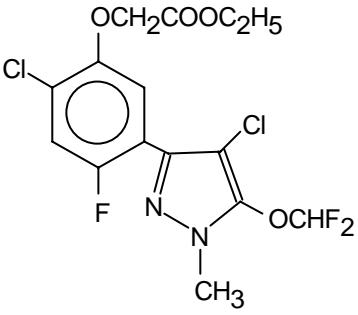


Listing of endpoints

Chapter 2.1: Identity, Physical and Chemical Properties, Details of Uses, Further Information, and Proposed Classification and Labelling

Active substance (ISO Common Name)	Pyraflufen-ethyl
Function (<i>e.g.</i> fungicide)	Herbicide
Rapporteur Member State	Belgium

Identity (Annex IIA, point 1)

Chemical name (IUPAC)	Ethyl 2-chloro-5-(4-chloro-5-difluoromethoxy-1-methylpyrazol-3-yl)-4-fluorophenoxyacetate
Chemical name (CA)	Ethyl 2-chloro-5-[4-chloro-(5-difluoromethoxy)-1methyl-1 <i>H</i> -pyrazol-3-yl]-4-fluorophenoxyacetate
CIPAC No	Not allocated
CAS No	129630-19-9
EEC No (EINECS or ELINCS)	Not allocated
FAO Specification (including year of publication)	-
Minimum purity of the active substance as manufactured (g/kg)	956 g/kg
Identity of relevant impurities (of toxicological, environmental and/or other significance) in the active substance as manufactured (g/kg)	-
Molecular formula	C ₁₅ H ₁₃ Cl ₂ F ₃ N ₂ O ₄
Molecular mass	413.18
Structural formula	

Physical-chemical properties (Annex IIA, point 2)

Melting point (state purity)	126.4-127.2 (99.4% purity)
Boiling point (state purity)	Not determinable due to decomposition above its melting point (99.4% purity)
Temperature of decomposition	Approx. 240°C (99.4% purity)
Appearance (state purity)	Fine white powder, without significant odour (99.4% purity)
Relative density (state purity)	1.565 (99.4% purity)
Surface tension	74.16 mN/m (99.4% purity, 20°C)
Vapour pressure (in Pa, state temperature)	1.6 10 ⁻⁸ Pa (25°C) 4.3 10 ⁻⁹ Pa (20°C)
Henry's law constant (Pa m ³ mol ⁻¹)	2.2 10 ⁻⁵ Pa.m ³ /mol
Solubility in water (g/l or mg/l, state temperature)	pH 7, 20°C : 0.082 mg/l
Solubility in organic solvents (in g/l or mg/l, state temperature)	(97.7% purity, 20°C) n-heptane : 234 mg/l p-xylene : 41.7 to 43.5 g/l 1,2-dichloromethane : 100 to 111 g/l methanol : 7.39 g/l acetone : 167 to 182 g/l ethyl acetate : 105 to 111 g/l
Partition co-efficient (log P _{OW}) (state pH and temperature)	pH 7 : log Pow = 3.49
Hydrolytic stability (DT ₅₀) (state pH and temperature)	pH 4, 50 °C : hydrolytically stable pH 9, 50°C : rapid hydrolysis pH 7, 25°C: DT50 = 13.1 d
Dissociation constant	Not applicable
UV/VIS absorption (max.) (if absorption > 290 nm state ε at wavelength)	λ= 203 nm : ε = 28700 l.mol ⁻¹ .cm ⁻¹ λ= 243 nm : ε = 12800 l.mol ⁻¹ .cm ⁻¹ λ= 291 nm : ε = 5900 l.mol ⁻¹ .cm ⁻¹
Photostability (DT ₅₀) (aqueous, sunlight, state pH)	pH 5, 20°C, Xenon lamp : DT50 = 30 h
Quantum yield of direct phototransformation in water at Σ > 290 nm	φ = 1.07%
Flammability	Not highly flammable
Explosive properties	Not explosive

Summary of intended uses

Crop and/ or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks: (m)
					Type (d-f)	Conc. of as (i)	method kind (f-h)	growth stage & season (j)	Number min max (k)	interval between applicatio ns (min)	g as/hL min max	water L/ha min max	g as/ha min max		

Winter and spring cereals	NL	Milan SC	F	Annual weeds	SC	ET-751: 9 g/l Bifenox: 500 g/l	Convent ional spray	3 leaves to end of tillering	1	-	ET-751: 2.25- 2.93 Bifenox: 125- 162.5	400	ET-751: 9-11.7 Bifenox: 500-650	NA	Dose: 1-1.3 l/ha
Winter cereals	D	Milan SC	F	Annual weeds	SC	ET-751: 9 g/l Bifenox: 500 g/l	Convent ional spray	BBCH 13-29	1	-	ET-751: 3.38 Bifenox: 1.87	400	ET-751: 13.5 Bifenox: 750	NA	Dose: 1.5 l/ha
Summer barley	D	Milan SC	F	Annual weeds	SC	ET-751: 9 g/l Bifenox: 500 g/l	Convent ional spray	BBCH 13-29	1	-	ET-751: 2.25 Bifenox: 1.25	400	ET-751: 9 Bifenox: 500	NA	Dose: 1 l/ha
Winter barley and winter wheat	B & L	Milan SC	F	Annual weeds	SC	ET-751: 9 g/l Bifenox: 500 g/l	Convent ional spray	BBCH 21->29	1	-	ET-751: 2.25-3 Bifenox: 125-444	150 - 400	ET-751: 9-12 Bifenox: 500-665	NA	Dose: 1-1.33 l/ha

(a) For crops, the EU and Codex classifications (both) should be used; where relevant, the use situation should be described (*e.g.* fumigation of a structure)

(b) Outdoor or field use (F), glasshouse application (G) or indoor application (I)

(c) *e.g.* biting and suckling insects, soil born insects, foliar fungi, weeds

(d) *e.g.* wettable powder (WP), emulsifiable concentrate (EC), granule (GR)

(e) GCPF Codes - GIFAP Technical Monograph No 2, 1989

(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

(j) Growth stage at 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 application possible under practical conditions of use

(l) PHI - minimum pre-harvest interval

(m) Remarks may include: Extent of use/economic importance/restrictions

Classification and proposed labelling (Annex IIA, point 10)

with regard to physical/chemical data	-
with regard to toxicological data	-
with regard to fate and behaviour data	R53
with regard to ecotoxicological data	N, R50

Chapter 2.2: Methods of Analysis**Analytical methods for the active substance** (Annex IIA, point 4.1)

Technical as (principle of method)	GC with FID HPLC with UV detection
Impurities in technical as (principle of method)	HPLC with UV detection GC with FID
Plant protection product (principle of method)	HPLC with UV

Analytical methods for residues (Annex IIA, point 4.2)

Food/feed of plant origin (principle of method and LOQ for methods for monitoring purposes)	GC with NPD after derivatisation, LOQ = 0.01 mg/kg for a.s. and metabolite E-1
Food/feed of animal origin (principle of method and LOQ for methods for monitoring purposes)	Not required
Soil (principle of method and LOQ)	LC/MS-MS, LOQ = 0.01 mg/kg for a.s. and metabolites E-1, E-2, E-3
Water (principle of method and LOQ)	GC with ECD after derivatisation, LOQ = 0.1 µg/l for a.s. and metabolite E-1
Air (principle of method and LOQ)	GC with ECD, LOQ = 6 µg/m ³ for a.s.
Body fluids and tissues (principle of method and LOQ)	HPLC with UV detection, LOQ = 0.3 mg/l for a.s.; metabolites E-1 and E-9

Chapter 2.3: Impact on Human and Animal Health

Absorption, distribution, excretion and metabolism in mammals (Annex IIA, point 5.1)

Rate and extent of absorption:	rapid, dose dependent ; 56 % after low dose
Distribution:	essentially limited to excretory organs
Potential for accumulation:	no accumulation
Rate and extent of excretion:	95% in 24 h; fecal excretion is most important
Metabolism in animals	ester hydrolysis; N-demethylation
Toxicologically significant compounds (animals, plants and environment)	pyraflufen-ethyl

Acute toxicity (Annex IIA, point 5.2)

Rat LD ₅₀ oral	> 5000 mg/kg bw
Rat LD ₅₀ dermal	> 2000 mg/kg bw
Rat LC ₅₀ inhalation	>5.3 mg/l
Skin irritation	not irritant
Eye irritation	not irritant
Skin sensitization (test method used and result)	Maximisation test ; not sensitizer

Short term toxicity (Annex IIA, point 5.3)

Target / critical effect	blood/anemia, liver/oxidative stress, kidney
Lowest relevant oral NOAEL / NOEL	20 mg/kg bw/d ; 90 day, mice study
Lowest relevant dermal NOAEL / NOEL	no data, not necessary
Lowest relevant inhalation NOAEL / NOEL	no data, not necessary

Genotoxicity (Annex IIA, point 5.4)

not genotoxic

Long term toxicity and carcinogenicity (Annex IIA, point 5.5)

Target/critical effect	blood/ anemia ; liver/oxidative stress; kidney/papilla toxicity
Lowest relevant NOAEL / NOEL	20 mg/kg bw/d; rat and mice, 2 year study
Carcinogenicity	mice: hepatocellular adenoma

Reproductive toxicity (Annex IIA, point 5.6)

Reproduction target / critical effect	liver, kidneys, body weight
Lowest relevant reproductive NOAEL / NOEL	syst toxicity : NOAEL = 70.8 mg/kg bw/d reprotox. NOAEL > 721 mg/kg bw/d
Developmental target / critical effect	Mortality in female rabbits
Lowest relevant developmental NOAEL / NOEL	20 mg/kg bw/d

Neurotoxicity / Delayed neurotoxicity (Annex IIA, point 5.7)

no data, not necessary

Other toxicological studies (Annex IIA, point 5.8)

accumulation of porphyrin in all organs except skin and Harderian glands.
 -Inhibitor of some liver P450 dependent activities and catalase.
 -induction of lipid peroxidation , peroxisomal proliferator in mice
 -induction of liver single cell necrosis followed by mitosis

Medical data (Annex IIA, point 5.9)

No data

Summary (Annex IIA, point 5.10)

	Value	Study	Safety factor
Provisional ADI	0.2 mg/kg bw/d	2 year rat or mice	100
Provisional AOEL	0.112	90 day, mice	100 x 56%
Provisional ADI and AOEL waiting for information and NOAEL for liver porphyrin accumulation.			
Drinking water limit	0.7 mg/kg bw/d		
ARfD (acute reference dose)	not necessary.		

Dermal absorption (Annex IIIA, point 7.3)

default value : 100%

Acceptable exposure scenarios (including method of calculation)

Operator	UK-POEM and German model : acceptable for foliar application in post-emergence of cereals, tractor mounted boom sprayers.
Workers	As there is no risk for operator without PPE, worker exposure is acceptable.
Bystanders	As there is no risk for operator without PPE, bystander exposure is acceptable.

Chapter 2.4: Residues

Metabolism in plants (Annex IIA, point 6.1 and 6.7, Annex IIIA, point 8.1 and 8.6)

Plant groups covered	Cereals
Rotational crops	-
Plant residue definition for monitoring	Active substance + metabolite E-1
Plant residue definition for risk assessment	Active substance + metabolite E-1
Conversion factor (monitoring to risk assessment)	-

Metabolism in livestock (Annex IIA, point 6.2 and 6.7, Annex IIIA, point 8.1 and 8.6)

Animals covered	Livestock metabolism studies are not required
Animal residue definition for monitoring	-
Animal residue definition for risk assessment	-
Conversion factor (monitoring to risk assessment)	-
Metabolism in rat and ruminant similar (yes/no)	-
Fat soluble residue: (yes/no)	-

Residues in succeeding crops (Annex IIA, point 6.6, Annex IIIA, point 8.5)

.....	A study is ongoing
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Stability of residues (Annex IIA, point 6 introduction, Annex IIIA, point 8 introduction)

.....	Acceptable stability of the total residue (a.s. + E-1) in cereal grain for up to 6 months at -18°C
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Residues from livestock feeding studies (Annex IIA, point 6.4, Annex IIIA, point 8.3)

Intakes by livestock ≥ 0.1 mg/kg diet/day:	Ruminant: no	Poultry: no	Pig: no
Muscle	-	-	-
Liver	-	-	-
Kidney	-	-	-
Fat	-	-	-
Milk	-	-	-
Eggs	-	-	-

Summary of critical residues data (Annex IIA, point 6.3, Annex IIIA, point 8.2)

Crop	Northern or Mediterranean Region	Trials results relevant to the critical GAP (a)	Recommendation/comments	MRL	STMR (b)
Winter wheat	N	a.s. : 5 X <0.01; 3 X <0.005 E-1 : 7 X < 0.01; < 0.005	-	0.02*	-
Winter wheat	S	a.s. 8 X < 0.01 E-1 : 8 X < 0.01	-	0.02*	-
Winter barley	N	a.s. : 4 X < 0.01; 2 X < 0.005 E-1 : 4 X < 0.01; 2 X < 0.005	-	0.02*	-
Winter barley	S	a.s. : 4 X < 0.01 E-1 : 4 X < 0.01	-	0.02*	-
Winter rye	N	a.s. : < 0.005 E-1 : < 0.005	-	0.02*	-

(a) Numbers of trials in which particular residue levels were reported *e.g.* 3 x <0.01, 1 x 0.01, 6 x 0.02, 1 x 0.04, 1 x 0.08, 2 x 0.1, 2 x 0.15, 1 x 0.17

(b) Supervised Trials Median Residue *i.e.* the median residue level estimated on the basis of supervised trials relating to the critical GAP

Consumer risk assessment (Annex IIA, point 6.9, Annex IIIA, point 8.8)

ADI	0.2 mg/kg bw/d
TMDI (European Diet) (% ADI)	FAO European diet adult consumer : 0.033% ADI German model : 0.0753 % ADI UK model : 0.083-0.106% ADI
NEDI (% ADI)	-
Factors included in NEDI	-
ARfD	-
Acute exposure (% ARfD)	-

Processing factors (Annex IIA, point 6.5, Annex IIIA, point 8.4)

Crop/processed crop	Number of studies	Transfer factor	% Transference *
Not required	-	-	-

* Calculated on the basis of distribution in the different portions, parts or products as determined through balance studies

Proposed MRLs (Annex IIA, point 6.7, Annex IIIA, point 8.6)

Cereal grain	0.02*
--------------	-------

Chapter 2.5: Fate and Behaviour in the Environment

Route of degradation (aerobic) in soil (Annex IIA, point 7.1.1.1.1)

Mineralization after 100 days	2.53%
Non-extractable residues after 100 days	17%
Relevant metabolites - name and/or code, % of applied (range and maximum)	Metabolites E-1 (max 94% at d 1), E-2 (max 14-19%), E-3 (max 56-69%) and unknown2 (10%) Structure of unknown2 is rather similar to the a.s. and the 3 main metabolites

Route of degradation in soil - Supplemental studies (Annex IIA, point 7.1.1.1.2)

Anaerobic degradation	E-1 major degradation product (max 99%) E-2 (max 28%) 2.04% bound residue 0.2% mineralization
Soil photolysis	No photodegradation : DT50 = 299 d

Rate of degradation in soil (Annex IIA, point 7.1.1.2, Annex IIIA, point 9.1.1)

Method of calculation	First order kinetics
Laboratory studies (range or median, with n value, with r^2 value)	DT _{50lab} (20°C, aerobic, a.s.) < 0.5 d (4 values) DT _{50lab} (20°C, aerobic, E-1) 16-53 d (4 values) DT _{50lab} (20°C, aerobic, E-2) 6-11 d (3 values) DT _{50lab} (20°C, aerobic, E-3) 153-496 d (3 values) DT _{90lab} (20°C, aerobic, a.s.) 0.8-4.0 d (4 values) DT _{90lab} (20°C, aerobic, E-1) 52-175d (4 values) DT _{90lab} (20°C, aerobic, E-2) 20-36 d (3 values) DT _{90lab} (20°C, aerobic, E-3) 509-1648 d (3 values) DT _{50lab} (10°C, aerobic, a.s.) 1 d (1 value) DT _{50lab} (10°C, aerobic, E-1) 328 d (1 value) DT _{50lab} (20°C, anaerobic, a.s.) 1 d (1 value) DT _{50lab} (20°C, anaerobic, E-1) 191 d (1 value) DT _{50lab} (20°C, anaerobic, E-2) 392 d (1 value) degradation in the saturated zone: -
Field studies (state location, range or median with n value)	DT _{50f} : (4 sites in Fr, UK Ger; a.s., spring) = 1-7 d DT _{50f} : (4 sites in Fr, UK Ger; a.s., fall) = 1-3 d DT _{50f} : (4 sites in Fr, UK Ger; E-1, spring) = 11-44 d DT _{50f} : (4 sites in Fr, UK Ger; E-1, fall) = 35-71 d DT _{90f} : (4 sites in Fr, UK Ger; a.s., spring) = 3-23 d DT _{90f} : (4 sites in Fr, UK Ger; a.s., fall) = 3-10 d DT _{90f} : (4 sites in Fr, UK Ger; E-1, spring) = 121-345 d DT _{90f} : (4 sites in Fr, UK Ger; E-1, fall) = 115-236 d Max level E-2 ≤ 0.01 mg /kg soil Max level E-3 ≤ 0.01-0.05 mg /kg soil
Soil accumulation and plateau concentration	-

Soil adsorption/desorption (Annex IIA, point 7.1.2)

K _f /K _{oc}	Koc (a.s., HPLC) = 1949
K _d	Kf (E-1, 3 soils) = 2.21-3.02; Koc = 81-197 Kf (E-2, 3 soils) = 26.15-52.68; Koc = 1424-2179
pH dependence (yes / no) (if yes type of	Kf (E-3, 3 soils) = 52.24-114.62; Koc = 3098-4354

dependence)

No

Mobility in soil (Annex IIA, point 7.1.3, Annex IIIA, point 9.1.2)

Column leaching

0.2% RR in the leachate

Aged residues leaching

0.5% RR in the leachate

Lysimeter/ field leaching studies

Not required

PEC (soil) (Annex IIIA, point 9.1.3)

Method of calculation

First order kinetics, DT50 (a.s.) = 7 d

Application rate

Cereals, 13.5 g a.s./ha, no crop interception

PEC_(s)

	Single application Actual	Single application Time weighted average	Multiple Application Actual	Multiple application Time weighted average
Initial	0.018 mg/kg soil	0.018 mg/kg soil	-	-
Short term 24h	0.016	0.017	-	-
2d	0.015	0.016	-	-
4d	0.012	0.015	-	-
Long term 7d	0.009	0.013	-	-
28d	0.001	0.006	-	-
50d	0	0.003	-	-
100d	0	0.002	-	-

Method of calculation

First order kinetics, DT50 (E-1) = 71 d

Application rate

Cereals, 13.5 g a.s./ha, no crop interception

PEC_(s)

	Single application Actual	Single application Time weighted average	Multiple Application Actual	Multiple application Time weighted average
Initial	0.018 mg/kg soil	0.018 mg/kg soil	-	-
Short term 24h	0.018	0.018	-	-
2d	0.018	0.018	-	-
4d	0.017	0.018	-	-
Long term 7d	0.017	0.017	-	-
28d	0.014	0.016	-	-
50d	0.011	0.014	-	-
100d	0.007	0.011	-	-

Route and rate of degradation in water (Annex IIA, point 7.2.1)

Hydrolysis of active substance and relevant metabolites (DT ₅₀) (state pH and temperature)	pH 7, 25°C, a.s. : 13.1 d a.s. hydrolytically stable at pH 4, rapidly hydrolyzed at pH 9 The only hydrolysis product E-1 is stable at pH 4-7-9
Photolytic degradation of active substance and relevant metabolites	20°C, a.s. : 30 h (major degradate : PD1) 25°C, E-1 : 22.1 h 25°C, E-2 : 8.7 h 25°C, E-3 : 29.1 h
Readily biodegradable (yes/no)	No
Degradation in water/sediment - DT ₅₀ water - DT ₉₀ water - DT ₅₀ whole system - DT ₉₀ whole system	DT ₅₀ a.s. = 1-2 h, DT ₅₀ E-1 = 50-100 d, DT ₉₀ a.s. = 4-7 h DT ₅₀ a.s. = 2-2h DT ₉₀ a.s. = 6-7 h
Mineralization	No mineralization
Non-extractable residues	4.57-12.82% after 100 d
Distribution in water / sediment systems (active substance)	a.s. mainly in water phase
Distribution in water / sediment systems (metabolites)	E-1 mainly in water phase (83-94% after 1 d, 11-42% after 100 d) E-2 mainly in sediment phase (20-54% after 100 d) E-3 mainly in sediment phase (6-7% after 100 d)

PEC (surface water) (Annex IIIA, point 9.2.3)

Method of calculation	First order kinetics
Application rate	Cereals, 13.5 g a.s./ha
Main routes of entry	Spray drift of 4% at 1 m

Initial PEC a.s. = 0.00018 mg a.s./l. Chronic PEC for the a.s. are not relevant
Same initial PEC can be used for metabolites E-2 and E-3 (worst case scenario)

Metabolite E-1

PEC _(sw)	Single application		Multiple Application	
	Actual	Time weighted average	Actual	Time weighted average
Initial	0.00018	0.00018	-	-
Short term 24h	0.00018	0.00018	-	-
2d	0.00018	0.00018		
4d	0.00018	0.00018		
Long term 7d	0.00017	0.00018	-	-
14d	0.00017	0.00017		
21d	0.00016	0.00017		
28d	0.00015	0.00016		
42d	0.00013	0.00015		

PEC (sediment)

Method of calculation

Application rate

13.5 g a.s./ha , 4% drift at 1 m, depth of sediment : E-1 : 2 cm, Koc < 500; E-2 and E-3: 1 cm, Koc >500 sediment density : 1.3 g/cm ³ Maximum % AR in sediment : E-1 : 39.07% at day 14; E-2 54.09% at day 100, E-3 7.24% at day 100

PEC _(sed)	Single application Initial	Single Application Time weighted average	Multiple Application Actual	Multiple Application Time weighted average
Max PEC E-1	0.8µg/kg sed.	-	-	-
Max PEC E-2	2.2µg/kg sed.	-	-	-
Max PEC E-3	0.3µg/kg sed.	-	-	-

PEC (ground water) (Annex IIIA, point 9.2.1)Method of calculation and type of study (*e.g.* modelling, monitoring, lysimeter)

Application rate

PELMO 2.01 model
13.5 g a.s./ha, Borstel soil, Hamburg climatic data

PEC_(gw)

Maximum concentration

Average annual concentration

-
a.s. (spring or fall application) <0.001 µg/l E-1 (fall application) < 0.001-0.023 µg/l E-1 (spring application) < 0.001-0.096 µg/l E-2 (spring or fall application) <0.001 µg/l E-3 (spring or fall application) <0.001 µg/l

Fate and behaviour in air (Annex IIA, point 7.2.2, Annex III, point 9.3)

Direct photolysis in air

Quantum yield of direct phototransformation

Photochemical oxidative degradation in air

Volatilization

DT ₅₀ : 11.3 h
φ = 1.07%
Latitude: 52° N Season: June DT ₅₀ : 33 h
from plant surfaces: no volatilization
from soil: no volatilization

PEC (air)

Method of calculation

-

PEC_(a)

Maximum concentration

Not required

Definition of the Residue (Annex IIA, point 7.3)

Relevant to the environment

Soil : a.s., E-1, E-2, E-3 Water : a.s., E-1, E-2
--

Monitoring data, if available (Annex IIA, point 7.4)

Soil (indicate location and type of study)

Not available

Surface water (indicate location and type of study)

Not available

Ground water (indicate location and type of study)

Not available

Air (indicate location and type of study)

Not available

Chapter 2.6: Effects on Non-target Species

Effects on terrestrial vertebrates (Annex IIA, point 8.1, Annex IIIA, points 10.1 and 10.3)

Acute toxicity to mammals	LD50 > 5000 mg/kg bw
Acute toxicity to birds	LD50 > 2000 mg/kg bw
Dietary toxicity to birds	LC50 > 5000 mg/kg food
Reproductive toxicity to birds	NOEC < 50 mg a.s./kg food

Toxicity/exposure ratios for terrestrial vertebrates (Annex IIIA, points 10.1 and 10.3)

Application rate (kg as/ha)	Crop	Category (e.g. insectivorous bird)	Time-scale	TER	Annex VI Trigger
0.0135	Cereals	Small insectivorous bird	Acute	17029	10
		Small foliage eating bird	Acute	15930	10
		Small insectivorous bird	Short-term	12771	10
		Small foliage eating bird	Short-term	11947	10
		Small insectivorous bird	Long-term	128	5
		Small foliage eating bird	Long-term	119	5
0.0135	Cereals	Small insectivorous mammal	Acute	42571	10
		Small foliage eating mammal	Acute	39825	10
		Small insectivorous mammal	Short-term	5109	10
		Small foliage eating mammal	Short-term	4779	10
		Small insectivorous mammal	Long-term	170	5
		Small foliage eating mammal	Long-term	159	5

Toxicity data for aquatic species (most sensitive species of each group) (Annex IIA, point 8.2, Annex IIIA, point 10.2)

Group	Test substance	Time-scale	Endpoint	Toxicity (µg/l)
Laboratory tests				
Fish	a.s.	96 h	LC50	> 100
Daphnia	a.s.	48 h	EC50	> 100
Algae	a.s.	72 h	EC50	0.23
Fish	E-1	96 h	LC50	> 100000
Daphnia	E-1	48 h	EC50	> 120000
Algae	E-1	72 h	EC50	2.2
Fish	E-1	36 d	NOEC	10000
Daphnia	E-1	21 d	NOEC	100000
Algae	E-2	72 h	EC50	0.16
Microcosm or mesocosm tests				
Not required				

Toxicity/exposure ratios for the most sensitive aquatic organisms (Annex IIIA, point 10.2)

Bioconcentration factor (BCF)

Annex VI Trigger for the bioconcentration factor

Clearance time (CT₅₀)
(CT₉₀)

Level of residues (%) in organisms after the 14 day depuration phase

Determination of the a.s. BCF is not relevant (DT50 = 2h)
BCF (E-1) = 2.4

100

—

Below determination limit after 12 h

Acute oral toxicity

LD50 > 100 µg/bee

Acute contact toxicity

LD50 > 100 µg/bee

Application rate (kg as/ha)	Crop	Route	Hazard quotient	Annex VI Trigger
Laboratory tests				
0.0135	Cereals	Oral	0.12	50
		Contact	0.13	50

Field or semi-field tests
Not required

Species	Stage	Test Substance	Dose (kg as/ha)	Endpoint	Effect	Annex VI Trigger
Laboratory tests						

<i>Aphidius rhopalosiphi</i>	adults	formulation	1.33l/ha	beneficial capacity	2.1%	30%
<i>Typhlodromus pyri</i>	protonymphs	formulation	1.33l/ha	beneficial capacity	100%	30%
<i>Pardosa amentata</i>	adults	formulation	1.33l/ha	mortality	29.4%	30%
<i>Poecilus cupreus</i>	adults	formulation	1.33l/ha	mortality	3.3%	30%
<i>Chrysoperla carnea</i>	24 hour old larvae	formulation	1.33l/ha	beneficial capacity	32.6%	30%
<i>Coccinella septempunctata</i>	3 day old larvae	formulation	1.33l/ha	beneficial capacity	33.04%	30%

Field or semi-field tests
Not required

Effects on earthworms (Annex IIA, point 8.4, Annex IIIA, point 10.6)

Acute toxicity

LC 50 > 1000 mg a.s./kg soil

Reproductive toxicity

Not required

Toxicity/exposure ratios for earthworms (Annex IIIA, point 10.6)

Application rate (kg as/ha)	Crop	Time-scale	TER	Annex VI Trigger
0.00135	Cereals	acute	> 55556	10

Effects on soil micro-organisms (Annex IIA, point 8.5, Annex IIIA, point 10.7)

Nitrogen mineralization

Negligible effects at 20 and 100 g a.s./ha (1.5 and 7.4 times the application rate of 13.5 g a.s./ha)

Carbon mineralization

Negligible effects at 20 and 100 g a.s./ha (1.5 and 7.4 times the application rate of 13.5 g a.s./ha)