HSE

Draft Assessment Report

Evaluation of Active Substances

Plant Protection Products

Prepared according to **Retained Regulation (EC) 1107/2009** as it applies in Great Britain

Prosulfuron

List of Endpoints

GB Amendment Application

Great Britain

September 2023

Version History

Date	Reason for revision
February 2014	LoEP for Prosulfuron from the renewal of approval provided in the RAR, 2014, applicable to GB. For the renewal, the Rapporteur Member State (RMS) was France and Co-RMS Slovakia.
March 2015	LoEP as published in the EFSA conclusion (EFSA Journal 2014;12(9):3815) for the renewal of prosulfuron, applicable to GB.
September 2023	GB Article 7 amendment assessment for the proposed removal of restriction of prosulfuron in GB.

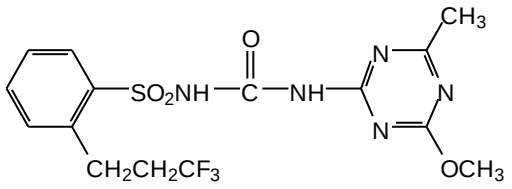
List of end points

Identity, Physical and Chemical Properties, Details of Uses, Further Information, Methods of Analysis

Identity, Physical and Chemical Properties, Details of Uses, Further Information

Active substance (ISO Common Name) ‡	PROSULFURON
Function (*e.g.* fungicide)	Herbicide

Identity (Annex IIA, point 1)

Chemical name (IUPAC) ‡	1-(4-methoxy-6-methyl-triazin-2-yl)-3-[2-(3,3,3-trifluoropropyl)-phenylsulfonyl]-urea
Chemical name (CA) ‡	N-[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]-2-(3,3,3-trifluoropropyl)benzenesulfonamide
CIPAC No ‡	579
CAS No ‡	94125-34-5
EC No (EINECS or ELINCS) ‡	Not available
FAO Specification (including year of publication) ‡	/
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	CGA 159902 : 2-(3,3,3-trifluoro-propyl)-benzene sulphonamide Maximal content 10 g/kg
Molecular formula ‡	$C_{15}H_{16}F_3N_5O_4S$
Molecular mass ‡	419,4 g/mol
Structural formula ‡	

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

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Identity, Physical and Chemical Properties, Details of Uses, Further Information, Methods of Analysis

Physical and chemical properties (Annex IIA, point 2)

Melting point (state purity) ‡	155°C (99.5%)
Boiling point (state purity) ‡	Open point
Temperature of decomposition (state purity)	Open point
Appearance (state purity) ‡	Light beige powder (technical a.i : 95.1% purity) White powder (pure a.i. : 99.4% purity)
Vapour pressure (state temperature, state purity) ‡	< 3.5 x 10^{-6} Pa (25°C, 99.5 % purity)
Henry's law constant ‡	< 3 x 10^{-4} $Pa.m^3$ mol^{-1}
Solubility in water (state temperature, state purity and pH) ‡	pH 5 : 87 mg/L (25°C, 99.5 % purity) pH 6.8 : 4 g/L (25°C) pH 7.7 : 43 g/L (25°C)
Solubility in organic solvents ‡ (state temperature, state purity)	At 20°C, 99.5% purity: n-hexane : 6.4 mg/L - toluene : 6.1 g/L n-octanol : 1.4 g/L - ethanol : 8.4 g/L ethyl acetate : 56 g/L - acetone : 160 g/L dichloromethane : 180 g/L
Surface tension ‡ (state concentration and temperature, state purity)	63 mN/m (20°C, 10.0 g/L suspension in water, 99.5 % purity)
Partition co-efficient ‡ (state temperature, pH and purity)	pH 5 : 1.5 (25°C, 99.5 % purity) pH 6 : - 0,21 (25°C, 99.5 % purity) pH 9 : - 0,76 (25°C, 99.5 % purity)
Dissociation constant (state purity) ‡	pKa = 3.76 (20°C, 99.5 % purity)
UV/VIS absorption (max.) incl. ε ‡ (state purity, pH)	λ max = 227.5 nm (98.4 % purity) ε : 21645 $l.mol^{-1}.cm^{-1}$
Flammability ‡ (state purity)	Not highly flammable 99.5 % purity
Explosive properties ‡ (state purity)	Not explosive 99.5 % purity
Oxidising properties ‡ (state purity)	No oxidizing properties 99.5 % purity

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Summary of representative uses evaluated for prosulfuron*

Crop and/or situation (a)	Member State	Product Name	F G 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 a.i. g/kg (i)	method kind (f-h)	growth stage and season (j)	number min-max (k)	interval between applications (days)	g a.i./hl min-max	water l/ha; min-max	g a.i./ha min-max		
Maize and sweet corn	EU	PEAK ® 75 WG	F	Broad leaved weeds as cited on label	WG	750	Broadcast foliar application	BBCH 12-18 corresponding to 2-8 leaves	1	-	5-25	80-400	20	90 (grain) 60 (silage)	In combination with a nonionic surfactant at 0.1% to 0.25% of application volume
Maize and sweet corn	EU	PEAK ® 75 WG	F	Broad leaved weeds as cited on label	WG	750	Broadcast foliar application	BBCH 12-18 corresponding to 2-8 leaves	1	-	3.75-18.75	80-400	15	90 (grain) 60 (silage)	In combination with a nonionic surfactant at 0.1% to 0.25% of application volume
Maize and sweet corn	EU	PEAK ® 75 WG	F	Broad leaved weeds as cited on label	WG	750	Broadcast foliar application	BBCH 12-19 corresponding to 2-9 leaves	1 (or split application)*	-	3.75-18.75	80-400	15 (total)	90 (grain) 60 (silage)	In combination with a nonionic surfactant at 0.1% to 0.25% of application volume [split app. is 2 apps to a total of 15g within BBCH 19]

* For uses where the column „Remarks“ in marked in grey further consideration is necessary. Uses should be crossed out when the notifier no longer supports this use(s).

(a) For crops, the EU and Codex classification (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 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 N° 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) Concentration in g ai/kg of g ai/L.

(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 synthesised, it is more appropriate to give the rate for the variant (e.g. benthiavalicarb-isopropyl).**

(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

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*split application is 2 applications to a total of 15 g/ha within BBCH 19

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Methods of Analysis

Analytical methods for the active substance (Annex IIA, point 4.1)

Technical as (analytical technique)	HPLC-UV (230 nm)
Impurities in technical as (analytical technique)	HPLC-UV (230 nm) GC-FID Karl Fisher Potentiometric titration
Plant protection product (analytical technique)	HPLC-UV (230 nm)

Analytical methods for residues (Annex IIA, point 4.2)

Residue definitions for enforcement purposes

Food of plant origin	Prosulfuron
Food of animal origin	Prosulfuron
Soil	Prosulfuron
Water surface	Prosulfuron
drinking/ground	Prosulfuron
Air	Prosulfuron

Enforcement methods

Food/feed of plant origin (analytical technique and LOQ for methods for enforcement purposes)	LC-MS/MS LOQ = 0.01 mg/kg in cereals and dry products, acidic matrices, fatty products and commodities with high water content. ILV and confirmatory data are available.
Food/feed of animal origin (analytical technique and LOQ for methods for enforcement purposes)	LC-MS/MS LOQ = 0.01 mg/kg in liver, fat, meat, kidney, milk and eggs. ILV and confirmatory data are available.
Soil (analytical technique and LOQ)	LC-MS/MS LOQ = 0.5 µg/kg in soil Confirmatory method is available
Water (analytical technique and LOQ)	LC-MS/MS LOQ = 0.05 µg/L in drinking, surface and

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	ground water Confirmatory data are available
Air (analytical technique and LOQ)	LC-MS/MS LOQ = 1 µg/m^3
Body fluids and tissues (analytical technique and LOQ)	Not required as the active substance is not toxic or very toxic

Classification and proposed labelling with regard to physical and chemical data (Annex IIA, point 10)

	RMS/peer review proposal
Active substance	/

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Mammalian toxicology

Impact on Human and Animal Health

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

Rate and extent of oral absorption ‡	Rapid and complete (>90%) based on urinary excretion after oral and intravenous administration
Distribution ‡	Widely distributed
Potential for accumulation ‡	No potential for accumulation
Rate and extent of excretion ‡	About 90% within 48h, mainly via urine (69-83%)
Metabolism in animals ‡	Moderately to extensively metabolized in rats, up to 30% excreted as unchanged parent compound Predominant metabolic reactions: hydroxylation at the side chains and the phenyl ring, O-demethylation of the triazine methoxy group, and generation of a double bond on the trifluoropropyl group
Toxicologically relevant compounds ‡ (animals and plants)	Prosulfuron
Toxicologically relevant compounds ‡ (environment)	Prosulfuron

Acute toxicity (Annex IIA, point 5.2)

Rat LD_{50} oral ‡	546 mg/kg bw (female rat)	**R22/H302**
Rat LD_{50} dermal ‡	> 2000 mg/kg bw	
Rat LC_{50} inhalation ‡	> 5.4 mg/L, nose-only	
Skin irritation ‡	Non irritant	
Eye irritation ‡	Non irritant	
Skin sensitisation ‡	Non sensitising (Buehler test and Magnusson and Kligman test)	Xi, R43 or H317*

*due to the presence of a sensitising impurity

Short term toxicity (Annex IIA, point 5.3)

Target / critical effect ‡	Liver (hepatocyte hypertrophy), heart (myocardial degeneration), hematopoietic system (red blood cells decreased)	
Relevant oral NOAEL ‡	6 mg/kg bw/d (90-day, dog)	

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Mammalian toxicology

Relevant dermal NOAEL ‡	No valid study submitted, no further study required	
Relevant inhalation NOAEL ‡	Not performed - not required	

Genotoxicity ‡ (Annex IIA, point 5.4)

	No genotoxic potential	

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

Target/critical effect ‡	Liver (hepatocellular hypertrophy in mice), indication of hormonal disruption (uterus and mammalian gland in rats) at high dose levels	
Relevant NOAEL ‡	1.7 mg/kg bw/d (18-month, mouse)	
Carcinogenicity ‡	No carcinogenic potential	

Reproductive toxicity (Annex IIA, point 5.6)

Reproduction toxicity

Reproduction target / critical effect ‡	Reduced pup weight at parental toxic doses (rats)	
Relevant parental NOAEL ‡	12 mg/kg bw/d (rat)	
Relevant reproductive NOAEL ‡	251 mg/kg bw/d (rat)	
Relevant offspring NOAEL ‡	12 mg/kg bw/d (rat)	

Developmental toxicity

Developmental target / critical effect ‡	Skeletal variations (rat) and resorptions (rabbit) at maternal toxic doses	
Relevant maternal NOAEL ‡	10 mg/kg bw/d (rabbit)	
Relevant developmental NOAEL ‡	10 mg/kg bw/d (rabbit)	

Neurotoxicity (Annex IIA, point 5.7)

Acute neurotoxicity ‡	No specific neurotoxic effects	
Repeated neurotoxicity ‡	No specific neurotoxic effects	
Delayed neurotoxicity ‡	Not performed - not required	

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Mammalian toxicology

Other toxicological studies (Annex IIA, point 5.8)

Mechanism studies ‡	Not relevant
Studies performed on metabolites or impurities ‡	CGA150829 (triazine amine), CGA159902, CGA349707, CGA325025 and SYN547308. - CGA349707: *In vitro* genotoxicity tests - Ames test, mouse lymphoma assay and cytogenetic assay in human lymphocytes: negative *Conclusion* Not genotoxic **ADI of 0.001 mg/kg per day** (derived by multiplying the ADI of prosulfuron 0.02 mg/kg bw/day, by 5%). - CGA159902 (CA1118A): Acute oral LD50 > 2000 mg/kg bw Acute dermal LD50 > 2000 mg/kg bw Not a skin or eye irritant Sensitiser (M&K test) – R43; H317 *In vitro* genotoxicity tests - Ames test: negative; mouse lymphoma assay: positive (small colonies); cytogenetic assay in human lymphocytes: positive *In vivo* genotoxicity tests – UDS assay: negative; mouse bone marrow micronucleus test: negative *Conclusion* Not genotoxic. It is a skin sensitiser (Cat 1). **ADI of 0.0013 mg/kg per day** (derived by multiplying the ADI of prosulfuron 0.02 mg/kg bw/day, by 6.7%). - CGA150829 (triazine amine): Acute oral LD50 > 2000 mg/kg bw (M); =1000 mg/kg bw (F) – R22; H302 Acute dermal LD50 > 2000 mg/kg bw Acute inhalation LC50 > 5.2 mg/L Not a skin or eye irritant Not a sensitiser (M&K test) 28 day rat study – NOAEL (males) <50 ppm (3.6 mg/kg bw/day), females 150 ppm (11

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mg/kg bw/day). Benchmark dose analysis $BMDL_{10}$ (combined): 0.7 mg/kg bw/day.

In vitro genotoxicity tests - Ames test: negative; cytogenetic assays: negative in Chinese hamster cells, positive in human lymphocytes; UDS assays: negative both on rat hepatocytes and human fibroblasts; mammalian gene mutation assays (HPRT locus) in Chinese hamster ovary cells and mouse lymphoma L5178Y cells: both negative; micronucleus test in human lymphocytes: negative

In vivo genotoxicity tests – chromosome studies on somatic Chinese hamster cells: negative

Conclusion

Not genotoxic.

ADI of 0.0007 mg/kg bw/day (derived from 28d study $BMDL_{10}$, AF of 100; additional factor of 10 for extrapolation from sub-acute to chronic exposure).

- CGA325025

In vitro genotoxicity tests - Ames test: negative, mouse lymphoma assay: negative, cytogenetic assay in human lymphocytes: equivocal, micronucleus test in human lymphocytes: negative.

Conclusion

Not genotoxic.

The **TTC Cramer Class III value (1.5 µg/kg bw/day)** can be used as a reference value for risk assessment*.

- SYN547308

In vitro genotoxicity tests - Ames test: negative, mouse lymphoma assay: negative, cytogenetic assay in human

lymphocytes: positive, micronucleus test in human lymphocytes: negative.

Conclusion

Not genotoxic.

The **TTC Cramer Class III value (1.5 µg/kg bw/day)** can be used as a reference value for risk assessment*.

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Mammalian toxicology

*Combined risk assessment for the CGA325025 and SYN547308 is not required (significant differences in structural similarity and in functional groups).

Medical data ‡ (Annex IIA, point 5.9)

No reported case of adverse reactions related to the handling of prosulfuron during its synthesis, formulation or packaging. Three cases of occupational or accidental exposure to prosulfuron (dermal, oral or unknown route, minor or none severity grade, one case of oral irritation, two cases with symptom “not reported”)

Summary (Annex IIA, point 5.10)

	Value	Study	Safety factor
ADI ‡	0.02 mg/kg bw/d	1-year, dog and 18-month, mouse	100
AOEL ‡	0.06 mg/kg bw/d	90-day, dog	100
ARfD ‡	0.1 mg/kg bw	Developmental toxicity, rabbit	100

Dermal absorption ‡ (Annex IIIA, point 7.3)

Formulation (A8714C, 75 WG)	<u>Results of the *in vitro* human epidermis study:</u> Concentrate (50% w/w slurry): 0.1% Spray dilution 1/750: 3% Spray dilution 1/1500: 4% <u>Values used for the representative formulation, according to the GAPs:</u> Undiluted: 0.1% Spray dilutions 0.25 g a.s/L (dilution volume 80 L/ha): 4% Spray dilutions 0.05 g a.s/L (dilution volume 400 L/ha): 25% Spray dilutions with the use of an adjuvant: 75%

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Exposure scenarios (Annex IIIA, point 7.2)

Operator	UK-POEM without PPE: 13% AOEL (80L/ha), 16% AOEL (400 L/ha), 218% AOEL (with adjuvant) UK-POEM with gloves during mixing/loading and application: 35% AOEL (with adjuvant) German model without PPE: 0.9% AOEL (80 L/ha), 5.0% AOEL (400 L/ha), 15% AOEL (with adjuvant)
Workers	13% of AOEL without PPE (scouting)
Bystanders	0.2% of AOEL Resident: 0.01% of AOEL for both adults and children

Classification and proposed labelling with regard to toxicological data (Annex IIA, point 10)

Substance classified	Prosulfuron
Classification according to Council Directive 67/548/EEC / Regulation (EC) No 1272/2008:	Harmonised classification and labelling: Xn, R22 Acute tox. 4 (H302)
Peer review proposal*	Under Council Directive 67/548/EEC[1] Xn, R22 R43 Under Regulation (EC) No 1272/2008[2] Acute tox. 4 (H302) Skin sensitisation 1 (H317) **Justification**: R43/H317 due to the presence of a sensitising impurity in the technical specifications

* It should be noted that classification is formally proposed and decided in accordance with Regulation (EC) No 1272/2008. Proposals for classification made in

[1] OJ No 196, 16.08.1967, p. 001-0098
[2] OJ No L 353, 31.12.2008, p. 0001-1355

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Mammalian toxicology

the context of the evaluation procedure under Regulation (EC) No 1107/2009 are not formal proposals.

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Residues

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

Plant groups covered	Cereals (maize)
Rotational crops	Radish, spinach, wheat, lettuce
Metabolism in rotational crops similar to metabolism in primary crops?	Yes
Processed commodities	Not necessary
Residue pattern in processed commodities similar to residue pattern in raw commodities?	-
Plant residue definition for enforcement	Prosulfuron
Plant residue definition for risk assessment	Prosulfuron
Conversion factor (enforcement to risk assessment)	-

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

Animals covered	Goat, hen
Time needed to reach a plateau concentration in milk and eggs	Milk : n.a. Eggs : 2 days (egg white), 6 days (egg yolk)
Animal residue definition for enforcement	Prosulfuron
Animal residue definition for risk assessment	Prosulfuron
Conversion factor (enforcement to risk assessment)	-
Metabolism in rat and ruminant similar (yes/no)	Yes
Fat soluble residue: (yes/no)	No (log P = -0.21 at pH 6)

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

	No accumulation in soil. No uptake of soil specific metabolites.

Stability of residues (Annex IIA, point 6 introduction, Annex IIIA, point 8 Introduction)

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Residues

Residues of prosulfuron are stable under freezer storage for at least 25 months (maize grain and forage; beef muscle, beef liver, and milk), 12 months in maize oil and 16 months in eggs

Residues from livestock feeding studies (Annex IIA, point 6.4, Annex IIIA, point 8.3)

	Ruminant	Poultry	Pig
	Conditions of requirement of feeding studies		
Expected intakes by livestock ≥ 0.1 mg/kg diet (dry weight basis) (yes/no - If yes, specify the level)	No (but study available)	No (but study available)	No
Potential for accumulation (yes/no)	No	No	No
Metabolism studies indicate potential level of residues ≥ 0.01 mg/kg in edible tissues (yes/no)	No	No	No
	Feeding studies (feeding study on lactating cows 5, 15, 50 ppm in the feed; feeding study on laying hens 0.1, 0.3, 1 ppm in the feed). Residue levels in matrices : Mean (max) mg/kg		
Muscle	<0.05 mg/kg whatever the feeding dose	<0.05 mg/kg whatever the feeding dose	-
Liver	<0.05 mg/kg whatever the feeding dose	<0.05 mg/kg whatever the feeding dose	-
Kidney	<0.05 mg/kg whatever the feeding dose	<0.05 mg/kg whatever the feeding dose	-
Fat	<0.05 mg/kg whatever the feeding dose	<0.05 mg/kg whatever the feeding dose	-
Milk	<0.01 mg/kg whatever the feeding dose		
Eggs		<0.05 mg/kg whatever the feeding dose	

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Residues

Summary of residues data according to the representative uses on raw agricultural commodities and feeding stuffs (Annex IIA, point 6.3, Annex IIIA, point 8.2)

Crop	Northern or Mediterranean Region, field or glasshouse, and any other useful information	Trials results relevant to the representative uses (a)	Recommendation/comments	MRL estimated from trials according to the representative use	Recommended MRL	HR (c)	STMR (b)
Maize	Northern EU	8x<0.01; 4x<0.02	EU intended GAP : foliar treatment, 20 g as/ha, PHI 90 days (grain)	0.02*	0.01*	<0.02	<0.01
	Southern EU	4x<0.01; 3x<0.02				<0.02	<0.01
Sweet corn	Northern EU	11x<0.01	EU intended GAP : foliar treatment, 20 g as/ha, PHI 90 days (grain)	0.02*	0.01*	<0.01	<0.01
	Southern EU	4x<0.01				<0.01	<0.01

(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 representative use
(c) Highest residue

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Residues

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

ADI	0.02 mg/kg bw/d
TMDI (% ADI) according to EFSA PRIMo	10% (NL toddler)
IEDI (% ADI) according to EFSA PRIMo	0.4% (NL toddler)
NEDI (% ADI)	<1% (infant)
ARfD	0.1 mg/kg bw
IESTI (%ARfD) according to EFSA PRIMo	0.4% (sweet corn) 0.07% (maize/corn)
NESTI (% ARfD)	0.4% (sweet corn) 0.1% (maize/corn)

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

Not necessary as residue level in RAC <0.1 mg/kg

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

Since an analytical method for enforcement in plant is available with a LOQ of 0.01 mg/kg, the proposed MRL of 0.02*mg/kg from trials in maize and sweet corn was recommended to be set at 0.01* mg/kg in the Article 12 MRL review (2012).

Maize grain	0.01* mg/kg
Sweet corn	0.01* mg/kg

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Fate and behaviour in the environment

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

Mineralization after 100 days ‡	up to 13.1 % (phenyl) and 21.5 % (triazine) after 120 days
Non-extractable residues after 100 days ‡	12-44 % (phenyl) after 90 days; max. 57% after 1 year 9-34.5 % (triazine) after 90 days
Metabolites requiring further consideration ‡ - name and/or code, % of applied (range and maximum)	CGA159902 (phenyl sulfonamide): max. 47.4 % after 12 months CGA150829 (triazine amine): max. 40.6 % after 62 days CGA300406 (O-desmethyl): max. 24.0 % after 30 days CGA 325025 (demethoxy amino): max. 17.4 % after 274 days CGA349707: max. 22.6 % after 12 months SYN542604 (M5): max. 30.8 % after 62 days SYN547308 (M18): max. 9.9% after 62 days

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

Anaerobic degradation ‡

Mineralization after 100 days	0.1-0.4 % after 90 days (both labels)
Non-extractable residues after 100 days	8-16 % after 90 days (both labels)
Metabolites that may require further consideration for risk assessment – name and/or code, % of applied (range and maximum)	No novel major metabolites compared to aerobic conditions. CGA159902: max. 20.4 % after 92 days CGA150829: max. 8.3 % after 90 days CGA300406: max. 8.2 % after 92 days CGA 325025: max. 16.3 % after 90 days

Soil photolysis ‡

Metabolites that may require further consideration for risk assessment – name and/or code, % of applied (range and maximum)	No novel major metabolites compared to aerobic conditions. CGA159902, CGA300406 and 3 unidentified metabolites (from triazine moiety) all <5%

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Fate and behaviour in the environment

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

Laboratory studies ‡

Prosulfuron		Dark aerobic conditions.					
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	DT_{50} (d) 20 °C pF2/10kPa[a)]	St. (χ^2)	Method of calculation
[redacted], 2011	18 Acres (phenyl) Sandy clay loam	5.84	20 / pF2	22.5 / 74.7	22.5	7.2	SFO
	18 Acres (triazine) Sandy clay loam	5.84	20 / pF2	18.9 / 62.8	18.9	9.8	SFO
[redacted], 2011a	18 Acres (triazine) Sandy clay loam	5.84	20 / pF2	21.0 / 69.9	21.0	8.3	SFO
	Vétroz (triazine) Loam	7.77	20 / pF2	41.3 / 137	41.3	2.4	SFO
	Krone (triazine) Silt loam	5.38	20 / pF2	15.4 / 51.1	15.4	9.3	SFO
	Nebraska (triazine) Silt loam	6.61	20 / pF2	61.1 / 203	61.1	6.9	SFO
[redacted], 1993a	Fayette (phenyl) Sandy loam	6.6	25 / 75% FC	88.9 / 295	106	8.4	SFO
[redacted], 1993b	Fayette (triazine) Sandy loam	6.6	25 / 75% FC	192 / 639	229	3.3	SFO
[redacted], 1994a[c)]	Madison (phenyl) Sandy loam	6.1	25 / 75% FC	143 / 476	142	4.6	SFO
[redacted], 1994b[d)]	Madison (triazine) Sandy loam	6.1	25 / 75% FC	124 / 410	122	4.0	SFO

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

Prosulfuron		Dark aerobic conditions.					
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	DT_{50} (d) 20 °C pF2/10kPa[a)]	St. (χ^2)	Method of calculation
[redacted], 1994 [e)]	Neuhofen (phenyl) Loamy sand	6.6	20 / 40% MWHC	177 / 589	124	3.6	SFO
	Collombey (phenyl) Loamy sand / sand	7.2	20 / 40% MWHC	138 / 459	98.2	5.2	SFO
	Stein (phenyl) Sandy loam / loam	7.0	20 / 40% MWHC	198 / 657	132	3.2	SFO
	Les Evouettes (phenyl) Silt loam	7.3	20 / 40% MWHC	74.3 / 247	47.2	5.6	SFO
[redacted], 1995[f)]	Les Evouettes (phenyl) Silt loam	7.0	20 / 60% FC	24.4 / 80.9	21.9	7.2	SFO
Geometric mean (n=10)					62.1[b)]		
Median (n=10)					79.7[b)]		

a) Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7
b) Geometric mean of replicate soils calculated first (18 Acres 20.8 days; Fayette 156 days; Madison 131 days; Les Evouettes 32.2 days)
c) In the original DAR [redacted] 1994j
d) In the original DAR [redacted] 1994a
e) In the original DAR [redacted] 1994a
f) In the original DAR [redacted] 1994b

CGA150829		Dark aerobic conditions. Metabolite dosed or the precursor from which the f.f. was derived was parent prosulfuron.						
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f.	DT_{50} (d) 20 °C pF2/10kPa[a)]	St. (χ^2)	Method of calculation
[redacted], 2011	18 Acres (triazine) Sandy clay loam	5.84	20 / pF2	295 / 979	0.36	295	10.4	SFO

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

CGA150829		Dark aerobic conditions. Metabolite dosed or the precursor from which the f.f. was derived was parent prosulfuron.						
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f.	DT_{50} (d) 20 °C pF2/10kPa[a)]	St. (χ^2)	Method of calculation
[redacted], 2011a	18 Acres (triazine) Sandy clay loam	5.84	20 / pF2	228 / 757	0.28	228	2.9	SFO
	Vétroz (triazine) Loam	7.77	20 / pF2	61.9 / 205	0.11	61.9	16.8	SFO
	Krone (triazine) Silt loam	5.38	20 / pF2	>1000 / >1000	0.41	1000	7.3	SFO
	Nebraska (triazine) Silt loam	6.61	20 / pF2	>1000 / >1000	0.21	1000	22.4	SFO
[redacted] & [redacted], 2006	18 Acres Sandy clay loam	5.0	20 / pF2	249 / 830	-	249	3.2	SFO
	Gartenacker Loam	6.9	20 / pF2	102.2 / 339	-	102.2	3.5	SFO
	Krone Silt loam	4.9	20 / pF2	191 / 634	-	191	3.7	SFO
[redacted], 2011	Honville Loamy silt	6.7	20 / 40% MWHC	113.6 / 717.6	-	260.1[b)]	3.03	HS[e)]
	Arrow Sandy loam	5.7	20 / 50% MWHC	44.7 / 97.0	-	22.5[c)]	14	HS[f)]
[redacted], 1993b	Fayette Sandy loam	6.6	25 / 75% FC	>1000 / >1000	0.15	1000	17.1	SFO
[redacted], 1994b[g)]	Madison Sandy loam	6.1	25 / 75% FC	>1000 / >1000	0.34	1000	17.9	SFO
[redacted], 1987*	Keyport; silt loam	4.3	25°C / 70% FC	208 / 691	-	254	6.2	SFO

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

CGA150829		Dark aerobic conditions. Metabolite dosed or the precursor from which the f.f. was derived was parent prosulfuron.						
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f.	DT_{50} (d) 20 °C pF2/10kPa[a)]	St. (χ^2)	Method of calculation
[redacted] (2006a)*	Soil 2.2; loamy sand	5.7 (H_2O)	20°C / 45% MWHC	67.3 / 224	-	67.3	5.68	SFO
[redacted] (2006a)*	Soil 3A; sandy loam	7.3 (H_2O)	20°C / 45% MWHC	280.4 / >1000	-	385[c)]	2	HS[g)]
[redacted] (2006a)*	Soil 6S; clay loam	7.1 (H_2O)	20°C / 45% MWHC	333.2 / 1107	-	230.1	1	SFO
[redacted] and [redacted] (2002)**	Speyer 2.1; sand	5.5	20°C / pF2	112.5 / 374	-	112.5	2.9	SFO
[redacted] and [redacted] (2002)**	Soil 115; clay loam	8.6	20°C / pF2	175.2 / 582	-	175.2	3.1	SFO
[redacted] and [redacted] (2002)**	Soil 243; sandy loam	5.6	20°C / pF2	96.4 / 320.2	-	96.4	6.2	SFO
Median (n=19)						216[d)]		
Arithmetic mean (n=6)					0.28[d)]			

a) Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7
b) Calculated from slow phase ($ln(2)/k_2$); normalised value (correction factor (18.76/27)^0.7).
c) Calculated from slow phase ($ln(2)/k_2$)
d) Geometric/arithmetic mean of replicate soils calculated first (18 Acres (pH 5.84) 259 days / ffM 0.32)
e) k_1=0.01772, k_2=0.00266, t_b=25.9
f) k_1=0 (fixed; lag phase), k_2=0.03082, t_b=22.25
a) k_1=0.013, k_2=0.002, t_b=20

*Metabolite dosed studies, accepted in the RAR for thifensulfuron-methyl: [redacted] (1987), [redacted] (2006a), also incorporating an updated kinetic assessment for soil 3A presented in the RAR of tribenuron-methyl and agreed by the Peer review.

**Metabolite dosed studies, accepted in the RAR for metsulfuron methyl: [redacted] and [redacted] (2002). DT_{50}

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

CGA159902		Dark aerobic conditions. Metabolite dosed or the precursor from which the f.f. was derived was parent prosulfuron.						
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f.	DT_{50} (d) 20 °C pF2/10k Pa[a)]	St. (χ^2)	Method of calculation
[redacted], 2011	18 Acres (triazine) Sandy clay loam	5.84	20 / pF2	90.6 / 301	0.36	90.6	16.4	SFO
[redacted] & [redacted], 2006	18 Acres Sandy clay loam	5.0	20 / pF2	7.5 / 373	-	173[b)]	5.3	DFOP[c)]
	Gartenacker Loam	6.9	20 / pF2	3.1 / 140	-	169[b)]	11.3	HS[d)]
	Krone Silt loam	4.9	20 / pF2	89.7 / 298	-	89.7	8.9	SFO
[redacted], 1993a	Fayette Sandy loam	6.6	25 / 75% FC	>1000 / >1000	0.49	1000	9.1	SFO
Geometric mean (n=5)						188		
Arithmetic mean (n=2)					0.43			

a) Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7
b) Calculated from slow phase ($ln(2)/k_2$)
c) k_1=0.2796, k_2=0.0040, g=0.5553
d) k_1=0.2256, k_2=0.0041, t_b=7.8046

CGA300406		Dark aerobic conditions. The precursor from which the f.f. was derived was parent prosulfuron.						
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f.	DT_{50} (d) 20 °C pF2/10k Pa[a)]	St. (χ^2)	Method of calculation
[redacted], 2011	18 Acres (phenyl) Sandy clay loam	5.84	20 / pF2	4.3 / 13.3	0.48	4.3	25.4	SFO
	18 Acres (triazine) Sandy clay loam	5.84	20 / pF2	4.0 / 14.4	0.40	4.0	20.9	SFO
[redacted], 2011a	18 Acres (triazine) Sandy clay loam	5.84	20 / pF2	4.1 / 13.7	0.51	4.1	10.5	SFO
	Vétroz (triazine) Loam	7.77	20 / pF2	25.4 / 84.4	0.56	25.4	10.0	SFO

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

CGA300406		Dark aerobic conditions. The precursor from which the f.f. was derived was parent prosulfuron.						
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f.	DT_{50} (d) 20 °C pF2/10k Pa[a)]	St. (χ^2)	Method of calculation
	Krone (triazine) Silt loam	5.38	20 / pF2	2.6 / 8.8	0.29	2.6	29.6	SFO
	~~Nebraska (triazine) Silt loam~~	~~6.61~~	~~20 / pF2~~	~~14.0 / 46.5~~	~~0.25~~	~~14.0~~	~~30.7~~	~~SFO~~
[redacted], 1994 c)	Les Evouettes (phenyl) Silt loam	7.3	20 / 40% MWHC	47.5 / 158	0.46	30.2	11.3	SFO
[redacted], 1995 d)	Les Evouettes (phenyl) Silt loam	7.0	20 / 60% FC	23.3 / 77.5	0.68	21.0	14.0	SFO
Geometric mean (n=5)						9.1[b)]		
Arithmetic mean (n=5)					0.47[b)]			

a) Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7
b) Geometric/arithmetic mean of replicate soils calculated first (18 Acres 4.1 days / 0.46; Les Evouettes 25.2 days / 0.57). Maximum (30.2 d) and minimum (2.6 d) values used in the groundwater exposure assessment to account for pH dependency.
c) In the original DAR [redacted] 1994a
d) In the original DAR [redacted] 1994b

CGA325025		Dark aerobic conditions. Metabolite dosed.						
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f.	DT_{50} (d) 20 °C pF2/10k Pa[a)]	St. (χ^2)	Method of calculation
[redacted], [redacted] & [redacted], 2011	18 Acres Sandy clay loam	5.0	20 / pF2	50.1 / 167	-	50.1	5.7	SFO
	Gartenacker Loam	6.9	20 / pF2	102 / 340	-	102	7.0	SFO
	Krone Silt loam	4.9	20 / pF2	47.4 / 157	-	47.4	6.9	SFO
Geometric mean (n=3)						62.4		
Assumed ffM (from CGA300406)					0.12[b)]			

a) Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7
b) Assumed ffm from CGA300406, calculated by (1-ffM_SYN542604)

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

SYN542604		Dark aerobic conditions. Metabolite dosed or the precursor from which the f.f. was derived was metabolite CGA300406.						
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f.	DT_{50} (d) 20 °C pF2/10k Pa[a)]	St. (χ^2)	Method of calculation
[redacted], 2011	18 Acres (phenyl) Sandy clay loam	5.84	20 / pF2	150 / 499	1.00	150	2.6	SFO
	18 Acres (triazine) Sandy clay loam	5.84	20 / pF2	142 / 472	1.00	142	6.1	SFO
[redacted], 2011a	18 Acres (triazine) Sandy clay loam	5.84	20 / pF2	184 / 611	0.73	184	3.8	SFO
	Vétroz (triazine) Loam	7.77	20 / pF2	61.5 / 204	0.87	61.5	19.6	SFO
	Krone (triazine) Silt loam	5.38	20 / pF2	125 / 415	1.00	125	5.5	SFO
	Nebraska (triazine) Silt loam	6.61	20 / pF2	118 / 391	1.00	118	8.5	SFO
[redacted], 1994 [c)]	Les Evouettes (phenyl) Silt loam	7.3	20 / 40% MWHC	81.9/ 272	0.66	52.0	17.5	SFO
[redacted], 1995 [d)]	Les Evouettes (phenyl) Silt loam	7.0	20 / 60% FC	56.6 / 188	0.54	51.0	9.6	SFO
[redacted], [redacted] & [redacted], 2011	18 Acres Sandy clay loam	5.0	20 / pF2	102 / 340	-	102	6.0	SFO
	Gartenacker Loam	6.9	20 / pF2	25.0 / 83.2	-	25.0	9.8	SFO
	Krone Silt loam	4.9	20 / pF2	140 / 464	-	140	6.1	SFO
Geometric mean (n=8)						84.6[b)]		
Arithmetic mean (n=5)					0.88[b)]			

[a)] Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

b) Geometric/arithmetic mean of replicate soils calculated first (18 Acres (pH 5.84) 158 days / 0.91; Les Evouettes 51.5 days / 0.60)
c) In the original DAR [redacted] 1994a
d) In the original DAR [redacted] 1994b

CGA349707		Dark aerobic conditions. Metabolite dosed or the precursor from which the f.f. was derived was metabolite SYN542604.						
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f.	DT_{50} (d) 20 °C pF2/10k Pa[a)]	St. (χ^2)	Method of calculation
[redacted], 2006	18 Acres Sandy clay loam	5.0	20 / pF2	113 / 376	-	113	2.8	SFO
	Gartenacker Loam	6.9	20 / pF2	91.9 / 305	-	91.9	3.0	SFO
	Krone Silt loam	4.9	20 / pF2	140 / 466	-	140	2.2	SFO
[redacted], 1994 [c)]	Les Evouettes (phenyl) Silt loam	7.3	20 / 40% MWHC	331 / >1000	1.00	210	10.6	SFO
[redacted], 1995 [d)]	Les Evouettes (phenyl) Silt loam	7.0	20 / 60% FC	737 / >1000	0.72	663	7.8	SFO
Geometric mean (n=7)						153[b)]		
Arithmetic mean (n=2)					0.86			

a) Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7
b) Geometric mean of replicate soils calculated first (Les Evouettes 373 days)
c) In the original DAR [redacted] 1994a
d) In the original DAR [redacted] 1994b

SYN547308		Dark aerobic conditions. Metabolite dosed.						
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f.	DT_{50} (d) 20 °C pF2/10k Pa[a)]	St. (χ^2)	Method of calculation
[redacted], 2014 [redacted], 2014	Vétroz Loam	7.7	20 / pF2	174 / 654	-	207[b)]	1.18	DFOP
	18 Acres Sandy clay loam	5.8	20 / pF2	17.6 / 120	-	36.4[c)]	3.77	FOMC
	Krone Silt loam	5.0	20 / pF2	7.79 / 133	-	40.1[c)]	2.40	FOMC
Geometric mean (n=3)						67.1		

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

SYN547308		Dark aerobic conditions. Metabolite dosed.						
Study	Soil type	pH	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f.	DT_{50} (d) 20 °C pF2/10k Pa[a)]	St. (χ^2)	Method of calculation
Arithmetic mean					-[d)]			

a) Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7
b) $Ln(2)/k_2$
c) $DT_{90}/3.32$
d) Formation fraction set at 0.5 for groundwater modelling

Field studies ‡

Parent	Aerobic conditions – Persistence endpoints							
Soil type (indicate if bare or cropped soil was used).	Location (country or USA state).	pH	Depth (cm)	DT_{50} (d) actual	DT_{90}(d) actual	DT_{50} (d) Norm.	St. (χ^2)	Method of calculation
Sandy loam Bare soil	Altratjensdorf, Germany	6.1	30	38.9	129	-	10.2	SFO
Silt loam Bare soil	Wallesdorf, Germany	6.8	30	4.3	30.2	-	5.2	DFOP[a)]
Loamy sand Bare soil	Coesfeld, Germany	4.9	20	16.1	53.4	-	15.8	SFO
Silt loam Bare soil	Uhrsleben, Germany	6.2	20	18.5	61.4	-	16.9	SFO
Sandy loam Bare soil	Altratjensdorf, Germany	6.2	20	7.8	25.9	-	13.6	SFO
Sandy loam Bare soil	Herxheimweyher, Germany	6.8	20	10.0	33.1	-	4.4	SFO
Silt loam Maize	Vouvry, Switzerland	7.8	30	4.6	30.9	-	1.1	FOMC[b)]
Loamy sand Maize	Vouvry, Switzerland	7.8	30	4.6	15.2	-	5.7	SFO
Sandy loam Maize	Camisano, Vicentino, Italy	7.4	30	3.8	54.5	-	1.1	DFOP[c)]
Silt loam Maize	Estillac, France	7.0	30	15.6	51.9	-	14.5	SFO
Silt loam Bare soil	Estillac, France	7.0	30	6.1	20.4	-	14.9	SFO
Sandy loam Bare soil	Bogense, Denmark	6.48	20	4.6	55.8	-	8.23	DFOP [d)]

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

Parent	Aerobic conditions – Persistence endpoints							
Soil type (indicate if bare or cropped soil was used).	Location (country or USA state).	pH	Depth (cm)	DT_{50} (d) actual	DT_{90} (d) actual	DT_{50} (d) Norm.	St. (χ^2)	Method of calculation
Silt loam Bare soil	Castelsarrasin, France	6.06	10	11.4	38.0	-	12.4	SFO
Loam Bare soil	St. Cyprien, France	7.4	20	17.4	150	-	5.5	DFOP [e)]
Clay loam Bare soil	Breitenwisch, Germany	5.32	10	9.01	29.9	-	12.6	SFO
Clay Bare soil	Canals, Spain	7.6	20	20.5	98.1	-	6.83	DFOP [f)]
Loam Bare soil	Wilson, UK	7.07	10	12.5	41.6	-	17.8	SFO
Geometric mean Median						- -		

a) k_1=0.1952, k_2=0.0080, g=0.8758
b) α=1.3659, β=7.0222
c) k_1=0.3106, k_2=0.0207, g=0.6918
d) k_1=2.989, k_2=0.03143, g=0.4222
e) k_1=0.1201, k_2=0.01126, g=0.4615
f) k_1=0.4408, k_2=0.02076, g=0.2342

Parent	Aerobic conditions – modelling endpoints (normalisation with measured soil moisture data)					
Soil type (indicate if bare or cropped soil was used).	Location (country or USA state).	pH ($CaCl_2$)	Depth (cm)[a)]	DegT50 (d) 20°C, pF2	St. (χ^2)	Method of calculation
Sandy loam (bare soil)	Bogense, Denmark	6.48	20	18.6	7.49	DFOP DT_{90}/3.32
Silt loam (bare soil)	Castelsarrasin, France	6.06	10	15.5	12.6	SFO
Loam (bare soil)	St. Cyprien, France	7.4	20	27.8	14.9	SFO
Clay loam (bare soil)	Breitenwisch, Germany	5.32	10	9.96	11.4	SFO

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

Parent	Aerobic conditions – modelling endpoints (normalisation with measured soil moisture data)					
Soil type (indicate if bare or cropped soil was used).	Location (country or USA state).	pH ($CaCl_2$)	Depth (cm)[a)]	DegT50 (d) 20°C, pF2	St. (χ^2)	Method of calculation
Clay (bare soil)	Canals, Spain	7.6	20	43.5	10.9	SFO
Loam (bare soil)	Wilson, UK	7.07	10	12.2	18.5	SFO
			Geometric mean (n=6)	**18.7**		

pH dependence ‡ (yes / no) (if yes type of dependence)	No. For metabolite CGA300406 dependency can be seen and this has been taken into account in PECgw calculations.
Soil accumulation and plateau concentration ‡	Not calculated for prosulfuron; calculated for CGA150829, CGA159902, SYN542604 and CGA349707 (see PECsoil)

Laboratory studies ‡

Parent	Anaerobic conditions						
Soil type	Label	pH	t. °C / % MWHC	DT_{50}/DT_{90} (d)	DT_{50} (d) 20°C pF2/10kPa	St. (r^2)	Method of calculation
Sandy loam	Phenyl	6.6	25 / 75% FC	89 / -	-	-	-
Sandy loam	Triazine	6.6	25 / 75% FC	123 / -	-	-	-
Sandy loam	Triazine	6.1	25 / 75% FC	138 / -	-	-	-
Geometric mean/median				-	-		

Soil adsorption/desorption (Annex IIA, point 7.1.2)

Parent ‡

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

Soil type	OC %	Soil pH[#]	Kd (mL/g)	Koc (mL/g)	Kf (mL/g)	Kfoc (mL/g)	1/n
Loamy sand	0.46	7.7	-	-	0.07	15.2	0.82
Sandy loam	1.97	7.8	-	-	0.27	13.7	0.85
Silt loam	1.74	6.5	-	-	0.29	16.7	0.86
Silty clay loam	0.67	6.9	-	-	0.25	37.3	0.86
Loamy sand	0.76	7.0	-	-	0.03	3.9	0.92
Sand	0.36	6.6	-	-	0.09	25.0*	1.21*
Silt loam	2.10	7.3	-	-	0.24	11.4	0.81
Silt loam	4.39	7.1	-	-	0.36	8.2	0.89
Humic silt loam	19.34	6.6	-	-	1.45	7.50	0.94
Arithmetic mean (n=8) Geometric mean (n=8)						14.2 11.7	0.86 -
pH dependence, Yes or No			No				

* The 1/n value of 1.21 was originally excluded from the dataset as considered outside the range of the expected value. However, in this case, it is considered that this omission adversely affects the results of the exposure assessment.

[#] No information on which media pH was measured

CGA150829 ‡							
Soil type	OC %	Soil pH	Kd (mL/g)	Koc (mL/g)	Kf (mL/g)	Kfoc (mL/g)	1/n
Sand	0.35	7.9[#]	-	-	0.23	66.7	0.8702
Sandy Loam	0.99	7.8[#]	-	-	0.57	58.2	0.9024
Silt Loam	1.74	6.5[#]	-	-	0.96	55.1	0.8474
Silty Clay Loam	0.70	6.9[#]	-	-	1.20	172	0.8230
Loam	1.8	5.3[$]	-	-	1.321	73.4	0.9183
Silt loam	2.4	6.6[$]	-	-	0.481	20.0	0.9755
Clay loam	0.9	7.6[$]	-	-	0.561	62.3	0.9170
Sandy loam	0.7	6.7[$]	-	-	0.675	96.5	0.9498
Silt loam	1.7	6.6[$]	-	-	3.147	185.1	0.9021
Sandy soil	0.58	6.2[#]	-	-	0.264	45.5	0.873
Sandy loam	0.46	6.3[#]	-	-	0.621	133.8	0.784
Silt loam	1.1	5.3[#]	-	-	2.36	214.2	0.841
Silty clay loam	3.0	5.7[#]	-	-	6.80	225.5	0.841
Silt loam	1.2	7.7[#]	-	-	0.225	18.8	1.05

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

Sandy loam	2.3	5.7#	-	-	0.682	29.7	0.94
Silt loam	2.6	6.4#	-	-	0.433	16.7	0.96
Loamy silt	0.91	6.7#	-	-	1.57	172	0.835
Silt loam	2.08	7.0#	-	-	0.44	21.3	0.873
Loamy sand	1.95	6.0#	-	-	0.30	15.4	0.909
Sandy loam	0.43	6.0#	-	-	0.32	74.4	0.840
Speyer 2.1*	0.56	6.0#	-	-	0.2025	36	0.92
Standard soil no. 115*	1.7	7.4#	-	-	0.6255	37	0.89
Standard soil no. 164*	3.0	6.5#	-	-	0.645	22	0.92
Standard soil no. 243*	1.1	4.3#	-	-	0.337	31	0.91
Sand, Germany**	1.97	5.4#	-	-	0.37	18.92	0.640
Loam, Germany**	2.42	7.3#	-	-	0.43	17.97	0.759
Clay, Germany**	1.84	6.9#	-	-	0.43	2.95	1.422
Arithmetic mean/median (n=27) Geometric mean (n=27)						71.2/45.5§ 45.6	0.90/nr -
pH dependence, Yes or No			No				

No information on which media pH was measured
$ $CaCl_2$
* Endpoints derived from the study [redacted] & [redacted] (2001) accepted in the RAR for metsulfuron-methyl, Endpoints not used in the available exposure assessment.
** Endpoints derived from the study [redacted] (2006) accepted in the RAR for metsulfuron-methyl, Endpoints not used in the available exposure assessment.
~~§ The available groundwater exposure assessment was based on a K_{Foc} value 64.5 mL/g and 1/n = 0.888, which resulted from the datasets available in the RAR of prosulfuron only.~~

CGA159902 ‡							
Soil type	OC %	Soil pH#	Kd (mL/g)	Koc (mL/g)	Kf (mL/g)	Kfoc (mL/g)	1/n
Loamy sand	0.46	7.7	-	-	0.40	87.0	0.93
Sandy loam	1.97	7.8	-	-	1.24	62.9	0.83
Silt loam	1.74	6.5	-	-	0.77	44.3	0.81
Silty clay loam	0.67	6.9	-	-	0.59	88.1	0.94
Arithmetic mean (n=4) Geometric mean (n=4)						70.6 68.0	0.88 -
pH dependence, Yes or No			No				

No information on which media pH was measured

CGA300406 ‡

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

Soil type	OC %	Soil pH[#]	Kd (mL/g)	Koc (mL/g)	Kf (mL/g)	Kfoc (mL/g)	1/n
Loamy sand	0.42	6.5	-	-	0.53	126*	1.24*
Sandy loam	1.0	6.8	-	-	0.49	49.0	0.87
Loam	1.11	6.7	-	-	0.47	42.3	0.89
Silty clay loam	2.59	6.4	-	-	1.28	49.4	0.93
Arithmetic mean (n=3) Geometric mean (n=3)						46.9 46.8	0.90 -
pH dependence, Yes or No			No				

* The 1/n value of 1.24 was originally excluded from the dataset as considered outside the range of the expected value. However, in this case, it is considered that this omission adversely affects the results of the exposure assessment.
[#] No information on which media pH was measured

CGA325025 ‡							
Soil type	OC %	Soil pH[#]	Kd (mL/g)	Koc (mL/g)	Kf (mL/g)	Kfoc (mL/g)	1/n
Sandy loam	1.0	6.8	-	-	0.242	24.2	1.042
Sand	0.42	6.5	-	-	0.135	32.2	0.853
Loam	1.15	6.7	-	-	0.336	29.2	0.939
Clay	1.67	6.8	-	-	0.346	20.7	1.057
Arithmetic mean (n=4) Geometric mean (n=4)						26.6 26.2	0.973 -
pH dependence, Yes or No			No				

[#] No information on which media pH was measured

SYN542604 ‡							
Soil type	OC %	Soil pH ($CaCl_2$)	Kd (mL/g)	Koc (mL/g)	Kf (mL/g)	Kfoc (mL/g)	1/n
Sandy clay loam	2.21	5.84	-	-	3.01	136	0.88
Loam	1.97	7.77	-	-	1.14	58	0.82
Silt loam	1.14	5.38	-	-	0.98	86	0.88
Silt loam	1.72	6.61	-	-	3.84	223	0.80
Sandy loam	0.51	7.20	-	-	0.57	112	0.86
Arithmetic mean (n=5) Geometric mean (n=5)						123 111	0.85 -
pH dependence, Yes or No			No				

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

CGA349707 ‡							
Soil type	OC %	Soil pH (H_2O)	Kd (mL/g)	Koc (mL/g)	Kf (mL/g)	Kfoc (mL/g)	1/n
Loamy sand	2.0	7.6	-	-	1.03	51.7	0.96
Silt loam	2.4	7.2	-	-	0.88	36.7	0.85
Silt loam	4.7	7.2	-	-	2.11	44.9	1.08
Arithmetic mean (n=3) Geometric mean (n=3)						44.4 44.0	0.96 -
pH dependence, Yes or No			No				

SYN547308 ‡							
Soil type	OC %	Soil pH (H_2O)	Kd (mL/g)	Koc (mL/g)	Kf (mL/g)	Kfoc (mL/g)	1/n
Loam	2.3	8.3	-	-	1.49	65	0.9318
Sandy clay loam	3.0	6.5	-	-	2.89	96	0.9527
Silt loam[1]	1.3	6.0	-	-	3.74	288	0.9501[1]
Sandy loam	0.5	8.2	-	-	0.42	83	0.9193
Silt loam	1.8	6.7	-	-	2.23	124	0.9127
Arithmetic mean (n=4) (soils with pH ≥6.5) Geometric mean (n=4) (soils with pH ≥6.5)						- 89.5	0.929 -
pH dependence, Yes or No			Yes (conservative geometric mean was derived for soils with pH ≥ 6.5 since pH dependence could not be excluded)				

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

Column leaching ‡	4 soils (OC 0.4 - 2.6 %, pH 6.4 - 6.7), triazine label, 508 mm. RA in leachates : 54 - 95 % (prosulfuron) 4 soils (OC 0.4 - 4.4 %, pH 5.7 - 7.1), phenyl label, 200 mm. RA in leachates : 1 - 94 % depending on OC content (prosulfuron)

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

Aged residues leaching ‡	4 soils (OC 0.4 - 2.6 %, pH 6.4 - 7.0), 2 labels, 30 d incubation at 25°C, 508 mm Residue prosulfuron 70 - 84 %, metabolites < 12 % (CGA 300406) RA in leachates : 33 - 59 %, mainly prosulfuron, metabolites < 4 % each 2 soils (OC 1.7 - 2.1 %, pH 7.2 - 7.3), 2 labels, 180 d incubation at 20°C, 200 mm Residue : prosulfuron 18 - 31 %, metabolites <10 % each (CGA 159902, 150829, 300406, 349707, M5), CO_2 10 - 45 % RA in leachates : 0.8 - 12 % of applied to columns (prosulfuron)
Lysimeter/ field leaching studies ‡	USA, undisturbed 20 cm diameter soil columns, silt loam (1.94 % OC, pH 5.6) in Kentucky and sand soil (0.3 % OC, pH 4.9) in North Carolina, 2 labels, 44 g as/ha. Overflow occurred in Kentucky. Total residues in drainage water (LOD 0.4 µg/l) soil depth 0.90 m Silt loam: < 0.4 %, mean conc. 0.13 µg/l (phenyl); < 0.1 % (triazine) Sand: mean 0.98 µg/l max. 3 µg/l (phenyl); mean 0.08 µg/l max. 1 µg/l (triazine) Compounds in drainage water from sand soil, NC prosulfuron traces in initial preferential flow soil depth 0.90 m CGA159902 max. 2.4 µg/l M5 (derivative of CGA159902) max. 1 µg/l CGA325028 max. 0.74 µg/l CGA300406 max. 0.08 µg/l No realistic mean concentrations can be calculated for individual compounds. Triazine moiety less mobile than phenyl moiety. No CGA150829 in soil after 1 year. Swiss lysimeter, sandy soil (1.05 % OC, pH 6.1), phenyl label, 28 or 2 x 28 g as/ha

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

	(Spring) Total residues (LOD 0.05 µg/l) mean concentrations, soil depth 1.2 m 1 appl. 0.23 / 0.12 / 0.07 µg/l (year 1 / 2 / 3) 2 appl. 0.24 / 0.31 / 0.22 µg/l (year 1 / 2 / 3) max. concentrations 0.46 / 0.42 µg/l (1 / 2 appl.) Prosulfuron, CGA159902, CGA300406, CGA349707, SYN542604 (M5), CGA325025 and unknowns < 0.1 µg/l each. Total extractable RA in soil < 2.5 µg/kg after 3 years.

PEC (soil) (Annex IIIA, point 9.1.3)

Parent Method of calculation	DT_{50}: 38.9 days (longest field DT_{50}, non-normalised; not used in calculation since only maximum PEC calculated) Kinetics: SFO
Application data	Number of applications: 1 Rate of application: 20 g as/ha Crop interception: 25% (maize BBCH 12-18) Depth of soil layer: 5 cm Bulk density 1.5 g/cm^3

$PEC_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.020		-	
Plateau concentration	Not calculated			

Metabolite CGA150829 Method of calculation	DT_{50}: 1000 days (longest laboratory DT_{50}, non-normalised) Kinetics: SFO
Application data	Number of applications: 1 Rate of application: 20 g as/ha Crop interception: 25% (maize BBCH 12-18) Depth of soil layer: 5 cm

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

	Bulk density 1.5 g/cm^3 Molecular ratio (-): 0.334 % formed: 40.6 (max. from laboratory study)

PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.0027		-	
Plateau concentration*	0.0124 (5 cm)			

*minimum plateau concentration in 5 cm plus the subsequent year's application in 5 cm soil

Metabolite CGA159902 Method of calculation	DT$_{50}$: 1000 days (longest laboratory DT$_{50}$, non-normalised) Kinetics: SFO
Application data	Number of applications: 1 Rate of application: 20 g as/ha Crop interception: 25% (maize BBCH 12-18) Depth of soil layer: 5 cm Bulk density 1.5 g/cm^3 Molecular ratio (-): 0.604 % formed: 47.4 (max. from laboratory study)

PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.0057		-	
Plateau concentration*	0.0257 (5 cm) 0.0107 (20 cm)			

*minimum plateau concentration in 5 or 20 cm plus the subsequent year's application in 5 cm soil

Metabolite CGA300406 Method of calculation	DT$_{50}$: 47.5 days (longest laboratory DT$_{50}$, non-normalised; not used in calculation since only maximum PEC calculated) Kinetics: SFO
Application data	Number of applications: 1

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

	Rate of application: 20 g as/ha Crop interception: 25% (maize BBCH 12-18) Depth of soil layer: 5 cm Bulk density 1.5 g/cm^3 Molecular ratio (-): 0.967 % formed: 24.0 (max. from laboratory study)

PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.0046		-	
Plateau concentration	Not calculated			

Metabolite CGA325025 Method of calculation	DT_{50}: 102 days (longest laboratory DT_{50}, non-normalised; not used in calculation since only maximum PEC calculated) Kinetics: SFO
Application data	Number of applications: 1 Rate of application: 20 g as/ha Crop interception: 25% (maize BBCH 12-18) Depth of soil layer: 5 cm Bulk density 1.5 g/cm^3 Molecular ratio (-): 0.964 % formed: 17.4 (max. from laboratory study)

PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.0034		-	
Plateau concentration	Not calculated			

Metabolite SYN542604 Method of calculation	DT_{50}: 184 days (longest laboratory DT_{50}, non-normalised)

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

	Kinetics: SFO
Application data	Number of applications: 1 Rate of application: 20 g as/ha Crop interception: 25% (maize BBCH 12-18) Depth of soil layer: 5 cm Bulk density 1.5 g/cm^3 Molecular ratio (-): 0.909 % formed: 30.8 (max. from laboratory study)

PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.0056		-	
Plateau concentration*	0.0078 (5 cm)			

*minimum plateau concentration in 5 cm plus the subsequent year's application in 5 cm soil

Metabolite CGA349707 Method of calculation	DT$_{50}$: 737 days (longest laboratory DT$_{50}$, non-normalised) Kinetics: SFO
Application data	Number of applications: 1 Rate of application: 20 g as/ha Crop interception: 25% (maize BBCH 12-18) Depth of soil layer: 5 cm Bulk density 1.5 g/cm^3 Molecular ratio (-): 0.807 % formed: 22.6 (max. from laboratory study)

PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.0036		-	
Plateau concentration*	0.0128 (5 cm)			

*minimum plateau concentration in 5 cm plus the subsequent year's application in 5 cm soil

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

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

Hydrolytic degradation of the active substance and metabolites > 10 % ‡	pH 5 (25°C) DT_{50} 5 - 12 d CGA159902 (phenyl sulfonamide) 58 % CGA150829 (triazine amine) 43 % CGA325030 (polyimide) 22-31 % G28533 16 % pH 7 (25°C) DT_{50} 424 - 651 d pH 9 (25°C) DT_{50} 682 - 1690 d (no major metabolite at pH 7 and 9)
Photolytic degradation of active substance and metabolites above 10 % ‡	Not significant. DT_{50} 178 - 337 d (darkness, pH 9, 25°C) DT_{50} 257 - 198 d (sunlight) No major metabolites.
Quantum yield of direct phototransformation in water at Σ > 290 nm	Not investigated as ε <10 at λ >290 nm
Readily biodegradable ‡ (yes/no)	Not readily biodegradable

Degradation in water / sediment

Parent	Distribution (max. in water 100 % after 0 days; max. in sediment 27.1 % after 60 days at 20°C)									
Water / sediment system	pH water phase	pH sed (KCl)	t. °C	DT_{50}-DT_{90} whole sys.	St. (χ^2)	$Dis T_{50}$-$Dis T_{90}$ water	St. (χ^2)	DT_{50}-DT_{90} sed	St. (χ^2)	Method of calculation
Pond	-	6.30	20	170 – 566	6.1	89.5 – 297	15.3	-	-	SFO
Rhine river	-	7.20	20	119 – 394	5.6	86.2 – 286	12.7	-	-	SFO
Pond	-	7.20	20	205 –	2.	115 –	14.	-	-	SFO

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

				682	8	859	9			
Rhine river	-	7.20	20	216 – 718	6.2	127 – 423	17.7	-	-	SFO
Geometric mean (n=4)				173		103		-		-

Metabolite	Four metabolites >10 % AR were formed. No DT_{50} values were calculated for metabolites. CGA159902 Distribution (max. in water 2.7 % after 59 days; max. in sediment 20.5 % after 365 days; max. in whole system 21.6 %) CGA300406 Distribution (max. in water 24.6 % after 181 days; max. in sediment 15.97 % after 270 days; max. in whole system 34.3 %) SYN542604 Distribution (max. in whole system 24.8 %) CGA349707 Distribution (max. in whole system 16.1 %)									
Water / sediment system	pH water phase	pH sed	t. °C	DT_{50}-DT_{90} whole sys.	St. (χ^2)	DT_{50}-DT_{90} water	St. (χ^2)	DT_{50}-DT_{90} sed	St. (χ^2)	Method of calculation
Pond	-	-	-	-	-	-	-	-	-	-
Geometric mean				-		-		-		-

Mineralization and non extractable residues					
Water / sediment system	pH water phase	pH sed (KCl)	Mineralization 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)
Pond	-	6.30	6.43 % after 365 d (study end)	22.34 % after 365 d (study end)	22.34 % after 365 d (study end)
Rhine river	-	7.20	4.57 % after 365 d (study end)	18.18 % after 365 d (study end)	18.18 % after 365 d (study end)
Pond	-	7.20	12.71 % after 362 d (study end)	11.34 % after 362 d (study end)	11.34 % after 362 d (study end)

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

Rhine river	-	7.20	13.23 % after 362 d (study end)	10.0 % after 270 d	9.54 % after 362 d (study end)

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

Parent Parameters used in FOCUSsw step 1 and 2	Models used: Steps1-2 v.1.1; SWASH 3.1; SWAN v1.1.4 Molar mass = 419.4 g/mol Water solubility = 43000 mg/L Kfoc = 14.5 mL/g DT_{50} in soil = 62.1 days (normalised laboratory geometric mean, SFO, n=10) DT_{50} in water/sediment system: 182 days (geometric mean of 6 systems, SFO). The correct value would be 173 days. DT_{50} in water: 182 days. The correct value would be 173 days. DT_{50} in sediment: 1000 days
Parameters used in FOCUSsw step 3 (if performed)	Additional parameters to Steps1-2: Vapour pressure = 0 Pa 1/n = 0.88 Plant uptake factor = 0
Application rate	Number of applications: 1 Rate of application: 20 g as/ha Steps1-2: N+S Europe, March-May, Minimal crop cover Step3 and 4: application window starting 7 days post-emergence

FOCUS STEP 1 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
	0 h	6.73		0.95	

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Northern EU	0 h	1.12		0.16	
Southern EU	0 h	2.06		0.29	

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

FOCUS STEP 3 Scenario	Water body	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
			Actual	TWA	Actual	TWA
D3 Vredepeel	ditch	0 h	0.283		0.373	
		7 d	-	0.194	-	-
D4 Skousbo	pond	0 h	0.528		0.831	
		7 d	-	0.527	-	-
D4 Skousbo	stream	0 h	0.283		0.399	
		7 d	-	0.271	-	-
D5 La Jaillière	pond	0 h	0.251		0.441	
		7 d	-	0.250	-	-
D5 La Jaillière	stream	0 h	0.170		0.151	
		7 d	-	0.108	-	-
D6 Thiva	ditch	0 h	0.141		0.101	
		7 d	-	0.064	-	-
R1 Weiherbach	pond	0 h	0.008		0.009	
		7 d	-	0.008	-	-
R1 Weiherbach	stream	0 h	0.266		0.021	
		7 d	-	0.018	-	-
R2 Porto	stream	0 h	0.730		0.086	
		7 d	-	0.065	-	-
R3 Bologna	stream	0 h	0.903		0.089	
		7 d	-	0.084	-	-
R4 Roujan	stream	0 h	0.960		0.121	
		7 d	-	0.104	-	-

FOCUS STEP 4 10 m VFS, no drift mitigation Scenario	Water body	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
			Actual	TWA	Actual	TWA
R1 Weiherbach	pond	0 h	0.006		0.006	
		7 d	-	0.005	-	-
R1	stream	0 h	0.109		0.009	

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

Weiherbach		7 d	-	0.007	-	-
R2 Porto	stream	0 h	0.320		0.039	
		7 d	-	0.029	-	-
R3 Bologna	stream	0 h	0.409		0.042	
		7 d	-	0.038	-	-
R4 Roujan	stream	0 h	0.437		0.057	
		7 d	-	0.047	-	-

FOCUS STEP 4 20 m VFS, no drift mitigation Scenario	Water body	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
			Actual	TWA	Actual	TWA
R1 Weiherbach	pond	0 h	0.005		0.005	
		7 d	-	0.004	-	-
R1 Weiherbach	stream	0 h	0.071		0.005	
		7 d	-	0.004	-	-
R2 Porto	stream	0 h	0.166		0.021	
		7 d	-	0.016	-	-
R3 Bologna	stream	0 h	0.214		0.024	
		7 d	-	0.022	-	-
R4 Roujan	stream	0 h	0.229		0.031	
		7 d	-	0.025	-	-

FOCUS STEP 4 10 m VFS, 10 m non-spray buffer Scenario	Water body	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
			Actual	TWA	Actual	TWA
D3 Vredepeel	ditch	0 h	0.196		0.373	
		7 d	-	0.184	-	-
D4 Skousbo	pond	0 h	0.528		0.830	
		7 d	-	0.527	-	-
D4 Skousbo	stream	0 h	0.283		0.369	

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

		7 d	-	0.271	-	-
D5 La Jaillière	pond	0 h	0.251		0.441	
		7 d	-	0.250	-	-
D5 La Jaillière	stream	0 h	0.125		0.149	
		7 d	-	0.108	-	-
D6 Thiva	ditch	0 h	0.081		0.101	
		7 d	-	0.064	-	-
R1 Weiherbach	pond	0 h	0.004		0.005	
		7 d	-	0.004	-	-
R1 Weiherbach	stream	0 h	0.109		0.009	
		7 d	-	0.007	-	-
R2 Porto	stream	0 h	0.320		0.039	
		7 d	-	0.028	-	-
R3 Bologna	stream	0 h	0.409		0.041	
		7 d	-	0.038	-	-
R4 Roujan	stream	0 h	0.437		0.056	
		7 d	-	0.047	-	-

FOCUS STEP 4 20 m VFS, 20 m non-spray buffer Scenario	Water body	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
			Actual	TWA	Actual	TWA
D3 Vredepeel	ditch	0 h	0.188		0.372	
		7 d	-	0.184	-	-
D4 Skousbo	pond	0 h	0.528		0.830	
		7 d	-	0.527	-	-
D4 Skousbo	stream	0 h	0.283		0.369	
		7 d	-	0.271	-	-
D5 La Jaillière	pond	0 h	0.250		0.440	
		7 d	-	0.250	-	-
D5 La Jaillière	stream	0 h	0.125		0.149	
		7 d	-	0.108	-	-
D6 Thiva	ditch	0 h	0.081		0.101	

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

		7 d	-	0.064	-	-
R1 Weiherbach	pond	0 h	0.003		0.003	
		7 d	-	0.002	-	-
R1 Weiherbach	stream	0 h	0.055		0.005	
		7 d	-	0.004	-	-
R2 Porto	stream	0 h	0.166		0.021	
		7 d	-	0.015	-	-
R3 Bologna	stream	0 h	0.214		0.022	
		7 d	-	0.020	-	-
R4 Roujan	stream	0 h	0.229		0.030	
		7 d	-	0.025	-	-

Metabolite CGA150829 Parameters used in FOCUSsw step 1 and 2	Molar mass = 140.1 g/mol Water solubility = 1000 mg/L (considered conservative) Kfoc = 73.9 mL/g. Correct value would be 64.5 mL/g. DT_{50} in soil = 259 days (normalised laboratory median, SFO, n=11) DT_{50} in water/sediment system: 1000 days (default) DT_{50} in water: 1000 days (default) DT_{50} in sediment: 1000 days (default) Max. occurrence in water/sediment system: 7.9% Max. occurrence in soil: 40.6%
Parameters used in FOCUSsw step 3 (if performed)	Not performed
Application rate	Number of applications: 1 Rate of application: 20 g as/ha Steps1-2: N+S Europe, March-May, Minimal crop cover
Main routes of entry	Drift, drainage and run-off

FOCUS STEP 1 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
	0 h	0.83		0.61	

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Northern EU	0 h	0.13		0.09	
Southern EU	0 h	0.25		0.18	

Metabolite CGA159902 Parameters used in FOCUSsw step 1 and 2	Molar mass = 253.2 g/mol Water solubility = 1000 mg/L (considered conservative) Kfoc = 70.6 mL/g DT_{50} in soil = 188 days (normalised laboratory geometric mean, SFO, n=5) DT_{50} in water/sediment system: 1000 days (default) DT_{50} in water: 1000 days (default) DT_{50} in sediment: 1000 days (default) Max. occurrence in water/sediment system: 21.6% Max. occurrence in soil: 47.4%
Parameters used in FOCUSsw step 3 (if performed)	Not performed
Application rate	Number of applications: 1 Rate of application: 20 g as/ha Steps1-2: N+S Europe, March-May, Minimal crop cover
Main routes of entry	Drift, drainage and run-off

FOCUS STEP 1 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
	0 h	1.77		1.25	

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Northern EU	0 h	0.28		0.20	
Southern EU	0 h	0.54		0.38	

Metabolite CGA300406 Parameters used in FOCUSsw step 1	Molar mass = 405.4 g/mol Water solubility = 1000 mg/L (considered

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

and 2	conservative) Kfoc = 46.9 mL/g DT_{50} in soil = 9.9 days (normalised laboratory geometric mean, SFO, n=5) DT_{50} in water/sediment system: 1000 days (default) DT_{50} in water: 1000 days (default) DT_{50} in sediment: 1000 days (default) Max. occurrence in water/sediment system: 34.3% Max. occurrence in soil: 24.0%
Parameters used in FOCUSsw step 3 (if performed)	Not performed
Application rate	Number of applications: 1 Rate of application: 20 g as/ha Steps1-2: N+S Europe, March-May, Minimal crop cover
Main routes of entry	Drift, drainage and run-off

FOCUS STEP 1 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
	0 h	1.52		0.71	

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Northern EU	0 h	0.22		0.10	
Southern EU	0 h	0.39		0.18	

Metabolite CGA325025 Parameters used in FOCUSsw step 1 and 2	Molar mass = 404.4 g/mol Water solubility = 1000 mg/L (considered conservative) Kfoc = 26.6 mL/g DT_{50} in soil = 62.4 days (normalised laboratory geometric mean, SFO, n=3) DT_{50} in water/sediment system: 1000 days (default) DT_{50} in water: 1000 days (default) DT_{50} in sediment: 1000 days (default) Max. occurrence in water/sediment system:

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

	7.0% Max. occurrence in soil: 17.4%
Parameters used in FOCUSsw step 3 (if performed)	Not performed
Application rate	Number of applications: 1 Rate of application: 20 g as/ha Steps1-2: N+S Europe, March-May, Minimal crop cover
Main routes of entry	Drift, drainage and run-off

FOCUS STEP 1 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
	0 h	1.09		0.29	

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Northern EU	0 h	0.17		0.04	
Southern EU	0 h	0.32		0.09	

Metabolite SYN542604 Parameters used in FOCUSsw step 1 and 2	Molar mass = 381.3 g/mol Water solubility = 1000 mg/L (considered conservative) Kfoc = 123 mL/g DT_{50} in soil = 74.7 days (normalised laboratory geometric mean, SFO, n=6). Correct value would be 84.6 days. DT_{50} in water/sediment system: 1000 days (default) DT_{50} in water: 1000 days (default) DT_{50} in sediment: 1000 days (default) Max. occurrence in water/sediment system: 24.8% Max. occurrence in soil: 30.8%
Parameters used in FOCUSsw step 3 (if performed)	Not performed
Application rate	Number of applications: 1 Rate of application: 20 g as/ha Steps1-2: N+S Europe, March-May,

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

FOCUS STEP 2 Scenario	Day after overall maximum	PEC_{SW} (µg/L)		PEC_{SED} (µg/kg)	
		Actual	TWA	Actual	TWA
Northern EU	0 h	0.19		0.08	
Southern EU	0 h	0.36		0.16	

PEC (ground water) (Annex IIIA, point 9.2.1)

Method of calculation and type of study (*e.g.* modelling, field leaching, lysimeter)	~~Models used: FOCUS-PELMO 4.4.3 and FOCUS-PEARL 4.4.4~~ ~~Input parameters for prosulfuron:~~ ~~Molar mass = 419.4 g/mol~~ ~~Water solubility = 43000 mg/L (25°C), 86000 mg/L (35°C)~~ ~~Vapour pressure = 3.5 x 10^{-6} Pa (25°C), 1.4 x 10^{-5} Pa (35°C)~~ ~~Kfoc = 14.5 mL/g; Kfom = 8.4 mL/g. Correct Kfoc would be 14.2 mL/g (used by the RMS).~~ ~~1/n = 0.88. Correct value would be 0.869 (used by the RMS).~~ ~~DT_{50} = 62.1 days (normalised laboratory geometric mean, SFO, n=10)~~ ~~Plant uptake factor = 0~~ ~~Input parameters for CGA150829:~~ ~~Molar mass = 140.1 g/mol~~ ~~Water solubility = 1000 mg/L (considered conservative)~~ ~~Vapour pressure = 0 Pa~~ ~~Kfoc = 64.5 mL/g~~ ~~1/n = 0.888~~ ~~DT_{50} = 259 days (normalised laboratory median, SFO, n=10)~~ ~~ffM = 0.26 (from prosulfuron)~~ ~~Plant uptake factor = 0~~ ~~Input parameters for CGA159902:~~ ~~Molar mass = 253.2 g/mol~~ ~~Water solubility = 1000 mg/L (considered conservative)~~

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

~~Vapour pressure = 0 Pa~~

~~Kfoc = 70.6 mL/g; Kfom = 41.0 mL/g~~

~~1/n = 0.88~~

~~DT_{50} = 124 days (normalised laboratory geometric mean, SFO, n=3). Correct value would be 188 days (normalised laboratory geometric mean, SFO, n=5; used by the RMS)~~

~~ffM = 0.36 (from prosulfuron, n=1). Correct value would be 0.40 (n=2; used by the RMS)~~

~~Plant uptake factor = 0~~

~~Input parameters for CGA300406:~~

~~Molar mass = 405.4 g/mol~~

~~Water solubility = 1000 mg/L (considered conservative)~~

~~Vapour pressure = 0 Pa~~

~~Kfoc = 46.9 mL/g; Kfom = 27.2 mL/g~~

~~1/n = 0.90~~

~~DT_{50} = 30.2 days (maximum laboratory DT_{50} representing alkaline conditions, SFO); 2.6 days (minimum laboratory DT_{50} representing alkaline conditions, SFO)~~

~~ffM = 0.43 (from prosulfuron)~~

~~Plant uptake factor = 0~~

~~Input parameters for CGA325025:~~

~~Molar mass = 404.4 g/mol~~

~~Water solubility = 1000 mg/L (considered conservative)~~

~~Vapour pressure = 0 Pa~~

~~Kfoc = 26.6 mL/g; Kfom = 15.4 mL/g~~

~~1/n = 0.97~~

~~DT_{50} = 62.4 days (normalised laboratory geometric mean, SFO, n=3)~~

~~ffM = 0.12 (from CGA300406)~~

~~Plant uptake factor = 0~~

~~Input parameters for SYN542604:~~

~~Molar mass = 381.3 g/mol~~

~~Water solubility = 1000 mg/L (considered conservative)~~

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

~~Vapour pressure = 0 Pa~~

~~Kfoc = 123 mL/g; Kfom = 71.0 mL/g~~

~~1/n = 0.85~~

~~DT_{50} = 84.6 days (normalised laboratory geometric mean, SFO, n=8).~~

~~ffM = 0.88 (from CGA300406)~~

~~Plant uptake factor = 0~~

~~Input parameters for CGA349707:~~

~~Molar mass = 338.3 g/mol~~

~~Water solubility = 1000 mg/L (considered conservative)~~

~~Vapour pressure = 0 Pa~~

~~Kfoc = 44.4 mL/g; Kfom = 25.8 mL/g~~

~~1/n = 0.96~~

~~DT_{50} = 153 days (normalised laboratory geometric mean, SFO, n=4)~~

~~ffM = 0.86 (from SYN542604)~~

~~Plant uptake factor = 0~~

Models used: FOCUS-PEARL 4.4.4

The following PECgw were calculated in a context of amendment of the approval conditions (to remove the restriction to application once every 3 years) and to respond to Data requirement by EFSA.

Input parameters for prosulfuron:

Molar mass = 419.4 g/mol

Water solubility = 43000 mg/L (20°C), 86000 mg/L (30°C)

Vapour pressure = 0 Pa (20°C), 0 Pa (30°C)

Kfoc = 11.7 mL/g (geometric mean, n=8)

1/n = 0.869

DT_{50} = 18.7 days (normalised field geometric mean, pseudo-SFO, n=6).

Plant uptake factor = 0.15

Input parameters for prosulfuron triazine amine (CGA150829):

Molar mass = 140.1 g/mol

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

	Water solubility = 1000 mg/L (considered conservative) Vapour pressure = 0 Pa Kfoc = 45.6 mL/g (n=27) 1/n = 0.9 (n=27) DT_{50} = 216 days (normalised laboratory, median, SFO, n= 18) ffM = 0.28 (from prosulfuron). Plant uptake factor = 0 <u>Input parameters for prosulfuron phenyl sulfonamide (CGA159902):</u> Molar mass = 253.2 g/mol Water solubility = 1000 mg/L (considered conservative) Vapour pressure = 0 Pa Kfoc = 68.0 mL/g (geometric mean, n=4); Kfom = 39.4 mL/g 1/n = 0.88 DT_{50} = 188 days (normalised laboratory geometric mean, SFO, n=5) ffM = 0.43 (from prosulfuron) Plant uptake factor = 0 <u>Input parameters for O-desmethyl-prosulfuron (CGA300406):</u> Molar mass = 405.4 g/mol Water solubility = 1000 mg/L (considered conservative) Vapour pressure = 0 Pa Kfoc = 46.8 mL/g (geometric mean, n=3); Kfom = 27.1 mL/g 1/n = 0.90 DT_{50} = 30.2 days (maximum laboratory DT_{50} representing alkaline conditions, SFO); 2.6 days (minimum laboratory DT_{50} representing acidic conditions, SFO) ffM = 0.47 (from prosulfuron). Plant uptake factor = 0 <u>Input parameters for demethoxy amino-prosulfuron (CGA 325025):</u> Molar mass = 404.4 g/mol

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

	Water solubility = 1000 mg/L (considered conservative) Vapour pressure = 0 Pa Kfoc = 26.2 mL/g (geometric mean, n=4); Kfom = 15.2 mL/g 1/n = 0.973 DT_{50} = 62.4 days (normalised laboratory geometric mean, SFO, n=3) ffM = 0.12 (from O-desmethyl-prosulfuron (CGA300406)) Plant uptake factor = 0 Input parameters for SYN542604: Molar mass = 381.3 g/mol Water solubility = 1000 mg/L (considered conservative) Vapour pressure = 0 Pa Kfoc = 111 mL/g (geometric mean, n=5); Kfom = 64.4 mL/g 1/n = 0.85 DT_{50} = 84.6 days (normalised laboratory geometric mean, SFO, n=8). ffM = 0.88 (from O-desmethyl-prosulfuron (CGA300406)) Plant uptake factor = 0 Input parameters for CGA349707: Molar mass = 338.3 g/mol Water solubility = 1000 mg/L (considered conservative) Vapour pressure = 0 Pa Kfoc = 44.0 mL/g (geometric mean, n=3); Kfom = 25.5 mL/g 1/n = 0.96 DT_{50} = 153 days (normalised laboratory geometric mean, SFO, n=4) ffM = 0.86 (from SYN542604) Plant uptake factor = 0 Input parameters for SYN547308: Molar mass = 449.4 g/mol Water solubility = 1000 mg/L (considered

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

	conservative) Vapour pressure = 0 Pa Kfoc = 89.5 mL/g; Kfom = 51.9 mL/g (geometric mean for soils with pH ≥ 6.5) 1/n = 0.929 DT_{50} = 67.1 days (normalised laboratory geometric mean, SFO, n=4) ffM = 0.5 (from prosulfuron) Plant uptake factor = 0
Application rate	Number of applications: 1 Rate of application: 20 g as/ha Application date: 3 days post-emergence Crop interception: 25% (maize BBCH 12-18)

PEC (gw) – FOCUS modelling result (80th percentile annual average concentration at 1m)

PECgw simulations for prosulfuron, CGA300406, SYN542604, CGA349707, CGA150829, CGA159902, SYN547308 and CGA325025 (with FOCUS PEARL v4.4.4) – using of DT_{50} of 18.7 for prosulfuron, a maximum DT50 of 30.2 d for CGA 300406 and a DT50 of 216 d for CGA 150829. Values above 0.1µg/l in bold. Only results using FOCUS PEARL v4.4.4 and using the maximum DT50 of 30.2 d for metabolite CGA300406 are presented as this combination produced the highest predicted concentrations.

Crop	Scenario	80th percentile PECgw at 1m depth (µg/l)			
		Prosulfuron	CGA300406	SYN542604	CGA349707
Maize 1 x 20 g a.s./ha Annual	Chateaudun	0.043	0.038	0.056	**0.754**
	Hamburg	**0.106**	0.076	0.081	**0.962**
	Kremsmunster	0.069	0.069	0.076	**0.644**
	Okehampton	**0.111**	0.086	0.090	**0.543**
Maize 1 x 20 g a.s./ha 1 year in 2	Chateaudun	0.024	0.021	0.025	**0.376**
	Hamburg	0.055	0.031	0.036	**0.436**
	Kremsmunster	0.037	0.032	0.032	**0.326**
	Okehampton	0.056	0.046	0.038	**0.263**
Crop	Scenario	80th percentile PECgw at 1m depth (µg/l)			
		CGA150829	CGA159902	SYN547308	CGA325025
Maize 1 x 20 g a.s./ha Annual	Chateaudun	**0.194**	**0.293**	**0.135**	0.083
	Hamburg	**0.234**	**0.370**	**0.200**	**0.123**
	Kremsmunster	**0.174**	**0.274**	**0.177**	0.083
	Okehampton	**0.162**	**0.299**	**0.220**	0.075
Maize 1 x 20 g a.s./ha	Chateaudun	0.097	**0.139**	0.071	0.043
	Hamburg	**0.107**	**0.163**	0.094	0.059
	Kremsmunster	0.088	**0.131**	0.083	0.041

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Fate and behaviour in the environment

1 year in 2	Okehampton	0.078	**0.138**	**0.105**	0.039

~~Application every year (modelling by the Notifier)~~

	~~PEARL 4.4.4~~		~~PELMO 4.4.3~~	
	~~Parent (µg/L)~~	~~CGA159902 (µg/L)~~	~~Parent (µg/L)~~	~~CGA159902 (µg/L)~~
~~Chateaudun~~	~~1.038~~	~~0.198~~	~~0.929~~	~~0.201~~
~~Hamburg~~	~~1.677~~	~~0.215~~	~~1.329~~	~~0.185~~
~~Jokioinen~~	~~-~~	~~-~~	~~-~~	~~-~~
~~Kremsmunster~~	~~1.035~~	~~0.180~~	~~1.114~~	~~0.182~~
~~Okehampton~~	~~1.044~~	~~0.156~~	~~1.019~~	~~0.149~~
~~Piacenza~~	~~0.795~~	~~0.197~~	~~0.838~~	~~0.157~~
~~Porto~~	~~0.458~~	~~0.080~~	~~0.487~~	~~0.080~~
~~Sevilla~~	~~0.247~~	~~0.056~~	~~0.271~~	~~0.047~~
~~Thiva~~	~~0.976~~	~~0.285~~	~~0.770~~	~~0.242~~

~~Modelling by the RMS with the "correct" values mentioned in the table of input parameters:~~

~~Application every 3rd year; PECgw for CGA159902.~~

	~~Scenario~~	~~Parent (µg/L)~~	~~Metabolite (µg/L)~~
			~~CGA159902~~
~~PELMO 4.4.3/maize~~	~~Chateaudun~~	~~0.308~~	~~0.116~~
	~~Hamburg~~	~~0.406~~	~~0.099~~
	~~Jokioinen~~	~~-~~	~~-~~
	~~Kremsmunster~~	~~0.379~~	~~0.095~~
	~~Okehampton~~	~~0.359~~	~~0.077~~
	~~Piacenza~~	~~0.244~~	~~0.076~~
	~~Porto~~	~~0.136~~	~~0.050~~
	~~Sevilla~~	~~0.075~~	~~0.028~~
	~~Thiva~~	~~0.265~~	~~0.136~~

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

~~DT_{50} of 30.2 days for CGA300406 in alkaline soils.~~
~~Application every year~~

	~~Scenario~~	~~Parent (µg/L)~~	~~Metabolite (µg/L)~~					
			~~CGA150829~~	~~CGA159902~~	~~CGA300406~~	~~SYN542604~~	~~CGA349707~~	~~CGA325025~~
~~PELMO 4.4.3/maize~~	~~Chateaudun~~	~~0.887~~	~~0.183~~	~~-~~	~~0.126~~	~~0.081~~	~~0.703~~	~~0.099~~
	~~Hamburg~~	~~1.274~~	~~0.164~~	~~-~~	~~0.132~~	~~0.094~~	~~0.642~~	~~0.086~~
	~~Jokioinen~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~
	~~Kremsmunster~~	~~1.059~~	~~0.155~~	~~-~~	~~0.129~~	~~0.074~~	~~0.548~~	~~0.098~~
	~~Okehampton~~	~~0.987~~	~~0.113~~	~~-~~	~~0.107~~	~~0.057~~	~~0.359~~	~~0.074~~
	~~Piacenza~~	~~0.807~~	~~0.133~~	~~-~~	~~0.105~~	~~0.058~~	~~0.460~~	~~0.079~~
	~~Porto~~	~~0.466~~	~~0.082~~	~~-~~	~~0.046~~	~~0.045~~	~~0.358~~	~~0.028~~
	~~Sevilla~~	~~0.256~~	~~0.088~~	~~-~~	~~0.027~~	~~0.042~~	~~0.491~~	~~0.015~~
	~~Thiva~~	~~0.749~~	~~0.261~~	~~-~~	~~0.110~~	~~0.092~~	~~0.958~~	~~0.108~~

~~Application every 3rd year~~

	~~Scenario~~	~~Parent (µg/L)~~	~~Metabolite (µg/L)~~					
			~~CGA150829~~	~~CGA159902~~	~~CGA300406~~	~~SYN542604~~	~~CGA349707~~	~~CGA325025~~
~~PELMO 4.4.3/maize~~	~~Chateaudun~~	~~0.308~~	~~0.061~~	~~-~~	~~0.041~~	~~0.028~~	~~0.251~~	~~0.030~~
	~~Hamburg~~	~~0.406~~	~~0.050~~	~~-~~	~~0.042~~	~~0.029~~	~~0.210~~	~~0.026~~
	~~Jokioinen~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~
	~~Kremsmunster~~	~~0.379~~	~~0.048~~	~~-~~	~~0.042~~	~~0.025~~	~~0.199~~	~~0.029~~
	~~Okehampton~~	~~0.359~~	~~0.036~~	~~-~~	~~0.037~~	~~0.019~~	~~0.121~~	~~0.023~~
	~~Piacenza~~	~~0.244~~	~~0.037~~	~~-~~	~~0.037~~	~~0.019~~	~~0.142~~	~~0.022~~
	~~Porto~~	~~0.136~~	~~0.027~~	~~-~~	~~0.014~~	~~0.014~~	~~0.108~~	~~0.008~~
	~~Sevilla~~	~~0.075~~	~~0.021~~	~~-~~	~~0.006~~	~~0.012~~	~~0.136~~	~~0.004~~
	~~Thiva~~	~~0.265~~	~~0.081~~	~~-~~	~~0.035~~	~~0.032~~	~~0.356~~	~~0.029~~

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

~~DT_{50} of 2.6 days for CGA300406 in acidic soils.~~
~~Application every year~~

	~~Scenario~~	~~Parent (µg/L)~~	~~Metabolite (µg/L)~~					
			~~CGA150829~~	~~CGA159902~~	~~CGA300406~~	~~SYN542604~~	~~CGA349707~~	~~CGA325025~~
~~PELMO 4.4.3/maize~~	~~Chateaudun~~	~~0.887~~	~~0.183~~	~~-~~	~~0.008~~	~~0.080~~	~~0.698~~	~~0.085~~
	~~Hamburg~~	~~1.274~~	~~0.164~~	~~-~~	~~0.014~~	~~0.093~~	~~0.658~~	~~0.082~~
	~~Jokioinen~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~
	~~Kremsmunster~~	~~1.059~~	~~0.155~~	~~-~~	~~0.009~~	~~0.075~~	~~0.564~~	~~0.087~~
	~~Okehampton~~	~~0.987~~	~~0.113~~	~~-~~	~~0.009~~	~~0.057~~	~~0.390~~	~~0.063~~
	~~Piacenza~~	~~0.807~~	~~0.133~~	~~-~~	~~0.009~~	~~0.057~~	~~0.475~~	~~0.069~~
	~~Porto~~	~~0.466~~	~~0.082~~	~~-~~	~~0.003~~	~~0.040~~	~~0.356~~	~~0.018~~
	~~Sevilla~~	~~0.256~~	~~0.088~~	~~-~~	~~0.002~~	~~0.036~~	~~0.467~~	~~0.013~~
	~~Thiva~~	~~0.749~~	~~0.261~~	~~-~~	~~0.007~~	~~0.083~~	~~0.908~~	~~0.077~~

~~Application every 3rd year~~

	~~Scenario~~	~~Parent (µg/L)~~	~~Metabolite (µg/L)~~					
			~~CGA150829~~	~~CGA159902~~	~~CGA300406~~	~~SYN542604~~	~~CGA349707~~	~~CGA325025~~
~~PELMO 4.4.3/maize~~	~~Chateaudun~~	~~0.308~~	~~0.061~~	~~-~~	~~0.003~~	~~0.027~~	~~0.246~~	~~0.026~~
	~~Hamburg~~	~~0.406~~	~~0.050~~	~~-~~	~~0.004~~	~~0.028~~	~~0.213~~	~~0.024~~
	~~Jokioinen~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~
	~~Kremsmunster~~	~~0.379~~	~~0.048~~	~~-~~	~~0.003~~	~~0.025~~	~~0.198~~	~~0.025~~
	~~Okehampton~~	~~0.359~~	~~0.036~~	~~-~~	~~0.003~~	~~0.019~~	~~0.129~~	~~0.019~~
	~~Piacenza~~	~~0.244~~	~~0.037~~	~~-~~	~~0.003~~	~~0.018~~	~~0.143~~	~~0.020~~
	~~Porto~~	~~0.136~~	~~0.027~~	~~-~~	~~0.001~~	~~0.012~~	~~0.108~~	~~0.005~~
	~~Sevilla~~	~~0.075~~	~~0.021~~	~~-~~	~~0.001~~	~~0.011~~	~~0.127~~	~~0.003~~
	~~Thiva~~	~~0.265~~	~~0.081~~	~~-~~	~~0.002~~	~~0.029~~	~~0.331~~	~~0.021~~

PEC (gw) From lysimeter / field studies

Parent	1st year	2nd year	3rd year
Annual average (µg/L)	Not available for separate compounds		

Metabolite X	1st year	2nd year	3rd year
Annual average	Not available for		

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

(µg/L)	separate compounds		

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

Direct photolysis in air ‡	No data, not required
Quantum yield of direct phototransformation	No data, not required
Photochemical oxidative degradation in air ‡	DT_{50} 4.7 - 46 hours (Atkinson method, 1.5 x 10^6 OH/cm^3, 12-hour day)
Volatilisation ‡	from plant surfaces: negligible (measured) from soil: negligible (measured)
Metabolites	No data, not required

PEC (air)

Method of calculation	Expert judgement, based on vapour pressure, dimensionless Henry's Law Constant and information on volatilisation from plants and soil.

PEC (a)

Maximum concentration	Not calculated, expected to be negligible.

Residues requiring further assessment

Environmental occurring metabolite requiring further assessment by other disciplines (toxicology and ecotoxicology).	Soil: Prosulfuron, CGA150829, CGA159902, CGA300406, CGA325025, SYN542604, CGA349707, Groundwater: Prosulfuron, CGA150829, CGA159902, CGA300406, CGA325025, SYN542604, CGA349707, M17 (pending identification), M18 ((SYN547308). Surface water: Prosulfuron, CGA150829, CGA159902, CGA300406, CGA325025, SYN542604, CGA349707 Sediment: Prosulfuron, CGA159902, CGA300406

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Fate and behaviour in the environment

Air: Prosulfuron

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

Points pertinent to the classification and proposed labelling with regard to fate and behaviour data

Candidate for R53.

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

Ecotoxicology

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

Species	Test substance	Time scale	End point (mg/kg bw/day	End point (mg/kg feed)
Bird ‡				
Mallard duck	a.s.	Acute	**LD_{50} = 1300 mg/kg bw**	NOEL < 464 mg a.s./kg bw (lowest test concentration)
Mallard duck	a.s.	Acute	LD_{50} = 2105 mg/kg bw	NOEL = 215 mg a.s./kg bw (nominal concentration)
Bobwhite quail	a.s.	Acute	LD_{50} > 2150 mg/kg bw	NOEL < 1 470 mg a.s./kg bw (lowest test concentration)
Mallard duck	Preparation PEAK 75 WG	Acute	LD_{50} = 471 mg a.s./kg bw	LD_{50} = 625 mg PEAK 75 WG / kg bw (nominal concentration) NOEL = 195 mg PEAK 75 WG / kg bw (nominal concentration)
	~~Metabolite 1~~	~~Acute~~	-	-
Mallard duck	a.s.	Short-term	LD_{50} ≥ 1352 mg a.s./kg bw/d NOEL ≥ 1352 mg as/kg bw/d	LC_{50} - 5 d > 5 000 mg a.s./kg diet (nominal concentration) NOEC - 5 d = 5 000 mg a.s./kg diet (nominal concentration)
Bobwhite quail	a.s.	Short-term	LD_{50} ≥ 735 mg a.s./kg bw/d NOEL ≥ 735 mg a.s./kg bw/d	LC_{50} - 5 d > 5 000 mg a.s./kg diet (nominal concentration) NOEC - 5 d = 5 000 mg a.s./kg diet (nominal

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

				concentration)
Mallard duck	a.s.	Long-term	**NOEL = 2.95 mg a.s./kg bw/d***	NOEC - 22 wk = 28 mg a.s./kg diet (nominal concentration)
~~Bobwhite quail~~	~~a.s.~~	~~Long-term~~	~~NOEL = 35.95 mg a.s./kg bw/d~~	~~NOEC - 22 wk = 350 mg a.s./kg diet (nominal concentration)~~
Mammals ‡				
rat	a.s.	Acute	**LD_{50} = 986 mg/kg bw**	-
rat	Preparation PEAK 75 WG	Acute	LD_{50} >1000 (< 2000) mg/kg bw, i.e. **> 755 mg a.s./kg bw.**	LD_{50} >1000 (< 2000) mg/kg bw, i.e. > 755 mg a.s./kg bw.
	~~Metabolite 1~~	~~Acute~~	~~-~~	~~-~~
rat	a.s.	Short-term	90 d NOAEL = 3 mg/kg bw/day	-
rat	a.s.	Long-term	**NOAEL = 12 mg/kg bw/day**	-
rat	a.s.	Developmental toxicity	NOAEL Maternal = 200 mg/kg bw per day NOAEL Developmental = 50 mg/kg bw per day	-
rabbit	a.s.	Developmental toxicity	NOAEL Maternal **= 10 mg/kg bw per day** NOAEL Developmental = **10 mg/kg bw per day**	-
Additional higher tier studies ‡				
[1] Endpoint related to both sexes				

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

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

Maize, 0.02 kg a.s./ha

Indicator species/Category[2]	Time scale	DDD (mg a.s./kg bw/day)	TER[1]	Annex VI Trigger[3]
Screening step (Birds)				
Small omnivorous bird	Acute a.s.	3.18	408.8	10
Small omnivorous bird	Acute PEAK 75 WG	3.18	148.1	10
-	Short-term	-	-	10
Small Omnivorous bird	Long-term	0.687	**4.29**	5
Tier 1 risk assessment (Birds)				
-	Acute	-	-	10
-	Short-term	-	-	10
Medium granivorous bird“gamebird” Partridge	Long-term	0.0318	92.8	5
Small insectivorous /worm feeding species “thrush” Robin	Long-term	0.0604	48.8	5
Small omnivorous bird “lark” Woodlark	Long-term	0.116	25.4	5
Medium herbivorous/granivorous bird “pigeon” Wood pigeon	Long-term	0.241	12.2	5
Small insectivorous bird “wagtail” Yellow wagtail	Long-term	0.120	24.6	5
Screening step (Mammals)				
Small herbivorous mammal	Acute a.s.	2.73	361.2	10
Small herbivorous mammal	Acute PEAK 75 WG	2.73	> 276.6	10
Small herbivorous mammal	Long-term	0.766	3.92	5
Tier 1 risk assessment (Mammals)				
-	Acute	-	-	10
Small insectivorous mammal “shrew”	Long-term	0.045	222.2	5

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

Small herbivorous mammal "vole	Long-term	0.766	13.1	5
Single diet for T1 Wood mouse (*Apodemus sylvaticus*)	Long-term	0.035	285.7	5
Single diet for T1 Wood mouse (*Apodemus sylvaticus*)	Long-term	0.070	142.9	5
Single diet for T1 Wood mouse (*Apodemus sylvaticus*)	Long-term	0.512	19.5	5
Small omnivorous mammal “mouse”	Long-term	0.083	120.5	5
Higher tier refinement (Mammals)				
-	Acute	-	-	10
-	Long-term	-	-	5

[1] in higher tier refinement provide brief details of any refinements used (e.g., residues, PT, PD or AV)
[2] for cereals indicate if it is early or late crop stage
[3] If the Annex VI Trigger value has been adjusted during the risk assessment of the active substance (e.g. many single species data), it should appear in this column

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 (Test type)	End point	Toxicity[1] (mg/L)
Laboratory tests ‡				
Fish				
Oncorhynchus mykiss *	a.s.	96 h-static	Mortality, LC_{50}	> 100 (nom)
Oncorhynchus mykiss	a.s.	96 h-flow-through	Mortality, LC_{50}	**> 160 (mm)**
Lepomis macrochirus	a.s.	96 h-static	Mortality, LC_{50}	> 100 (nom)
Lepomis macrochirus	a.s.	96 h-flow-through	Mortality, LC_{50}	> 155 (mm)
Cyprinus carpio	a.s.	96 h-static	Mortality, LC_{50}	> 100 (nom)
Cyprinodon variegatus	a.s.	96 h-flow-through	Mortality, LC_{50}	> 155 (mm)
Ictalurus punctatus	a.s.	96 h-static	Mortality, LC_{50}	> 100 (nom)
Pimephales promelas	a.s.	37 d-flow-through	Growth, NOEC	150 (mm)
Oncorhynchus	a.s.	21 d-flow-	Growth, NOEC	**5.80** (nom)

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

mykiss		through		
Oncorhynchus mykiss	PEAK 75 WG	96 h-static	Mortality, LC_{50}	**>100** f.p./L **(>75.5** a.s./L) (nom)
Cyprinus carpio	PEAK 75 WG	96 h-static	Mortality, LC_{50}	>100 f.p./L (>75.5 a.s./L) (nom)
Oncorhynchus mykiss	Metabolite CGA 159902	96 h-static	Mortality, LC_{50}	**63** (nom)
Oncorhynchus mykiss	Metabolite CGA 300406	96 h-static	Mortality, LC_{50}	**> 100** (nom)
*Oncorhynchus mykiss**	Metabolite CGA 150829	96 h-static	Mortality, LC_{50}	**> 200** (nom)
Oncorhynchus mykiss	Metabolite CGA 349707	96 h-flow-through	Mortality, LC_{50}	> 42 (mm)
Aquatic invertebrate				
Daphnia magna	a.s.	48 h-flow-through	Mortality, EC_{50}	**> 120** (mm)
Mysidopsis bahia	a.s.	96 h-flow-through	Mortality, EC_{50}	> 150 (mm)
Crassostrea virginica	a.s.	96 h-flow-through	Mortality, EC_{50}	> 125 (mm)
Daphnia magna	a.s.	21 d-semi-static	Reproduction, NOEC	**32** (nom)
Daphnia magna	a.s.	21 d-flow-through	Reproduction, NOEC	148 (mm)
Daphnia magna	PEAK 75 WG	48 h-static	Mortality, EC_{50}	>100 f.p./L (nom) (>**75.5** a.s./L)
Daphnia magna	Metabolite CGA 159902	48 h-static	Mortality, EC_{50}	**74** (nom)
Daphnia magna	Metabolite CGA 300406	48 h-static	Mortality, EC_{50}	**> 100** (nom)
Daphnia magna	Metabolite CGA 150829	24 h-static	Mortality, EC_{50}	> 100 (nom)
Daphnia magna	Metabolite CGA 150829	48 h-static	Mortality, EC_{50}	**16** (nom)
Daphnia magna	Metabolite CGA 150829	48 h-static	Mortality, EC_{50}	> 99 (mm)
Daphnia magna	Metabolite CGA 150829	48 h-static	Mortality, EC_{50}	> 100 (nom)
Daphnia magna	Metabolite CGA 150829	21 d-semi-static	Reproduction, NOEC	≥ 97 (mm)
Daphnia magna	Metabolite CGA 349707	48 h-static	Mortality, EC_{50}	> 100 (nom) **> 2.8** considering solubility

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

Sediment dwelling organisms				
Indicate species	a.s.	28 d (static)	NOEC	
	Metabolite 2	28 d (static)	NOEC	
Algae				
Pseudokirchneriella subcapitata **	a.s.	120 h-static	Growth rate EC_{50} Growth rate NOEC	0.0106 (mm) 0.00278 (mm)
Pseudokirchneriella subcapitata **	a.s.	72 h-static	Growth rate E_rC_{50} Growth rate NOErC Biomass E_bC_{50} Biomass NOE_bC	0.074 (mm) 0.008 (mm) **0.016** (mm) 0.004 (mm)
Anabaena flos-aquae	a.s.	120 h-static	Growth rate EC_{50}	> 0.0272 (mm)
Navicula pelliculosa	a.s.	120 h-static	Growth rate EC_{50} Growth rate NOEC	> 0.0836 (mm) 0.0836 (mm)
Skeletonema costatum	a.s.	120 h-static	Growth rate EC_{50}	> 0.0286 (mm)
Anabaena flos-aquae	a.s.	72 h-static	Yeld E_yC_{50} Yeld NOEC Growth rate E_rC_{50} Growth rate NOEC	0.530 (nom) 0.160 (nom) 1.160 (nom) 0.310 (nom)
Scenedesmus subspicatus	PEAK 75 WG	72 h-static	Biomass: E_bC_{50} Biomass: NOE_bC	3.2 f.p./L (nom) **(2.416** a.s./L) 1.100 f.p./L (nom) (0.8305 a.s./L)
Scenedesmus subspicatus	Metabolite CGA 159902	72 h-static	Growth rate E_rC_{50} Biomass:E_bC_{50}	238 (nom) **86** (nom)
Pseudokirchneriella subcapitata	Metabolite CGA 300406	72 h-static	Growth rate: EC_{r50} Growth rate: NOE_rC	**> 100** (nom) 100 (nom)
Scenedesmus subspicatus	Metabolite CGA 150829	72 h-static	Biomass:E_bC_{50}	**> 90** (nom)
Pseudokirchneriella subcapitata	Metabolite CGA 150829	72 h-static	Growth rate: E_rC_{50}	> 100 (nom) > 100 (nom)

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

			Biomass: E_bC_{50}	
Pseudokirchneriella subcapitata **	Metabolite CGA 349707	72 h-static	Growth rate: E_rC_{50} Biomass:E_bC_{50} Biomass NOE_bC Growth rate: NOE_rC	**> 64.3** (mm) **> 64.3** (mm) **64.3** (mm) **64.3** (mm)
Higher plant				
Lemna gibba	a.s.	14 d-static	Fronds, EC_{50} Fronds, NOEC	0.00126 (nom) 0.000827 (nom)
Lemna gibba	PEAK 75 WG	7 d –static	Yeld, E_yC_{50} Growth rate: E_rC_{50}	0.0018 f.p./L(nom) **(0.00131** a.s./L) 0.0029 f.p./L (nom) (0.00212 a.s./L)
Lemna gibba	Metabolite CGA 150829	7 d-static	Biomass: E_bC_{50} Growth rate: E_rC50 NOEC	**> 100** (nom) **> 100** (nom) 100 (nom)
Lemna gibba	Metabolite CGA 150829	7 d-static	Biomass: E_bC_{50} Growth rate: E_rC_{50} NOEC	**> 100** (nom) **> 100** (nom) 32 (nom)
Lemna gibba	Metabolite SYN542604	7 d-static	Biomass: E_bC_{50} Growth rate: E_rC5o NOEC	**> 104** (mm) **> 104** (mm) 104 (mm)
Lemna gibba	Metabolite CGA325025	7 d-static	Yeld: E_yC_{50} Growth rate: E_rC_{50} NOEC	**0.83** (mm) 1.6 (mm) 0.27 (mm)
Microcosm or mesocosm tests				
Indicate if not required				

[1] Indicate whether based on nominal ($_{nom}$) or mean measured concentrations ($_{mm}$). In the case of preparations indicate whether end points are presented as units of preparation or a.s.

* Formerly known as *Salmo gairdneri*

**Formerly known as *Selenastrum capricornutum*

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

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

FOCUS Step 1

Maize and sweet corn (1x20 g a.s./ha)

Test substance	Organism	Toxicity end point (mg/L)	Time scale	PEC_i (µg/L)	PEC_{twa}	TER	Annex VI Trigger[1]
a.s.	*Oncorhynchus mykiss*	> 160	Acute	6.73		23774.15	100
a.s.	*Oncorhynchus mykiss*	5.8	Chronic	6.73		861.81	10
a.s.	*Daphnia magna*	> 120	Acute	6.73		>17830.61	100
a.s.	*Daphnia magna*	32	Chronic	6.73		4754.83	10
a.s.	*Pseudokirchneriella subcapitata* *	0.016	Chronic	6.73		**2.38**	10
a.s.	*Lemna gibba*	0.00126	Chronic	6.73		**0.187**	10
a.s.	Sediment-dwelling[3] organisms		Chronic				10
CGA 159902	*Oncorhynchus mykiss*	63	Acute	1.77		35593.22	100
CGA 300406	*Oncorhynchus mykiss*	> 100	Acute	1.52		>65789.47	100
CGA 150829	*Oncorhynchus mykiss* **	> 200	Acute	0.83		>240963.86	100
CGA 349707	*Oncorhynchus mykiss*	> 42	Acute	1.17		>35897.44	100
CGA 159902	*Daphnia magna*	74	Acute	1.77		41807.91	100
CGA 300406	*Daphnia magna*	> 100	Acute	1.52		>65789.47	100
CGA 150829	*Daphnia magna*	> 16	Acute	0.83		>19277.11	100
CGA 150829	*Daphnia magna*	> 97	Chronic	0.83		>116867,47	10
CGA 349707	*Daphnia magna*	> 2.8	Acute	1.17		>2393.16	100
CGA 159902	*Scenedesmus subspicatus*	86	Chronic	1.77		48587,57	10
CGA 300406	*Pseudokirchneriella subcapitata*	> 100	Chronic	1.52		>65789,47	10
CGA 150829	*Scenedesmus subspicatus*	> 90	Chronic	0.83		>108433,73	10
CGA	*Pseudokirchneriella*	> 64.3	Chronic	1.17		>54957,26	10

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

349707	*subcapitata**						
CGA 150829	*Lemna gibba*	> 100	Chronic	0.83		>120481.93	10
SYN542604	*Lemna gibba*	> 104	Chronic	1.65		>63030.30	10
CGA325025	*Lemna gibba*	0.83	Chronic	1.09		761.47	10
PEAK 75 WG	*Oncorhynchus mykiss*	> 75.5	Acute	6.73		> 11218.42	100
PEAK 75 WG	*Daphnia magna*	> 75.5	Acute	6.73		>11218.42	100
PEAK 75 WG	*Scenedesmus subspicatus*	2.416	Chronic	6,73		358.99	10
PEAK 75 WG	*Lemna gibba*	0.00131	Chronic	6.73		**0.19**	10

[1] If the Annex VI Trigger value has been adjusted during the risk assessment of the active substance, it should appear in this column. E.g. if it is agreed during the risk assessment of mesocosm, that a trigger value of 5 is required, it should appear as a minimum requirement to MS in relation to product approval.
[2] only required for herbicides
[3] consider the need for PEC_{sw} and PEC_{sed} and indicate which has been used
** Formerly known as *Salmo gairdneri*

FOCUS Step 2

Maize and sweet corn (1x20g a.s./ha)

Test substance	N/S[1]	Organism[2]	Toxicity end point (mg/L)	Time scale	PECi	TER	Annex VI Trigger[4]
a.s.	N	*Pseudokirchneriella subcapitata**	0.016	Chronic	2.06	**7.77**	10
a.s.	S	*Pseudokirchneriella subcapitata**	0.016	Chronic	1.12	14.28	10
a.s.	N	*Lemna gibba*	0.00131	Chronic	2.06	**0.64**	10
a.s.	S	*Lemna gibba*	0.00131	Chronic	1.12	**1.17**	10

[1] indicate whether Northern of Southern
[2] include critical groups which fail at Step 1.
[3] indicate whether maximum or twa values have been used.
[4] If the Annex VI Trigger value has been adjusted during the risk assessment of the active substance, it should appear in this column. E.g. if it is agreed during the risk assessment of mesocosm, that a trigger value of 5 is required, it should appear as a minimum requirement to MS in relation to product approval.
[5] only required for herbicides
[6] consider the need for PEC_{sw} and PEC_{sed} and indicate which has been used
* Formerly known as *Selenastrum capricornutum*

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

Refined aquatic risk assessment using higher tier FOCUS modelling

FOCUS Step 3

Maize and sweet corn (1x20 g a.s./ha)

Test substance	Scenario[1]	Water body type[2]	Test organism[3]	Time scale	Toxicity end point (mg/L)	PECswmax[4] (µg/L)	TER	Annex VI Trigger[5]
a.s.	D3 Vredepeel	ditch	*Pseudokirchneriella subcapitata**		0.016	0.283	56.54	10
	D4 Skousbo	pond				0.528	30.30	
	D4 Skousbo	stream				0.283	56.54	
	D5 La Jaillière	pond				0.251	63.74	
	D5 La Jaillière	stream				0.170	94.12	
	D6 Thiva	ditch				0.141	113.47	
	R1 Weiherbach	pond				0.008	2000	
	R1 Weiherbach	stream				0.266	60.15	
	R2 Porto	stream				0.730	21.92	
	R3 Bologna	stream				0.903	17.72	
	R4 Roujan	stream				0.960	16.67	

[1] drainage (D1-D6) and run-off (R1-R4)
[2] ditch/stream/pond
[3] include critical groups which fail at Step 2.
[4] indicate whether PEC_{sw}, or PEC_{sed} and whether maximum or twa values used
[5] If the Annex VI Trigger value has been adjusted during the risk assessment of the active substance, it should appear in this column. E.g. if it is agreed during the risk assessment of mesocosm, that a Trigger value of 5 is required, it should appear as a minimum requirement to MS in relation to product approval.

*Formerly known as *Selenastrum capricornutum*

Maize and sweet corn (1×20 g a.s./ha)

Test substanc	Scenario[1]	Water body	Test organism[3]	Toxicity end point	$PEC_{7\,d\text{-}twa}$[4]	TER	Annex VI Trigger[5]

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

e		type[2]		(mg/L)	µg/L		
PEAK 75 WG	D3 Vredepeel	ditch	*Lemna gibba*	1.31	0.194	**6.75**	10
	D4 Skousbo	pond			0.527	**2.48**	
	D4 Skousbo	stream			0.271	**4.83**	
	D5 La Jaillière	pond			0.250	**5.24**	
	D5 La Jaillière	stream			0.108	12.12	
	D6 Thiva	ditch			0.064	20.47	
	R1 Weiherbach	pond			0.008	163.75	
	R1 Weiherbach	stream			0.018	72.78	
	R2 Porto	stream			0.065	20.15	
	R3 Bologna	stream			0.084	15.59	
	R4 Roujan	stream			0.104	12.60	
PEAK 75 WG	D3 Vredepeel	ditch	*Lemna gibba*	2.12[6]	0.194	10.93	10
	D4 Skousbo	pond			0.527	**4.02**	
	D4 Skousbo	stream			0.271	**7.82**	
	D5 La Jaillière	pond			0.250	**8.48**	
	D5 La Jaillière	stream			0.108	19.63	
	D6 Thiva	ditch			0.064	33.12	
	R1 Weiherbach	pond			0.008	265	
	R1 Weiherbach	stream			0.018	117.78	
	R2 Porto	stream			0.065	32.61	
	R3 Bologna	stream			0.084	25.24	

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

	D5LaJaillière	stream				0.108	19.63	
	D6 Thiva	ditch				0.064	33.12	
	R1 Weiherbach	pond				0.002	1060	
	R1 Weiherbach	stream				0.004	530	
	R2 Porto	stream				0.015	141.33	
	R3 Bologna	stream				0.020	106	
	R4 Roujan	stream				0.025	84.8	

[1] drainage (D1-D6) and run-off (R1-R4)
[2] ditch/stream/pond
[3] include critical groups which fail at Step 2.
[4] indicate whether PEC_{sw}, or PEC_{sed} and whether maximum or twa values used
[5] If the Annex VI Trigger value has been adjusted during the risk assessment of the active substance, it should appear in this column. E.g. if it is agreed during the risk assessment of mesocosm, that a Trigger value of 5 is required, it should appear as a minimum requirement to MS in relation to product approval.
[6] ErC50 used as alternative endpoint in risk assessment as agreed in the Pesticides Peer review meeting 115

Bioconcentration	
	Active substance
$logP_{O/W}$	0.21-1.5

Effects on honeybees (Annex IIA, point 8.3.1, Annex IIIA, point 10.4)

Test substance	Acute oral toxicity (LD_{50} µg/bee)	Acute contact toxicity (LD_{50} µg/bee)
a.s. ‡	>100 µg a.s./bee	>100 µg a.s./bee
Formulation A8714C	LD_{50} > 151.22 µg f.p./bee[1] (LD_{50} >112.5 µg a.s./bee)	LD_{50} > 134.41 µg f.p./bee[1] (LD_{50} >100 µg a.s./bee)
Field or semi-field tests		
Not required		

[1] f.p. = formulated product

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

Hazard quotients for honey bees (Annex IIIA, point 10.4)

Maize and sweet corn (1 x 20.0 g as/ha)

Test substance	Route	Hazard quotient	Annex VI Trigger
a.s.	Contact	< 0.20	50
a.s.	Oral	< 0.20	50
formulation PEAK 75 WG	Contact	< 0.20	50
formulation PEAK 75 WG	Oral	< 0.18	50

Effects on other arthropod species (Annex IIA, point 8.3.2, Annex IIIA, point 10.5)

Laboratory tests with standard sensitive species

Species	Test Substance	End point	Effect (LR_{50} g/ha[1])
Aphidius rhopalosiphi ‡	formulation PEAK 75 WG	Mortality	LR_{50} >55 g A8714C/ha (equivalent to >40.0 g a.s./ha)
Typhlodromus pyri ‡	formulation PEAK 75 WG	Mortality	LR_{50} >20 g A8714C/ha (equivalent to >15 g a.s./ha)
Typhlodromus pyri ‡	formulation PEAK 75 WG	Mortality	LR_{50} >53.3 g A8714C/ha (equivalent to LR_{50} >38.93 g a.s./ha)

[1] for preparations indicate whether end point is expressed in units of a.s. or preparation

Maize and sweet corn (1 x 20.0 g as/ha)

Test substance	Species	Effect (LR_{50} g/ha)	HQ in-field	HQ off-field[1] (1 m)	Trigger
formulation PEAK 75 WG	*Typhlodromus pyri*	LR_{50} > 38.93 g A8714C/ha	0.51	-	2
formulation PEAK 75 WG	*Aphidius rhopalosiphi*	LR_{50} > 40.0 g A8714C/ha	< 0.50	-	2

[1] off-field risk assessment can be considered as not relevant considering that this risk is covered by in-field risk assessment

Further laboratory and extended laboratory studies ‡

Species	Life stage	Test substance, substrate and duration	Dose (g/ha)	End point

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

Species	Life stage	Test substance, substrate and duration	Dose (g/ha)	End point
Coccinella septempunctata	Larvae	formulation PEAK 75 WG	0.02 kg and 0.0008 kg A8714 C/ha (equivalent to application rate of 15.3 g a.s./ha and 4% drift rate for field crops in a distance of 1 m, resp.)	LR_{50} > 0.02 kg A8714C/ha. (equivalent to >15.3 g a.s./ha)
Aleochara bilineata	Adults	formulation PEAK 75 WG	0.0206 kg A8714C/ha	ER_{50} > 20.6 g A8714C/ha (equivalent to > 15 g a.s./ha)
Poecilus cupreus	Adults	formulation PEAK 75 WG	0.0201 kg A8714C/ha	LR_{50} > 20.1 g A8714C/ha (equivalent to >15 g a.s/ha)
Chrysoperla carnea	Larvae	formulation PEAK 75 WG	20 to 30 g as/ha	M = 4% (larval mortality) at 30 g as/ha estimated
Coccinella septempunctata	Larvae	formulation PEAK 75 WG	20 to 30 g as/ha	M = 5% (larval mortality) at 30 g as/ha estimated
Orius albidipennis	Larvae	formulation PEAK 75 WG	20 to 30 g as/ha	M = 9% (larval mortality) at 30 g as/ha estimated

Field or semi-field tests
Not required

Effects on earthworms, other soil macro-organisms and soil micro-organisms (Annex IIA points 8.4 and 8.5. Annex IIIA, points, 10.6 and 10.7)

Test organism	Test substance	Time scale	End point[1]

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

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Ecotoxicology

Test organism	Test substance	Time scale	End point[1]
Earthworms			
Eisenia fetida	Prosulfuron	Acute	LC_{50} >1000 mg a.s./kg d.w.soil
Eisenia fetida	PEAK 75 WG (A8714C)	Acute	14 d LC_{50} >1000 mg preparation/kg d.w.soil
		Sublethal (biomass)	NOEC = 100 mg preparation/kg d.w.soil
		Sublethal (reproduction)	NOEC = 0.73 mg a.s./kg d.w.soil NOEC = 1 mg f.p./kg d.w.soil
Eisenia fetida	CGA150829	Acute	LC_{50} > 1000 mg/kg d.w.soil
		Long-term	NOEC = 30 mg/kg soil
Eisenia fetida	CGA349707	Acute	LC_{50} > 1000 mg/kg d.w.soil
		Long-term	NOEC = 0.073 mg/kg soil
Eisenia fetida	CGA159902	Acute	LC_{50} = 420 mg/kg d.w.soil
		Long-term	NOEC = 0.073 mg/kg soil
Eisenia fetida	SYN542604	Acute	LC_{50} > 100 mg/kg d.w.soil
		Long-term	NOEC = 0.073 mg/kg soil
Eisenia fetida	CGA325025	Acute	LC_{50} > 100 mg/kg d.w.soil
		Long-term	NOEC = 0.073 mg/kg soil
Eisenia fetida	CGA300406	Acute	LC_{50} > 1000 mg/kg d.w.soil
		Long-term	NOEC = 0.073 mg/kg soil
Other soil macro-organisms			
Soil mite	a.s. ‡		
	Preparation		
	Metabolite 1		
Collembola and Hypoaspis			
Folsomia candida	CGA150829	28 day reproduction	NOEC = 0.225 mg /kg d.w.soil

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

Test organism	Test substance	Time scale	End point[1]
Hypoaspis (Geolaelaps) aculeifer	CGA150829	Soil predatory mite – 14 day mortality and reproduction	NOEC = 100 mg /kg d.w.soil
Soil micro-organisms			
Nitrogen mineralisation	prosulfuron	NOEC	0.2 mg as/kg dry soil
	formulation PEAK 75 WG (A8714C)	Chronic 4 weeks, NOEC	0.18 mg A8714C/kg dw soil equivalent to 0.131 mg a.s./kg soil[1]
	Metabolite CGA150829	Chronic 6 weeks, NOEC	0.204 mg/kg dw soil
	Metabolite CGA159902	Chronic 4 weeks, NOEC	0.135 mg/kg dw soil
	Metabolite CGA300406	Chronic 4 weeks, NOEC	0.135 mg/kg dw soil
	Metabolite CGA349707[2]	-	0.0131 mg/kg dw soil
	Metabolite SYN542604[2]	-	0.0131 mg/kg dw soil
	Metabolite CGA325025[2]	-	0.0131 mg/kg dw soil
Carbon mineralisation	prosulfuron	NOEC	0.2 mg as/kg dry soil
	formulation PEAK 75 WG (A8714C)	Chronic 8 weeks, NOEC	0.18 mg A8714C/kg dw soil equivalent to 0.131 mg a.s./kg soil[1]
	Metabolite CGA150829	Chronic 4 weeks, NOEC	0.204 mg/kg dw soil
	Metabolite CGA159902	Chronic 4 weeks, NOEC	0.135 mg/kg dw soil
	Metabolite CGA300406	Chronic 4 weeks, NOEC	0.135 mg/kg dw soil
	Metabolite CGA349707[2]	-	0.0131 mg/kg dw soil

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

List of end points

Ecotoxicology

Test organism	Test substance	Time scale	End point[1]
	Metabolite SYN542604[2]	-	0.0131 mg/kg dw soil
	Metabolite CGA325025[2]	-	0.0131 mg/kg dw soil
Field studies			
Not required			

[1] Based on analysed purity of a.s. in study (73.0 % w/w)

[2] No soil micro-organisms studies have been conducted with metabolites CGA349707, CGA325025 and SYN524604. For the purposes of the risk assessment and as recommended in the Terrestrial guidance document they are conservatively assumed to be 10 times more toxic than prosulfuron.

Toxicity/exposure ratios for soil organisms

Maize and sweet corn (1 x 20.0 g as/ha)

Test organism	Test substance	Time scale	PECs	TER	Trigger
Earthworms					
Eisenia fetida	PEAK 75 WG (A8714C)	Acute	0.027	> 37037	10
		Chronic	0.027	37	5
Eisenia fetida	Prosulfuron	Acute	0.020	> 50000	10
Eisenia fetida	CGA150829	Acute	0.0124	> 80645	10
		Chronic	0.0124	2419	5
Eisenia fetida	CGA349707	Acute	0.0128	> 78125	10
		Chronic	0.0128	5.7	5
Eisenia fetida	CGA159902	Acute	0.0257	16342	10
		Chronic	0.0107	6.82	5
Eisenia fetida	CGA300406	Acute	0.0046	> 217391	10
		Chronic	0.0046	15.86	5
Eisenia fetida	CGA325025	Acute	0.0034	> 29412	10
		Chronic	0.0034	21	5
Eisenia fetida	SYN542604	Acute	0.0078	>12820	10
		Chronic	0.0078	9.35	5
Other soil macro-organisms					
Folsomia candida	CGA150829	28 day reproduction	0.0124	8065	5

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Draft Assessment Report

Evaluation of Active Substances

Plant Protection Products

Prepared according to **Retained Regulation (EC) 1107/2009**
as it applies in Great Britain

3 U R V X O I X U R Q

Volume 3 ±B.8 (AS)

Environmental Fate &Behaviour

GB Article 7 amendment application

Great Britain

September 2023

Version History

When	What
September 2023	HSE Initial Assessment

List of end points

Ecotoxicology

~~Test Type~~	~~Test species~~	~~Ecotoxicological endpoint / lowest ER_{50}~~
~~35 day study~~	~~*Daucus carota* (Carrot)~~ ~~*Lactuca sativa* (Lettuce)~~	~~ER_{50} = 0.22 g A8714C/ha (equivalent to 0.168 g as/ha) at early growth stage~~ ~~ER_{50} = 1.32 g A8714C/ha (equivalent to 1.0 g as/ha) at middle growth stage~~ ~~ER_{50} = 18.7 g A8714C/ha (equivalent to 14.2 g as/ha) at late growth stage~~

Buffer distance of 20 m (PER of 0.03 g as/ha) was identified to get acceptable risk (TER = 5.6) for the most sensitive species, *Lactuca sativa*, at early growth stage.

Effects on biological methods for sewage treatment (Annex IIA 8.7)

Test type/organism	end point
Activated sludge	EC_{50} - 3 h > 110.5 mg as/l (nominal concentration)

Ecotoxicologically relevant compounds (consider parent and all relevant metabolites requiring further assessment from the fate section)

Compartment	
soil	Parent (state name), Metabolite 1 (state name)
water	Parent (state name)
sediment	Metabolite 2 (state name)
groundwater	Parent (state name)

Classification and proposed labelling with regard to ecotoxicological data (Annex IIA, point 10 and Annex IIIA, point 12.3)

RMS/peer review proposal

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

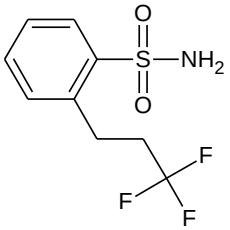
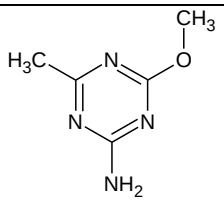
List of end points

Ecotoxicology

Active substance	~~N, R50/53 - Aquatic acute 1 / Aquatic chronic 1, H400, H 410 (P273-P391-P501)~~ Prosulfuron Regulation (EC) No 1272/2008, amended by Commission Regulation 286/2011 Category: Aquatic Acute 1, H400; Aquatic Chronic 1, H410: Very Toxic to aquatic life with long lasting effects M-factor: 100 (acute); 100 (chronic) Pictogram Code: GHS09 Signal word: Warning The classification is based on the 14-d EC50 of 0.00126 mg a.s./L and 14-d NOEC of 0.000827 mg a.s./L for *Lemna gibba*.

~~RMS/peer review proposal~~	
~~Preparation~~	~~N, R50/53 - Aquatic acute 1 / Aquatic chronic 1, H 400 H410 (P273-P391-P501)~~

Used Compound Codes

Code/Trivial name*	Chemical name/SMILES notation**	Structural formula**
CGA 159902 (prosulfuron phenyl sulfonamide)	2-(3,3,3-trifluoropropyl)benzenesulfonamide O=S(N)(=O)c1ccccc1CCC(F)(F)F	
CGA150829 (prosulfuron triazine amine)	4-methoxy-6-methyl-1,3,5-triazin-2-amine Cc1nc(N)nc(OC)n1	

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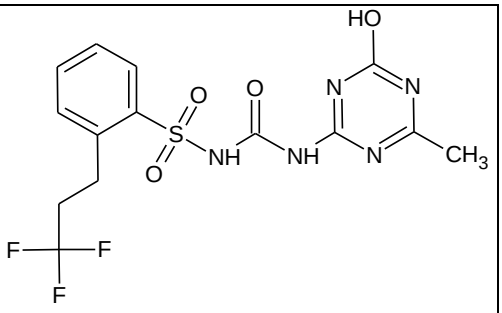
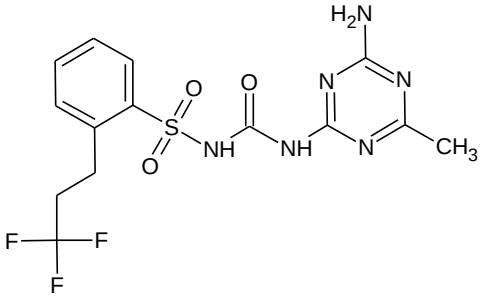
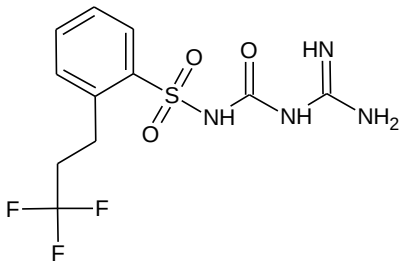
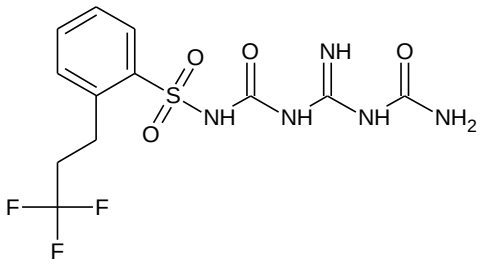
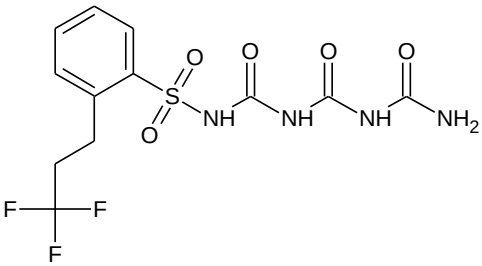
List of end points

Ecotoxicology

CGA300406 (O-desmethyl-prosulfuron)	*N*-[(4-methyl-6-oxo-1,6-dihydro-1,3,5-triazin-2-yl)carbamoyl]-2-(3,3,3-trifluoropropyl)benzenesulfonamide Cc2nc(NC(=O)NS(=O)(=O)c1ccccc1CCC(F)(F)F)nc(O)n2	
CGA 325025 (demethoxy amino-prosulfuron)	*N*-[(4-amino-6-methyl-1,3,5-triazin-2-yl)carbamoyl]-2-(3,3,3-trifluoropropyl)benzenesulfonamide O=C(Nc1nc(C)nc(N)n1)NS(=O)(=O)c2ccccc2CCC(F)(F)F	
CGA349707	*N*-(carbamimidoylcarbamoyl)-2-(3,3,3-trifluoropropyl)benzenesulfonamide O=S(=O)(NC(=O)NC(=N)N)c1ccccc1CCC(F)(F)F	
SYN542604 (M5)	*N*-[(*N*-carbamoylcarbamimidoyl)carbamoyl]-2-(3,3,3-trifluoropropyl)benzenesulfonamide O=S(=O)(NC(=O)NC(=N)NC(N)=O)c1ccccc1CCC(F)(F)F	
CGA325028 **lysimeter metabolite M5**	*N*-[(carbamoylcarbamoyl)carbamoyl]-2-(3,3,3-trifluoropropyl)benzenesulfonamide O=S(=O)(NC(=O)NC(=O)NC(N)=O)c1ccccc1CCC(F)(F)F	

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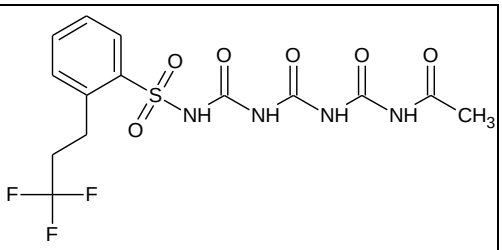
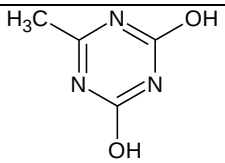
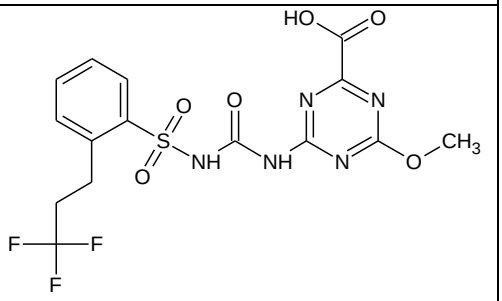
Ecotoxicology

prosulfuron polyimide (CGA325030)	*N*-{[({[2-(3,3,3-trifluoropropyl)phenyl]sulfonyl}carbamoyl)carbamoyl]carbamoyl}acetamide O=S(=O)(NC(=O)NC(=O)NC(=O)NC(C)=O)c1ccccc1CCC(F)(F)F	
G28533	6-methyl-1,3,5-triazine-2,4(1*H*,3*H*)-dione Oc1nc(C)nc(O)n1	
M17 (unidentified metabolite)	-	-
M18 (SYN547308) **(peer review accepted that proposed structure 1 is correct one)**	4-methoxy-6-[({[2-(3,3,3-trifluoropropyl)phenyl]sulfonyl}carbamoyl)amino]-1,3,5-triazine-2-carboxylic acid COc2nc(nc(NC(=O)NS(=O)(=O)c1ccccc1CCC(F)(F)F)n2)C(=O)O	
* The metabolite name in bold is the name used in this document. ** ACD/ChemSketch, Advanced Chemistry Development, Inc., ACD/Labs Release: 12.00 Product version: 12.00 (Build 29305, 25 Nov 2008)		

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles

‡ End point identified by the EU-Commission as relevant for Member State when applying the Uniform Principles