a period of demonstrated storage stability (**data gap** for additional trials). **Data gap** to address [redacted]	[redacted]	0.68[(e)(f)]	0.32[(e)]

Summary of the data on formulation equivalence – not applicable

Summary of data on residues in pollen and bee products (Regulation (EU) No 283/2013, Annex Part A, point 6.10.1)

Product(s)	Region	Residue data (mg/kg)	Recommendations/comments	-		
Data gap						

(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 ($STMR_{Mo}$).
(e): Provisional, used to provide best estimates for consumer risk assessment with the information available
(f): Phosmet only

Inputs for animal burden calculations.

Note: Calculation only for phosmet + phosmet oxon, [redacted] not considered. The calculation is provisional pending the [redacted] and processed commodities, completed residue trial datasets and processing trials (see summary of residues data and processing factors).

Feed commodity	Median dietary burden		Maximum dietary burden	
	(mg/kg)	Comment	(mg/kg)	Comment
Root crop				
Potato culls	0.02	STMR (LOQ)	0.02	HR (LOQ)
By-product				
Apple wet pomace	0.32	STMR (0.12) x PF (2.70)	0.32	STMR (0.12) x PF (2.70)
Citrus dried pulp	0.18	STMR (0.14) x PF (1.32)	0.18	STMR (0.14) x PF (1.32)
Potato process waste	0.02	STMR-P (LOQ)	0.02	STMR-P (LOQ)
Potato dried pulp	0.02	STMR-P (LOQ)	0.02	STMR-P (LOQ)

PF: Processing factor

LOQ: Limit of quantification; 0.01 mg/kg for Phosmet and Phosmet-oxon, respectively

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)

Note: The calculation is provisional pending the finalisation of RA-RD in plant and processed commodities, completed residue trial datasets and processing trials (see summary of residues data and processing factors).

MRL calculations	**Ruminant**				**Pig/Swine**		**Poultry**		**Fish**	
Highest expected intake (mg/kg bw/d) (mg/kg DM for fish)	Cattle Beef	0.005	Ram/Ewe	0.004	Breeding	0.002	Broiler	0.001	Carp	Not required
	Cattle Dairy	0.004	Lamb	0.004	Finishing	0.002	Layer	0.001	Trout	Not required
							Turkey	0.001	Fish intake >0.1 mg/kg DM	
Intake >0.004 mg/kg bw	YES		YES		NO		NO		Not applicable	
Feeding study submitted	No feeding study available.									
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										
Fat										
Meat[(b)]										
Liver										
Kidney										
Milk[(a)]										
Eggs										
Method of calculation[(c)]										

[(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		Ram/Ewe		Breeding		Broiler		Carp	Not required
	Dairy cattle		Lamb		Finishing		Layer		Trout	Not required
							Turkey			
Representative feeding level (mg/kg bw/d, mg/kg DM for fish) and **N rates**	Level	Beef: Dairy:	Level	Lamb : Ewe:	Level	N rate Breed/Finish	Level	B or T: Layer:	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										
Fat										
Meat[(a)]										
Liver										
Kidney										
Milk										
Eggs										
Method of calculation[(c)]										

[(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)

OECD Guideline 508 and OECD Guidance, series on testing and assessment No 96

Note: Provisional, based on calculated sum of Phosmet and Phosmet-oxon, expressed as Phosmet

Crop (RAC)/Edible part or Crop (RAC)/Processed product	Number of studies[a]	Processing Factor (PF)		Conversion Factor (CF_P) for RA[b]
		Individual values	Median PF	
Representative uses (row to be deleted if not relevant)				
CITRUS				
Marmalade processing				
Marmalade	4	0.08, 0.09, 0.29, 0.31	0.19	[d]
Canned orange processing				
Fruit stock	4	0.04, 0.05, 0.15 (2x)	0.10	[d]
Canned oranges	4	0.05, 0.07, 0.08, 0.15 (2x), 0.16	0.11	[d]
Orange juice processing				
Orange juice	4	0.09, 0.14, 0.15 (2x)	0.15	[d]
By-products (derived from orange juice, canned and purée processing)				
Wet pomace[c]	1	0.35	n/a	[d]
Dry pomace [c]	1	1.32	n/a	[d]
APPLES				
Apple juice processing				
Apple juice (unclarified juice after pasteurisation)	3	0.15, 0.16, 0.19	0.16	[d]
Apple juice (clarified juice after pasteurisation)	6	0.05, 0.08, 0.10, 0.13 (2), 0.19	0.12	[d]
Canned apple processing				
Canned apples	6	0.02 (3), 0.03 (2), 0.04	0.03	[d]
Apple purée processing				
Apple purée	6	0.02, 0.03, 0.04, 0.34, 0.61, 0.66	0.19	[d]
Drying				
Dried apples	3	3.96, 4.30, 8.18	4.30	[d]
By-products (derived from apple juice, canned and purée processing)				
Wet pomace	6	0.43, 1.08, 2.17, 3.22, 3.81, 4.45	2.70	[d]
Dry pomace	12	1.89, 3.03, 3.66, 4.26, 4.58, 4.85, 5.43, 8.06, 8.81, 9.19, 12.01, 19.08	5.14	[d]

[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
[c]: At least two processing tests are needed to derive a PF (OECD 508)
[d]: Pending finalisation of RD-RA for plant and processed commodities.

Consumer risk assessment (Regulation (EU) N° 283/2013, Annex Part A, point 6.9)

Note: Provisional, pending numerous identified data gaps and provisionally applying the TRVs of phosmet to phosmet oxon.

ADI	[redacted] mg/kg bw per day
TMDI according to EFSA PRIMo	[redacted]
NTMDI, according to (to be specified)	Not applicable.
IEDI (% ADI), according to EFSA PRIMo	PRIMO rev. 2 (highest two): [redacted] of ADI (DE, child)

	[redacted] of ADI (NL, child) PRIMO rev. 3 (highest two): [redacted] of ADI (NL, Toddler) [redacted]% of ADI (DE child)
NEDI (% ADI), according to (to be specified)	Not required.
Factors included in the calculations	None
ARfD	[redacted] mg/kg bw
IESTI (% ARfD), according to EFSA PRIMo	PRIMo rev. 2.1: [redacted] % (peaches) [redacted] % (apples) [redacted] % (pears) [redacted] % (oranges, pulp) [redacted] % (quinces) [redacted] % (medlar) [redacted] % (potatos) PRIMo rev. 3: [redacted]% (peaches) [redacted] % (pears) [redacted] % (apples) [redacted] % (oranges, pulp) [redacted]% (quinces) [redacted]% (medlar) [redacted] % (potatos)
NESTI (% ARfD), according to EFSA PRIMo	Not required.
Factors included in IESTI and NESTI	None

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			
Representative uses			
0110000	Citrus fruit	[redacted]	[redacted] the proposed GAPs.
0130000	Pome fruit	[redacted]	
0140030	Peaches/Nectarines	[redacted]	
0211000	Potatoes	[redacted]	
Animal commodities			
-	-	-	[redacted] for animal commodities

(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.

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	*52.1-77.2* % after *120* d, [^{14}C-*carbonyl*]-label (n= *3*) *13.96* % after *6* d, [^{14}C- *methylene*]-label (n= *1*) *Sterilized:* *0.08-0.12 at 120 d* [^{14}C- *carbonyl*]-label (n= *1*)
Non-extractable residues after 100 days	*37.9* % after *120* d, [^{14}C-*carbonyl*]-label (n= *1*) *16.3 %* after *6* d, [^{14}C- *methylene*]-label (n= *1*) *Sterilized:* *16.68 at 120 d* [^{14}C- *carbonyl*]-label (n= *1*)
Metabolites requiring further consideration - name and/or code, % of applied (range and maximum)	None

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

Mineralisation after 100 days	*24.4* % after *125* d, [^{14}C- *carbonyl*]-label (n= *1*)
Non-extractable residues after 100 days	*48.2* % after *150* d, [^{14}C- *carbonyl*]-label (n= *1*)
Metabolites that may require further consideration for risk assessment - name and/or code, % of applied (range and maximum)	Anaerobic degradation is not relevant according to GAP. Thus, further consideration of desmethyl phosmet and phthalamic acid metabolites is not required for the representative uses evaluated. *Phthalamic acid:* *16.9*% at *30* d, [^{14}C-*carbonyl*]-label (n=*1*). *Phthalic acid:* *8.3* % at *125* d [^{14}C-*carbonyl*]-label (n=*1*). *Desmethyl phosmet:* *10.8* % at *5* d [^{14}C-*carbonyl*]-label (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)	No novel metabolites present in irradiated samples compared to dark control. Thus further consideration not required.
Mineralisation at study end	< 1 % after 30 d, [14C -carbonyl]-label (n= 1)
Non-extractable residues at study end	< 51 % after 30 d, [14C -carbonyl]-label (n= 1)

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) – Persistence Endpoints

Phosmet	Dark aerobic conditions				
Soil type	pH[a)]	t. °C / %MHWC	DT_{50} /DT_{90} (d)	St. (χ^2)	Method of calculation
Loamy sand	5.7	20 / 50	4.59 / 22.45	5.452	FOMC
Sandy Loam	7.6	20 / 44	1.65 / 5.48	4.811	SFO
Silt Loam	6.2	20 /50	2.67 / 8.85	7.780	SFO
Persistence endpoints (worst-case values)			4.59 / 22.45[b)]		

[a)] Measured in KCl except loamy sand that was measured in water

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) – Modelling Endpoints

Phosmet	Dark aerobic conditions					
Soil type	pH[a)]	t. °C / %MHWC	DT_{50} (d)	DT_{50} (d) 20 °C pF2/10kPa[b)]	St. (χ^2)	Method of calculation
Loamy sand	5.7	20 / 50	5.01	5.01	6.805	SFO
Sandy Loam	7.6	20 / 44	1.65	1.65	4.811	SFO
Silt Loam	6.2	20 /50	2.67	2.67	7.780	SFO
Modelling endpoint				5.01[d)]		
pH dependence				Possible but not demonstrated		

[a)] Measured in KCl except loamy sand that was measured in water
[b)] Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7
[c)] Moisture correction for normalisation is not adequate, as the moisture content was only indicated for the study start, whereas in the study report it is only generally stated that the soil was irrigated to ensure moist conditions throughout the incubation
[d)] Worst case taking into account that the study by Mc Bain has been considered not reliable at Pestice Peer Review Meeting TC 03 (Experts' consultation point 4.3) and there are only three reliable soil kinetic data available. **Data gap** for one additional degradation in soil (aerobic) laboratory study to derive a fourth reliable DegT50 endpoint.

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)

N-methoxymethyl phthalimide	Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was *xxx*							
Soil type		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
Sand		5.2	20 ± 2 °C pF 2	15.58/51.76	-	15.58	6.9	Applied as parent SFO
Sandy clay loam		7.2	20 ± 2 °C pF 2	3.07/10.19	-	3.07	8.6	Applied as parent SFO

Sand		4.6	20 ± 2 °C pF 2	6.48/21.53	-	6.48	11.5	Applied as parent SFO
Persistence Endpoints (worst case calue)				15.58/51.76				
Geometric mean (if not pH dependent)						6.7		
Arithmetic mean					-			
pH dependence, *Yes or No*						No		

a) Measured in calcium chloride solution
b) Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7

Phthalimide	Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was *xxx*							
Soil type	*X*[7]	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
Sand		5.2	20 ± 2 °C pF 2	0.36/1.18	-	0.36	4.80	Applied as parent SFO
Sandy clay loam		7.2	20 ± 2 °C pF 2	0.08/0.27	-	0.08	2.50	Applied as parent SFO
Sand		4.6	20 ± 2 °C pF 2	1.11/3.69	-	1.11	6.22	Applied as parent SFO
Persistence Endpoints (worst case calue)				1.11/3.69				
Geometric mean (if not pH dependent)						0.32		
Arithmetic mean					-			
pH dependence, *Yes or No*						No		

Phthalamic acid	Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was *xxx*							
Soil type	*X*[7]	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
Sand		5.2	20 ± 2 °C pF 2	1.71/5.67	0.12	1.71	23.76	From Phthalimide SFO-SFO
Sandy clay loam		7.2	20 ± 2 °C pF 2	0.40/1.34	1.00	0.40	13.94	From Phthalimide SFO-SFO
Sand		4.6	20 ± 2 °C pF 2	2.63/8.74	0.08	2.63	30.11	From Phthalimide SFO-SFO
Persistence Endpoints (worst case value)				2.63/8.74				
Modelling Endpoints (Geometric mean, if not pH dependent)						1.22		

Phthalamic acid	Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was *xxx*							
Soil type	*X*[7]	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
Arithmetic mean					0.4			
pH dependence, *Yes or No*						No		

Phthalic acid	Dark aerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was *xxx*							
Soil type	*X*[7]	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 clay loam		7.2	20 ± 2 °C pF 2	0.17/0.57	1.00	0.17	9.17	From Phthalamic acid SFO-SFO-SFO
Persistence Endpoints (worst case calue)				0.17/0.57				
Geometric mean (if not pH dependent)						0.17		
Arithmetic mean					1.00			
pH dependence, *Yes or No*						No		

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)

Phosmet	US field dissipation studies considered as supplementary information.

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)

Phosmet	Dark anaerobic conditions						
Soil type	*X*[4]	pH[a)]	t. °C / % MWHC	DT_{50} / DT_{90} (d)	DT_{50} (d) 20 °C[b)]	St. (χ^2)	Method of calculation
Sandy Loam		5.0	20 ± 2 °C pF 2	6.1/20.2	6.1	11.5	SFO
Sandy Loam		5.0	20 ± 2 °C pF 2	5.20/35.15	5.20	5.48	FOMC
Persistence endpoint				5.20			
Modelling endpoint[c)]					6.1		

[a)] Measured in calcium chloride solution
[b)] Normalised using a Q10 of 2.58
[c)] $DT_{50} = DT_{90}/3.32$

[4] 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 (anaerobic) laboratory studies transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.1.4 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.1)

Desmethyl Phosmet	Dark anaerobic conditions Metabolite dosed or the precursor from which the f.f. was derived was *xxx.*							
Soil type	*X[10]*	pH[a)]	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f. k_f / k_{dp}	DT_{50} (d) 20°C[b)]	St. (χ^2)	Method of calculation
Sandy Loam		5.0	20 ± 2 °C pF 2	5.50/18.28	0.50	5.50	6.34	From Phosmet FOMC-SFO
Geometric mean (if not pH dependent)						5.50		
Arithmetic mean					0.50			

a) Measured in [medium to be stated, usually calcium chloride solution or 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

Phosmet	Photodegradation of Phosmet insufficient to determine degradation rates.

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	K_d (mL/g)	K_{doc} (mL/g)	K_F (mL/g)	K_{Foc} (mL/g)	1/n
Loamy Sand	0.68	4.9	5.75	845	4.0	590	0.889
Sandy Loam	1.01	7.3	7.98	790	4.9	482	0.865
Loam	1.8	6.8	16.42	912	13.6	757	0.929
Silt Loam	2.2	5.6	21.09	959	15.8	716	0.892
Geometric mean (if not pH dependent)*					8.06	**627**	-
Arithmetic mean (if not pH dependent)							**0.894**
pH dependence, *Yes or No*			No				

* Only relevant after implementation of the published EFSA guidance.

Soil adsorption transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.3.1.2 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

N-methoxymethyl phthalimide							
Soil Type	OC %	Soil pH[a)]	K_d (mL/g)	K_{doc} (mL/g)	K_F (mL/g)	K_{Foc} (mL/g)	1/n
Sandy Loam	1.5	5.6	0.64-1.96	43-131	**0.76**	**50.9**	**0.77**
Sandy Loam	3.4	5.1	0.74-2.06	22-61	0.82	25.1	0.85
Sandy Clay Loam[b)]	3.9	7.2	2.04-4.93	52-126	2.09	53.6	0.81
Geometric mean (if not pH dependent)*					1.11	40.91	

Arithmetic mean (if not pH dependent)			0.81
pH dependence, *Yes or No*	No		

a) Measured in calcium chloride solution.
b) This soil did not fulfilled the OECD guideline 106. Therefore, worst case were proposed to be used by RMS (in bold)
* Only relevant after implementation of the published EFSA guidance.

Phthalimide							
Soil Type	OC %	Soil pH[a)]	K_d (mL/g)	K_{doc} (mL/g)	K_F (mL/g)	K_{Foc} (mL/g)	1/n
Sandy Loam	1.5	5.6	0.64-0.94	43-63	0.74	49.0	0.95
Sandy Loam	3.4	5.1	1.64-5.82	48-171	1.7	50.0	0.77
Clay	6.5	5.0	0.29-1.93	4-30	0.72*	11.1*	0.9*
Geometric mean (if not pH dependent)*					0.78	30.1	
Arithmetic mean (if not pH dependent)							0.87
pH dependence, *Yes or No*			No				

* This soil did not obey Freundlich equation. Therefore the geometric mean of the Kd values from each tested concentration and a default 1/n of 0.9 were proposed to be used by RMS.

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, not required

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	No data submitted, not required

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, not 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 %	DT_{50}, pH 4: 11.1 d at 25 °C (SFO, $\chi 2$=1.0) N-hydroxymethyl phthalamic acid: 14.9 % AR (7 d) Phthalic acid: 60.7 % AR (35 d) Phthalamide: 16.0 % AR (35 d) O,O dimethyl phosphorodithioc acid: 79.4 % molar basis (5 d)
	DT_{50}, pH 7: 10.1 h at 25 °C (SFO, $\chi 2$=2.4) N-hydroxymethyl phthalamic acid: 19.1 % AR (40 h) Phthalamic acid: 26.8 % AR (40 h) Phthalamide: 42.5 % AR (24.5 h)
	DT_{50},pH 9: 0.3 h at 25 °C (SFO, χ^2=6.6) N-hydroxymethyl phthalamic acid: 93.5 % AR (2.5 h)

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} : 23.9 – 108 h (pseudo 1st order, pH 5 and 25 °C) Xenon arc lamp nominal intensity of 158 Wm-2 Tin the range of 330-800 nm. The natural sunlight of the state of New Jersey in the same spectral range was 138.1W/m2 on June 13, 1990 Phthalimide: 46 % AR (5 d) N-hydroxymethyl phthalamic acid: 19.5 % AR (6 d)
Quantum yield of direct phototransformation in water at Σ > 290 nm	0.01443 molecules degraded/photon

'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)

Phosmet								
System identifier (indicate fresh, estuarine or marine)	pH water phase	pH sed	t. °C[a)]	DT_{50} /DT_{90} whole sys. (suspended sediment test)	DT_{50} /DT_{90} (d) Water (pelagic test)		St. (χ^2)	Method of calculation
					At study temp	Normalised (20°C)		
River water 2 µg/L	8.2-8.8	-	20	-	0.04 / 0.13	0.04 / 0.13	0.8	SFO
River water 10 µg/L	8.2-8.8	-	20	-	0.04 / 0.13	0.04 / 0.13	0.4	SFO

[a)] Temperature of incubation=std temperature of 20°C

Phthalamic acid	Max in total system: 97.4 % after 2 days for 2 µg/L system 97.3 % after 1 day for 10 µg/L system							
System identifier (indicate fresh, estuarine or marine)	pH water phase	pH sed	t. °C[a)]	DT_{50} /DT_{90} whole sys. (suspended sediment test)	DT_{50} /DT_{90} Water (pelagic test) At study temp	DT_{50} /DT_{90} Water (pelagic test) Normalised	St. (χ^2)	Method of calculation
River water 2 µg/L	8.2-8.8	-	20	-		-		
River water 10 µg/L	8.2-8.8	-	20	-		-		

a) Temperature of incubation=std temperature of 20°C

Phthalic acid	Max in total system: 3.2 % after 1 day for 2 µg/L system 6.0 % after 14 days for 10 µg/L system							
System identifier (indicate fresh, estuarine or marine)	pH water phase	pH sed	t. °C[a)]	DT_{50} /DT_{90} whole sys. (suspended sediment test)	DT_{50} /DT_{90} Water (pelagic test) At study temp	DT_{50} /DT_{90} Water (pelagic test) Normalised	St. (χ^2)	Method of calculation
River water 10 µg/L	8.2-8.8	-	20	-		-		

a) Temperature of incubation=std temperature of 20°C

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)
River water 2 µg/L	8.2-8.8	-	78.2 after 62 d	-	-
River water 10 µg/L	8.2-8.8	-	86.9 after 62 d	-	-

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)

Phosmet	Max in water: 84.97 % after 0 d (sand wss) 87.83 % after 0 d (sandy silt loam wss) Max in sediment: 10.70 % after 3 d (sand wss) 9.59 % after 0 d (sandy silt loam wss) Dissipation in water phase based on decline phase							
Water / sediment system (wss)	pH water phase [b)]	pH sed [a)]	t. °C	$DegT_{50}$ /$DegT_{90}$ whole sys.	χ^2	$DissT_{50}$ /$DissT_{90}$ water	χ^2	$DissT_{50}$ /$DissT_{90}$ sed
Sand	4.9	6.2	20	1.00 / 3.32 (SFO)	13.8	0.47 / 1.55 (SFO)	0.1	- [c)]
Sandy silt loam	7.8	8.1	20	0.08 / 0.28 (SFO)	15.3	0.06 / 0.21 (SFO)	3.3	- [c)]
Persistence Endpoints (worst case)				1.00 / 3.32		0.47 / 1.55		-

Modelling Endpoint Geometric mean DT_{50} (days)	0.28		- [d]		-

[a] Measured in water
[b] Beginning of study
[c] Not enough data points
[d] Not derived as dissipation not relevant

Phthalamic acid	Max in water: 51.5 % after 7 d (sand wss) 75.8 % after 6 h (sandy silt loam wss) Max in sediment: 4.0 % after 60 d (sand wss) 12.6 % after 7 d (sandy silt loam wss) Degradation in the total system and dissipation in water phase based on decline phase.						
Water / sediment system	pH water phase [b]	pH sed [a]	t. °C	$DegT_{50}$ whole sys.	$DegT_{90}$ whole sys.	St. (χ^2)	Method of calculation
Sand	4.9	6.2	20	[c]	[c]	-	-
S. silt loam	7.8	8.1	20	[c]	[c]	-	-
Persistence Endpoints							
Modelling Endpoint Default value				1000			

[a] Measured in water
[b] Beginning of study
[c] Not reliable values

Phthalic acid	Max in water: 29.1 % after 3 d (sand wss) 37.6 % after 1 d (sandy silt loam wss) Max in sediment: 4.6 % after 30 d (sandy silt loam wss) Degradation in the total system and dissipation in water phase based on decline phase.						
Water / sediment system	pH water phase [b]	pH sed [a]	t. °C	$DegT_{50}$ whole sys.	$DegT_{90}$ whole sys.	St. (χ^2)	Method of calculation
Sand	4.9	6.2	20	[c]	[c]		-
S. silt loam	7.8	8.1	20	[c]	[c]	-	-
Persistence Endpoints				-	-		
Modelling Endpoint Default DT_{50} (days)				1000			

[a] Measured in water
[b] Beginning of study
[c] Not reliable values

N-hydroxymethyl phthalimide	Max in water: 12.2 % after 3 d (sand wss) 4.3 % after 1 d (sandy silt loam wss) Max in sediment: 1.9 % after 15 d (sand wss) 1.6 % after 15 d (sandy silt loam wss) Degradation in the total system and dissipation in water phase based on decline phase.

Water / sediment system	pH water phase [b]	pH sed [a]	t. °C	$DegT_{50}$ whole sys.	$DegT_{90}$ whole sys.	St. (χ^2)	Method of calculation
Sand	4.9	6.2	20	[c]	[c]	-	-
S. silt loam	7.8	8.1	20	[c]	[c]	-	-
Persistence Endpoints							
Modelling Endpoint Default value				100			

[a] Measured in water
[b] Beginning of study
[c] Not reliable values

Mineralisation and non extractable residues (from parent dosed experiments)					
Water / sediment system	pH water phase [b]	pH sed [a]	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)
Sand	4.9	6.2	80.1 % after 100 d	20.7 % after 15 d	12.1 % after 100 d
Sandy silt loam	7.8	8.1	92.5 % after 100 d	14.6 % after 30 d	5.7 % after 100 d

[a] Measured in water
[b] Beginning of study

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	DT_{50} of 0.840 hours derived by AOPWIN (version 1.92), OH (12 h) concentration = 1.5 x 10^6 molecules/cm^3
Volatilisation	Vapour pressure: 3.38 × 10^{-5} Pa (20 °C), semi-volatile from plant surfaces
	from soil surfaces (BBA guideline): 0.45 % (soil incorporated) and 0.23 % (soil surface) after 24 h
Metabolites Phototchemical oxidative degradation in air	DT_{50} derived by AOPWIN v1.92 N-hydroxymethyl phthalamic acid DT_{50} of 0.534 d N-hydroxymethyl phthalimide DT_{50} of 0.365 d Phthalimide DT_{50} of 1.712 d Phthalamic acid DT_{50} of 3.56 d Phthalic acid DT_{50} of 8.65 d O,O-dimethyl phosphorodithioic acid DT_{50} of 0.183 d O,O-dimethyl phosphoric acid DT_{50} of 1.871 d
Metabolites Volatilisation	N-hydroxymethyl phthalamic acid Vapour pressure: 1.29 × 10^{-6} Pa (20 °C), no-volatile from soil or plant surfaces N-hydroxymethyl phthalimide

Vapour pressure: 4.07 × 10^{-6} Pa (20 °C), no-volatile from soil or plant surfaces Phthalimide Vapour pressure: 5.82 × 10^{-7} Pa (20 °C), no-volatile from soil or plant surfaces Phthalamic acid Vapour pressure: 1.72 × 10^{-7} Pa (20 °C), no-volatile from soil or plant surfaces Phthalic acid Vapour pressure: 8.60 × 10^{-8} Pa (20 °C), no-volatile from soil or plant surfaces O,O-dimethyl phosphorodithioic acid Vapour pressure: 37.3 Pa (20 °C), volatile from soil and plant surfaces O,O-dimethyl phosphoric acid Vapour pressure: 29.8 Pa (20 °C), volatile from soil and plant surfaces

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: Phosmet Surface water: Phosmet, N-hydroxymethyl phthalimide, phthalamic acid, phthalic acid, and the aqueous photolysis metabolites phthalimide, N-hydroxymethyl phthalamic acid. Sediment: Phosmet, phthalamic acid Ground water: Phosmet Air: Phosmet

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)	No data available.
Surface water (indicate location and type of study)	No data available.
Ground water (indicate location and type of study)	No data available.
Air (indicate location and type of study)	No data 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): 4.59 days Kinetics: FOMC Field or Lab*: representative worst case from lab studies.*

Application data

Crop: Citrus
Depth of soil layer: 5cm
Soil bulk density: 1.5g/cm^3
% plant interception: 80%
Number of applications: 1
Interval (d): -
Application rate(s): 500 g a.s./ha

PEC$_{(s)}$ (mg/kg)		Single application Actual	Single application Time weighted average
Initial		0.1333	-
Short term	24h	0.1125	0.1229
	2d	0.0960	0.1136
	4d	0.0721	0.0985
Long term	7d	0.0496	0.0820
	14d	0.0249	0.0587
	21d	0.0147	0.0455
	28d	0.0095	0.0371
	42d	0.0049	0.0270
	50d	0.0036	0.0233
	100d	0.0009	0.0126
Plateau concentration		0.0001 mg/kg after 10 yr	

Application data	
	Crop: Pome fruits (SEZ) Depth of soil layer: 5 cm Soil bulk density: 1.5 g/cm^3 plant interception: 1st application 60 %, 2nd application 65 % Number of applications: 2 (early application) Interval (d): 20 Application rate(s): 750 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		0.4000	-	0.4000	-
Short term	24h	0.3375	0.3688	0.3375	0.3688
	2d	0.2881	0.3408	0.2881	0.3423
	4d	0.2162	0.2956	0.2162	0.3000
Long term	7d	0.1489	0.2460	0.1489	0.2608
	14d	0.0748	0.1760	0.0748	0.1951
	21d	0.0440	0.1365	0.3393	0.1602
	28d	0.0286	0.1112	0.1451	0.1757
	42d	0.0146	0.0810	0.0506	0.1457
	50d	0.0107	0.0700	0.0331	0.1290
	100d	0.0028	0.0378	0.0066	0.0719
Plateau concentration		0.0002 mg/kg after 10 yr		0.0003 mg/kg after 10 yr	-

Application data	
	Crop: Pome fruits (SEZ) Depth of soil layer: 5 cm Soil bulk density: 1.5 g/cm^3 plant interception: 1st application 65 %, 2nd application 65 % Number of applications: 2 (late application) Interval (d): 20 Application rate(s): 750 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		0.350	-	0.3913	-
Short term	24h	0.2953	0.3227	0.3338	0.3625
	2d	0.2521	0.2982	0.2881	0.3368
	4d	0.1892	0.2586	0.2209	0.2948
Long term	7d	0.1303	0.2152	0.1568	0.2558
	14d	0.0654	0.1540	0.0837	0.1909
	21d	0.0385	0.1194	0.0518	0.1508
	28d	0.0251	0.0973	0.0351	0.1618
	42d	0.0128	0.0709	0.0190	0.1356
	50d	0.0093	0.0613	0.0143	0.1202
	100d	0.0024	0.0330	0.0041	0.0672
Plateau concentration		0.0002 mg/kg after 10 yr		< 0.0001 mg/kg after 10 yr	-

Application data

Crop: Pome fruits (CEZ)
Depth of soil layer: 5 cm
Soil bulk density: 1.5 g/cm^3
plant interception: 1st application 60 %, 2nd application 65 %
Number of applications: 2 (early application)
Interval (d): 20
Application rate(s): 500 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		0.2667		0.2667	
Short term	24h	0.2250	0.2458	0.2250	0.2458
	2d	0.1921	0.2272	0.1921	0.2282
	4d	0.1441	0.1970	0.1441	0.2000
Long term	7d	0.0993	0.1640	0.0993	0.1739
	14d	0.0498	0.1173	0.0498	0.1300
	21d	0.0293	0.0910	0.2262	0.1068
	28d	0.0191	0.0742	0.0967	0.1171
	42d	0.0097	0.0540	0.0337	0.0972
	50d	0.0071	0.0467	0.0221	0.0860
	100d	0.0019	0.0252	0.0044	0.0480
Plateau concentration		0.0001 mg/kg after 10 yr		0.0002 mg/kg after 10 yr	-

Application data	
	Crop: Pome fruits (CEZ) Depth of soil layer: 5 cm Soil bulk density: 1.5 g/cm^3 plant interception: 1st application 65 %, 2nd application 65 % Number of applications: 2 (late application) Interval (d): 20 Application rate(s): 500 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		0.2333		0.2608	
Short term	24h	0.1969	0.2151	0.2226	0.2417
	2d	0.1681	0.1988	0.1921	0.2245
	4d	0.1261	0.1724	0.1473	0.1965
Long term	7d	0.0869	0.1435	0.1045	0.1705
	14d	0.0436	0.1026	0.0558	0.1273
	21d	0.0257	0.0796	0.0345	0.1006
	28d	0.0167	0.0649	0.0234	0.1079
	42d	~~0.0085~~	0.0472	0.0127	0.0904
	50d	0.0062	0.0408	0.0095	0.0802
	100d	0.0016	0.0220	0.0027	0.0448
Plateau concentration		0.0001 mg/kg after 10 yr		<0.0001 mg/kg after 10 yr	-

Application data

Crop: Peaches/Nectarine
Depth of soil layer: 5 cm
Soil bulk density: 1.5 g/cm^3
plant interception: 1st application 65 %, 2nd application 65 %
Number of applications: 2 (early or late application)
Interval (d): 10
Application rate(s): 700 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		0.3267		0.4149	-
Short term	24h	0.2756	0.3011	0.3556	0.3853
	2d	0.2353	0.2783	0.3082	0.3586
	4d	0.1766	0.2414	0.2376	0.3156
Long term	7d	0.1216	0.2009	0.1695	0.2771
	14d	0.0611	0.1437	0.0907	0.2243
	21d	0.0360	0.1114	0.0558	0.2050
	28d	0.0234	0.0908	0.0375	0.1760
	42d	0.0119	0.0661	0.0200	0.1326
	50d	0.0087	0.0572	0.0149	0.1155
	100d	0.0023	0.0308	0.0041	0.0631
Plateau concentration		0.0001 mg/kg after 10 yr		0.0001 mg/kg after 10 yr	-

Application data

Crop: Potatoes
Depth of soil layer: 5 cm
Soil bulk density: 1.5 g/cm^3
plant interception: early application 85 %
Number of applications: 1
Interval (d): -
Application rate(s): 500 g a.s./ha

PEC$_{(s)}$ (mg/kg)		Single application Actual	Single application Time weighted average
Initial		0.1000	
Short term	24h	0.0844	0.0922
	2d	0.0720	0.0852
	4d	0.0541	0.0739

PEC$_{(s)}$ (mg/kg)		Single application Actual	Single application Time weighted average
Long term	7d	0.0372	0.0615
	14d	0.0187	0.0440
	21d	0.0110	0.0341
	28d	0.0072	0.0278
	42d	0.0036	0.0202
	50d	0.0027	0.0175
	100d	0.0007	0.0094
Plateau concentration		0.0001 mg/kg after 10 yr	

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 PELMO 5.5.3, FOCUS PEARL 4.4.4, MACRO 5.5.4 Parent: Phosmet Water solubility (mg/L): 15.2 at pH 7 and 20 °C Vapour pressure: 3.38×10^{-5} Pa at 20°C Worst case DT_{50lab} (n=3): 5.01 d (normalisation to 10kPa or pF2, 20 °C with Q10 of 2.58 and Walker equation coefficient 0.7). K_{OC}: Worst case 716 mL/g, Worst case 1/n = 0.982.
Application data	Crop: Citrus Crop uptake factor: 0 Gross application rate: 500 g/ha. Crop growth stage: BBCH 79-89 Canopy interception %: 80 Application rate net of interception: 100 g/ha. No. of applications: 1 Interval (d): - Time of application (absolute application date): 10 October
Application data	Crop: Pome fruits (SEZ) Crop uptake factor: 0 Gross application rate: 750 g/ha.

	Crop growth stage: BBCH 67-85 Canopy interception %: Early application – 1st appl. 60 %, 2nd appl. 65 %, Late application – 1st appl. & 2nd appl. 65 %. Application rate net of interception: Early application – 1st appl. 300 g/ha, 2nd appl. 263 g/ha, Late application – 1st appl. & 2nd appl. 263 g/ha. No. of applications: 2 Interval (d): 20 Time of application (relative application dates): Early appl. 7 weeks after emergence, late appl. 4 weeks before harvest.
Application data	Crop: Pome fruits (CEZ) Crop uptake factor: 0 Gross application rate: 500 g/ha. Crop growth stage: BBCH 67-85 Canopy interception %: Early application – 1st appl. 60 %, 2nd appl. 65 %, Late application – 1st appl. & 2nd appl. 65 %. Application rate net of interception: Early application – 1st appl. 200 g/ha, 2nd appl. 175 g/ha, Late application – 1st appl. & 2nd appl. 175 g/ha. No. of applications: 2 Interval (d): 20 Time of application (relative application dates): Early appl. 7 weeks after emergence, late appl. 4 weeks before harvest.
Application data	Crop: Peaches/Nectarines Crop uptake factor: 0 Gross application rate: 700 g/ha. Crop growth stage: BBCH 71-85 Canopy interception %: Early/late application – 1st appl. & 2nd appl. 65 % Application rate net of interception: Early/late application – 1st appl. & 2nd appl. 245 g/ha. No. of applications: 2 Interval (d): 10 Time of application (relative application dates): Early appl. 9 weeks after emergence, late appl. 2 weeks before harvest.
Application data	Crop: Potatoes Crop uptake factor: 0 Gross application rate: 500 g/ha. Crop growth stage: BBCH 40-49

	Canopy interception %: Early appl. 85 %, late appl. 50 %. Application rate net of interception: Early appl. 75 g/ha, late appl. 250 g/ha. No. of applications: 1 Interval (d): - Time of application (relative application dates): Early appl. 5 weeks after emergence, late appl. 7 days before harvest.
80th percentile annual average concentration at 1 m	Phosmet: < 0.001 µg/L with FOCUS PEARL, PELMO and MACRO in all crops and relevant scenarios, respectively.

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

RMS has not performed new step 1 and 2 calculations for phosmet, since risk assessment was covered by step 3 and 4.
However, for phosmet metabolites phthalamic acid, phthalic acid, N-hydroxymethyl Phtalimide, phthalimide and O,O dimethyl Phosphoric acid, RMS has conducted a new PECsw/sed calculation at Step 1 & 2 in response to EFSA request.
~~A **data gap** has been identified to address the aquatic exposure of the aqueous photolytic metabolite N-hydroxymethyl phthalamic acid~~

Parent Parameters used in FOCUSsw step 3 (if performed)	Version control no.'s of FOCUS software: FOCUS SWASH 5.3 FOCUS MACRO 5.5.4 FOCUS PRZM SW 4.3.1 FOCUS TOXSWA 4.4.3 Molecular weight (g/mol): 317.33 Vapour pressure: 3.38 × 10^{-5} Pa at 20 °C 6.50 × 10^{-5} Pa at 25 °C Water solubility (mg/L): 15.2 at 20 °C KFoc/Kom (mL/g): 626.6/363.5 1/n: 0.89 (Adsorption coefficient and Freundlich exponent general for soil, susp. solids and sediment, respectively) DT_{50} soil (d): 5.01 (Q10 = 2.58, Walker equation coefficient 0.7) DT_{50} water/sediment system (d): 0.28 DT_{50} water (d): 0.28 (simulation 1) DT_{50} water (d): 1000 (simulation 2) DT_{50} sediment (d): 1000 (simulation 1) DT_{50} sediment (d): 0.28 (simulation 2) Crop uptake factor: 0

Metabolite Phthalamic acid Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 165.15 Water solubility (mg/L): 1000 (default value) Kfom/Kfoc (mL/g): 0 (default) DT_{50} soil (d): 1.22 DT_{50} water/sediment system (d): 1000 days DT_{50} water (d): 1000 days DT_{50} sediment (d): 1000 days Crop interception: full canopy Maximum occurrence observed (% molar basis with respect to the parent) Soil: 0.01 Total Water and Sediment: 75.8
Metabolite phthalic acid Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 166.13 Water solubility (mg/L): 1000 (default value) Kfom/Kfoc (mL/g): 0 (default) DT_{50} soil (d): 0.17 DT_{50} water/sediment system (d): 1000 days DT_{50} water (d): 1000 days DT_{50} sediment (d): 1000 days Crop interception: full canopy Maximum occurrence observed (% molar basis with respect to the parent) Soil: 0.88 Total Water and Sediment: 37.6
Metabolite N-hydroxymethyl Phthalimide Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 177.16 Water solubility (mg/L): 1000 (default value) Kfom/Kfoc (mL/g): 0 (default) DT_{50} soil (d): 1000 days (default) DT_{50} water/sediment system (d): 100 days* DT_{50} water (d): 100 days DT_{50} sediment (d): 100 days Crop interception: full canopy Maximum occurrence observed (% molar basis with respect to the parent) Soil: 0.41 Total Water and Sediment: 12.2 *taking into consideration the moderate persistence of this metabolite and that in both water/sediment systems a high mineralisation (80%-92%) was reached at 100 days, the peer review considered a a $DT50_{whole\ syst}$ of 100 days to be appropriate for modelling purposes (in place of the default 1000 days value)

Metabolite Phthalimide Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 147.13 Water solubility (mg/L): 1000 (default value) Kfom/Kfoc (mL/g): 30.1 DT_{50} soil (d): 0.32 days DT_{50} water/sediment system (d): 1000 days DT_{50} water (d): 1000 days DT_{50} sediment (d): 1000 days Crop interception: full canopy Maximum occurrence observed (% molar basis with respect to the parent) Soil: 1.53 Total aqueous photolysis: 62.5
Metabolite N-hydroxymethyl phthalamic acid Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 195.18 Water solubility (mg/L): 1000 (default value) Kfom/Kfoc (mL/g): 0 (default value) DT_{50} soil (d): 1000 days (default value) DT_{50} water/sediment system (d): 1000 days DT_{50} water (d): 1000 days DT_{50} sediment (d): 1000 days Crop interception: full canopy Maximum occurrence observed (% molar basis with respect to the parent) Soil: 2.44 Total aqueous photolysis: 19.5
Application data	Crop and growth stage: Citrus BBCH 79-89 Number of applications: 1 Interval (d): - Application rate: 500 g a.s./ha Application window: Autumm application: 10 October until 9 November Spring application: 31 of March until 30 of April FOCUS scenarios: D6 (ditch), R4 (stream)
Application data	Crop and growth stage: Pome fruits BBCH 67-85 (SEZ) Number of applications: 2 Interval (d): 20 Application rate: 750 g a.s./ha Application window: single appl. 30 days, multiple appl. 50 days (start early appl. – 7 weeks after emergence, end late appl. – 28 d before harvest), in both cases late spray drift FOCUS scenarios: D3 (ditch), D4-5 (pond, stream), R1(pond, stream), R2-4 (stream)

Application data	Crop and growth stage: Pome fruits BBCH 67-85 (CEZ) Number of applications: 2 Interval (d): 20 Application rate: 500 g a.s./ha Application window: single appl. 30 days, multiple appl. 50 days (start early appl. – 7 weeks after emergence, end late appl. – 28 d before harvest), in both cases late spray drift FOCUS scenarios: D3 (ditch), D4-5 (pond, stream), R1(pond, stream), R2-4 (stream)
Application data	Crop and growth stage: Peaches/Nectarines BBCH 71-85 Number of applications: 2 Interval (d): 10 Application rate: 700 g a.s./ha Application window: single appl. 30 days, multiple appl. 40 days (start early appl. – 9 weeks after emergence, end late appl. – 14 d before harvest), in both cases late spray drift FOCUS scenarios: D3 (ditch), D4-5 (pond, stream), R1(pond, stream), R2-4 (stream)
Application data	Crop and growth stage: Potatoes BBCH 40-49 Number of applications: 1 Interval (d): - Application rate: 500 g a.s./ha Application window: 30 days (start early appl. – 5 weeks after emergence, end late appl. – 7 d before harvest) FOCUS scenarios: D3 (ditch), D4 (pond, stream), D6 1st and 2nd crop (ditch), R1(pond, stream), R2-3 (stream)
Main routes of entry	Spray drift (for all crops and scenarios)

FOCUS STEP 3 Scenario	**Water body**	**Overall maximum PECsw [µg/L]**		**Overall maximum Max. PECsed [µg/kg]**	
CITRUS (1 x 500 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D6[1)] ditch	18.45	spray drift	4.82	spray drift
	D6[2)] ditch	18.44	spray drift	5.11	spray drift
	R4[1)] stream	12.73	spray drift	0.97	spray drift
	R4[2)] stream	14.08	spray drift	1.71	spray drift
CITRUS (1 x 500 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D6[1)] ditch	18.45	spray drift	4.82	spray drift
	D6[2)] ditch	18.44	spray drift	5.96	spray drift
	R4[1)] stream	12.73	spray drift	0.97	spray drift
	R4[2)] stream	14.08	spray drift	1.62	spray drift

FOCUS STEP 3 Scenario	Water body	Overall maximum PECsw [µg/L]		Overall maximum Max. PECsed [µg/kg]	
POME FRUIT Multiple early application (2 x 750 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	21.85	spray drift	5.29	spray drift
	D4 pond	1.032	spray drift	0.348	spray drift
	D4 stream	22.14	spray drift	3.61	spray drift
	D5 pond	1.032	spray drift	0.388	spray drift
	D5 stream	23.89	spray drift	4.72	spray drift
	R1 pond	1.031	spray drift	0.390	spray drift
	R1 stream	16.94	spray drift	3.51	spray drift
	R2 stream	22.66	spray drift	1.797	spray drift
	R3 stream	23.88	spray drift	4.25	spray drift
	R4 stream	16.56	spray drift	2.39	spray drift
POME FRUIT Multiple early application (2 x 750 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D3 ditch	21.84	spray drift	5.12	spray drift
	D4 pond	1.603	spray drift	0.520	spray drift
	D4 stream	22.14	spray drift	2.91	spray drift
	D5 pond	1.593	spray drift	0.563	spray drift
	D5 stream	23.89	spray drift	3.92	spray drift
	R1 pond	1.618	spray drift	0.569	spray drift
	R1 stream	16.94	spray drift	1.887	spray drift
	R2 stream	22.66	spray drift	1.459	spray drift
	R3 stream	23.88	spray drift	3.40	spray drift
	R4 stream	16.56	spray drift	1.397	spray drift
POME FRUIT Single early application (1 x 750 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	27.54	spray drift	6.08	spray drift
	D4 pond	1.234	spray drift	0.336	spray drift
	D4 stream	27.61	spray drift	3.75	spray drift
	D5 pond	1.234	spray drift	0.411	spray drift
	D5 stream	29.81	spray drift	5.20	spray drift
	R1 pond	1.233	spray drift	0.363	spray drift
	R1 stream	21.15	spray drift	2.55	spray drift
	R2 stream	28.29	spray drift	1.94	spray drift
	R3 stream	29.82	spray drift	4.53	spray drift
	R4 stream	20.68	spray drift	2.44	spray drift
POME FRUIT Single early application (1 x 750 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D3 ditch	27.54	spray drift	6.43	spray drift
	D4 pond	1.234	spray drift	0.399	spray drift
	D4 stream	27.61	spray drift	3.48	spray drift
	D5 pond	1.234	spray drift	0.497	spray drift
	D5 stream	29.81	spray drift	4.89	spray drift
	R1 pond	1.233	spray drift	0.433	spray drift

FOCUS STEP 3 Scenario	Water body	Overall maximum PECsw [µg/L]		Overall maximum Max. PECsed [µg/kg]	
	R1 stream	21.15	spray drift	2.35	spray drift
	R2 stream	28.29	spray drift	1.820	spray drift
	R3 stream	29.82	spray drift	4.24	spray drift
	R4 stream	20.68	spray drift	1.543	spray drift
POME FRUIT Múltiple late application (1 x 750 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	21.91	spray drift	6.13	spray drift
	D4 pond	1.032	spray drift	0.426	spray drift
	D4 stream	21.64	spray drift	2.35	spray drift
	D5 pond	1.032	spray drift	0.340	spray drift
	D5 stream	23.89	spray drift	4.51	spray drift
	R1 pond	1.031	spray drift	0.398	spray drift
	R1 stream	16.94	spray drift	2.34	spray drift
	R2 stream	22.70	spray drift	1.702	spray drift
	R3 stream	23.88	spray drift	3.66	spray drift
	R4 stream	16.94	spray drift	2.72	spray drift
POME FRUIT Múltiple late application (1 x 750 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D3 ditch	21.91	spray drift	5.78	spray drift
	D4 pond	1.447	spray drift	0.721	spray drift
	D4 stream	21.64	spray drift	1.985	spray drift
	D5 pond	1.567	spray drift	0.502	spray drift
	D5 stream	23.89	spray drift	3.64	spray drift
	R1 pond	1.458	spray drift	0.579	spray drift
	R1 stream	16.94	spray drift	1.949	spray drift
	R2 stream	22.70	spray drift	1.357	spray drift
	R3 stream	23.88	spray drift	2.864	spray drift
	R4 stream	16.94	spray drift	1.691	spray drift
POME FRUIT Single late application (1 x 750 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	27.56	spray drift	6.81	spray drift
	D4 pond	1.234	spray drift	0.441	spray drift
	D4 stream	26.63	spray drift	2.07	spray drift
	D5 pond	1.234	spray drift	0.332	spray drift
	D5 stream	29.83	spray drift	4.85	spray drift
	R1 pond	1.233	spray drift	0.405	spray drift
	R1 stream	21.15	spray drift	2.58	spray drift
	R2 stream	28.35	spray drift	1.84	spray drift
	R3 stream	29.82	spray drift	3.81	spray drift
	R4 stream	21.15	spray drift	4.03	spray drift
POME FRUIT	D3 ditch	27.56	spray drift	7.26	spray drift

FOCUS STEP 3 Scenario	Water body	Overall maximum PECsw [µg/L]		Overall maximum Max. PECsed [µg/kg]	
Single late application (1 x 750 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D4 pond	1.234	spray drift	0.535	spray drift
	D4 stream	26.63	spray drift	1.960	spray drift
	D5 pond	1.234	spray drift	0.395	spray drift
	D5 stream	29.83	spray drift	4.54	spray drift
	R1 pond	1.233	spray drift	0.488	spray drift
	R1 stream	21.15	spray drift	2.43	spray drift
	R2 stream	28.35	spray drift	1.693	spray drift
	R3 stream	29.82	spray drift	3.57	spray drift
	R4 stream	21.15	spray drift	2.08	spray drift
POME FRUIT Multiple early application (2 x 500 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	14.56	spray drift	3.58	spray drift
	D4 pond	0.689	spray drift	0.235	spray drift
	D4 stream	14.76	spray drift	2.43	spray drift
	D5 pond	0.688	spray drift	0.263	spray drift
	D5 stream	15.93	spray drift	3.18	spray drift
	R1 pond	0.688	spray drift	0.264	spray drift
	R1 stream	11.29	spray drift	2.36	spray drift
	R2 stream	15.10	spray drift	1.205	spray drift
	R3 stream	15.92	spray drift	2.86	spray drift
	R4 stream	11.04	spray drift	1.619	spray drift
POME FRUIT Multiple early application (2 x 500 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D3 ditch	14.56	spray drift	3.44	spray drift
	D4 pond	1.067	spray drift	0.349	spray drift
	D4 stream	14.79	spray drift	1.945	spray drift
	D5 pond	1.060	spray drift	0.379	spray drift
	D5 stream	15.93	spray drift	2.63	spray drift
	R1 pond	1.076	spray drift	0.382	spray drift
	R1 stream	11.29	spray drift	1.26	spray drift
	R2 stream	15.10	spray drift	0.974	spray drift
	R3 stream	15.92	spray drift	2.277	spray drift
	R4 stream	11.04	spray drift	0.908	spray drift
POME FRUIT Single early application (1 x 500 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	18.36	spray drift	4.11	spray drift
	D4 pond	0.823	spray drift	0.227	spray drift
	D4 stream	18.40	spray drift	2.51	spray drift
	D5 pond	0.823	spray drift	0.246	spray drift
	D5 stream	18.89	spray drift	3.39	spray drift
	R1 pond	0.822	spray drift	0.245	spray drift
	R1 stream	14.10	spray drift	1.838	spray drift

FOCUS STEP 3 Scenario	Water body	Overall maximum PECsw [µg/L]		Overall maximum Max. PECsed [µg/kg]	
	R2 stream	18.86	spray drift	1.297	spray drift
	R3 stream	19.88	spray drift	2.92	spray drift
	R4 stream	13.78	spray drift	1.086	spray drift
POME FRUIT Single early application (1 x 500 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D3 ditch	18.36	spray drift	4.32	spray drift
	D4 pond	0.823	spray drift	0.268	spray drift
	D4 stream	18.40	spray drift	2.33	spray drift
	D5 pond	0.823	spray drift	0.334	spray drift
	D5 stream	19.88	spray drift	3.27	spray drift
	R1 pond	0.822	spray drift	0.291	spray drift
	R1 stream	14.10	spray drift	1.573	spray drift
	R2 stream	18.86	spray drift	1.215	spray drift
	R3 stream	19.88	spray drift	2.84	spray drift
	R4 stream	13.78	spray drift	1.031	spray drift
POME FRUIT Múltiple late application (1 x 500 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	14.61	spray drift	4.14	spray drift
	D4 pond	0.688	spray drift	0.289	spray drift
	D4 stream	14.43	spray drift	1.577	spray drift
	D5 pond	0.688	spray drift	0.230	spray drift
	D5 stream	15.93	spray drift	3.04	spray drift
	R1 pond	0.688	spray drift	0.269	spray drift
	R1 stream	11.29	spray drift	1.572	spray drift
	R2 stream	15.14	spray drift	1.141	spray drift
	R3 stream	15.92	spray drift	2.46	spray drift
	R4 stream	11.29	spray drift	1.798	spray drift
POME FRUIT Múltiple late application (1 x 500 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D3 ditch	14.61	spray drift	3.88	spray drift
	D4 pond	0.962	spray drift	0.485	spray drift
	D4 stream	14.43	spray drift	1.328	spray drift
	D5 pond	1.043	spray drift	0.337	spray drift
	D5 stream	15.93	spray drift	2.44	spray drift
	R1 pond	0.970	spray drift	0.389	spray drift
	R1 stream	11.29	spray drift	1.304	spray drift
	R2 stream	15.14	spray drift	0.906	spray drift
	R3 stream	15.92	spray drift	1.916	spray drift
	R4 stream	11.29	spray drift	1.130	spray drift
POME FRUIT Single late application (1 x 500 g a.s./ha)	D3 ditch	18.37	spray drift	4.60	spray drift
	D4 pond	0.823	spray drift	0.298	spray drift
	D4 stream	17.75	spray drift	1.382	spray drift

FOCUS STEP 3 Scenario	Water body	Overall maximum PECsw [µg/L]		Overall maximum Max. PECsed [µg/kg]	
$Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D5 pond	0.823	spray drift	0.224	spray drift
	D5 stream	19.89	spray drift	3.26	spray drift
	R1 pond	0.822	spray drift	2.74	spray drift
	R1 stream	14.10	spray drift	1.729	spray drift
	R2 stream	18.90	spray drift	1.232	spray drift
	R3 stream	19.88	spray drift	2.56	spray drift
	R4 stream	14.10	spray drift	2.68	spray drift
POME FRUIT Single late application (1 x 500 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D3 ditch	18.37	spray drift	4.88	spray drift
	D4 pond	0.823	spray drift	0.360	spray drift
	D4 stream	17.75	spray drift	1.310	spray drift
	D5 pond	0.823	spray drift	0.265	spray drift
	D5 stream	18.89	spray drift	3.04	spray drift
	R1 pond	0.822	spray drift	0.328	spray drift
	R1 stream	14.10	spray drift	1.625	spray drift
	R2 stream	18.90	spray drift	1.130	spray drift
	R3 stream	19.88	spray drift	2.39	spray drift
	R4 stream	14.10	spray drift	1.390	spray drift
PEACHES/NECTARINES Multiple early application (2 x 700 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	20.38	spray drift	5.14	spray drift
	D4 pond	0.963	spray drift	0.336	spray drift
	D4 stream	20.67	spray drift	3.46	spray drift
	D5 pond	0.964	spray drift	0.380	spray drift
	D5 stream	22.30	spray drift	4.67	spray drift
	R1 pond	0.968	spray drift	0.407	spray drift
	R1 stream	15.81	spray drift	2.94	spray drift
	R2 stream	21.15	spray drift	2.70	spray drift
	R3 stream	22.29	spray drift	4.81	spray drift
	R4 stream	15.81	spray drift	1.972	spray drift
PEACHES/NECTARINES Multiple early application (2 x 700 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D3 ditch	20.38	spray drift	5.14	spray drift
	D4 pond	1.600	spray drift	0.519	spray drift
	D4 stream	20.67	spray drift	2.71	spray drift
	D5 pond	1.691	spray drift	0.599	spray drift
	D5 stream	22.30	spray drift	3.55	spray drift
	R1 pond	1.815	spray drift	0.581	spray drift
	R1 stream	15.81	spray drift	3.31	spray drift
	R2 stream	21.15	spray drift	1.362	spray drift
	R3 stream	22.28	spray drift	3.05	spray drift

FOCUS STEP 3 Scenario	Water body	Overall maximum PECsw [µg/L]		Overall maximum Max. PECsed [µg/kg]	
	R4 stream	15.81	spray drift	1.626	spray drift
PEACHES/NECTARINES Single early application (2 x 700 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	25.71	spray drift	5.69	spray drift
	D4 pond	1.152	spray drift	0.314	spray drift
	D4 stream	25.76	spray drift	3.50	spray drift
	D5 pond	1.152	spray drift	0.341	spray drift
	D5 stream	27.85	spray drift	4.71	spray drift
	R1 pond	1.151	spray drift	0.340	spray drift
	R1 stream	19.74	spray drift	2.56	spray drift
	R2 stream	26.41	spray drift	1.812	spray drift
	R3 stream	27.83	spray drift	4.07	spray drift
	R4 stream	19.30	spray drift	1.516	spray drift
PEACHES/NECTARINES Single early application (2 x 700 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D3 ditch	25.71	spray drift	6.01	spray drift
	D4 pond	1.152	spray drift	0.373	spray drift
	D4 stream	25.76	spray drift	3.25	spray drift
	D5 pond	1.152	spray drift	0.408	spray drift
	D5 stream	27.85	spray drift	4.42	spray drift
	R1 pond	1.151	spray drift	0.401	spray drift
	R1 stream	19.74	spray drift	2.20	spray drift
	R2 stream	26.41	spray drift	1.699	spray drift
	R3 stream	27.83	spray drift	3.80	spray drift
	R4 stream	19.30	spray drift	1.440	spray drift
PEACHES/NECTARINES Multiple late application (2 x 700 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	20.39	spray drift	8.62	spray drift
	D4 pond	0.963	spray drift	0.440	spray drift
	D4 stream	20.20	spray drift	2.22	spray drift
	D5 pond	0.963	spray drift	0.357	spray drift
	D5 stream	22.30	spray drift	4.54	spray drift
	R1 pond	0.963	spray drift	0.505	spray drift
	R1 stream	15.81	spray drift	2.36	spray drift
	R2 stream	21.19	spray drift	1.576	spray drift
	R3 stream	22.28	spray drift	3.97	spray drift
	R4 stream	15.81	spray drift	7.06	spray drift
PEACHES/NECTARINES Multiple late application (2 x 700 g a.s./ha) $Deg50_{wat}$ = 1000 d	D3 ditch	20.38	spray drift	7.71	spray drift
	D4 pond	1.543	spray drift	0.769	spray drift
	D4 stream	20.20	spray drift	1.854	spray drift
	D5 pond	1.668	spray drift	0.571	spray drift
	D5 stream	22.30	spray drift	3.50	spray drift

FOCUS STEP 3 Scenario	Water body	Overall maximum PECsw [µg/L]		Overall maximum Max. PECsed [µg/kg]	
$Deg50_{sed}$ = 0.28 d	R1 pond	1.503	spray drift	0.815	spray drift
	R1 stream	15.81	spray drift	1.947	spray drift
	R2 stream	21.19	spray drift	1.312	spray drift
	R3 stream	22.28	spray drift	2.89	spray drift
	R4 stream	15.81	spray drift	2.26	spray drift
PEACHES/NECTARINES Single late application (2 x 700 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	25.72	spray drift	6.37	spray drift
	D4 pond	1.152	spray drift	0.413	spray drift
	D4 stream	25.23	spray drift	2.46	spray drift
	D5 pond	1.152	spray drift	0.312	spray drift
	D5 stream	27.85	spray drift	4.54	spray drift
	R1 pond	1.152	spray drift	0.379	spray drift
	R1 stream	19.74	spray drift	2.41	spray drift
	R2 stream	26.46	spray drift	1.771	spray drift
	R3 stream	27.83	spray drift	3.86	spray drift
	R4 stream	19.74	spray drift	2.13	spray drift
PEACHES/NECTARINES Single late application (2 x 700 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D3 ditch	25.72	spray drift	6.78	spray drift
	D4 pond	1.152	spray drift	0.577	spray drift
	D4 stream	25.23	spray drift	2.32	spray drift
	D5 pond	1.152	spray drift	0.369	spray drift
	D5 stream	27.85	spray drift	4.24	spray drift
	R1 pond	1.151	spray drift	0.456	spray drift
	R1 stream	19.74	spray drift	2.27	spray drift
	R2 stream	26.46	spray drift	1.636	spray drift
	R3 stream	27.83	spray drift	3.60	spray drift
	R4 stream	19.74	spray drift	1.969	spray drift
POTATOES Single early application (1 x 500 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	2.62	spray drift	0.584	spray drift
	D4 pond	0.106	spray drift	0.037	spray drift
	D4 stream	2.12	spray drift	0.076	spray drift
	D6 1st crop ditch	2.61	spray drift	0.499	spray drift
	D6 2nd crop ditch	2.59	spray drift	0.365	spray drift
	R1 pond	0.217	Runoff	0.211	Runoff
	R1 stream	2.98	Runoff	4.04	Runoff
	R2 stream	2.40	spray drift	0.421	spray drift
	R3 stream	3.64	Runoff	1.59	Runoff
	D3 ditch	2.62	spray drift	0.571	spray drift

FOCUS STEP 3 Scenario	Water body	Overall maximum PECsw [µg/L]		Overall maximum Max. PECsed [µg/kg]	
POTATOES Single early application (1 x 500 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D4 pond	0.106	spray drift	0.043	spray drift
	D4 stream	2.12	spray drift	0.073	spray drift
	D6 1st crop ditch	2.61	spray drift	0.475	spray drift
	D6 2nd crop ditch	2.59	spray drift	0.334	spray drift
	R1 pond	0.439	Runoff	0.166	Runoff
	R1 stream	3.02	Runoff	2.371	Runoff
	R2 stream	2.40	spray drift	0.270	spray drift
	R3 stream	3.77	Runoff	0.990	Runoff
POTATOES Single late application (1 x 500 g a.s./ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	D3 ditch	2.62	spray drift	0.551	spray drift
	D4 pond	0.106	spray drift	0.032	spray drift
	D4 stream	1.970	spray drift	0.048	spray drift
	D6 1st crop ditch	2.60	spray drift	0.391	spray drift
	D6 2nd crop ditch	5.05	drainage	1.176	spray drift
	R1 pond	0.106	spray drift	0.031	spray drift
	R1 stream	1.818	spray drift	0.219	spray drift
	R2 stream	2.44	spray drift	0.832	spray drift
	R3 stream	2.56	spray drift	2.31	spray drift
POTATOES Single late application (1 x 500 g a.s./ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	D3 ditch	2.62	spray drift	0.554	spray drift
	D4 pond	0.106	spray drift	0.043	spray drift
	D4 stream	1.969	spray drift	0.045	spray drift
	D6 1st crop ditch	2.60	spray drift	0.369	spray drift
	D6 2nd crop ditch	5.27	drainage	0.718	drainage
	R1 pond	0.106	spray drift	0.036	spray drift
	R1 stream	1.818	spray drift	0.202	spray drift
	R2 stream	2.44	spray drift	0.527	spray drift
	R3 stream	2.56	spray drift	0.919	spray drift

~~In bold values below the RAC~~
[1)] First applicantion window: 10/10 – 30/11 (autumm application)
[2)] Second application window: 31/3 – 30/04 (spring application)

METABOLITES

Phthalamic acid

FOCUS STEP 1 Scenario	PEC_{SW} (µg/L)	PEC_{SED} (µg/kg)
	Actual	Actual
Citrus (1 x 0.5 kg a.s./ha)	76.09	< 0.001
Pome fruit (2 x 0.75 kg a.s./ha, early appl.)	254.84	< 0.001
Pome fruit (2 x 0.5 kg a.s./ha, early appl.)	169.89	< 0.001
Peaches/Nectarines (2 x 0.7 kg a.s./ha, early appl.)	237.84	< 0.001
Potatoes (1 x 0.5 kg a.s./ha)	67.56	< 0.001

FOCUS STEP 2 Scenario	PEC_{SW} (µg/L)	PEC_{SED} (µg/kg)
	Actual	Actual
Citrus (1 x 0.5 kg a.s./ha, SE, Oct-Feb)	10.85	< 0.001
Pome fruit (2 x 0.75 kg a.s./ha, SE, Jun-Sep, early appl.)	50.94	< 0.001
Pome fruit (2 x 0.5 kg a.s./ha, SE and NE, Jun-Sep, early appl.)	33.96	< 0.001
Peaches/Nectarines (2 x 0.7 kg a.s./ha, SE, Jun-Sep, early appl.)	47.21	< 0.001
Potatoes (1 x 0.5 kg a.s./ha, SE, Mar-May)	2.62	< 0.001

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Peaches/ Nectarines (2 x 0.7 kg a.s./ha) Southern Europe, Jun Sep, Early appl.	0 d	**47.71**	-	**< 0.001**	
	1 d	47.68	47.69	< 0.001	< 0.001
	2 d	47.64	47.68	< 0.001	< 0.001
	4 d	47.58	47.64	< 0.001	< 0.001
	7 d	47.48	47.59	< 0.001	< 0.001
	14 d	47.25	47.48	< 0.001	< 0.001
	21 d	47.02	47.36	< 0.001	< 0.001
	28 d	46.79	47.25	< 0.001	< 0.001
	42 d	46.34	47.02	< 0.001	< 0.001
	50 d	46.08	46.89	< 0.001	< 0.001
	100 d	44.51	46.09	< 0.001	< 0.001

Phthalic acid

FOCUS STEP 1 Scenario	PEC_{SW} (µg/L)	PEC_{SED} (µg/kg)
	Actual	Actual
Citrus (1 x 0.5 kg a.s./ha)	37.97	< 0.001
Pome fruit (2 x 0.75 kg a.s./ha, early appl.)	127.16	< 0.001
Pome fruit (2 x 0.5 kg a.s./ha, early appl.)	84.77	< 0.001

FOCUS STEP 1 Scenario	PEC_{SW} (µg/L)	PEC_{SED} (µg/kg)
	Actual	Actual
Peaches/Nectarines (2 x 0.7 kg a.s./ha, early appl.)	118.68	< 0.001
Potatoes (1 x 0.5 kg a.s./ha)	33.71	< 0.001

FOCUS STEP 2 Scenario	PEC_{SW} (µg/L)	PEC_{SED} (µg/kg)
	Actual	Actual
Citrus (1 x 0.5 kg a.s./ha, SE, Oct-Feb, Jun-Sep)	5.16	< 0.001
Pome fruit (2 x 0.75 kg a.s./ha, SE, Jun-Sep, early appl.)	24.95	< 0.001
Pome fruit (2 x 0.5 kg a.s./ha, SE and NE, Jun-Sep, early appl.)	16.64	< 0.001
Peaches/Nectarines (2 x 0.7 kg a.s./ha, SE, Jun-Sep, early appl.)	23.37	< 0.001
Potatoes (1 x 0.5 kg a.s./ha, SE and NE, Mar-May, Jun-Sep)	0.91	< 0.001

N-hydroxymethyl Phthalimide

FOCUS STEP 1 Scenario	PEC_{SW} (µg/L)	PEC_{SED} (µg/kg)
	Actual	Actual
Citrus (1 x 0.5 kg a.s./ha)	13.14	< 0.001
Pome fruit (2 x 0.75 kg a.s./ha, early appl.)	44.0	< 0.001
Pome fruit (2 x 0.5 kg a.s./ha, early appl.)	29.34	< 0.001
Peaches/Nectarines (2 x 0.7 kg a.s./ha, early appl.)	41.07	< 0.001
Potatoes (1 x 0.5 kg a.s./ha)	11.67	< 0.001

FOCUS STEP 2 Scenario	PEC_{SW} (µg/L)	PEC_{SED} (µg/kg)
	Actual	Actual
Citrus (1 x 0.5 kg a.s./ha, SE, Oct-Feb)	2.64	< 0.001
Pome fruit (2 x 0.75 kg a.s./ha, SE, Jun-Sep, early appl.)	11.45	< 0.001
Pome fruit (2 x 0.5 kg a.s./ha, SE, Jun-Sep, early appl.)	6.85	< 0.001
Peaches/Nectarines (2 x 0.7 kg a.s./ha, SE, Jun-Sep, early appl.)	10.95	< 0.001
Potatoes (1 x 0.5 kg a.s./ha, SE, Mar-May)	1.66	< 0.001

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Peaches/ Nectarines (2 x 0.7 kg a.s./ha) Southern Europe, Jun Sep, Early appl.	0 d	**11.38**	-	**< 0.001**	
	1 d	11.37	11.38	< 0.001	< 0.001
	2 d	11.37	11.37	< 0.001	< 0.001
	4 d	11.35	11.37	< 0.001	< 0.001
	7 d	11.33	11.35	< 0.001	< 0.001
	14 d	11.27	11.33	< 0.001	< 0.001
	21 d	11.22	11.30	< 0.001	< 0.001
	28 d	11.16	11.27	< 0.001	< 0.001
	42 d	11.06	11.22	< 0.001	< 0.001
	50 d	10.99	11.19	< 0.001	< 0.001
	100 d	10.62	11.00	< 0.001	< 0.001

Phthalimide

FOCUS STEP 1 Scenario	PEC_{SW} (µg/L)	PEC_{SED} (µg/kg)
	Actual	Actual
Citrus (1 x 0.5 kg a.s./ha)	54.03	16.16
Pome fruit (2 x 0.75 kg a.s./ha, early appl.)	181.61	54.13
Pome fruit (2 x 0.5 kg a.s./ha, early appl.)	121.07	36.09
Peaches/Nectarines (2 x 0.7 kg a.s./ha, early appl.)	169.50	50.53
Potatoes (1 x 0.5 kg a.s./ha)	47.77	14.35

FOCUS STEP 2 Scenario	PEC_{SW} (µg/L)	PEC_{SED} (µg/kg)
	Actual	Actual
Citrus (1 x 0.5 kg a.s./ha, SE, Oct-Feb, Jun-Sep)	7.59	2.19
Pome fruit (2 x 0.75 kg a.s./ha, SE, Jun-Sep, early appl.)	36.26	10.60
Pome fruit (2 x 0.5 kg a.s./ha, SE and NE, Jun-Sep, early appl.)	24.17	7.06
Peaches/Nectarines (2 x 0.7 kg a.s./ha, SE, Jun-Sep, early appl.)	33.96	9.92
Potatoes (1 x 0.5 kg a.s./ha, SE and NE, Mar-May, Jun-Sep)	1.33	0.38

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Pomes (2 x 0.75 kg a.s./ha) Southern Europe, Jun Sep, Early appl.	0 d	**36.26**		10.60	
	1 d	35.76	36.01	10.59	10.59
	2 d	35.73	35.88	10.58	10.59
	4 d	35.68	35.79	10.57	10.58
	7 d	35.15	35.57	10.54	10.57
	14 d	34.98	35.32	10.49	10.54
	21 d	34.81	35.18	10.44	10.52
	28 d	34.64	35.06	10.39	10.49
	42 d	34.31	34.87	10.29	10.44
	50 d	34.12	34.76	10.23	10.41
	100 d	32.96	34.15	9.89	10.24

N-hydroxymethyl phthalamic acid

FOCUS STEP 1 Scenario	PEC_{SW} (µg/L)	PEC_{SED} (µg/kg)
	Actual	Actual
Citrus (1 x 0.5 kg a.s./ha)	25.63	< 0.001
Pome fruit (2 x 0.75 kg a.s./ha, early appl.)	76.90	< 0.001
Pome fruit (2 x 0.5 kg a.s./ha, early appl.)	51.27	< 0.001
Peaches/Nectarines (2 x 0.7 kg a.s./ha, early appl.)	71.78	< 0.001
Potatoes (1 x 0.5 kg a.s./ha)	23.04	< 0.001

FOCUS STEP 2 Scenario	PEC_{SW} (µg/L)	PEC_{SED} (µg/kg)
	Actual	Actual
Citrus (1 x 0.5 kg a.s./ha, SE, Oct-Feb)	4.078	< 0.001
Pome fruit (2 x 0.75 kg a.s./ha, SE, Jun-Sep, early appl.)	9.479	< 0.001
Pome fruit (2 x 0.5 kg a.s./ha, SE, Jun-Sep, early appl.)	6.320	< 0.001
Peaches/Nectarines (2 x 0.7 kg a.s./ha, SE, Jun-Sep, early appl.)	9.045	< 0.001
Potatoes (1 x 0.5 kg a.s./ha, SE, Mar-May)	1.965	< 0.001

Parent Parameters used in FOCUSsw step 4 (if performed)	Version control no.'s of FOCUS software: SWAN 4.0.1 Deposition due to volatilisation (EVA 2.1) included (see PECair) Risk mitigation measures, if necessary: Buffer zone: 25 m Vegetated filter strip: 20 m

CITRUS (500 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D6 ditch[1)]	3.43	Spray Drift	0.833
R4 stream[1)]	1.375	Spray Drift	0.521
D6 ditch[2)]	1.716	Spray Drift	0.535
R4 stream[2)]	1.525	Spray Drift	0.352

[1)] First applicantion window: 10/10 – 30/11 (autumm application)
[2)] Second application window: 31/3 – 30/04 (spring application)

CITRUS (500 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D6 ditch[1)]	1.719	Spray Drift	0.489
R4 stream[1)]	1.375	Spray Drift	0.214
D6 ditch[2)]	1.717	Spray Drift	0.610
R4 stream[2)]	1.531	Spray Drift	0.181

[1)] First applicantion window: 10/10 – 30/11 (autumm application)
[2)] Second application window: 31/3 – 30/04 (spring application)

POME FRUIT Multiple early application (750 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	2.07	Spray Drift	0.561
D4 pond	0.268	Spray Drift	0.099
D4 stream	2.40	Spray Drift	0.418
D5 pond	0.268	Spray Drift	0.11
D5 stream	2.593	Spray Drift	0.550
R1 pond	0.269	Spray Drift	0.109
R1 stream	1.848	Spray Drift	0.636
R2 stream	2.48	Spray Drift	0.229
R3 stream	2.59	Spray Drift	0.494
R4 stream	1.816	Spray Drift	0.540

POME FRUIT Multiple early application (750 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	2.07	Spray Drift	0.518
D4 pond	0.423	Spray Drift	0.143
D4 stream	2.40	Spray Drift	0.327
D5 pond	0.420	Spray Drift	0.155
D5 stream	2.59	Spray Drift	0.443
R1 pond	0.425	Spray Drift	0.156
R1 stream	1.856	Spray Drift	0.268
R2 stream	2.49	Spray Drift	0.163
R3 stream	2.59	Spray Drift	0.383
R4 stream	1.819	Spray Drift	0.303

POME FRUIT Single early application (750 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	2.56	Spray Drift	0.64
D4 pond	0.356	Spray Drift	0.164
D4 stream	2.97	Spray Drift	0.422
D5 pond	0.356	Spray Drift	0.128
D5 stream	3.21	Spray Drift	0.590
R1 pond	0.357	Spray Drift	0.113
R1 stream	2.286	Spray Drift	0.498
R2 stream	3.07	Spray Drift	0.215
R3 stream	3.21	Spray Drift	0.513
R4 stream	2.24	Runoff	0.546

POME FRUIT Single early application (750 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	2.56	Spray Drift	0.643
D4 pond	**0.360**	Spray Drift	0.122
D4 stream	2.97	Spray Drift	0.388
D5 pond	0.361	Spray Drift	0.153
D5 stream	3.21	Spray Drift	0.547
R1 pond	0.36	Spray Drift	0.133
R1 stream	2.29	Spray Drift	0.266
R2 stream	3.07	Spray Drift	0.201
R3 stream	3.21	Spray Drift	0.472

POME FRUIT Single early application (750 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario **FOCUS**	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
R4 stream	2.25	Spray Drift	0.303

POME FRUIT Multiple late application (750 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	2.08	Spray Drift	0.654
D4 pond	0.268	Spray Drift	0.122
D4 stream	2.36	Spray Drift	0.269
D5 pond	0.268	Spray Drift	0.097
D5 stream	2.59	Spray Drift	0.525
R1 pond	0.269	Spray Drift	0.114
R1 stream	1.849	Spray Drift	0.269
R2 stream	2.48	Spray Drift	0.195
R3 stream	2.59	Spray Drift	0.619
R4 stream	1.847	Spray Drift	0.554

POME FRUIT Multiple late application (750 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario **FOCUS**	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	2.08	Spray Drift	0.597
D4 pond	**0.384**	Spray Drift	0.203
D4 stream	2.36	Spray Drift	0.223
D5 pond	**0.417**	Spray Drift	0.140
D5 stream	2.59	Spray Drift	0.413
R1 pond	**0.388**	Spray Drift	0.162
R1 stream	1.856	Spray Drift	0.220
R2 stream	2.49	Spray Drift	0.151
R3 stream	2.59	Spray Drift	0.322
R4 stream	1.856	Spray Drift	0.218

POME FRUIT Single late application (750 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route** *	**Max. PECsed [µg/kg]**
D3 ditch	2.57	Spray Drift	0.704
D4 pond	0.356	Spray Drift	0.138
D4 stream	2.88	Spray Drift	0.230
D5 pond	0.356	Spray Drift	0.103
D5 stream	3.21	Spray Drift	0.550
R1 pond	0.357	Spray Drift	0.126
R1 stream	2.29	Spray Drift	0.289
R2 stream	3.07	Spray Drift	0.204

POME FRUIT Single late application (750 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route** *	**Max. PECsed [µg/kg]**
R3 stream	3.21	Spray Drift	0.554
R4 stream	2.29	Spray Drift	0.869

POME FRUIT Single late application (750 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	2.57	Spray Drift	0.731
D4 pond	**0.361**	Spray Drift	0.165
D4 stream	2.89	Spray Drift	0.217
D5 pond	**0.361**	Spray Drift	0.121
D5 stream	3.21	Spray Drift	0.508
R1 pond	**0.361**	Spray Drift	0.150
R1 stream	2.29	Spray Drift	0.271
R2 stream	3.08	Spray Drift	0.187
R3 stream	3.21	Spray Drift	0.397
R4 stream	2.29	Spray Drift	0.294

POME FRUIT Multiple early application (500 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.381	Spray Drift	0.379

POME FRUIT Multiple early application (500 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D4 pond	0.179	Spray Drift	0.067
D4 stream	1.603	Spray Drift	0.281
D5 pond	0.179	Spray Drift	0.075
D5 stream	1.729	Spray Drift	0.370
R1 pond	0.179	Spray Drift	0.074
R1 stream	1.232	Spray Drift	0.421
R2 stream	1.654	Spray Drift	0.151
R3 stream	1.729	Spray Drift	0.332
R4 stream	1.210	Spray Drift	0.365

POME FRUIT Multiple early application (500 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.381	Spray Drift	0.352
D4 pond	0.284	Spray Drift	0.097
D4 stream	1.603	Spray Drift	0.219
D5 pond	0.282	Spray Drift	0.106
D5 stream	1.729	Spray Drift	0.297
R1 pond	0.284	Spray Drift	0.106
R1 stream	1.237	Spray Drift	0.176
R2 stream	1.656	Spray Drift	0.109
R3 stream	1.729	Spray Drift	0.257

POME FRUIT Multiple early application (500 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
R4 stream	1.212	Spray Drift	0.197

POME FRUIT Single early application (500 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.709	Spray Drift	0.421
D4 pond	0.237	Spray Drift	0.070
D4 stream	1.981	Spray Drift	0.282
D5 pond	0.237	Spray Drift	0.076
D5 stream	2.14	Spray Drift	0.383
R1 pond	0.238	Spray Drift	0.076
R1 stream	1.524	Spray Drift	0.325
R2 stream	2.04	Spray Drift	0.144
R3 stream	2.141	Spray Drift	0.508
R4 stream	1.495	Spray Drift	0.121

POME FRUIT Single early application (500 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.709	Spray Drift	0.431
D4 pond	0.24	Spray Drift	0.082
D4 stream	1.982	Spray Drift	0.259
D5 pond	0.240	Spray Drift	0.103
D5 stream	2.14	Spray Drift	0.366
R1 pond	0.240	Spray Drift	0.089
R1 stream	1.527	Spray Drift	0.175
R2 stream	2.05	Spray Drift	0.134
R3 stream	2.14	Spray Drift	0.316
R4 stream	1.497	Spray Drift	0.197

POME FRUIT Multiple late application (500 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.385	Spray Drift	0.442
D4 pond	0.179	Spray Drift	0.083
D4 stream	1.573	Spray Drift	0.181
D5 pond	0.179	Spray Drift	0.065
D5 stream	1.729	Spray Drift	0.353
R1 pond	0.179	Spray Drift	0.077
R1 stream	1.232	Spray Drift	0.181
R2 stream	1.656	Spray Drift	0.130

POME FRUIT Multiple late application (500 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
R3 stream	1.729	Spray Drift	0.407
R4 stream	1.231	Spray Drift	0.364

POME FRUIT Multiple late application (500 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.385	Spray Drift	0.401
D4 pond	0.255	Spray Drift	0.136
D4 stream	1.575	Spray Drift	0.149
D5 pond	0.278	Spray Drift	0.094
D5 stream	1.729	Spray Drift	0.276
R1 pond	0.258	Spray Drift	0.109
R1 stream	1.238	Spray Drift	0.147
R2 stream	1.661	Spray Drift	0.101
R3 stream	1.730	Spray Drift	0.215
R4 stream	1.237	Spray Drift	0.141

POME FRUIT Single late application (500 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.710	Spray Drift	0.475
D4 pond	0.237	Spray Drift	0.093
D4 stream	1.923	Spray Drift	0.154
D5 pond	0.237	Spray Drift	0.069
D5 stream	2.14	Spray Drift	0.369
R1 pond	0.238	Spray Drift	0.085
R1 stream	1.525	Spray Drift	0.194
R2 stream	2.05	Spray Drift	0.137
R3 stream	2.141	Spray Drift	0.364
R4 stream	1.523	Spray Drif	0.575

POME FRUIT Single late application (500 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.710	Spray Drift	0.485
D4 pond	0.238	Spray Drift	0.109
D4 stream	1.918	Spray Drift	0.144
D5 pond	0.238	Spray Drift	0.080
D5 stream	2.14	Spray Drift	0.338
R1 pond	0.238	Spray Drift	0.099
R1 stream	1.522	Spray Drift	0.180
R2 stream	2.05	Spray Drift	0.124

POME FRUIT Single late application (500 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
R3 stream	2.14	Spray Drift	0.264
R4 stream	1.522	Spray Drift	0.193

PEACHES/NECTARINES Multiple early application (700 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.933	Spray Drift	0.547
D4 pond	0.250	Spray Drift	0.096
D4 stream	2.24	Spray Drift	0.402
D5 pond	0.250	Spray Drift	0.109
D5 stream	2.42	Spray Drift	0.547
R1 pond	0.252	Spray Drift	0.109
R1 stream	1.725	Spray Drift	0.448
R2 stream	2.32	Spray Drift	0.419
R3 stream	2.42	Spray Drift	0.694
R4 stream	1.724	Spray Drift	0.299

PEACHES/NECTARINES Multiple early application (700 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario **FOCUS**	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.932	Spray Drift	0.491
D4 pond	0.427	Spray Drift	0.145
D4 stream	2.24	Spray Drift	0.305
D5 pond	0.452	Spray Drift	0.168
D5 stream	2.42	Spray Drift	0.401
R1 pond	0.472	Spray Drift	0.158
R1 stream	1.732	Spray Drift	0.224
R2 stream	2.319	Spray Drift	0.173
R3 stream	2.42	Spray Drift	0.344
R4 stream	1.732	Spray Drift	0.182

PEACHES/NECTARINES Single early application (700 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	2.39	Spray Drift	0.585
D4 pond	0.332	Spray Drift	0.097
D4 stream	2.78	Spray Drift	0.394
D5 pond	0.332	Spray Drift	0.106
D5 stream	3.00	Spray Drift	0.535

PEACHES/NECTARINES Single early application (700 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
R1 pond	0.333	Spray Drift	0.106
R1 stream	2.13	Spray Drift	0.459
R2 stream	2.86	Spray Drift	0.201
R3 stream	3.00	Spray Drift	0.719
R4 stream	2.10	Spray Drift	0.169

PEACHES/NECTARINES Single early application (700 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	2.39	Spray Drift	0.602
D4 pond	0.337	Spray Drift	0.115
D4 stream	2.78	Spray Drift	0.362
D5 pond	0.337	Spray Drift	0.125
D5 stream	3.00	Spray Drift	0.494
R1 pond	0.337	Spray Drift	0.123
R1 stream	2.14	Spray Drift	0.245
R2 stream	2.87	Spray Drift	0.188
R3 stream	3.00	Spray Drift	0.424
R4 stream	2.10	Spray Drift	0.160

PEACHES/NECTARINES Multiple late application (700 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.934	Spray Drift	0.937
D4 pond	0.250	Spray Drift	0.127
D4 stream	2.20	Spray Drift	0.255
D5 pond	0.250	Spray Drift	0.102
D5 stream	2.42	Spray Drift	0.532
R1 pond	0.251	Spray Drift	0.146
R1 stream	1.726	Spray Drift	0.272
R2 stream	2.32	Spray Drift	0.180
R3 stream	2.42	Spray Drift	0.491
R4 stream	1.724	Spray Drift	1.552

PEACHES/NECTARINES Multiple late application (700 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	1.933	Spray Drift	0.813
D4 pond	0.411	Spray Drift	0.217
D4 stream	2.21	Spray Drift	0.208
D5 pond	0.446	Spray Drift	0.160
D5 stream	2.42	Spray Drift	0.396
R1 pond	0.401	Spray Drift	0.231
R1 stream	1.733	Spray Drift	0.220
R2 stream	2.33	Spray Drift	0.146

PEACHES/NECTARINES Multiple late application (700 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario **FOCUS**	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
R3 stream	2.42	Spray Drift	0.327
R4 stream	1.732	Spray Drift	0.512

PEACHES/NECTARINES Single late application (700 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	2.39	Spray Drift	0.658
D4 pond	0.332	Spray Drift	0.129
D4 stream	2.73	Spray Drift	0.274
D5 pond	0.332	Spray Drift	0.096
D5 stream	3.00	Spray Drift	0.514
R1 pond	0.333	Spray Drift	0.118
R1 stream	2.14	Spray Drift	0.270
R2 stream	2.87	Spray Drift	0.197
R3 stream	3.00	Spray Drift	0.436
R4 stream	2.13	Spray Drift	0.310

PEACHES/NECTARINES Single late application (700 g/ha) $Deg50_{wat}$ = 1000 d $Deg50_{sed}$ = 0.28 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	2.39	Spray Drift	0.661
D4 pond	0.337	Spray Drift	0.179
D4 stream	2.73	Spray Drift	0.257
D5 pond	0.337	Spray Drift	0.113
D5 stream	3.00	Spray Drift	0.475
R1 pond	0.337	Spray Drift	0.140
R1 stream	2.14	Spray Drift	0.253
R2 stream	2.87	Spray Drift	0.180
R3 stream	3.00	Spray Drift	0.402
R4 stream	2.14	Spray Drift	0.218

POTATOES Single early application (1 x 500 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	0.237	Spray Drift	0.064
D4 pond	0.045	Spray Drift	0.018
D4 stream	0.250	Spray Drift	0.009
D6 1st crop ditch	0.236	Spray Drift	0.053
D6 2nd crop ditch	0.234	Spray Drift	0.038
R1 pond	0.046	Spray Drift	0.034
R1 stream	0.710	Runoff	0.492
R2 stream	0.286	Spray Drift	0.066
R3 stream	0.860	Spray Drift	0.324

POTATOES Single early application (1 x 500 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	0.237	Spray Drift	0.060
D4 pond	0.050	Drainage	0.021
D4 stream	0.250	Spray Drift	0.009
D6 1st crop ditch	0.236	Spray Drift	0.049
D6 2nd crop ditch	0.234	Spray Drift	0.033
R1 pond	0.112	Runoff	0.042
R1 stream	0.722	Runoff	0.282
R2 stream	0.287	Spray Drift	0.045
R3 stream	0.894	Spray Drift	0.214

POTATOES Single late application (1 x 500 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
FOCUS Step 4 Scenario	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	0.237	Spray Drift	0.057
D4 pond	0.045	Spray Drift	0.015
D4 stream	0.230	Spray Drift	0.006
D6 1st crop ditch	0.235	Spray Drift	0.039
D6 2nd crop ditch	5.05	Drainage	1.034
R1 pond	0.045	Spray Drift	0.015
R1 stream	0.213	Spray Drift	0.027
R2 stream	0.288	Spray Drift	0.131
R3 stream	0.237	Spray Drift	0.057

POTATOES Single early application (1 x 500 g/ha) $Deg50_{wat}$ = 0.28 d $Deg50_{sed}$ = 1000 d	**No spray buffer = 20 m** **Vegetative strip = 20 m**		
Scenario FOCUS	**Max. PECsw [µg/L]**	**Dominant entry route**	**Max. PECsed [µg/kg]**
D3 ditch	0.237	Spray Drift	0.056
D4 pond	0.048	Drainage	0.020
D4 stream	0.230	Spray Drift	0.005
D6 1st crop ditch	0.235	Spray Drift	0.036
D6 2nd crop ditch	1.576	Drainage	0.415
R1 pond	0.048	Runoff	0.017
R1 stream	0.215	Spray Drift	0.025
R2 stream	0.288	Spray Drift	0.084
R3 stream	0.476	Runoff	0.116

PEC air (Regulation (EU) N° 284/2013, Annex Part A, point 9.3.1)

Method of calculation	Modell EVA 2.1, FOCUS AIR (2008) for short-range deposition Vapour pressure: 3.38 x 10^{-5} Pa (20 °C) Application data: Drift scenario "orcharding, late" for: Citrus (1 x 0.5 kg a.s./ha; 80 % interception) Pome fruit (2 x 0.75 kg a.s./ha, 2 x 0.5 kg a.s./ha; 65 % interception) Peaches/Nectarines (2 x 0.7 kg a.s./ha, 65 % interception) Drift scenario "agriculture" for: Potatoes (1 x 0.5 kg a.s./ha, 85 % interception) Deposition (range 1 – 20 m): Citrus: 0.703 – 0.250 g/ha 0.234 – 0.083 µg/l Pome fruit (2 x 0.75 kg a.s./ha): 0.856 – 0.304 g/ha 0.285 – 0.101 µg/l Pome fruit (2 x 0.5 kg a.s./ha): 0.571 – 0.203 g/ha 0.190 – 0.068 µg/l Peaches/Nectarines: 0.799 – 0.284 g/ha 0.266 – 0.095 µg/l Potatoes: 0.377 – 0.134 g/ha 0.126 – 0.045 µg/l DT_{50} in air (h): 0.84
PEC (a)	Negligible

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

PEC

Maximum concentration	No other routes of exposure were identified as relevant.

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				
Mallard duck	a.s. Imidan technical (95.4%)	Acute	LD_{50}	2065
Mallard duck	a.s. Phosmet Technical (96.2%)	Acute	LD_{50}	1068
			Geometric mean	1485
Bobwhite quail	a.s. Phosmet Technical (97%)	Acute	LD_{50}	56.25
			Geometric mean	**289***
Mallard duck	a.s. Phosmet (97%)	Short-term	LD_{50}	> 2321
Bobwhite quail	a.s. Imidan Technical (No purity indicated)	Long-term	NOEC	7.5
Mallard duck	a.s. Imidan Technical (No purity indicated)	Long-term	NOEC	**5.33***
Mammals				
Rat	a.s.	Acute	LD_{50}	113
Rat	a.s. WP formulation containing 500 g/kg Phosmet	Acute	LD_{50}	230
			Geometric mean	**161***
Rat (2 generation study)	a.s	Long-term	NOAEL	■

Endocrine disrupting properties (Annex Part A, points 8.1.5)

Several hazard-related experimental data have been provided in the toxicology section. These experimental data lead to the following conclusion:

According to the mammalian toxicology data package, phosmet does not fulfil the ED criteria for humans. This conclusion also applies to wild mammals. Effects in thyroid histopathology were not reported and a pattern of adversity through the EAS-modalities was not observed. Information in the endocrine activity was negative and sufficiently investigated. The critical effect identified was plasma red blood cell and brain Cholinesterase inhibition. Based on this, apical effects will take place before an effect through an ED mode of action. No further testing was considered necessary, although the dataset was incomplete for the EAS mediated adversity.

For non-target organism, regarding the T-modality, one AMA according to OECD TG 231 is available. It was noted that there is an effect on development but without effects on thyroid histopathology, therefore this is not considered ED mediated effects.

Overall, experts concluded that the substance does not meet the criteria for the T modality for non-target organisms.

For the EAS modalities a FSTRA according to OECD TG 229 was available. Effects on VTG changes in males, SSC in male and effects on gonad histopathology are reported at the second dose tested (9.3 µg/L). Effects in females were reported in gonad histopathology (GSI) but in absence of VTG changes in females. At the same dose where these effects were observed, a 25% combined mortality is reported, therefore these effects are very likely to be the results of systemic toxicity. A 25% mortality in female is even reported at the lowest dose tested of 1 µg/L.

Considering the information from the mam tox section that supports the presence of effects secondary to systemic toxicity, it is not possible to conclude that the endocrine mode of action is the primary mode of action, but that endocrine related effects can be secondary to systemic toxicity.

The majority of the experts agreed that the substance does not meet the criteria for EAS modalities.

Overall, the experts at the meeting agreed that phosmet does not meet the ED criteria for non-target organisms.

Additional higher tier studies (Annex Part A, points 10.1.1.2):

The qualitative and quantitative composition of the bird community in stone fruit orchards in Spain in spring and summer (Study B.9.1.1.2/01) and in citrus orchards (Study B.9.1.1.2/02) were investigated. During the commenting period a published paper assessing focal species of birds in European crops (Study B.9.1.1.2/03) was also provided.

Furthermore, a study was presented to obtain information on the occurrence of wild small mammals in orchards in Southern Europe (Spain) during summer to determine the relevant species and, if abundant, their habitat preference (Study B.9.1.2.2/01).

Furthermore, an extensive dataset of Phosmet specific residues in fruits were also provided during the commenting period and used for the refinement of the risk to frugivorous mammals.

Terrestrial vertebrate wildlife (birds, mammals, reptile and amphibians) (Annex Part A, points 8.1.4, 10.1.3):

No data submitted. And statement has been provided. Please, refer to Vol 3 CA B.9.1.4.

*Ecotoxicology relevant endpoint.

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

Birds

Acute risk

Screening step

Crop	Indicator Species	Application Rate [kg a.s./ha]	MAF (90th perc.)	Short cut Value (90th perc. RUD)	Daily Dietary Dose [mg a.s./kg bw]	TER_A	Trigger
Representative uses in the SEZ							
Citrus	Small insectivorous bird	0.5	1.0	46.8	23.40	12.35	10
Peaches/Nectarines		0.7	1.3	46.8	42.59	**6.79**	
Pome fruit		0.75	1.147	46.8	40.26	**7.18**	
Representative uses in the CEZ							
Pome fruit	Small insectivorous bird	0.5	1.147	46.8	26.84	10.77	10
Potatoes	Small omnivorous bird	0.5	1.0	158.8	79.40	**3.64**	

LD_{50} = 289 mg a.s./kg bw (geometric mean)
MAF = multiple application factor, RUD = residue unit dose, TER = toxicity exposure ratio
Values in **bold** are below the relevant trigger of 10, indicating high risk

Tier I

Generic focal Species	Application Rate [kg a.s./ha]	MAF (90th perc.)	Short cut Value (90th perc. RUD)	Daily Dietary Dose [mg a.s./kg bw]	TER_A
Peaches/Nectarines (BBCH 71 - 85)					
Small insectiv. bird "Blue tit", Spring, Summer	0.7	1.3	46.8	42.59	**6.79**
Small insectiv./worm feeding bird "Robin", BBCH ≥ 40			2.2	2.00	144.36
Small graniv. bird "Serin", BBCH ≥ 40			8.2	7.46	38.73
Pome fruit SEZ (BBCH 67 - 85)					
Small insectiv. bird "Blue tit", Spring, Summer	0.75	1.147	46.8	40.26	**7.18**
Small insectiv./worm feeding bird "Robin", BBCH ≥ 40			2.2	1.89	152.70
Small graniv. bird "Serin", BBCH ≥ 40			8.2	7.05	40.97
Potatoes (BBCH 40 - 49)					
Small omniv. bird "Woodlark", BBCH ≥ 40	0.5	1.0	7.2	3.60	80.27
Small insectiv. bird "Wagtail", BBCH ≥ 20			25.2	12.60	22.9

LD_{50} = 289 mg a.s./kg bw (geometric mean)
MAF = multiple application factor, RUD = residue unit dose, TER = toxicity exposure ratio
Values in **bold** are below the relevant trigger of 10, indicating high risk

Refined risk assessment

No suitable [redacted] was considered acceptable for either [redacted] or [redacted]
Great tit considered the small insectivorous focal bird species with a diet of 80 and 20% of foliar and groud arthropods, respectively

Generic focal Species	Application Rate [kg a.s./ha]	MAF (90th perc.)	90th perc. RUD	FIR/bw	PD	Deposition Factor	Daily Dietary Dose [mg a.s./kg bw]	TERA
Peaches/Nectarines (BBCH 71 - 85)								
Small insectiv. bird "Great tit", Spring, Summer	0.7	[redacted]	54.1	0.75*	0.8	1	[redacted]	
			13.8		0.2**	0.35	[redacted]	
							[redacted]	[redacted]
Pome fruit SEZ (BBCH 67 - 85)								
Small insectiv. bird "Great tit", Spring, Summer	0.75	[redacted]	54.1	0.75*	0.8	1	[redacted]	
			13.8		0.2**	0.35	[redacted]	
							[redacted]	[redacted]

LD_{50} = 289 mg a.s./kg bw (geometric mean)
* based on a body weight of 19 g (Bird Bible, Buxton et al. 1998) and 100 % arthropods as food
**Proportion of diet foraged on the ground between May and October as used by ANSES and identified by the "Cahier de Agricultures et Oiseaux, Document guide permettant d'identifier les espèces focales d'oiseaux en France pour les grandes cultures, l'arboriculture, la vigne et les cultures légumières – Avril 2012". The underlying publications for the selection of 80% foliar invertebrates and 20% ground invertebrates are Gibb and Betts (1963), Royama (1970), Minot (1981) and Gibb (1954).
Values in **bold** are below the trigger value of 10, indicating high risk

Chronic risk

Tier I risk assessment

Generic focal Species	Application Rate [kg a.s./ha]	MAF (mean)	ftwa	Short cut Value (mean RUD)	Daily Dietary Dose [mg a.s./kg bw]	TERLT
Citrus (BBCH 79 - 89)						
Small insectiv. bird "Blue tit", Spring, Summer	0.5	1.0	0.53	18.2	4.82	**1.11**
Small insectiv./worm feeding bird "Robin", BBCH ≥ 40				0.8	0.21	25.38
Small graniv. bird "Serin", BBCH ≥ 40				3.8	1.01	5.27
Peaches/Nectarines (BBCH 71 - 85)						
Small insectiv. bird "Blue tit", Spring, Summer	0.7	1.5	0.53	18.2	10.13	**0.53**
Small insectiv./worm feeding bird "Robin", BBCH ≥ 40				0.8	0.45	11.84
Small graniv. bird "Serin", BBCH ≥ 40				3.8	2.11	**2.53**
Pome fruit SEZ (BBCH 67 - 85)						
Small insectiv. bird "Blue tit", Spring, Summer	0.75	1.25	0.53	18.2	9.04	**0.59**
Small insectiv./worm feeding bird "Robin", BBCH ≥ 40				0.8	0.40	13.33
Small graniv. bird "Serin", BBCH ≥ 40				3.8	1.89	**2.82**

Pome fruit CEZ (BBCH 67 - 85)						
Small insectiv. bird "Blue tit", Spring, Summer	0.5	1.25	0.53	18.2	6.03	**0.88**
Small insectiv./worm feeding bird "Robin", BBCH ≥ 40				0.8	0.27	19.74
Small graniv. bird "Serin", BBCH ≥ 40				3.8	1.26	**4.23**
Potatoes (BBCH 40 - 49)						
Small omniv. bird "Woodlark", BBCH ≥ 40	0.5	1.0	0.53	3.3	0.87	6.13
Small insectiv. bird "Wagtail", BBCH ≥ 20				9.7	2.57	**2.07**

NOEL = 5.33 mg a.s./kg bw/day
Values in **bold** are below the trigger value of 5, indicating high risk

Refined risk assessment

No suitable [redacted] was considered acceptable for either [redacted] or [redacted].
PT = 0.79 on Blue tit

Generic focal Species	Application Rate [kg a.s./ha]	MAF (mean)	ftwa	Short cut Value (mean RUD)	PT	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Citrus (BBCH 79 - 89)							
Small insectiv. bird "Blue tit", Spring, Summer	0.5	1.0	[redacted]	18.2	0.79	[redacted]	[redacted]
Peaches/Nectarines (BBCH 71 - 85)							
Small insectiv. bird "Blue tit", Spring, Summer	0.7	[redacted]	[redacted]	18.2	0.79	[redacted]	[redacted]
Small graniv. bird "Serin", BBCH ≥ 40				3.8	1	[redacted]	[redacted]
Pome fruit SEZ (BBCH 67 - 85)							
Small insectiv. bird "Blue tit", Spring, Summer	0.75	[redacted]	[redacted]	18.2	0.79	[redacted]	[redacted]
Small graniv. bird "Serin", BBCH ≥ 40				3.8	1	[redacted]	[redacted]
Pome fruit CEZ (BBCH 67 - 85)							
Small insectiv. bird "Blue tit", Spring, Summer	0.5	[redacted]	[redacted]	18.2	0.79	[redacted]	[redacted]
Small graniv. bird "Serin", BBCH ≥ 40				3.8	1	[redacted]	[redacted]
Potatoes (BBCH 40 - 49)							
Small insectiv. bird "Wagtail", BBCH ≥ 20	0.5	1	[redacted]	9.7	1	[redacted]	[redacted]

NOEL = 5.33 mg a.s./kg bw/day
Values in **bold** are below the trigger value of 5, indicating high risk

Mammals

Acute risk

Tier I

Generic focal Species	Application Rate [kg a.s./ha]	MAF (90th perc.)	Short cut Value (90th perc. RUD)	Daily Dietary Dose [mg a.s./kg bw]	TER_A
Citrus (BBCH 79 - 89)					
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.5	1.0	40.9	20.45	**7.87**
Frugivorous mammal, "Dormouse" BBCH 71-79			47.9	23.95	**6.72**
Large herbivorous mammal, "Rabbit" BBCH ≥ 40			10.5	5.25	30.7
Small omnivorous mammal, "Wood mouse" BBCH ≥ 40			5.2	2.60	61.9
Peaches/Nectarines (BBCH 71 - 85)					
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.7	1.3	40.9	37.22	**4.33**
Frugivorous mammal, "Dormouse" BBCH 71-79			47.9	43.59	**3.69**
Large herbivorous mammal, "Rabbit" BBCH ≥ 40			10.5	9.56	16.8
Small omnivorous mammal, "Wood mouse" BBCH ≥ 40			5.2	4.73	34.0
Pome fruit SEZ (BBCH 67 - 85)					
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.75	1.147	40.9	35.18	**4.58**
Frugivorous mammal, "Dormouse" BBCH 71-79			47.9	41.20	**3.91**
Large herbivorous mammal, "Rabbit" BBCH ≥ 40			10.5	9.03	17.8
Small omnivorous mammal, "Wood mouse" BBCH ≥ 40			5.2	4.47	36.0
Pome fruit CEZ (BBCH 67 - 85)					
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.5	1.147	40.9	23.46	**6.86**
Frugivorous mammal, "Dormouse" BBCH 71-79			47.9	27.47	**5.86**
Large herbivorous mammal, "Rabbit" BBCH ≥ 40			10.5	6.02	26.7
Small omnivorous mammal, "Wood mouse" BBCH ≥ 40			5.2	2.98	54.0
Potatoes (BBCH 40 - 49)					
Small herbivorous mammal "Vole" BBCH ≥ 40	0.5	1.0	40.9	20.45	**7.87**
Large herbivorous mammal "Rabbit" BBCH 10-40			10.5	5.25	30.7
Small omnivorous mammal "Wood mouse" BBCH ≥ 40			5.2	2.60	61.9
Small insectivorous mammal "Shrew" BBCH ≥ 20			5.4	2.70	59.6

LD_{50} = 161 mg a.s./kg bw (geometric mean)
MAF = multiple application factor, RUD = residue unit dose, TER = toxicity exposure ratio
Values in **bold** are below the relevant trigger of 10, indicating high risk

Refined risk assessment

No suitable [redacted] was considered acceptable for either [redacted] or [redacted].
Crop-specific refinement of the RUD for fruits.
The small herbivorous guild must not be disregarded and the refinement using wood mouse as a focal species is not accepted.

Generic focal Species	Application Rate [kg a.s./ha]	MAF* (90th perc.)	90th perc. RUD	Deposition Factor**	FIR/bw	Daily Dietary Dose [mg a.s./kg bw]	TER_A
Citrus (BBCH 79 - 89)							
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.5	1.0	102.3	0.2	1.33	13.61	11.8
Frugivorous mammal, "Dormouse" BBCH 71-79			1.429***	1	1.16	0.83	194
Peaches/Nectarines (BBCH 71 - 85)							
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.7	[redacted]	102.3	0.35	1.33	[redacted]	[redacted]
Frugivorous mammal, "Dormouse" BBCH 71-79			2.690***	1	1.16	2.84	56.7
Pome fruit SEZ (BBCH 67 - 85)							
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.75	[redacted]	102.3	0.35	1.33	[redacted]	[redacted]
Frugivorous mammal, "Dormouse" BBCH 71-79			2.036***	1	1.16	2.03	79.3
Pome fruit CEZ (BBCH 67 - 85)							
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.5	1.147	102.3	0.35	1.33	27.31	**5.89**
Frugivorous mammal, "Dormouse" BBCH 71-79			2.005***	1	1.16	1.33	121
Potatoes (BBCH 40 - 49)							
Small herbivorous mammal "Vole" BBCH ≥ 40	0.5	1.0	102.3	0.15	1.33	10.20	15.8

LD_{50} = 161 mg a.s./kg bw (geometric mean)
* The default MAF values based on DT_{50}=10 days are used for the frugivorous mammal dormouse.
** Deposition factors chosen according to the new "EFSA Guidance Document for evaluating laboratory and field dissipation studies to obtain $DegT_{50}$ values of active substances of plant protection products and transformation products of these active substances in soil" (EFSA Journal 2014;12(5):3662).
*** 90th percentil refined RUD in fruits.
Values in **bold** are below the relevant trigger of 10, indicating high risk

Mammals

Long-term risk

Tier I

Generic focal Species	Application Rate [kg a.s./ha]	MAF (mean)	ftwa	Short cut Value (mean RUD)	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Citrus (BBCH 79 - 89)						
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.5	1.0	0.53	21.7	5.72	[redacted]
Frugivorous mammal,				22.7	5.98	[redacted]

"Dormouse" BBCH 71-79						
Large herbivorous mammal, "Rabbit" BBCH ≥ 40				4.3	1.13	[redacted]
Small omnivorous mammal, "Wood mouse" BBCH ≥ 40				2.3	0.61	[redacted]
Peaches/Nectarines (BBCH 71 - 85)						
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.7	1.5	0.53	21.7	12.00	[redacted]
Frugivorous mammal, "Dormouse" BBCH 71-79				22.7	12.56	[redacted]
Large herbivorous mammal, "Rabbit" BBCH ≥ 40				4.3	2.38	[redacted]
Small omnivorous mammal, "Wood mouse" BBCH ≥ 40				2.3	1.27	[redacted]
Pome fruit SEZ (BBCH 67 - 85)						
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.75	1.25	0.53	21.7	10.72	[redacted]
Frugivorous mammal, "Dormouse" BBCH 71-79				22.7	11.21	[redacted]
Large herbivorous mammal, "Rabbit" BBCH ≥ 40				4.3	2.12	[redacted]
Small omnivorous mammal, "Wood mouse" BBCH ≥ 40				2.3	1.14	[redacted]
Pome fruit CEZ (BBCH 67 - 85)						
Small herbivorous mammal, "Vole" BBCH ≥ 40	0.5	1.25	0.53	21.7	7.14	[redacted]
Frugivorous mammal, "Dormouse" BBCH 71-79				22.7	7.47	[redacted]
Large herbivorous mammal, "Rabbit" BBCH ≥ 40				4.7	1.42	[redacted]
Small omnivorous mammal, "Wood mouse" BBCH ≥ 40				2.3	0.76	[redacted]
Potatoes (BBCH 40 - 49)						
Small herbivorous mammal "Vole" BBCH ≥ 40	0.5	1.0	0.53	21.7	5.72	[redacted]
Large herbivorous mammal "Rabbit" BBCH 10-40				4.9	1.29	[redacted]
Small omnivorous mammal "Wood mouse" BBCH ≥ 40				1.9	0.50	[redacted]
Small insectivorous mammal "Shrew" BBCH ≥ 20				2.3	0.61	[redacted]

NOAEL = [redacted] mg a.s./kg bw/day
Values in **bold** are below the relevant trigger of 5, indicating high risk

Refined risk assessment

No suitable [redacted] was considered acceptable for either [redacted] or [redacted].
Crop-specific refinement of the RUD for fruits.
Refinement of the PD values for the common vole
Risk assessment based on brown hare with the refinement of PT is not accepted for the risk assessment

The small herbivorous guild must not be disregarded and the refinement using wood mouse as a focal species is not accepted.
Refinement of the PD values for the wood mouse
[redacted]

Appl. Rate [kg a.s./ha]	Food Type	MAF* (mean)	ftwa	Mean RUD**	FIR/bw	PD	Deposition Factor***	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Generic focal species common vole - Citrus (BBCH 79 - 89)									
0.5	Monocotyledons	1.0	[redacted]	54.2	1.33	0.48	0.2	[redacted]	[redacted]
	Dicotyledons			28.7		0.52		[redacted]	
Sum Daily Dietary Dose								[redacted]	

NOAEL for the reproductive risk assessment = [redacted] mg a.s./kg bw/day
* The MAF_{mean} is 1.0 due to the single application rate
** The default RUD values of 54.2 for grasses and cereals and of 28.7 for non-grass weeds as given in Appendix F of the GD (EFSA, 2009) are used. As the application is in autumn/winter, the PD of 0.48 for monocotyledons and 0.52 for dicotyledons is used in the risk assessment.
*** Deposition factors chosen according to the new "EFSA Guidance Document for evaluating laboratory and field dissipation studies to obtain $DegT_{50}$ values of active substances of plant protection products and transformation products of these active substances in soil" (EFSA Journal 2014;12(5):3662)

Generic focal Species	Application Rate [kg a.s./ha]	MAF* (mean)	ftwa	Deposition factor**	FIR/bw	Mean RUD	PT (mean)	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Citrus (BBCH 79 - 89)									
Frugivorous mammal, "Dormouse" BBCH 71-79	0.5	1.0*	0.53	1	1.16	0.764***	1.0	0.24	[redacted]
Large herbivorous mammal, "lagomorph" BBCH ≥ 40			[redacted]	0.2	0.50	28.7	1.0	[redacted]	[redacted]

NOAEL for the reproductive risk assessment = [redacted] mg a.s./kg bw/day
* The MAF_{mean} is 1.0 due to the single application rate
** Deposition factors chosen according to the new "EFSA Guidance Document for evaluating laboratory and field dissipation studies to obtain $DegT_{50}$ values of active substances of plant protection products and transformation products of these active substances in soil" (EFSA Journal 2014;12(5):3662)
*** Refined mean RUD in fruits.
Values in **bold** are below the trigger value of 5, indicating high risk

Appl. Rate [kg a.s./ha]	Food Type	ftwa	Mean RUD	FIR/bw	PD	Deposition Factor	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Focal species wood mouse - Citrus								
0.5	weed seeds	0.53	40.2	0.28	0.50	0.35	0.52	[redacted]
	ground arthropods	[redacted]	7.5		0.25		[redacted]	
	grasses	[redacted]	54.2		0.25		[redacted]	
Sum Daily Dietary Dose							[redacted]	

NOAEL for the reproductive risk assessment = [redacted] mg a.s./kg bw/day
The MAF_{mean} for the use in citrus is 1.0 due to the single application rate.
Values in **bold** are below the trigger value of 5, indicating unacceptable risk

Appl. Rate [kg a.s./ha]	Food Type	MAF (mean)	ftwa	Mean RUD*	FIR/bw	PD	Deposition Factor**	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Generic focal species common vole - Peaches/Nectarines (BBCH 71 - 85)									
0.7	Monocotyledons	1.5	[redacted]	54.2	1.33	0.48	0.35	[redacted]	[redacted]
	Dicotyledons			28.7		0.52		[redacted]	
Sum Daily Dietary Dose								[redacted]	

NOAEL for the reproductive risk assessment = [redacted] mg a.s./kg bw/day
* The default RUD values of 54.2 for grasses and cereals and of 28.7 for non-grass weeds as given in Appendix F of the GD (EFSA, 2009) are used. As the application could be in autumn (late applications), the PD of 0.48 for monocotyledons and 0.52 for dicotyledons is used in the risk assessment.
** Deposition factors chosen according to the new "EFSA Guidance Document for evaluating laboratory and field dissipation studies to obtain $DegT_{50}$ values of active substances of plant protection products and transformation products of these active substances in soil" (EFSA Journal 2014;12(5):3662)

Generic focal Species	Mean RUD	MAF x TWA	Deposition factor**	FIR/bw	PT (mean)	PD	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Peaches/Nectarines (BBCH 71 - 85)								
Frugivorous mammal, "Dormouse" BBCH 71-79	1.785*	0.795	1	1.16	1.0	1	1.15	[redacted]
Large herbivorous mammal, "Hare" BBCH ≥ 40	28.7	[redacted]	0.35	0.50	1.0	1	[redacted]	[redacted]

NOAEL for the reproductive risk assessment = [redacted] mg a.s./kg bw/day
Phosmet is applied 2 times each with 0.7 kg a.s./ha and an interval of 10 days.
* Refined mean RUD in fruits.
** Deposition factors chosen according to the new "EFSA Guidance Document for evaluating laboratory and field dissipation studies to obtain $DegT_{50}$ values of active substances of plant protection products and transformation products of these active substances in soil" (EFSA Journal 2014;12(5):3662).
Values in **bold** are below the trigger value of 5, indicating high risk

Appl. Rate [kg a.s./ha]	Food Type	Mean RUD	MAF x TWA	FIR/bw	PD	Deposition Factor	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Focal species wood mouse - Peaches/Nectarines								
0.7 (10 days interval)	weed seeds	40.2	0.795	0.28	0.50	0.35	0.74	[redacted]
	ground arthropods	7.5	[redacted]		0.25		[redacted]	
	grasses	54.2	[redacted]		0.25		[redacted]	
Sum Daily Dietary Dose							[redacted]	

NOAEL for the reproductive risk assessment = [redacted] mg a.s./kg bw/day
Values in **bold** are below the trigger value of 5, indicating unacceptable risk

Appl. Rate [kg a.s./ha]	Food Type	MAF (mean)	ftwa	Mean RUD*	FIR/bw	PD	Deposition Factor**	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Generic focal species common vole - Pome fruit SEZ (BBCH 67 - 85)									
0.75	Monocotyledons	1.25	[redacted]	54.2	1.33	0.48	0.35	[redacted]	[redacted]
	Dicotyledons			28.7		0.52		[redacted]	
Sum Daily Dietary Dose								[redacted]	

NOAEL for the reproductive risk assessment = [redacted]-mg a.s./kg bw/day
* The default RUD values of 54.2 for grasses and cereals and of 28.7 for non-grass weeds as given in Appendix F of the GD (EFSA, 2009) are used. As the application could be in autumn (late applications), the PD of 0.48 for monocotyledons and 0.52 for dicotyledons is used in the risk assessment.
** Deposition factors chosen according to the new "EFSA Guidance Document for evaluating laboratory and field dissipation studies to obtain $DegT_{50}$ values of active substances of plant protection products and transformation products of these active substances in soil" (EFSA Journal 2014;12(5):3662).

Generic focal Species	Mean RUD	MAF x TWA	Deposition factor**	FIR/bw	PT (mean)	PD	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Pome fruit SEZ (BBCH 67 - 85)								
Frugivorous mammal, "Dormouse" BBCH 71-79	1.151*	0.66	1	1.16	1.0	1	0.66	[redacted]
Large herbivorous mammal, "hare" BBCH ≥ 40	28.7	[redacted]	0.35	0.50	1.0	1	[redacted]	[redacted]

NOAEL for the reproductive risk assessment = [redacted]-mg a.s./kg bw/day
Phosmet is applied 2 times each with 0.75 kg a.s./ha and an interval of 20 days
* Refined mean RUD in fruits.
** Deposition factors chosen according to the new "EFSA Guidance Document for evaluating laboratory and field dissipation studies to obtain $DegT_{50}$ values of active substances of plant protection products and transformation products of these active substances in soil" (EFSA Journal 2014;12(5):3662)
Values in **bold** are below the trigger value of 5, indicating high risk

Appl. Rate [kg a.s./ha]	Food Type	Mean RUD	MAF x TWA	FIR/bw	PD	Deposition Factor	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Focal species wood mouse - Pome fruit (SEZ)								
0.75 (20 days interval)	weed seeds	40.2	0.66	0.28	0.5	0.35	0.66	[redacted]
	ground arthropods	7.5	[redacted]		0.25		[redacted]	
	grasses	54.2	[redacted]		0.25		[redacted]	
Sum Daily Dietary Dose							[redacted]	

NOAEL for the reproductive risk assessment = [redacted]mg a.s./kg bw/day
Values in **bold** are below the trigger value of 5, indicating high risk

Appl. Rate [kg a.s./ha]	Food Type	MAF (mean)	ftwa	Mean RUD*	FIR/bw	PD	Deposition Factor**	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Generic focal species common vole - Pome fruit CEZ (BBCH 67 - 85)									
0.5	Monocotyledons	[redacted]	[redacted]	54.2	1.33	0.48	0.35	[redacted]	[redacted]
	Dicotyledons			28.7		0.52		[redacted]	
Sum Daily Dietary Dose								[redacted]	

NOAEL for the reproductive risk assessment = [redacted]-mg a.s./kg bw/day
* The default RUD values of 54.2 for grasses and cereals and of 28.7 for non-grass weeds as given in Appendix F of the GD (EFSA, 2009) are used. As the application could be in autumn (late applications), the PD of 0.48 for monocotyledons and 0.52 for dicotyledons is used in the risk assessment.
** Deposition factors chosen according to the new "EFSA Guidance Document for evaluating laboratory and field dissipation studies to obtain $DegT_{50}$ values of active substances of plant protection products and transformation products of these active substances in soil" (EFSA Journal 2014;12(5):3662)

Generic focal Species	Mean RUD	MAF x TWA	Deposition factor**	FIR/bw	PT (mean)	PD	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Pome fruit CEZ (BBCH 67 - 85)								
Frugivorous mammal, "Dormouse" BBCH 71-79	1.364*	[redacted]	1	1.16	1.0	1	[redacted]	[redacted]
Large herbivorous mammal, "hare" BBCH ≥ 40	28.7	[redacted]	0.35	0.50	1.0	1	[redacted]	[redacted]

NOAEL for the reproductive risk assessment = [redacted]-mg a.s./kg bw/day
Phosmet is applied 2 times each with 0.5 kg a.s./ha and an interval of 20 days
*Refined mean RUD in fruits.
** Deposition factors chosen according to the new "EFSA Guidance Document for evaluating laboratory and field dissipation studies to obtain $DegT_{50}$ values of active substances of plant protection products and transformation products of these active substances in soil" (EFSA Journal 2014;12(5):3662)
Values in **bold** are below the trigger value of 5, indicating high risk

Appl. Rate [kg a.s./ha]	Food Type	Mean RUD	MAF x TWA	FIR/bw	PD	Deposition Factor	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Focal species wood mouse - Pome fruit (CEZ)								
0.5 (20 days interval)	weed seeds	40.2	0.66	0.28	0.5	0.35	[redacted]	[redacted]
	ground arthropods	7.5	[redacted]		0.25		[redacted]	
	grasses	54.2	[redacted]		0.25		[redacted]	
Sum Daily Dietary Dose							[redacted]	

NOAEL for the reproductive risk assessment = [redacted]-mg a.s./kg bw/day
Values in **bold** are below the trigger value of 5, indicating high risk

Generic focal Species	Applica-tion Rate [kg a.s./ha]	MAF* (mean)	ftwa	Deposition factor**	FIR/bw	Mean RUD	PT (mean)	PD	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Potatoes (BBCH 40 - 49)										
Small herbivorous mammal "Vole" BBCH ≥ 40	0.5	1.0	[redacted]	0.15	1.33	28.7	1.0	0.48	[redacted]	[redacted]
						54.2		0.52	[redacted]	
		Sum Daily Dietary Dose							[redacted]	
Large herbivorous mammal "Hare" BBCH 10-40		1.0	[redacted]	0.15	0.50	28.7	0.77	1	[redacted]	[redacted]

NOAEL for the reproductive risk assessment = [redacted] mg a.s./kg bw/day
* The MAF_{mean} is 1.0 due to the single application rate
** Deposition factors chosen according to the new "EFSA Guidance Document for evaluating laboratory and field dissipation studies to obtain $DegT_{50}$ values of active substances of plant protection products and transformation products of these active substances in soil" (EFSA Journal 2014;12(5):3662)
Values in **bold** are below the trigger value of 5, indicating high risk

Appl. Rate [kg a.s./ha]	Food Type	ftwa	Mean RUD	FIR/bw	PD	Deposition Factor	Daily Dietary Dose [mg a.s./kg bw]	TER_{LT}
Focal species wood mouse - Potatoes								
0.5	weed seeds	[redacted]	40.2	0.28	0.5	0.15	[redacted]	[redacted]
	ground arthropods	[redacted]	7.5		0.25		[redacted]	
	grasses	[redacted]	54.2		0.25		[redacted]	
Sum Daily Dietary Dose							[redacted]	

NOAEL for the reproductive risk assessment = [redacted] mg a.s./kg bw/day
The MAF_{mean} for the use in citrus is 1.0 due to the single application rate.
Values in **bold** are below the trigger value of 5, indicating high risk

Risk from bioaccumulation and food chain behaviour [*indicate when not relevant* i.e *if Log kow≤3]*

Log Pow of Phosmet and its metabolites is below 3

Risk from consumption of contaminated water

Puddle scenario, Screening step

As the ratios of effective application rate (in g/ha) to the relevant endpoint (in mg/kg bw/d) does not exceed the value of 3000 (Koc ≥ 500 L/kg) for Phosmet, it is not necessary to conduct a drinking water risk assessment for birds and mammals.

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)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Laboratory tests				
Fish				
Oncorynchus mykiss	Phosmet tech.	Acute 96 hr (flow-through)	Mortality, LC_{50}	241 µg a.s./$L_{(mm)}$
Lepomis macrochirus	Phosmet tech.	Acute 96 hr (flow-through)	Mortality, LC_{50}	19.7 µg a.s./$L_{(mm)}$
Oncorynchus mykiss	Imidan 50WP	Acute 96 hr (flow-through)	Mortality, LC_{50}	313 µg prep./L (152 µg a.s./$L_{(mm)}$)
Danio rerio	Phosmet tech.	Acute 96 hr (flow-through)	Mortality, LC_{50}	1011.6 µg a.s./$L_{(mm)}$
Cyprinus carpio	Phosmet tech.	Acute 96 hr (flow-through)	Mortality, LC_{50}	>1351 µg a.s./$L_{(mm)}$
Oncorynchus mykiss	Phosmet tech.	Chronic 60 day ELS (flow-through)	Length, NOEC	3.2 µg a.s./$L_{(mm)}$
Oncorynchus mykiss	Phthalamic acid	96 hr (static)	Mortality, LC_{50}	> 100 mg a.s./$L_{(nom)}$
Cyprinidon Variegatus	Phthalamic acid	96 hr (static)	Mortality, LC_{50}	> 100 mg/L (nom)
Oncorynchus mykiss	Phthalic acid	96 hr (static)	Mortality, LC_{50}	> 100 mg/L (nom)
Oncorynchus mykiss	O,O-dimethylphosphoric acid	96 hr (static)	Mortality, LC_{50}	> 100 mg a.s./$L_{(nom)}$
Oncorynchus mykiss	O,O-dimethylphosphorodithioic acid	96 hr (static)	Mortality, LC_{50}	> 100 mg a.s./$L_{(nom)}$
Oncorynchus mykiss	Phthalimide	96 hr (static)	Mortality, LC_{50}	49 mg/L (mm)
Lepomis Macrochirus	Phthalimide	96 hr (static)	Mortality, LC_{50}	38 mg/L (mm)
Cyprinidon Variegatus	Phthalimide	96 hr (static)	Mortality, LC_{50}	47.7 mg/L (mm)
Aquatic invertebrates				
Daphnia magna	Phosmet	48 h (flow-through)	Mortality, EC_{50}	2.77 µg a.s./$L_{(mm)}$
Daphnia magna	Imidan 50WP	48 h (flow-through)	Mortality, EC_{50}	8.64 µg prep./L (4.4 µg a.s./$L_{(mm)}$)
Daphnia magna	Phosmet	21 d (flow-through)	Reproduction, NOEC	0.78 µg a.s./$L_{(mm)}$
Daphnia magna	Phthalamic acid	48 h (static)	Mortality, EC_{50}	> 100 mg a.s./$L_{(nom)}$
Daphnia magna	N-methoxymethyl phthalimide	48 h (semi-static)	Mortality, EC_{50}	> 87.3 mg a.s./$L_{(mm)}$
Daphnia magna	O,O-dimethylphosphoric acid	48 h (static)	Mortality, EC_{50}	> 100 mg a.s./$L_{(nom)}$
Daphnia magna	O,O-dimethylphosphorodithioic acid	48 h (static)	Mortality, EC_{50}	> 100 mg a.s./$L_{(nom)}$

Daphnia magna	Phthalimide	48 h (static)	Mortality, EC_{50}	39 mg/L (mm)
Daphnia magna	Phthalamic acid	48 h (static)	Mortality, EC_{50}	>100 mg/L (nom)
Daphnia magna	Phthalic acid	48 h (static)	Mortality, EC_{50}	>100 mg/L (nom)
Daphnia magna	N-hydroxymethyl phthalamic acid			N/A[2]
Sediment-dwelling organisms				
No data				
Algae				
Pseudokirchneriella subcapitata	Imidan 50 WP	72 h E_rC_{50}	ErC50 (static)	73.90 µg a.s./$L_{(mm)}$
Pseudokirchneriella subcapitata	Phthalamic acid	72 h E_rC_{50}	ErC50 (static)	>100 mg/L (nom)
Pseudokirchneriella subcapitata	Phthalic acid	72 h E_rC_{50}	ErC50 (static)	>100 mg/L (nom)
Higher plant				
No data				

Further testing on aquatic organisms

Three mesocoms were submitted by applicant:

1. The study of Rate and Memmert (2003 Doc Nº 862-002) was re-evaluated statistically by the applicant, according to the EFSA Aquatic GD (PPR Panel, 2013) after the commenting period. During the Pesticide Peer Review Meeting 08 (17 – 21 June 2019), it was highlighted that for [redacted] Thus, a NOEC for insect emergence could not be derived. The effects on *Helobdella stagnalis* and Tubifidae in the MASS data set at 0.5 µg/L could not be clearly related to the exposure due to the mode of action of the substance and the time course of the data. T[redacted] Accordingly, during the Pesticide Peer Review Meeting 08 (17 – 21 June 2019), it was agreed that [redacted] can be derived from this study. Therefore, this study [redacted] to derive ETO and ERO-RAC.
2. For the study of Hommen U (2009, Doc Nº 862-003) there were concerns about the richness and abundance of key and sensitive species. In addition, there were serious exposure issues in enclosures with high pH. The applicant removed from the statistical analysis the enclosures with pH > 8.5 resulting in only one replicate for treatment Thus, a Regulatory Acceptable Concentration (RAC) to be used in a quantitative risk assessment should not be derived from this study.
3. For the study of Hommen (2009b, Doc Nº 861-00Sever1), a NOEC based on class 2 effects was identified at 2 µg/L (combination of class 2 effect up to 5 µg/L for *Brachionus* and class 1 effects up to 2 µg/L for other taxa) following the expert meeting. However, only zooplankton is considered in this study. In the Memmert & Ratte study the most sensitive species [redacted] therefore this study [redacted] Overall, the experts agreed that the study [redacted].

Overall, [redacted] However, the available information, mainly the Memmert and Ratte (2003) study, can be used for demonstrating that [redacted] when the invertebrate community is exposed to phosmet concentrations [redacted]

Potential endocrine disrupting properties (Annex Part A, point 8.2.3)

A FSTRA study was conducted. In males, a decrease of nuptial tubercle score and an increase of VTG in plasma and the proportion of spermatogonia was detected at 9.3 µg/L exposure level. In females, a decrease of Gonadal Somatic Index (GSI) and yolk synthesis in ovaries was observed as the tested concentration increases.

Regarding the T-modality, one AMA according to OECD TG 231 is available. It was noted that there is an effect on development but without effects on thyroid histopathology, therefore this is not considered ED

mediated effects.Overall, it can be concluded that the substance does not meet the criteria for the T modality for non-target organisms.

For the EAS modalities a FSTRA according to OECD TG 229 was available detecting the effects above mentioned (effects on VTG changes in males, SSC in male and effects on gonad histopathology at 9.3 µg/L; effects in females in gonad histopathology (GSI) but in absence of VTG changes in females). At the same dose where these effects were observed (9.3 µg/L), a 25% combined mortality is reported, therefore these effects are very likely to be the results of systemic toxicity. A 25% mortality in female is even reported at the lowest dose tested of 1 µg/L.

During the Pesticide Peer Review Meeting 06 (12 – 13 June 2019) it was agreed that, considering the information from the mam tox section that supports the presence of effects secondary to systemic toxicity, it is not possible to conclude that the endocrine mode of action is the primary mode of action, but that endocrine related effects can be secondary to systemic toxicity.

The majority of the experts agreed that the substance does not meet the criteria for EAS modalities.

Overall, the experts at the meeting agreed that phosmet does not meet the ED criteria for non-target organisms.

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

[2] No toxicity data are available for the metabolite N-hydroxymethyl phthalamic acid. However, considering the low predicted concentrations in surface water, together with the data from the other metabolites (showing low toxicity) and the lack of stability of the metabolite, overall indicate a low risk from the exposure to this metabolite.

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

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Citrus at 500 g a.s./ha [1 application]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Citrus		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P, subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Pome fruit at 750 g a.s./ha [2 application-early]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Pome fruit. Multiple early application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P, subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Pome fruit at 750 g a.s./ha [1 application-early]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Pome fruit. Single early application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P, subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Pome fruit at 750 g a.s./ha [2 application-late]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Pome fruit. Multiple late application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Pome fruit at 750 g a.s./ha [1 application-late]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Pome fruit. Single late application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Pome fruit at 500 g a.s./ha [2 application-early]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Pome fruit. Multiple early application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Pome fruit at 500 g a.s./ha [1 application-early]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Pome fruit. Single early application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Pome fruit at 500 g a.s./ha [2 application-late]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Pome fruit. Multiple late application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	100	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	100	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Pome fruit at 500 g a.s./ha [1 application-late]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Pome fruit. Single late application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	100	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	100	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Peaches/Nectarines at 700 g a.s./ha [2 application-early]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Peaches/Nectarines. Multiple early application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Peaches/Nectarines at 700 g a.s./ha [1 application-early]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Peaches/Nectarines. Single early application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Peaches/Nectarines at 700 g a.s./ha [2 application-late]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Peaches/Nectarines. Multiple late application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Peaches/Nectarines at 700 g a.s./ha [1 application-late]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Peaches/Nectarines. Single late application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Potatoes at 500 g a.s./ha [1 application-early]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Potatoes. early application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips)						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

FOCUS$_{sw}$ step 3-4 - TERs for phosmet – Potatoes at 500 g a.s./ha [1 application-late]

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae
Potatoes late application		Geomean	*Oncorynchus mykiss*	*Daphnia magna*	*Daphnia magna*	*P. subcapitata*
		96h-LC_{50}	ELS-NOEC	48h-EC_{50}	21d-NOEC	72h-E_rC_{50}
		267.8 µg/L	3.2 µg/L	2.77 µg/L	0.78 µg/L	73.9 µg/L
FOCUS Step 3						
[redacted]						
Trigger		100	10	100	10	10
FOCUS Step 4 (20 meters non-spray buffer +20 m vegetated field strips						
[redacted]						
Trigger		100	10	100	10	10

Bold values indicate high risk

Bioconcentration in fish (Annex Part A, point 8.2.2.3)

Commission Regulation (EU) 283/2013 states that the bioconcentration of the active substance shall be assessed where the log P_{OW} is greater than 3 and the substance is considered to be stable. Phosmet has a log P_{OW} value of 2.8 at 20°C (Vol.1 CA_B.2). The log P_{OW} value of the Phosmet major surface water metabolites Phthalamic acid, Phthalic acid, N-hydroxymethyl phthalimide, N-hydroxymethyl phthalamic acid, are also below the trigger of 3. As the log P_{OW} values for the parent and its metabolites are below the trigger of 3, bioconcentration studies for Phosmet and its metabolites in fish are not required.

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)

Species	Test substance	Time scale/type of endpoint	End point	toxicity
Apis mellifera	Phosmet technical (Purity: 97%)	Acute	Oral toxicity (LD_{50})	0.37 µg a.s./bee
Apis mellifera	Phosmet technical (Purity: 97%)	Acute	Contact toxicity (LD_{50})	**0.22 µg a.s./bee**
Apis mellifera	Phosmet technical (Purity: 97%)	Acute	Oral toxicity (LD_{50})	**0.302 µg a.s./bee**
Apis mellifera	Phosmet technical (Purity: 97%)	Acute	Contact toxicity (LD_{50})	0.584 µg a.s./bee
Apis mellifera	Phosmet technical (Purity: 96.5%)	Chronic	10 d-LD50 (LDD_{50})	**0.092 µg a.s./bee/day**
Apis mellifera	Phosmet technical (Purity: 95.4%)	Bee brood development	NOED larvae	**0.222 µg a.s./larva**

Potential for accumulative toxicity: No data

Semi-field test (Cage and tunnel test)

One semi-field study with a WP Formulation containing 500 g/kg phosmet (48.5 % w/w) in citrus in Spain and three more with Imidan 50 WP (50.15 % phosmet w/w) in flowering *Phacelia* in France were presented by the applicant but none of them has been accepted for the risk assessment due to several methodological uncertainties (Please refer to Vol. 3 CP B.9.5.1.5. for the evaluation of the studies).

A combined statistical analysis for the three honeybee tunnel studies conducted in flowering *Phacelia* in France 2008/2009 by Giffard (2009) has been conducted (for further details, please refer to the Study B.9.5.1.5/06). This combined statistical re-evaluation showed significant increases in mortality compared to control 2 days after application of phosmet after bee flight and still markedly greater 3 days after application at both 500 and 750 g a.s./ha. Significantly lower bee activity was observed until 2 after application of phosmet at 500 g a.s./ha and until the end of the combined assessment period of 4 days after application of phosmet at 750 g a.s./ha. For the 500 g.a.s/ha 3DBF aged-residues treatment, which shows greater mortality than the control during the whole exposure period, at the end of this period 9 days after exposure, mortality is still ca. 60% greater than in the control.

Overall, the experts agreed that these studies and their combination cannot be used to properly assess the risk, however they support the indication that exposure to phosmet increases the mortality of forager bees.

Field tests

Two field studies in flowering *Phacelia* in Northern France and Italy, respectively, were performed to evaluate the effects on honey bees of two applications of Imidan 50 WP (50.15 % phosmet w/w) at 500 and 750 g a.s./ha during flowering but after bee flight. The field studies' methodology has been modified (from the OEPP/EPPO PP 1/170 (4) (2010)) to assess the mitigation measure: "Do not apply when bees are actively foraging". Both studies showed statistically significant mortalities 2 days after the first application and 2 days after the second (only for 750 g a.s./ha in the first study of Ythier, E., 2009 in France and for both 500 and 750 g a.s./ha in the second in Italy), but mortality values in both fields treated with phosmet at 2x 500 and 2x 750 g a.s./ha were still remarkably greater (though not statistically significant) to those of the control group 7 days after the first

application and 4 days after the second at both rates. (Please refer to Vol. 3 CP B.9.5.1.6. for the evaluation of the studies).

Overall, the experts agreed that these studies cannot be used to properly assess risk, however they support the indication that exposure to phosmet increases the mortality of adult bees.

Risk assessment according to SANCO (2002a)

Acute contact

Crop	Application Rate [g a.s./ha]	Acute contact LD_{50} [µg a.s./bee]	HQ Value	Trigger
Representative uses in the SEZ				
Citrus	500	0.22	**2273**	50
Peaches/Nectarines	700		**3182**	
Pome fruit	750		**3409**	
Representative uses in the CEZ				
Pome fruit	500	0.22	**2273**	50
Potatoes	500		**2273**	

Acute oral

Crop	Application Rate [g a.s./ha]	Acute oral LD_{50} [µg a.s./bee]	HQ Value	Trigger
Representative uses in the SEZ				
Citrus	500	0.302	**1655.6**	50
Peaches/Nectarines	700		**2317.9**	
Pome fruit	750		**2483.4**	
Representative uses in the CEZ				
Pome fruit	500	0.302	**1655.6**	50
Potatoes	500		**1655.6**	

Risk assessment according to EFSA (2013)

Citrus fruits (EU South –Field–) at 1 x 500 g a.s./ha (BBCH 79–89)

Test substance	Risk quotient	scenario	BBCH	Honeybee (*Apis mellifera*)	
				HQ / ETR	trigger
Phosmet (Imidan 50 WP)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Test substance	Risk quotient	scenario	BBCH	Honeybee (*Apis mellifera*)	
				HQ / ETR	trigger
		[redacted]	[redacted]	[redacted]	[redacted]

Surface water

	water consumption (µL)	**ETR**	Trigger
acute	11.4	[redacted]	[redacted]
chronic	11.4	[redacted]	[redacted]
larvae	111	[redacted]	[redacted]

Puddle water: [redacted]

Pome fruits (EU South –Field–) at 2 x 750 g a.s./ha (BBCH 67–85)

Test substance	Risk quotient	scenario	BBCH	Honeybee (*Apis mellifera*)	
				HQ / ETR	trigger
Phosmet (Imidan 50 WP)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]		[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]
		[redacted]	[redacted]	[redacted]	[redacted]

Surface water

	water consumption (µL)	**ETR**	Trigger
acute	11.4	[redacted]	[redacted]
chronic	11.4	[redacted]	[redacted]
larvae	111	[redacted]	[redacted]

Puddle water: [redacted]

Pome fruits (EU Central –Field–) at 2 x 500 g a.s./ha (BBCH 67–85)

Test substance	Risk quotient	scenario	BBCH	Honeybee (*Apis mellifera*)	
				HQ / ETR	trigger
Phosmet (Imidan 50 WP)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Surface water

	water consumption (µL)	**ETR**	Trigger
acute	11.4	[redacted]	[redacted]
chronic	11.4	[redacted]	[redacted]
larvae	111	[redacted]	[redacted]

Puddle water: No suitable exposure estimation

Peaches/Nectarines (EU South –Field–) at 2x 700 g a.s./ha (BBCH 71–85)

Test substance	Risk quotient	scenario	BBCH	Honeybee (*Apis mellifera*)	
				HQ / ETR	trigger
Phosmet (Imidan 50 WP)					

Surface water

	water consumption (µL)	**ETR**	Trigger
acute	11.4		
chronic	11.4		
larvae	111		

Puddle water:

Potatoes (EU Central –Field–) at 1 x 500 g a.s./ha (BBCH 40-49)

Test substance	Risk quotient	scenario	BBCH	Honeybee (*Apis mellifera*)	
				HQ / ETR	trigger
Phosmet (Imidan 50 WP)					

Surface water

	water consumption (µL)	**ETR**	Trigger
acute	11.4	[redacted]	[redacted]
chronic	11.4	[redacted]	[redacted]
larvae	111	[redacted]	[redacted]

Puddle water: [redacted]

First tier for guttation (independent of the crop and application rate and considering that that **the water solubility value of phosmet at 20 °C is 15.2 mg/L**)

	Water cons. (µL)	**ETR**	**trigger**
acute	11.4	[redacted]	[redacted]
chronic	11.4	[redacted]	[redacted]
larvae	111	[redacted]	[redacted]
HPG	11.4	[redacted]	[redacted]

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

Species	**Test Substance**	**End point**	**Toxicity**
Typhlodromus pyri (Acari: Phytoseiidae)	WP Formulation containing 500 g/kg Phosmet (48.5 % w/w purity)	Mortality, LR_{50} (7 d)	**301 g a.s./ha**
Aphidius rhopalosiphi (Hymenoptera: Braconidae)	WP Formulation containing 500 g/kg Phosmet (48.5% w/w purity)	Mortality, LR_{50} (48 h)	**1.95 g a.s./ha**
Additional species			
-			
-			

First tier risk assessment for:

Citrus fruits (EU South –Field–) at 1x 500 g a.s./ha (BBCH 79-89)

Test substance	Species	Effect (LR_{50} g/ha)	HQ in-field	Growth stage	HQ off-field[1]	Trigger
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Typhlodromus pyri*	301 g a.s./ha	1.66	Late	0.26	2
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Aphidius rhopalosiphi*	1.95 g a.s./ha	**256.41**	Late	**40.33**	

[1] In accordance with Appendix VI of ESCORT II, the distance assumed to calculate the drift rate is 3 m for late applications.

Pome fruits (EU South –Field–) at 2x 750 g a.s./ha (Effective rate = 847.5 g a.s./ha) (BBCH 67-85)

Test substance	Species	Effect (LR_{50} g/ha)	HQ in-field[2]	Growth stage	HQ off-field[1,2]	Trigger
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Typhlodromus pyri*	301 g a.s./ha	**2.82**	Early	0.72	2
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Typhlodromus pyri*	301 g a.s./ha	**2.82**	Late	0.34	
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Aphidius rhopalosiphi*	1.95 g a.s./ha	**434.62**	Early	**110.96**	
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Aphidius rhopalosiphi*	1.95 g a.s./ha	**434.62**	Late	**57.72**	

[1] In accordance with Appendix VI of ESCORT II, the distance assumed to calculate the drift rate is 3 m for early and late applications.
[2] After applying the formula given in the Guidance Document for the risk assessment for Birds and Mammals (EFSA, 2009) and considering a DT_{50} of 6.9 days, the MAF value is 1.13.

Pome fruits (EU Central –Field–) at 2x 500 g a.s./ha (Effective rate = 565 g a.s./ha) (BBCH 67-85)

Test substance	Species	Effect (LR_{50} g/ha)	HQ in-field[2]	Growth stage	HQ off-field[1,2]	Trigger
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Typhlodromus pyri*	301 g a.s./ha	1.88	Early	0.48	2
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Typhlodromus pyri*	301 g a.s./ha	1.88	Late	0.23	
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Aphidius rhopalosiphi*	1.95 g a.s./ha	**289.74**	Early	**73.97**	
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Aphidius rhopalosiphi*	1.95 g a.s./ha	**289.74**	Late	**35.15**	

[1] In accordance with Appendix VI of ESCORT II, the distance assumed to calculate the drift rate is 3 m for early and late applications.
[2] After applying the formula given in the Guidance Document for the risk assessment for Birds and Mammals (EFSA, 2009) and considering a DT_{50} of 6.9 days, the MAF value is 1.13.

Peaches/Nectarines (EU South –Field–) at 2x 700 g a.s./ha (Effective rate = 959 g a.s./ha) (BBCH 71-85)

Test substance	Species	Effect (LR_{50} g/ha)	HQ in-field[2]	Growth stage	HQ off-field[1,2]	Trigger
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Typhlodromus pyri*	301 g a.s./ha	**3.19**	Early	0.81	2

Test substance	Species	Effect (LR_{50} g/ha)	HQ in-field[2]	Growth stage	HQ off-field[1,2]	Trigger
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Aphidius rhopalosiphi*	1.95 g a.s./ha	**491.79**	Early	**125.56**	
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Typhlodromus pyri*	301 g a.s./ha	**3.19**	Late	0.39	
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Aphidius rhopalosiphi*	1.95 g a.s./ha	**491.79**	Late	**59.65**	

[1] In accordance with Appendix VI of ESCORT II, the distance assumed to calculate the drift rate is 3 m for late applications.
[2] After applying the formula given in the Guidance Document for the risk assessment for Birds and Mammals (EFSA, 2009) and considering a DT50 of 6.9 days, the MAF value is 1.37.

Potatoes (EU Central –Field–) at 1x 500 g a.s./ha (BBCH 40-49)

Test substance	Species	Effect (LR_{50} g/ha)	HQ in-field	Growth stage	HQ off-field[1]	Trigger
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Typhlodromus pyri*	301 g a.s./ha	1.66	Tuber formation (BBCH 40 - 49)	0.05	2
WP Formulation containing 500 g/kg Phosmet (48.5 % w/w)	*Aphidius rhopalosiphi*	1.95 g a.s./ha	**256.41**	Tuber formation (BBCH 40 - 49)	**7.10**	

[1] In accordance with Appendix VI of ESCORT II, the distance assumed to calculate the drift rate is 1 m for field crops.

Extended laboratory tests, aged residue tests

Species	**Life stage**	**Test substance, substrate**	**Time scale**	**Dose (g a.s./ha)[1,2]**	**End point**	**% effect[3]**
Extended laboratory /Aged residues tests						
Aphidius rhopalosiphi (Hym.: Braconidae)	adults	WP Formulation containing 500 g/kg Phosmet (48.5 % w/w); initial residues on barley plants	0 DAT	6.0, 8.11, 11.0, 14.8 and 20.0	Mortality (48 h); Reproduction (Parasitisation) (24 h)	**LR_{50} = 10.3 g a.s./ha** Reproduction affected starting at 6 g a.s./ha (37% reduction).
Aphidius rhopalosiphi (Hym.: Braconidae)	adults	WP Formulation containing 500 g/kg Phosmet (48.5 % w/w); initial and aged	0, 7, 14, 21 and 28 DAT	30, 100, 300 and 500	Mortality (48 h); Reproduction (Parasitisation) (24 h)	At 500 g a.s./ha, mortality above the ESCORT 2 trigger value of 50% up to 21 DAT and 10% 28 DAT.

Species	Life stage	Test substance, substrate	Time scale	Dose (g a.s./ha)[1,2]	End point	% effect[3]
Extended laboratory /Aged residues tests						
		residues on barley plants				Reproduction affected (47% reduction) at 500 g a.s./ha 28 DAT.
Aphidius rhopalosiphi (Hym.: Braconidae)	adults	Imidan 50 WP (50.15 % Phosmet); initial and aged residues on grape-vine leaves	0, 21, 35, 49, 63, 70 and 77 DAT	825	Mortality (48 h); Reproduction (Parasitisation) (24 h)	At 825 g a.s./ha, the effects on mortality (M = 46.4%) and reproduction (26.9% of increase) were below the ESCORT 2 trigger value of 50 % 63 DAT in the not rain protected group and 70 DAT in the rain protected group (M = 44.8%; R = 34.1% of increase).
Aphidius rhopalosiphi (Hym.: Braconidae)	adults	Imidan 50 WP (50.8 % Phosmet); initial and aged residues on grape-vine branches	0, 28, 56 and 70 DAT	1065	Mortality (48 h); Reproduction (Parasitisation) (24 h)	At the rate of 1065 g a.s./ha, the effects on mortality (M = 33.3%) and reproduction (8.7% of reduction) were below the ESCORT 2 trigger value of 50 % 56 DAT.
Typhlodromus pyri (Acari: Phytoseiidae)	proto-nymphs	Imidan 50 WP (50.8 % Phosmet); initial residues on bean leaf discs	0 DAT	93.8, 187.5, 375, 750 and 1500	Mortality (7 d) Reproduction (7 d)	**LR_{50} > 1500 g a.s./ha** Reproduction not affected up to 1500 g a.s./ha
Chrysoperla carnea (Neuroptera: Chrysopidae)	larvae	WP Formulation containing 500 g/kg Phosmet (48.5 % w/w);	0 DAT	50, 100, 200, 400 and 800	Mortality (12 – 19 days; until emergence of the adults); Reproduction	**LR_{50} = 80 g a.s./ha** Reproduction not affected up to 100 g a.s./ha.

Species	Life stage	Test substance, substrate	Time scale	Dose (g a.s./ha)[1,2]	End point	% effect[3]
Extended laboratory /Aged residues tests						
		initial residues on bean leaf discs			(24 h)	
Coccinella septempunctata (Col.: Coccinellidae)	larvae	WP Formulation containing 500 g/kg Phosmet (48.5 % w/w); initial residues on bean leaf discs	0 DAT	0.60, 0.93, 1.45, 2.25 and 3.50	Mortality (12 – 15 days); Reproduction (24 h)	**LR_{50} = 2.64 g a.s./ha** Reproduction not affected up to 2.25 g a.s./ha

[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 based on extended laboratory tests (with a correction factor CF = 5) for:

Citrus fruits (EU South –Field–) at 1x 500 g a.s./ha (BBCH 79-89)

Species	ER_{50} (g/ha)	In-field rate (g/ha)	Off-field rate[1] (g/ha)
Typhlodromus pyri	> 1500	500	39.33
Aphidius rhopalosiphi	10.3	**500**	**393.3**
Chrysoperla carnea	80	**500**	39.33
Coccinella septempunctata	2.64	**500**	**39.33**

[1] In accordance with ESCORT II, the distance assumed to calculate the off-field rate is 3 m (fruit crops). VDF = 10 for *T. pyri*, *C. carnea* and *C. septempunctata*; VDF = 1 for *A. rhopalosiphi*.

Pome fruits (EU South –Field–) at 2x 750 g a.s./ha (Effective rate = 847.5 g a.s./ha) (BBCH 67-85)

Species	ER_{50} (g/ha)	In-field rate[2] (g/ha)	Off-field rate[1,2,3] (g/ha)
Typhlodromus pyri	> 1500	847.5	108.18 / 51.40
Aphidius rhopalosiphi	10.3	**847.5**	**1081.83** / **514.01**
Chrysoperla carnea	80	**847.5**	**108.18** / 51.40
Coccinella septempunctata	2.64	**847.5**	**108.18** / **51.40**

[1] In accordance with ESCORT II, the distance assumed to calculate the off-field rate is 3 m (fruit crops). VDF = 10 for *T. pyri*, *C. carnea* and *C. septempunctata*; VDF = 1 for *A. rhopalosiphi*.
[2] After applying the formula given in the Guidance Document for the risk assessment for Birds and Mammals (EFSA, 2009) and considering a DT50 of 6.9 days, the MAF value is 1.13.
[3] According to the GAP Table, for pome fruits (BBCH 67-85), it cannot be ensured that the applications are performed in the "late" stage and therefore, according to the precautionary principle, the risk assessment should also contemplate the early application option (**early / late**).

Pome fruits (EU Central –Field–) at 2x 500 g a.s./ha (Effective rate = 565 g a.s./ha) (BBCH 67-85)

Species	ER_{50} (g/ha)	In-field rate[2] (g/ha)	Off-field rate[1,2,3] (g/ha)
Typhlodromus pyri	> 1500	565	72.12 / 34.27
Aphidius rhopalosiphi	10.3	**565**	**721.22** / **342.7**
Chrysoperla carnea	80	**565**	72.12 / 34.27

Species	ER_{50} (g/ha)	In-field rate[2] (g/ha)	Off-field rate[1,2,3] (g/ha)
Coccinella septempunctata	2.64	**565**	**72.12** / **34.27**

[1] In accordance with ESCORT II, the distance assumed to calculate the off-field rate is 3 m (fruit crops). VDF = 10 for *T. pyri*, *C. carnea* and *C. septempunctata*; VDF = 1 for *A. rhopalosiphi*.
[2] After applying the formula given in the Guidance Document for the risk assessment for Birds and Mammals (EFSA, 2009) and considering a DT50 of 6.9 days, the MAF value is 1.13.
[3] According to the GAP Table, for pome fruits (BBCH 67-85), it cannot be ensured that the applications are performed in the "late" stage and therefore, according to the precautionary principle, the risk assessment should also contemplate the early application option (early / late).

Peaches/Nectarines (EU South –Field–) at 2x 700 g a.s./ha (Effective rate = 959 g a.s./ha) (BBCH 71-85)

Species	ER_{50} (g/ha)	In-field rate[2] (g/ha)	Off-field rate[1,2] (g/ha)
Typhlodromus pyri	> 1500	959	122.42
Aphidius rhopalosiphi	10.3	**959**	**1224.2**
Chrysoperla carnea	80	**959**	**122.42**
Coccinella septempunctata	2.64	**959**	**1224.2**

[1] In accordance with ESCORT II, the distance assumed to calculate the off-field rate is 3 m (fruit crops). VDF = 10 for *T. pyri*, *C. carnea* and *C. septempunctata*; VDF = 1 for *A. rhopalosiphi*.
[2] After applying the formula given in the Guidance Document for the risk assessment for Birds and Mammals (EFSA, 2009) and considering a DT50 of 6.9 days, the MAF value is 1.37.
[3] According to the GAP Table, for peaches/nectarines (BBCH 71-85), it cannot be ensured that the applications are performed in the "late" stage and therefore, according to the precautionary principle, the risk assessment should also contemplate the early application option (early / late).

Potatoes (EU Central –Field–) at 1x 500 g a.s./ha (BBCH 40-49)

Species	ER_{50} (g/ha)	In-field rate (g/ha)	Off-field rate[1] (g/ha)
Typhlodromus pyri	> 1500	500	6.925
Aphidius rhopalosiphi	10.3	**500**	**69.25**
Chrysoperla carnea	80	**500**	6.925
Coccinella septempunctata	2.64	**500**	**6.925**

[1] In accordance with ESCORT II, the distance assumed to calculate the off-field rate is 1 m (field crops). VDF = 10 for *T. pyri*, *C. carnea* and *C. septempunctata*; VDF = 1 for *A. rhopalosiphi*.

Semi-field tests
-
Field studies
The available aged residue trials are [redacted] to conclude on the potential for recovery/recolonisation for the most vulnerable NTAs identified via the extended laboratory tests. [redacted] Four NTAs field studies were available to assess the off-field effects on arthropod populations and community after different scenarios of phosmet applications. Two of these studies were actually performed in field crops and were therefore considered not representative for off-field environments. A summary is reported below: Italy: NTAs full arthropod fauna off-field study in **alfalfa** (B.9.5.2.4/02). **Significant and long-lasting effects of Phosmet on Coccinellidae populations** at the drift rates of 2 x 21.5 g a.s./ha and 2 x 63.5 g a.s./ha were detected. A minor and short-term impact on the evaluated ground and plant living arthropod communities were recorded. A NOER of 14.5 g a.s./ha was derived from this study, but cannot be considered reliable considering the shortcomings of the study, especially taking into consideration that the first sampling was 6/7 days after each application. Therefore, it is not possible to conclude on the absence of immediate effects after application. Germany: NTAs full arthropod fauna off-field study in **winter wheat** (B.9.5.2.4/03). **Significant and long-lasting effects of Phosmet on Linyphiidae spiders' populations** at the drift rate of 2 x 21.5 g a.s./ha were detected. Coccinellidae were not present.

A minor and short-term impact on the evaluated ground and plant living arthropod communities were recorded. A NOER of 14.5 g a.s./ha was derived from this study, but cannot be considered reliable considering the shortcomings of the study, especially taking into consideration that the first sampling was 6/7 days after each application. Therefore, it is not possible to conclude on the absence of immediate effects after application. **Overall, the experts considered these two studies not useful to address the risk in the off-field.** SW France: NTAs full arthropod fauna off-field study in **uncultivated grassland area** (B.9.5.2.4/04). **Class 3 effects in other Carabidae at 10 g a.s./ha** were detected. Other minor population effects were also detected for other taxa as for example the adults' populations of the Linyphiidae spider *Oedothorax apicatus* at 5 g a.s./ha, the Aphidoidea populations at 10 g a.s./ha or the adult Miridae at 5 and 10 g a.s./ha, but no effects are however detected for these groups at higher rates. Only a minor and short-term impact on the evaluated ground and plant living arthropod communities (e.g. sweepnet dataset at 10 g a.s./ha) was detected. **NOER = 5 g a.s./ha. Overall, the NOER of 5 g a.s./ha is agreed for this study**. Germany: NTAs full arthropod fauna off-field study in **uncultivated grassland area** (B.9.5.2.4/05). **Class 3 effects were recorded in one taxon (Collembola, Symphypleona) at 16 g a.s./ha**, with a significant population reduction compared to the control inmediately after the treatment that lasted until the 4th week. Effects on this taxon were however seen at all concentration levels. Other population effects are also detected for other taxa as for example the juveniles' populations of the Tetragnathidae spider *Pachygnata degeeri* at all concentrations. Coccinellidae were not detected in sufficient number for analysis in this study. **Overall, no NOER value can be derived from this study, since effects are seen at the lowest application rate tested of 5 g a.s/ha.** **An overall higher tier NOER that can be used for the off-field risk assessment is not available.**
Additional specific test
-

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[1]	Time scale	End point[2]
Earthworms			
Eisenia foetida andrei	Phosmet technical (96.5%); incorporated in soil, 10% OM	Chronic 28-d; 56-d	28-d NOEC mortality ≥ 12.24 mg phosmet/kg soil 56-d EC10 reproduction = 5.91 mg phosmet/kg soil (4.51 – 7.73) 56-d EC20 reproduction = 7.45 mg phosmet/kg soil (6.19 – 8.96) 56-d EC50 reproduction = 11.6 mg phosmet/kg soil (10.2 – 13.2) 56-d NOEC reproduction = 6.8 mg phosmet/kg soil **E. *foetida andrei* 56-d Endpoint reproduction = 5.91 mg phosmet/kg soil** ***Corrected (log Pow > 2): Endpoint corr = 2.955 mg phosmet/kg soil**

Test organism	Test substance[1]	Time scale	End point[2]
Other soil macro-organisms			
Folsomia candida	Phosmet technical (96.5%); incorporated in soil, 5% OM	Chronic 28-d	28-d LC50 mortality = 5.28 mg a.s./kg soil 28-d EC10 reproduction = 2.34 mg phosmet/kg soil (1.43 – 3.83) 28-d EC20 reproduction = 3.29 mg phosmet/kg soil (2.27 – 4.75) 28-d EC50 reproduction = 6.28 mg phosmet/kg soil (4.96 – 7.97) ***F. candida* 28-d NOEC reproduction = 1.62 mg phosmet/kg soil** ***Corrected (log Pow > 2): NOECcorr = 0.81 mg phosmet/kg soil**
Hypoaspis aculeifer	Phosmet technical (96.5%); incorporated in soil, 5% OM	Chronic 14-d	14-d LC50 mortality = 42.8 mg a.s./kg soil 14-d EC10 reproduction = 28.2 mg phosmet/kg soil (22.4 – 35.4) 14-d EC20 reproduction = 32.3 mg phosmet/kg soil (26.5 – 39.2) 14-d EC50 reproduction = 41.8 mg phosmet/kg soil (35.1 – 49.7) 14-d NOEC reproduction = 30.9 mg phosmet/kg soil ***H. aculeifer* 14-d Endpoint reproduction = 28.2 mg phosmet/kg soil** ***Corrected (log Pow > 2): Endpoint corr = 14.1 mg phosmet/kg soil**
Collembolan populations	WP Formulation containing 500 g/kg Phosmet, Imidan 50 WP; two applications of 1.0 kg formulation/ha and two applications of 1.5 kg formulation/ha	1 year field study	The results of the study did not clearly demonstrate recovery of several species of collembolas within one year after treatment (See Study 9.7.2.2/01 for further details).

[1]To indicate whether the test substance was over sprayed/to indicate the organic content of the test soil (e.g. 5 % or 10 %).
[2]corrected due to log Pow > 2.0 (e.g. NOECcorr)

Nitrogen transformation	Preparation: 500 g/kg WP		< 25 % effect at day 28 at 3.3875 mg a.s./kg d.w.soil

Toxicity/exposure ratios for soil organisms

Formulated product: WP formulation containing 500g/kg Phosmet

Earthworms

Citrus fruits (EU South –Field–) at 1x 500 g a.s./ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Eisenia foetida andrei	Phosmet	Chronic	0.133	22.2	5

Pome fruits early app. (EU South –Field–) at 2x 750 g a.s./ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Eisenia foetida andrei	Phosmet	Chronic	0.400	7.39	5

Pome fruits late app. (EU South –Field–) at 2x 750 g a.s./ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Eisenia foetida andrei	Phosmet	Chronic	0.3913	7.55	5

Pome fruits early app. (EU Central –Field–) at 2x 500 g a.s./ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Eisenia foetida andrei	Phosmet	Chronic	0.2667	11.08	5

Pome fruits late app. (EU Central –Field–) at 2x 500 g a.s./ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Eisenia foetida andrei	Phosmet	Chronic	0.2608	11.33	5

Peaches/Nectarines (EU South –Field–) at 2x 700 g a.s./ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Eisenia foetida andrei	Phosmet	Chronic	0.4149	7.12	5

Potatoes (EU Central –Field–) at 1x 500 g a.s./ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Eisenia foetida andrei	Phosmet	Chronic	0.100	29.55	5

Other soil meso- and macrofauna

Citrus fruits (EU South –Field–) at 1x 500 g a.s/ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Folsomia candida	Phosmet	Chronic	0.133	6.09	5
Hypoaspis aculeifer	Phosmet	Chronic	0.133	106	5

Pome fruits early app. (EU South –Field–) at 2x 750 g a.s/ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Folsomia candida	Phosmet	Chronic	0.400	**2.03**	5
Hypoaspis aculeifer	Phosmet	Chronic	0.400	35.25	5

Pome fruits late app. (EU South –Field–) at 2x 750 g a.s/ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Folsomia candida	Phosmet	Chronic	0.3913	**2.06**	5
Hypoaspis aculeifer	Phosmet	Chronic	0.3913	35.88	5

Pome fruits early app. (EU Central –Field–) at 2x 500 g a.s/ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Folsomia candida	Phosmet	Chronic	0.2667	**3.04**	5
Hypoaspis aculeifer	Phosmet	Chronic	0.2667	52.87	5

Pome fruits late app. (EU Central –Field–) at 2x 500 g a.s/ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Folsomia candida	Phosmet	Chronic	0.2608	**3.11**	5
Hypoaspis aculeifer	Phosmet	Chronic	0.2608	54.06	5

Peaches/Nectarines (EU South –Field–) at 2x 700 g a.s/ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Folsomia candida	Phosmet	Chronic	0.4149	**1.95**	5
Hypoaspis aculeifer	Phosmet	Chronic	0.4149	33.98	5

Potatoes (EU Central –Field–) at 1x 500 g a.s/ha

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Folsomia candida	Phosmet	Chronic	0.100	8.10	5
Hypoaspis aculeifer	Phosmet	Chronic	0.100	141.0	5

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

No data submitted.

Risk assessment based on laboratory dose response tests

Crop	AR [g a.s./ha]	Risk mitigation	Drift value [%]	Drift rate (Deposition after volatilisation) [g a.s./ha]**	Total amount of Phosmet reaching the off-field [g a.s./ha]	Lowest ER_{50} [g a.s./ha]	TER	Trigger
Vegetative vigour								
Orchards (Worst-Case)	750	3 m spray distance	Early: 29.20	219.0 (0.755)	219.8	3800	17.3	5
			Late: 15.73	117.95 (0.768)	118.7		32.0	
Potatoes	500	none	2.77	13.85 (0.377)	14.23	3800	267	5

Values in **bold** are below the relevant trigger of 5, indicating high risk
** Deposition after volatilisation of Phosmet is given in brackets. Due to the vapour pressure of $3.38*10^{-5}$ Pascal for Phosmet which is above the trigger of $1*10^{-5}$ Pascal, the deposition of Phosmet after volatilisation (sum over 24 h) is added to the drift rate when calculating the HQ for the off-field. No buffer zones assumed. In line with ESCORT 2, deposition values at a distance of 3 m for orchard uses and of 1 m for potatoes are used (for details, please refer to Vol 3CP B.8).

Extended laboratory studies: No data submitted. Semi-field and field test: No data submitted.

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	Phosmet exhibited no acute toxic effects to activated sludge at 1000 mg/L.
Pseudomonas sp	-

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. No data available. Available monitoring data concerning effect of the PPP. No data 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	Phosmet
water	Phosmet
sediment	Not required
groundwater	Phosmet

[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	Phosmet
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][5]:	Aquatic Acute 1 - H400, Aquatic Chronic 1 - H410
According to the Peer review, the criteria for classification may be met for:	Acute Cat. 1 M 100 Chronic Cat. 1 M 100

[5] 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.