

# *European Commission*



**Draft Renewal Assessment Report prepared according to the Commission  
Regulation (EU) N° 1107/2009**

**FLUFENACET**

**List of Endpoints**

**Active Substance and Product Data**

Rapporteur Member State: Poland

Co-Rapporteur Member State: France

**List of end points**

Rapporteur Member State	Month and year	Active Substance (Name)
Poland	2017	Flufenacet

**Version History**

When	What
August 1997	Initial assessment. <b>Draft Assessment Report</b> for first inclusion to Annex I. RMS: FR
April 2016	<b>Draft Renewal Assessment Report</b> prepared according to the Commission; Regulation (EU) N° 1107/2009; RMS: PL; Co-RMS: FR
May 2017	Revision after Co-RMS comments

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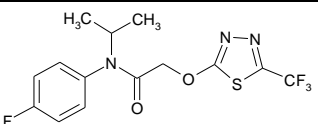
Rapporteur Member State	Month and year	Active Substance (Name)
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#### Section 1 Identity, Physical and Chemical Properties, Details of Uses, Further Information, Methods of Analysis

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

Active substance (ISO Common Name)	Flufenacet
Function (eg. fungicide)	Herbicide
Rapporteur Member State	Poland
Co-rapporteur Member State	France

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

Chemical name (IUPAC)	4'-fluoro- <i>N</i> -isopropyl-2-[5-(trifluoromethyl)-1,3,4-thiadiazol-2-yloxy]acetanilide
Chemical name (CA)	<i>N</i> -(4-fluorophenyl)- <i>N</i> -(1-methylethyl)-2-[[5-(trifluoromethyl)-1,3,4-thiadiazol-2-yl]oxy]acetamide
CIPAC No	588
CAS No	142459-58-3
EC No (EINECS or ELINCS)	Not available
FAO Specification (including year of publication)	Not available
Minimum purity of the active substance as manufactured	970 g/kg
Identity of relevant impurities (of toxicological, environmental and/or other significance) in the active substance as manufactured	None
Molecular formula	C <sub>14</sub> H <sub>13</sub> F <sub>4</sub> N <sub>3</sub> O <sub>2</sub> S
Molar mass	363.34 g/mol
Structural formula	

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

Melting point (state purity)	Partial melting point at 76 °C (Purity = 99.5 %). Melting point of the new crystals at 79 °C (Purity = 99.5 %).
Boiling point (state purity)	Not measurable, decomposition above 150 °C (Purity = 99.5 %)
Temperature of decomposition (state purity)	Above 150 °C (Purity = 99.5 %)
Appearance (state purity)	Light beige powder with moderate, not characteristic odour (purity 98.65 %) Beige powder with intensive, not characteristic odour (purity 97.8 %)
Vapour pressure (state temperature, state purity)	Flufenacet-N-isomer (purity 98.5%): 9 x 10 <sup>-5</sup> Pa at 20 °C 2 x 10 <sup>-4</sup> Pa at 25 °C Comment: Flufenacet isomerizes by evaporation in a mixture containing Flufenacet-N-isomer as the main component and approx. 10 % of Flufenacet. Consequently only the vapour pressure of Flufenacet-N-isomer can be determined.
Henry's law constant (state temperature)	at 20 °C: At pH 4: 1.2 x 10 <sup>-3</sup> Pa m <sup>3</sup> mol <sup>-1</sup> At pH 7: 1.3 x 10 <sup>-3</sup> Pa m <sup>3</sup> mol <sup>-1</sup> At pH 9: 1.1 x 10 <sup>-3</sup> Pa m <sup>3</sup> mol <sup>-1</sup>
Solubility in water (state temperature, state purity and pH)	51 mg/L (20 °C, purity = 98.65 %, pH 6.9)
Solubility in organic solvents (state temperature, state purity)	methanol: > 280 g/L n-heptane: 6.4 g/L xylene: > 280 g/L 1,2-dichloroethane: > 280 g/L acetone: > 280 g/L ethyl acetate: > 280 g/L dimethyl sulfoxide: > 280 g/L (20 °C, purity = 97.8 %)
Surface tension (state concentration and temperature, state purity)	σ = 59.4 mN/m (47 mg/L, 20 °C, purity = 97.8 %)
Partition coefficient (state temperature, pH and purity)	log Pow = 3.5 at (25 °C, pH = 7)
Dissociation constant (state purity)	No dissociation constant (purity = 98.65 %)
UV/VIS absorption (max.) incl. ε (state purity, pH)	Acetonitrile / buffer solution pH 2 (purity = 97.8 %): λ <sub>max</sub> (201 nm); ε (L mol <sup>-1</sup> cm <sup>-1</sup> ) = 18131 λ <sub>max</sub> (235 nm); ε (L mol <sup>-1</sup> cm <sup>-1</sup> ) = 7307  Acetonitrile / buffer solution pH 7 (purity = 97.8 %): λ <sub>max</sub> (235 nm); ε (L mol <sup>-1</sup> cm <sup>-1</sup> ) = 7106  Acetonitrile / buffer solution pH 10 (purity = 97.8 %): λ <sub>max</sub> (235 nm); ε (L mol <sup>-1</sup> cm <sup>-1</sup> ) = 7161
Flammability (state purity)	Not flammable, (purity = 94.5 %)



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Explosive properties (state purity)

Not explosive, (purity = 94.5 %)

Oxidising properties (state purity)

Not oxidising, (purity = 97.49 %)

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## Section 1 Identity, Physical and Chemical Properties, Details of Uses, Further Information, Methods of Analysis

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

Crop and/or situation (a)	Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks: (m)
					Type (d-f)	Conc. of as (i)	method kind (f-h)	growth stage & season (j)	number min max (k)	interval between applications (min)	kg as/hL min max	water L/ha min max	kg as/ha min max		
Winter wheat, Winter barley, Winter rye	(e.g. Germany)	Herold SC	F	Annual dicot weeds, ALOMY, APESV, POAAN	SC	DFF: 200 g/l  FFA: 400 g/l	Tractor mounted boom spraying	Post-emergence BBCH 10-13	1		DFF: 0.06 – 0.03  FFA: 0.12 – 0.06	200 – 400	DFF: 0.12  FFA: 0.24	n-a.	0.6 L/ha  Autumn use only
Wintwer wheat, Winter barley	(e.g. France)	Fosbury	F	Annual dicot weeds, GGGGG, GRA	SC	DFF: 200 g/l  FFA: 400 g/l	Tractor mounted boom spraying	Post-emergence BBCH 11-13	1		DFF: 0.15 – 0.04  FFA: 0.3 – 0.08	80 – 400	DFF: 0.12  FFA: 0.24	n-a.	0.6 L/ha

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Crop and/or situation  (a)	Country	Product name	F G or I (b)	Pests or Group of pests controlled  (c)	Formulation		Application				Application rate per treatment			PHI (days)	Remarks:
					Type	Conc. of as	method kind	growth stage & season (j)	number min max	interval between applications (min)	kg as/hL	water L/ha	kg as/ha	(l)	(m)
					(d-f)	(i)	(f-h)		(k)		min max	min max	min max		
Winter wheat, Winter barley, Winter rye	(e.g. Ireland)	Firebird	F	ANTCO, AVEFA, CAPBP, CERSS, GALAP, GGGANL, AMAM, LAMSS, VERHE, VERSS	SC	DFF: 200 g/l  FFA: 400 g/l	Tractor mounted boom spraying	Pre-emergence & Post-emergence  BBCH 0-22	1		DFF: 0.015 – 0.03  FFA: 0.03 – 0.06	200 – 400	DFF: 0.06  FFA: 0.12	n-a.	0.3 L/ha
Wheat, Barley	(e.g. Spain)	Herold	F	Annual dicot weeds, ALOMY, APESV, POAAN	SC	DFF: 200 g/l  FFA: 400 g/l	Tractor mounted boom spraying	Post-emergence  BBCH 11-13	1		DFF: 0.02 – 0.04  FFA: 0.04 – 0.08	200 – 400	DFF: 0.08  FFA: 0.16	n-a.	0.4 L/ha  (Approved in Spain : 0.4 L/ha-0.6 L/ha)

\*The representative uses listed above derive from existing registrations or on-going re-registrations e.g. Sweden, United Kingdom.

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Remarks:	(1) Diflufenican DFF	(h) Kind, e.g. overall, broadcast, aerial spraying, row, individual plant, between the plants
	(2) Flufenacet FFA	- type of equipment used must be indicated
	(a) For crops, Codex (or other, e.g. EU) classifications should be used; where relevant, the use situation should be described (e.g. fumigation of a structure)	(i) g/kg or g/l
	(b) Outdoor or field use (F), glasshouse application (G) or indoor application(I)	(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
	(c) e.g. biting and suckling insects, soil born insects, foliar fungi, weeds	
	(d) e.g. wettable powder (WP), emulsifiable concentrate (EC), granule (GR)	
	(e) GCPF Codes - GIFAP Technical Monograph No 2, 1989	(k) The minimum and maximum number of application possible under practical conditions of use must be provided
	(f) All abbreviations used must be explained	(l) PHI - minimum pre-harvest interval
	(g) Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench	(m) Remarks may include: Extent of use/economic importance/restriction

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

In the framework of the renewal process, no additional uses were intended for MRL setting.

**Further information, Efficacy**

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

The representative uses GAPs are supported by the available data.

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

No adverse effects on field crops are reported.

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

No undesirable or unintended side-effects

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

Activity against target organism

<i>Met1</i>	<i>Met2</i>	<i>Met3</i>	<i>Met4</i>	<i>Met5</i>	<i>Met6</i>
yes/no	yes/no	yes/no	yes/no	yes/no	yes/no

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#### Methods of Analysis

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

Technical as (analytical technique)	The components are separated by reverse phase high performance liquid chromatography (HPLC-DAD 230 nm). The quantitative evaluation is carried out using the peak area of flufenacet by comparison with the area of the calibration substance according to the method of external standardization.
Impurities in technical as (analytical technique)	<p>The components are separated by normal phase high performance liquid chromatography (HPLC-DAD 235 nm). The quantitative evaluation is carried out using the peak area of analytes and comparing them with the area of the calibration substance according to the method of external standardization.</p> <p>The organic by-products are separated by reverse phase high performance liquid chromatography (HPLC). The quantitative evaluation is carried out using the peak area of analytes and comparing them with the area of the calibration substance according to the method of external standardization.</p>
Plant protection product (analytical technique)	The active substances are separated by HPLC chromatography using a C18 stationary phase. Active substances are detected by UV absorption at 230 nm after gradient elution. Quantification is carried out by comparison of the peak area of the sample with that of the corresponding reference substances (external standard quantification).

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

#### Residue definitions for monitoring purposes

Food/feed of plant origin	Flufenacet including all metabolites containing the <i>N</i> -fluorophenyl- <i>N</i> -isopropyl moiety, expressed as flufenacet
Food/feed of animal origin	Flufenacet including all metabolites containing the <i>N</i> -fluorophenyl- <i>N</i> -isopropyl moiety, expressed as flufenacet
Soil	Flufenacet
Water	
• surface water	Flufenacet
• drinking /ground	Flufenacet
Air	Flufenacet
Body fluids and	Not required as active substance is classified neither as toxic nor as very toxic

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#### Monitoring/Enforcement methods

Food/feed of plant origin (principle of method and LOQ for methods for monitoring purposes)

Analytical residue method based on quantitation of the total residue of FOE 5043 arising from the N-isopropyl-4-fluorophenylacetamide portion of the molecule after derivatization of flufenacet; GC-MS technique; LOQ = 0.05 mg/kg for commodities of high water content (soybean foliage and tomato fruit), cereals and (grain, green plant), spinach and turnip roots, sunflower and soybean seed, and LOQ = 0.01 mg/kg for commodities of high acid content (sour apple, pH 4), and LOQ = 0.1 mg/kg for straw; using 3 fragment ions ( $m/z = 207$  (quantifier) and  $m/z = 138$  and  $m/z = 249$  (qualifier)). Recoveries ranged 76 – 82%.

ILV: LOQ = 0.05 mg/kg for wheat grain and corn forage, and LOQ = 0.1 mg/kg for straw; 3 fragment ions ( $m/z = 207$  (quantifier) and  $m/z = 138$  and  $m/z = 249$  (qualifier)).

Quantification of the total residue of flufenacet arising from the N-isopropyl-4-fluorophenylacetamide portion of the molecule by HPLC-MS/MS for commodities of high water content (cereal foliage), high starch content (grain), dry (straw), high acid content (orange fruit), high protein content (dry bean seed), high fat content (rape seed).

The active substance is determined as 4-fluoro-N-isopropylaniline moiety by LC-MS/MS technique. For quantification external calibration with matrix – matched standard solution is applied. Two mass transitions  $m/z = 154 \rightarrow m/z = 112$  for quantitation and  $m/z = 154 \rightarrow m/z = 95$  or  $m/z = 154 \rightarrow m/z = 92$  for quantitative confirmation are used. Recoveries ranged 72 – 99% for quantification and 71 – 99% for confirmation.

LOQ = 0.01 mg/kg (LOQ = 0.05 mg/kg for straw).

ILV data submitted on cereal foliage, rape seed, dry bean seed, orange fruit.

Food/feed of animal origin (principle of method and LOQ for methods for monitoring purposes)

The active substance is determined as 4-fluoro-N-isopropylaniline moiety by GC-MS/MS technique. For quantification external calibration with matrix – matched standard solution is applied. For quantitation molecular ion  $m/z = 249$  was used. For verification the fragment ions  $m/z = 207$  and  $m/z = 138$  were selected.

LOQ = 0.05 mg/kg for all animal matrices except milk (LOQ = 0.01 mg/kg) and liver (LOQ = 0.02 mg/kg). Recoveries ranged 73 – 91% for quantification and 68 – 110% for confirmation.

ILV data submitted on milk, egg, bovine meat, fat and liver.

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Soil (principle of method and LOQ)	<p>The method is validated using a silt loam and sandy loam.</p> <p>HPLC-MS/MS technique are used for determination flufenacet in soil with two mass transition <math>m/z = 364 \rightarrow m/z = 124</math> for quantitation and <math>m/z = 364 \rightarrow m/z = 152</math> for quantitative confirmation. LOQ = 4 µg/kg. Mean recoveries for quantitation = 74% and for confirmation = 78%.</p>
Water (principle of method and LOQ)	<p>HPLC-MS/MS technique are used for determination flufenacet in surface and drinking water with two mass transition <math>m/z = 364 \rightarrow m/z = 194</math> for quantitation and <math>m/z = 364 \rightarrow m/z = 152</math> for quantitative confirmation. LOQ = 0.05 µg/L.</p>
Air (principle of method and LOQ)	<p>HPLC-UV with 230 nm wavelength technique is used. LOQ = 0.0022 mg/m<sup>3</sup>. Mean recoveries are 95.5%. However the number of recovery per fortification level and method specificity and breakthrough is missing. Additionally the analytical method can be considered as validated but not highly specific. A confirmatory method is required</p>
Body fluids and tissues (principle of method and LOQ)	<p>HPLC-MS/MS technique operating in the positive ion mode for flufenacet and in negative ion mode for flufenacet-thiadone. Plasma – LOQ = 50 µg/L for flufenacet and flufenacet-thiadone expressed as parent equivalents.</p> <p>Flufenacet: Two mass transition <math>m/z = 364 \rightarrow m/z = 152</math> for quantitation and <math>m/z = 364 \rightarrow m/z = 124</math> for quantitative confirmation.</p> <p>Flufenacet-thiadone: Two mass transition <math>m/z = 169 \rightarrow m/z = 113</math> for quantitation and <math>m/z = 169 \rightarrow m/z = 109</math> for quantitative confirmation.</p>

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

Substance	Flufenacet
Harmonised classification according to Regulation (EC) No 1272/2008 and its Adaptations to Technical Process [Table 3.1 of Annex VI of Regulation (EC) No 1272/2008 as amended] <sup>1</sup> :	-
Peer review proposal <sup>2</sup> for harmonised classification according to Regulation (EC) No 1272/2008:	-

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

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



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## Section 2 Mammalian Toxicology

### Impact on Human and Animal Health

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

Rate and extent of oral absorption/systemic bioavailability	Rapidly, 75 - 80% (fluorophenyl-label) or 93 – 97% (thiadiazole-2- or thiadiazole-5-label) based on urine and tissue distribution and exhaled <sup>14</sup> CO <sub>2</sub> and <sup>14</sup> CH <sub>4</sub> .
Toxicokinetics	<p><b>[fluorophenyl-UL-<sup>14</sup>C] flufenacet:</b>  <b>C<sub>max</sub> (mg/L = mg parent equivalents per litre)</b>  low dose, Males: 0.312; high dose Males: 36.8  low dose Female: 0.361; high dose Females: 39.3  <b>T<sub>max</sub> (h):</b>  low dose, Males: 1; high dose Males: 24  low dose Female: 1; high dose Females: 32  <b>T<sub>1/2</sub> (h):</b>  low dose, Males: 4; high dose Males: 72  low dose Female: 4; high dose Females: 72</p> <p><b>[thiadiazole-2-<sup>14</sup>C] flufenacet:</b>  <b>C<sub>max</sub> (mg/L = mg parent equivalents per litre)</b>  low dose, Males: 3.35; high dose Males: 185.7  low dose Female: 0.361  <b>T<sub>max</sub> (h):</b>  low dose, Males: 1; high dose Males: 4  low dose Female: 2  <b>T<sub>1/2</sub> (h):</b>  low dose, Males: 6; high dose Males: 24  low dose Female: 8  low dose: 1 mg/kg bw; high dose: 150 mg/kg bw</p>
Distribution	quick redistribution from blood
Potential for bioaccumulation	No evidence for accumulation
Rate and extent of excretion	<p>[fluorophenyl-UL-<sup>14</sup>C]FOE5043:  59 - 79 % with urine, 8 - 30 % with faeces (72h)  [thiadiazole-2-<sup>14</sup>C]FOE5043:  41 - 59 % with urine, 2 - 6 % with faeces (72h),  22 - 32 % CO<sub>2</sub> and 12 - 23 % CH<sub>4</sub> in the expired air  [thiadiazole-5-<sup>14</sup>C]FOE5043:  82 – 89 % with urine, 6 – 7 % with faeces (72h)</p>
Metabolism in animals	<p>Extensive metabolism. Cleavage of the molecule by glutathione conjugation of the N-isopropyl-arylacetamide moiety followed by further oxidation and conjugation reactions of this arylacetamide moiety, conjugation and degradation of the thiadiazole ring.</p> <p>Glutathione conjugation appeared to be the major, metabolic pathway for [fluorophenyl-UL-<sup>14</sup>C]FOE 5043 in rats.</p>
<i>In vitro</i> metabolism	No significant metabolic difference after incubation with human and rat microsomes: 3 minor metabolites formed in both systems not exceeding 4.5% of applied amount
Toxicologically relevant compounds (animals and plants)	Parent compound and thiadone metabolite

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Toxicologically relevant compounds (environment)

None. Soil metabolites with leaching potential to groundwater are considered to be non-relevant

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

Rat LD <sub>50</sub> oral	Male 1617 mg/kg bw Female 589 mg/kg bw	<b>H302</b>
Rat LD <sub>50</sub> dermal	Male/Female > 2000 mg/kg bw	-
Rat LC <sub>50</sub> inhalation	Male/Female > 3740 mg/m <sup>3</sup> ( <i>nose only</i> )	-
Skin irritation	Non-irritant	-
Eye irritation	Non-irritant	-
Skin sensitisation	Sensitizer (M&K test) Not Sensitising (LLNA)	<b>H317</b>
Phototoxicity	Not phototoxic	

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

Target organ / critical effect	Mouse, rat, dog: the main target organs were liver, thyroid, kidney, the hematopoietic and nervous systems indicated by changes in clinical chemistry, organ weights and/or histopathological findings; Axonopathy and axon swelling observed in 1-year dog and subchronic neurotoxicity study in rats. The effects occurred at the LOAELs of 28/27 mg/kg bw/day (m/f dogs) and at 38/43 mg/kg bw/day (m/f rats). Effects occurred at high levels of flufenacet which saturated metabolic pathways	<b>STOT RE 2, H373</b>
Relevant oral NOAEL	90-day feeding study, mouse: 18 mg/kg bw/day (F); 25 mg/kg/bw/day(M)  90-day rat, feeding study: 7.2 mg/kg/bw/day (F)  90-day feeding study, dog: 1.7 mg/kg/bw/day (M+F)  1-year feeding study, dog: 1.3 mg/kg/bw/day (M); 1.1 mg/kg/bw/day (F)	
Relevant dermal NOAEL	21-day, rat: 1000 mg/kg bw/day (M+F)	
Relevant inhalation NOAEL	28-day, rat: 0.019 mg/L [7 mg/kg bw/day (M+F)]	

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

<i>In vitro</i> studies	<ul style="list-style-type: none"> <li>- Bacterial reverse mutation assay; <b>negative</b></li> <li>- Mammalian cell gene mutation test (HGPRT); <b>negative</b></li> <li>- Mammalian chromosome aberration test; <b>negative</b></li> <li>- Unscheduled DNA synthesis (UDS) assay; <b>negative</b></li> </ul>	-
<i>In vivo</i> studies	Micronucleus test (Mouse bone marrow); <b>negative</b>	
Photomutagenicity	<p>According to the new data requirements (Commission regulation (EU) N° 283/2013 of 1 March 2013; Official Journal of the European Union, L 93/1, 3.4.2013), the conduct of a photomutagenicity study should be considered if the Ultraviolet/visible molar extinction/absorption coefficient of the active substance and its major metabolites is greater than 1000 L x mol<sup>-1</sup> x cm<sup>-1</sup>, and if the structure of the molecule indicates a potential for photomutagenicity.</p> <p>For flufenacet there is no evidence of a photoreactivity potential and the Ultraviolet/visible molar extinction/absorption coefficient is smaller than 1000 L x mol<sup>-1</sup> x cm<sup>-1</sup>.</p> <p><b>Therefore photomutagenicity testing is not required.</b></p>	
Potential for genotoxicity	<i>Substance</i> is NOT to be genotoxic	-

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

Long-term effects (target organ/critical effect)	Rat & mouse: Liver, thyroid, eye, kidney	<b>STOT-RE H373</b>
Relevant long-term NOAEL	<p><b>2-year feeding study, rat:</b> NOAEL: 1.2 mg/kg/bw/day (M) NOAEL: 1.5 mg/kg/bw/day (F)</p> <p><b>20-month, mouse:</b> NOAEL: 7.4 mg/kg/bw/day (M) NOAEL: 9.4 mg/kg/bw/day (F)</p>	
Carcinogenicity (target organ, tumour type)	No evidence of an cancerogenic potential of flufenacet was found in the long-term feeding studies in rats and mice.	-
Relevant NOAEL for carcinogenicity	No carcinogenic potential	-

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#### Section 2 Mammalian Toxicology

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

##### Reproduction toxicity

Reproduction target / critical effect	Parental toxicity: there was a compound-related reduction in body weights for P generation females during the pre-mating phase in the P and F generation adults increased absolute and relative liver weights and histopathological changes in the liver. Reproductive toxicity: no adverse effect observed in rat 2-generation study	-
Relevant parental NOAEL	7.4 mg/kg bw/day	
Relevant reproductive NOAEL	37.4 mg/kg bw/day	
Relevant offspring NOAEL	-	

##### Developmental toxicity

Developmental target / critical effect	Reduced fetal weight and skeletal variations at maternal toxic doses	-
Relevant maternal NOAEL	Rat: 25 mg/kg bw/day Rabbit: 5 mg/kg bw/day	-
Relevant developmental NOAEL	<b>Rat:</b> Maternal: <b>25 mg/kg bw/day</b> [reduced BW and food consumption] Fetal: <b>25 mg/kg bw/day</b> [reduced BW, delayed ossification and/or skeletal variation in some skeletal elements] <b>Rabbit:</b> Maternal: <b>5 mg/kg bw/day</b> [soft stool, reduced BW gain during treatment, histopathological liver changes] Fetal: <b>25 mg/kg bw/day</b> [reduced fetal weights, skeletal variation]	-

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

Acute neurotoxicity	Rat: Male 75 mg/kg bw/day Female 50 mg/kg bw/day	-
Repeated neurotoxicity	Rat: Male 7.3 mg/kg bw/day Female 8.4 mg/kg bw/day	-
Additional studies (developmental neurotoxicity feeding study)	Rat: Dam 1.7 mg/kg bw/day Pup 3.0 mg/kg bw/day	-

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## Section 2 Mammalian Toxicology

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

Supplementary studies on the active substance

**Developmental neurotoxicity study was conducted based on thyroid-related findings and therefore, the potential for affecting development of the nervous system.**

In this study dietary exposure to flufenacet did not cause any neurotoxic effect in parental and offspring animals. Treatment-related findings consisted of reduced food consumption and a reduction in maternal body weights during gestation and in males at the mid- and high-dose. Body weights were also reduced in mid- and high-dose F1-males and high-dose F1-females. F1 offspring of these dose groups exhibited also a delay in development (eye opening, preputial separation), for details please refer to supplemental dossier MCA 5.7.1.

Flufenacet administration once daily by gavage from PND 10 to 21 to male and female pups at 1.7 mg/kg bw/day had no effect on the thyroid or any other endpoint measured.

**1.7 mg/kg bw/day is a NOAEL in pre-weaning rats.**

Endocrine disrupting properties

**Mechanistic Study of Thyroid Hormone Effects in Rats** was performed.

In a mechanistic study, male rats were provided thyroid hormone replacement therapy via osmotic minipumps and then fed diets of FOE 5043. The data suggested that FOE 5043-induced alterations in serum thyroid hormone levels, most notably serum thyroxine (T<sub>4</sub>), are being mediated indirectly. Specifically, a chemically-induced increase in hepatic T<sub>4</sub> metabolism, implied by the gross and histopathologic changes in the liver, rather than through a mechanism of direct chemical interference with the synthesis/secreting functions of the thyroid gland is strongly suggested

Studies performed on metabolites or impurities

**FOE-oxalate (M01)**

- Bacterial reverse mutation assay; negative (+/- S9 mix)  
- Mammalian cell gene mutation test; negative (+/- S9 mix)  
- Mammalian chromosome aberration test; negative (+/- S9 mix)

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## Section 2 Mammalian Toxicology

<b>FOE-sulfonic acid (M02)</b> - Rat Acute oral (fasted); LD <sub>50</sub> > 2000 mg/kg bw - Rat Plasma kinetics and excretion: Low oral absorption (<10%) rapid renal clearance (i.v. t <sub>1/2</sub> ≈ 30 min) - Bacterial reverse mutation assay; Negative (+/- S9 mix) - Mammalian chromosome aberration test; Negative (+/- S9 mix) - Mammalian chromosome aberration test; Negative (+ S9 mix); Positive (- S9 mix) - In vivo Micronucleus test; negative - In vivo Unscheduled DNA synthesis (UDS) assay; negative
<b>FOE-thioglycolate sulfoxide (M04)</b> - Bacterial reverse mutation assay; Negative (+/- S9 mix)
<b>FOE-methylsulfone (M07)</b> - Bacterial reverse mutation assay; Negative (+/- S9 mix) - Mammalian cell gene mutation test; Negative (+/- S9 mix) - Mammalian chromosome aberration test; Negative (+/- S9 mix)
<b>Rat metabolites containing/originating from the thiadiazole moiety:</b>
<b>FOE-thiadone (M09)</b> - Rat acute oral; LD <sub>50</sub> <1650 /<600 mg/kg bw (males/females) - Bacterial reverse mutation assay; Negative (+/- S9 mix)
<b>FOE-trifluoroethanesulfonic acid Na-salt (M44)</b> - Bacterial reverse mutation assay; Negative (+/- S9 mix) - Mammalian cell gene mutation test; Negative (+/- S9 mix) - Mammalian chromosome aberration test; Negative (+/- S9 mix)
<b>Trifluoroacetate (TFA) (M45)</b> - Rat acute oral (fasted); LD <sub>50</sub> : >2000 mg/kg bw - Bacterial reverse mutation assay; Negative (+/- S9 mix) - Mammalian chromosome aberration test (human lymphocytes); Negative (+/- S9 mix) - Rat 14-day feeding study: NOAEL Male 43 mg/kg bw/day; Female 45 mg/kg/bw/day - Rat 28-day feeding study: NOAEL Male 1315 mg/kg bw/day; Female 1344 mg/kg/bw/day - Rat 90-day feeding study: NOAEL Male 10 mg/kg bw/day; Female 12 mg/kg/bw/day - Rat developmental toxicity gavage: NOAEL Dam 150 mg/kg bw/day; Fetus 150 mg/kg/bw/day

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## Section 2 Mammalian Toxicology

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

Limited; In-company experience:  
There were no unusual occurrences or complaints recorded.

Medical assessment:  
Occupational medical surveillance of employees from the Flufenacet plant performed annually since 1997 as described above, not directly related to exposures, did not reveal any unwanted effects in the workers.

During the production period since 1997 no accidents with Flufenacet occurred in the workers.

No further consultations of the Medical Service due to work or contact with Flufenacet were required.

### Summary<sup>3</sup> (Regulation (EU) N°1107/2009, Annex II, point 3.1 and 3.6)

Acceptable Daily Intake (ADI)

Acceptable Daily Intake (ADI) derivation for TFA

Acute Reference Dose (ARfD)

Acceptable Operator Exposure Level (AOEL)

Acute Acceptable Operator Exposure Level (AAOEL)

Value (mg/kg bw (per day))	Study	Uncertainty factor
-------------------------------	-------	--------------------

0.005	rat, 2-year	250
0.05	subchronic rat 90-day study	200**
0.017	90-day and 1-year toxicity studies in dog	100
0.017	90-day and 1-year toxicity studies in dogs	100*
-	-	-

\* Due to the almost complete absorption of flufenacet from the gastrointestinal tract a correction for oral bioavailability is not needed.

\*\* additional safety factor of 2 (EFSA default value in EFSA Scientific Opinion "Guidance on selected default values to be used by the EFSA Scientific Committee, Scientific Panels and Units in the absence of actual measured data", EFSA Journal 2012;10(3):2579)

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

Representative formulation

*Diiflufenican+Flufenacet SC 600 (200+400)*

Concentrate: 0.2 %  
Spray dilution: 4.7 %

*In vitro human/rat skin study performed with DFF+FFA SC 200+400 (Herold SC 600: [Phenyl-UL-<sup>14</sup>C]-flufenacet: Comparative in vitro dermal absorption study using human and rat skin; KCP 7.3 Blanck, M., (2009)*

<sup>3</sup> If available include also reference values for metabolites



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

Operators	<p><u>Use</u>: Winter wheat, Winter barley, Winter rye; tractor-mounted/trailed boom sprayer: hydraulic nozzles; 0.24 kg a.s./ha (flufenacet)</p> <p><u>Exposure estimates</u> (model): % of AOEL</p> <p><u>UK POEM</u></p> <p>Without PPE: 476</p> <p>PPE (gloves and coverall): 85</p> <p><u>German model</u></p> <p>Without PPE: 12</p> <p>PPE (gloves and coverall): 3</p>
Workers	<p>According to the application parameters of Diflufenican+Flufenacet SC 600 (200+400) the only intended use is spray application in winter wheat, winter barley and winter rye in a growth stage BBCH 10-25. In this growth stage only few leaves of the plants are unfolded and re-entry activities are not necessary immediately after application of Diflufenican+Flufenacet SC 600 (200+400).</p> <p>In the present risk assessment <b>scouting</b> activities in winter cereals after the intended use will be estimated.</p> <p>Worker: 17% AOEL</p>
Bystanders and residents	<p>Bystander: &lt; 1 % of AOEL (Adult+child)</p> <p>Resident: &lt; 1% of AOEL (Adult+child)</p>

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

Substance :	Flufenacet
Harmonised classification according to Regulation (EC) No 1272/2008 and its Adaptations to Technical Process [Table 3.1 of Annex VI of Regulation (EC) No 1272/2008 as amended] <sup>4</sup> :	<p>H302 (harmful if swallowed)</p> <p>H317 (may cause an allergic skin reaction)</p> <p>H373 (may cause damage to organs through prolonged repeated exposure)</p>
Peer review proposal <sup>5</sup> for harmonised classification according to Regulation (EC) No 1272/2008:	-

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

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

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Section 3 Residues

Residues in or on treated products food and feed

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

3.7.1)

Primary crops (Plant groups covered) OECD Guideline 501	Crop groups	Crop(s)	Application(s)	DAT (days)
	Fruit crops			
	Root crops	Potato	Soil treatment, pre-emergent	109
			Foliar treatment, post-emergent	67
			Soil treatment, pre-emergent	112
	Leafy crops			
	Cereals/grass crops	Corn	pre-emergent application to soil	96 (forage, fresh kernels) 110 (fodder, dry kernels)
		Corn	Foliar treatment, post-emergent	82 (forage) 129 (fodder, grain)
		Wheat	Foliar treatment, post-emergent	18 (forage) 33 (hay) 66 (straw) 59-66 (grain)
			Foliar treatment, post-emergent	4 (forage) 56 (hay) 84 (straw, grain)
	Pulses/Oilseeds	Soybean	Soil treatment, pre-emergent	20 (whole plant) 21, 42, 48, 66, 91 (forage) 42, 48, 66, 80, 91 (beans) 80, 105 (hay)
		Cotton	Soil treatment, pre-emergent	21, 43 (forage) 156 (mature plant, seeds)
	Miscellaneous			
	The metabolism studies on corn evaluated during initial submission are supporting information only.			
Rotational crops (metabolic pattern) OECD Guideline 502	Crop groups	Crop(s)	PBI (days)	Comments
	Root/tuber crops	Turnips	30-33, 120-157, 361-365	Since labelling in the thiadiazole-5-position was missing in the initial

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### Section 3 Residues

Rotational crop and primary crop metabolism similar?		Turnips	30, 142, 317	submission, a new study has been added to complete the nature of residue constituents originating from flufenacet in succeeding crops.	
	Leafy crops	Kale	30-33, 120-157, 361-365		
		Swiss chard	30, 142, 317		
	Cereal (small grain)	Wheat	30-33, 120-157, 361-365		
		Wheat	30, 142, 317		
	Other				
	Yes				
<b>Processed commodities</b> (standard hydrolysis study) <b>OECD Guideline 507</b>	<b>Conditions</b>				
	20 min, 90°C, pH 4				No study conducted
	60 min, 100°C, pH 5				No study conducted
	20 min, 120°C, pH 6				No study conducted
Residue pattern in processed commodities similar to residue pattern in raw commodities?	Results of flufenacet hydrolytic degradation studies at pH values 5, 7, and 9 (30 days in the dark in 25 °C) assessed during initial submission showed that the parent compound is not significantly affected by this process. The analytical method used for raw and processed commodities determines the total residue of flufenacet by converting the relevant residue into a common moiety. Therefore, generation of new metabolites not covered by the common moiety method seems unlikely.				
Plant residue definition for monitoring (RD-Mo) <b>OECD Guidance, series on pesticides No 31</b>		Flufenacet including all metabolites containing the <i>N</i> -fluorophenyl- <i>N</i> -isopropyl moiety, expressed as flufenacet			
Plant residue definition for risk assessment (RD-RA)		Flufenacet including all metabolites containing the <i>N</i> -fluorophenyl- <i>N</i> -isopropyl moiety, expressed as flufenacet			
Conversion factor (monitoring to risk assessment)		Not applicable			

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Section 3 Residues

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

OECD Guideline 503 and SANCO/11187/2013 rev. 3 (fish)	Animal	Dose (mg/kg bw/d)	Duration (days)	N rate/comment
Animals covered	Laying hen	5	3	Flufenacet (two studies); 350 times the maximum exposure of poultry
		5	3	FOE oxalate
		0.5	14	TFA; dose corresponding to 7.84 mg/kg dry feed/day.
	Goat/Cow	5	3	Flufenacet (two studies)
		5.12	3	FOE oxalate
		0.432 (single dose)	7	Thiadone <i>N</i> -Glycoside; dose corresponding to 16.3 mg/kg dry feed/day
		0.50	5	TFA; dose corresponding to 11.9 mg/kg feed/day
	Pig	-	-	
	Fish	The concentration of the test substance in the aquarium for investigation of fish metabolism was kept constant at a level of approx. 100 µg/L	21 – 28	Determination of a potential bioaccumulation of a test substance in fish during long-term exposure in the fishwater. It can be used as surrogate study. Bioconcentration factor was reached after approx. 7 days of exposure
	The same metabolic reactions (or metabolic stability) were observed in rat, goat and hen when feeding the parent substance flufenacet or the main residue components of flufenacet in animal feed, i.e. FOE oxalate or trifluoroacetate.			

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### Section 3 Residues

Time needed to reach a plateau concentration in milk and eggs (days)	<p>Flufenacet:</p> <p>Plateau in goat milk: Radioactivity is still increasing at sacrifice, 3 days after beginning of dosing [at a high overdose (&gt; 100N)].</p> <p>Plateau in hen eggs: Radioactivity is still increasing at sacrifice, 3 days after beginning of dosing [at a high overdose (&gt; 100N)].</p> <p>The radioactive residues of TFA in milk reached a steady state at approximately 30 hours after the first dose amounting to a plateau level of 0.102 mg parent equivalents equ/kg (Dose: 11.9 mg/kg dry feed/day)</p> <p>The radioactive residues of TFA (parent equivalents) in eggs reached a plateau level of 0.391 mg equ/kg after 7 daily administrations (Dose: 7.84 mg/kg dry feed/day)</p>
Animal residue definition for monitoring (RD-Mo) <b>OECD Guidance, series on pesticides No 31</b>	Flufenacet including all metabolites containing the <i>N</i> -fluorophenyl- <i>N</i> -isopropyl moiety, expressed as flufenacet
Animal residue definition for risk assessment (RD-RA)	Flufenacet including all metabolites containing the <i>N</i> -fluorophenyl- <i>N</i> -isopropyl moiety, expressed as flufenacet
Conversion factor (monitoring to risk assessment)	Not applicable
Metabolism in rat and ruminant similar (Yes/No)	Yes
Fat soluble residues (Yes/No) <b>(FAO, 2009)</b>	No (Report of ECCO 73: Log P = 3.2, but the product is speedily metabolized)

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

<b>Confined rotational crop study</b> (Quantitative aspect) <b>OECD Guideline 502</b>	<p>The results of the confined rotational crop studies (wheat, kale, turnips) demonstrated that the metabolic pattern after application of flufenacet is similar in target crops and crops grown in rotation.</p> <p>After normal agricultural use of flufenacet no significant residues are to be expected in leafy or root crops grown in rotation with the target crops, even at rates which are considerably higher than the highest recommended field application in Europe.</p> <p>A new confined rotational crop study (wheat, turnips, Swiss chard; PBIs: 30, 142 and 317 days) with [thiadiazole-5-<sup>14</sup>C] flufenacet revealed that trifluoroacetate is the main residue component in rotated crops.</p>
<b>Field rotational crop study</b> <b>OECD Guideline 504</b>	<p>4 field rotational crop studies conducted at a rate of 600 g a.i./ha as a pre-treatment on potatoes followed by application of 240 g a.i./ha on winter cereals result in a no residue situation (i.e. &lt; 0.01 mg/kg in grain and &lt; 0.05 mg/kg in green material BBCH 30 and &lt; 0.1 mg/kg in straw)</p>

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#### Section 3 Residues

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

Plant products (Category)	Commodity	T (°C)	Stability (Month/Year)		
			Flufenacet FOE-oxalate, FOE-sulfonic acid, FOE-thioglycolate sulfoxide, FOE- methylsulfoxide, FOE-methylsulfone	Flufenacet FOE-oxalate, FOE-sulfonic acid, FOE-thioglycolate sulfoxide	
High water content	Turnip, (body and tops) Corn forage Soybean forage wheat forage	≤ -21°C	20	-	
			21		
High oil content	Soybean, seed	≤ -21°C	28	-	
High protein content	Dry bean seed	≤ -18°C	-	24	
High starch content	Corn (maize), grain, wheat grain	≤ -21°C	28	-	
			21		
High acid content	Orange fruit	≤ -18°C	-	24	
Dry commodities	Cereal straw	-24±5°C	21		
Tested in oil- (soybean, corn), starch- (corn) and water- (turnip) containing materials, analytes FOE 5043, FOE 5043-oxalate, FOE 5043-sulfonic acid, FOE -thioglycolate sulfoxide, and 2 other minor metabolites; they were stable for at least 20 months in turnip commodities and at least 28 months in corn and soybean commodities under frozen conditions.					
Residues of the active substance and 5 metabolites containing the fluorophenyl-isopropyl amine moiety (see above) are stable in commodities of high water content (wheat forage), high starch content (wheat grain) and dry commodities (straw) up to 21 months.					
Residues of the active substance and mixture of FOE oxalate, sulfonic acid and thioglycolate sulfoxide (1/1/1) are stable in commodities of high acid content (orange fruit) and high protein content (dry bean seed) up to 24 months.					
Animal	Animal commodity	T (°C)	Stability (Month/Year)		
			FOE oxalate		
Goat	Muscle	-24 °C	18-22 months		
	Liver	-24 °C	18-22 months		
	Kidney	-24 °C	18-22 months		
	Milk	-24 °C	18-22 months		
	Egg				
No additional studies were provided.					
There is no need to investigate the storage stability of flufenacet residues in animal commodities.					

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## Section 3 Residues

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

Crop	Region/ Indoor (a)	Residue levels (mg/kg) observed in the supervised residue trials relevant to the supported GAPs (b)	Recommendations/comments (OECD calculations)	MRL proposals (mg/kg)	HR (mg/kg) (c)	STMR (mg/kg) (d)
<b>Representative uses</b> (row to be deleted if not relevant)						
Cereals (wheat, rye, triticale, barley, oats)	NEU/ field	<u>Grain</u> (wheat, rye, triticale, barley, oats): 17x <0.05 mg/kg 6x <0.05 mg/kg  <u>Grain</u> (wheat, barley) 4x <0.01 mg/kg  <u>Grain</u> (wheat, barley) Wheat: <0.01; 0.017 mg/kg Barley: <0.01; 0.022 mg/kg	Application rate: 240 g as/ha; formulations WG, SC; dataset sufficient for MRL setting purposes (evaluated by EFSA).  Application rate: 120 g as/ha (for justification of the less critical GAP); formulation SC; dataset not used for MRL setting purpose.  Application rate: 110 – 120 g as/ha (for justification of the less critical GAP); formulation SC; dataset not used for MRL setting purpose.	0.05* (wheat, barley, rye, oats)	0.05	0.05
Cereals (wheat, rye, triticale, barley, oats)	NEU / field	<u>Straw</u> (wheat, rye, triticale, barley, oats): 17x <0.1 mg/kg 6x <0.1 mg/kg  <u>Straw</u> (wheat, barley) 4x <0.05 mg/kg  <u>Straw</u> (wheat, barley) 4x <0.05 mg/kg	Application rate: 240 g as/ha; formulations WG, SC; dataset sufficient for MRL setting purposes.  Application rate: 120 g as/ha (for justification of the less critical GAP); formulation SC.  Application rate: 110 – 120 g as/ha (for justification of the less critical GAP); formulation SC.	0.1	0.1	0.1

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Section 3 Residues

Crop	Region/ Indoor (a)	Residue levels (mg/kg) observed in the supervised residue trials relevant to the supported GAPs (b)	Recommendations/comments (OECD calculations)	MRL proposals (mg/kg)	HR (mg/kg) (c)	STM (mg/kg) (d)
Cereals (wheat, barley)	SEU /field	<u>Grain</u> (wheat, barley) Wheat: 2x < 0.01; 0.01; < 0.05; 0.05 mg/kg Barley: 3x < 0.01, < 0.05 mg/kg  <u>Grain</u> (wheat, barley) Wheat: <0.01; 0.020; 0.035 mg/kg Barley: 4x <0.01 mg/kg  <u>Grain</u> (wheat, barley) 5x <0.05 mg/kg	Application rate: 240 g as/ha; formulation SC; dataset sufficient for MRL setting purposes (evaluated by EFSA).  Application rate: 120 g as/ha (for justification of the less critical GAP); formulation SC; dataset not used for MRL setting purpose.  Application rate: 126 g as/ha (for justification of the less critical GAP); formulation WG; dataset not used for MRL setting purpose.	0.1 (wheat, barley)	0.05	0.01
Cereals (wheat, barley)	SEU/ field	<u>Straw</u> (wheat, barley) Wheat: 3x < 0.05; 0.09; < 0.1 mg/kg Barley: < 0.05; 2 x 0.06; 0.11 mg/kg  <u>Straw</u> (wheat, barley) Wheat: 3x < 0.05 mg/kg Barley: 2x <0.05; 0.059; 0.069 mg/kg  <u>Straw</u> (wheat, barley) 5x <0.05 mg/kg	Application rate: 240 g as/ha; formulation SC; dataset sufficient for MRL setting purposes.  Application rate: 120 g as/ha (for justification of the less critical GAP); formulation SC.  Application rate: 126 g as/ha (for justification of the less critical GAP); formulation WG.	0.2	0.11	0.06
MRL application (row to be deleted if not relevant)						



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## Section 3 Residues

Crop	Region/ Indoor (a)	Residue levels (mg/kg) observed in the supervised residue trials relevant to the supported GAPs (b)	Recommendations/comments (OECD calculations)	MRL proposals (mg/kg)	HR (mg/kg) (c)	STMR (mg/kg) (d)
Summary of the data on formulation equivalence OECD Guideline 509						
Crop	Region	Residue data (mg/kg)	Recommendations/comments			
			Formulations used in the field trials (WG and SC) can be used interchangeably (SANCO 7525/VI/95 rev 9, March 2011; OECD guideline 509). No differences in residues at harvest due to formulations were observed.			
Summary of data on residues in pollen and bee products (Regulation (EU) No 283/2013, Annex Part A, point 6.10.1)						
Product(s)	Region	Residue data (mg/kg)	Recommendations/comments			
		No data provided				

(a): **NEU** or **SEU** for northern or southern **outdoor** trials in EU member states (**N+SEU** if both zones), **Indoor** for glasshouse/protected crops, **Country** if non-EU location.

(b): Residue levels in trials conducted according to GAP reported in ascending order (*e.g.* 3x <0.01, 0.01, 6x 0.02, 0.04, 0.08, 3x 0.10, 2x 0.15, 0.17). When residue definition for monitoring and risk assessment differs, use **Mo/RA** to differentiate data expressed according to the residue definition for **Monitoring and Risk Assessment**.

(c): **HR**: Highest residue. When residue definition for monitoring and risk assessment differs, HR according to residue definition for monitoring reported in brackets (HR<sub>Mo</sub>).

(d): **STMR**: Supervised Trials Median Residue. When residue definition for monitoring and risk assessment differs, STMR according to definition for monitoring reported in brackets (STMR<sub>Mo</sub>).

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Section 3 Residues

Inputs for animal burden calculations (flufenacet)

Feed commodity	Median dietary burden		Maximum dietary burden	
	(mg/kg)	Comment	(mg/kg)	Comment
<b>Representative uses (row to be deleted if not relevant)</b>				
Barley straw			0.110	Highest residue level on fresh / total weight basis
Oat straw			0.110	Highest residue level on fresh / total weight basis
Rye straw			0.110	Highest residue level on fresh / total weight basis
Triticale straw			0.110	Highest residue level on fresh / total weight basis
Wheat straw			0.110	Highest residue level on fresh / total weight basis
Barley grain	0.050	Median residue level on fresh / total weight basis		
Oat grain	0.050	Median residue level on fresh / total weight basis		
Rye grain	0.050	Median residue level on fresh / total weight basis		
Triticale grain	0.050	Median residue level on fresh / total weight basis		
Wheat grain	0.050	Median residue level on fresh / total weight basis		
Wheat gluten meal	0.050	Median residue level on fresh / total weight basis		
Wheat milled by products	0.22	Median residue level on fresh / total weight basis		
<b>MRL application (row to be deleted if not relevant)</b>				

#### List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Poland	2017	Flufenacet

#### Section 3 Residues

Feed commodity	Median dietary burden		Maximum dietary burden	
	(mg/kg)	Comment	(mg/kg)	Comment

#### Inputs for animal burden calculations (Thiadone-N-glucoside (THNG, M25))

Commodity	Residue level (mg equ/kg) scaled to 240 g as/ha	Extrapolation from
Forages except cereals	0.043	CRC, Turnip leaves 1.rot
Forages (hay) except cereals	0.038	CRC, Cereal hay 1 <sup>st</sup> rot
Forages (stover & straw) except cereals	0.053	CRC, Cereal straw 1 <sup>st</sup> rot.
Cereal straw	1.0	Wheat metabolism (primary)
Cereal forage	1.11	Wheat metabolism (primary)
Root & tubers	0.014	CRC, Turnip body 1 <sup>st</sup> rot.
Cereal grains	0.003	Wheat metabolism (primary)
Other grain & seeds	--	no residues in rot crops

#### Inputs for animal burden calculations (TFA)

Commodity	Residue level (mg TFA-Na/kg) scaled to 240 g as/ha	Extrapolation from
Forages	0.640	CRC, Turnip leaves 1.rot
Cereal straw	0.916	CRC, Wheat 2 <sup>nd</sup> rot
Root & tubers	0.050	CRC, Turnip body 1 <sup>st</sup> rot.
Grains & seeds	0.759	CRC, Wheat 2 <sup>nd</sup> rot

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Poland	2017	Flufenacet

Section 3 Residues

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

OECD Guideline 505 and OECD Guidance, series on pesticides No 73

MRL calculations	Ruminant				Pig/Swine		Poultry		Fish	
Highest expected intake (mg/kg bw/d) (mg/kg DM for fish)	Beef cattle	0.003	Ram/Ewe	0.006	Breeding	0.004	Broiler	0.006	Carp	-
	Dairy cattle	0.005	Lamb	0.008	Finishing	0.005	Layer	0.007	Trout	-
							Turkey	0.006	Fish intake >0.1 mg/kg DM	
Intake >0.004 mg/kg bw	Yes		Yes		Yes		Yes		Yes/No	
Feeding study submitted	Yes; no detectable residues of flufenacet oxalate are to be expected in products of animal origin which have been fed crops treated with flufenacet according to the GAPs		No; residues above respective LOQs are not expected in animal tissues and milk		No; residues above respective LOQs are not expected in animal tissues		No; residues above respective LOQs are not expected in animal tissues and eggs			
Representative feeding level (mg/kg bw/d, mg/kg DM for fish) and N rates	Level <sup>(d)</sup> 0.22	Beef: N Dairy: N	Level 0.22	Lamb: N Ewe: N	Level 0.22	N rate Breed/Finish	Level	B or T: N Layer: N	Level	N rate Carp/Trout
	Estimated HR <sup>(a)</sup> at 1N	MRL proposals	Estimated HR <sup>(a)</sup> at 1N	MRL proposals	Estimated HR <sup>(a)</sup> at 1N	MRL proposals	Estimated HR <sup>(a)</sup> at 1N	MRL proposals	Estimated HR <sup>(a)</sup> at 1N	MRL proposals
Muscle	< 0.05		< 0.05		< 0.05					
Fat	<0.05		<0.05		<0.05					
Meat <sup>(b)</sup>	< 0.05		< 0.05		< 0.05					
Liver	<0.02		<0.02		<0.02					
Kidney	<0.05		<0.05		<0.05					
Milk <sup>(a)</sup>	<0.01		<0.01							
Eggs										
Method of calculation <sup>(c)</sup>	No calculation done as all		No calculation done as all		No calculation done as all					

# List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Poland	2017	Flufenacet

## Section 3 Residues

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

OECD Guideline 505 and OECD Guidance, series on pesticides No 73

MRL calculations	Ruminant		Pig/Swine	Poultry	Fish
	values <LOQ	values <LOQ	values <LOQ		

<sup>(a)</sup>: Estimated HR calculated at 1N level (**estimated mean level for milk**).

<sup>(b)</sup>: HR in meat calculated for mammalian on the basis of 20% fat + 80% muscle and 10% fat + 90% muscle for poultry

<sup>(c)</sup>: The OECD guidance document on residues in livestock (series on pesticides 73) recommends three different approaches to derive MRLs for animal products; by applying a transfer factor (Tf), by intrapolation (It) or by linear regression (Ln). Fill in method(s) considered to derive the MRL proposals.

<sup>(d)</sup>: The feeding level of the cow feeding study can be considered relevant also for sheep and pig. Recalculated from the study report Duah, 1995 (M-002268-01-1). Based on an average animal weight of 468, 429 and 395 kg for the low, mid and high dose group receiving 104.6, 306.4 or 959.1 mg/day (as capsule) resulting in dose levels of 0.22, 0.71 and 2.43 mg/kg bw/day, respectively.

## List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Poland	2017	Flufenacet

### Section 3 Residues

STMR calculations	Ruminant				Pig/Swine		Poultry		Fish	
Median expected intake (mg/kg bw/d) (mg/kg DM for fish)	Beef cattle	0,003	Ram/Ewe	0,005	Breeding	0,004	Broiler	0,006	Carp	
	Dairy cattle	0,005	Lamb	0,007	Finishing	0,005	Layer	0,007	Trout	
							Turkey	0,006		
Representative feeding level (mg/kg bw/d, mg/kg DM for fish) and N rates	Level <sup>(d)</sup> 0.22	Beef: N Dairy: N	Level 0.22	Lamb : N Ewe: N	Level 0.22	N rate Breed/Fin ish	Level	B or T: N Layer: N	Level	N rate Carp/Trou t
	Mean level in feeding level	Estimated <b>STMR</b> <sup>(b)</sup> at 1N	Mean level in feeding level	Estimated <b>STMR</b> <sup>(b)</sup> at 1N	Mean level in feeding level	Estimated <b>STMR</b> <sup>(b)</sup> at 1N	Mean level in feeding level	Estimated <b>STMR</b> <sup>(b)</sup> at 1N	Mean level in feeding level	Estimated <b>STMR</b> <sup>(b)</sup> at 1N
Muscle	< 0.05		< 0.05		< 0.05					
Fat	<0.05		<0.05		<0.05					
Meat <sup>(a)</sup>	< 0.05		< 0.05		< 0.05					
Liver	<0.02		<0.02		<0.02					
Kidney	<0.05		<0.05		<0.05					
Milk	<0.01		<0.01							
Eggs										
Method of calculation <sup>(c)</sup>										

<sup>(a)</sup>: STMR in meat calculated for mammalian on the basis of 20% fat + 80% muscle and 10% fat + 90% muscle for poultry

<sup>(b)</sup>: When the mean level is set at the LOQ, the STMR is set at the LOQ.

<sup>(c)</sup>: The OECD guidance document on residues in livestock (series on pesticide 73) recommends three different approaches to derive MRLs for animal products; by applying a transfer factor (Tf), by intrapolation (It) or by linear regression (Ln). Fill in method(s) considered to derive the MRL proposals.

<sup>(d)</sup> The feeding level of the cow feeding study can be considered relevant also for sheep and pig. Recalculated from the study report Duah, 1995 (M-002268-01-1). Based on an average animal weight of 468, 429 and 395 kg for the low, mid and high dose group receiving 104.6, 306.4 or 959.1 mg/day (as capsule) resulting in dose levels of 0.22, 0.71 and 2.43 mg/kg bw/day, respectively.

#### List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Poland	2017	Flufenacet

#### Section 3 Residues

##### Maximum dietary burdens for THNG (M25)

Livestock species	Dietary burden (mg equ/kg bw/d)	Dietary burden (mg THNG/kg bw/d)	Overdose factor in goat metabolism study (0.43 mg THNG/kg bw/d)
Beef	0.028	0.021	20.5
Dairy	0.044	0.034	12.6
Swine	0.002	0.0015	287

Molweight THNG 278.28

Molweight flufenacet: 363.33

##### Maximum dietary burdens for TFA

Livestock species	Dietary burden (mg TFA-Na/kg bw/d)	Dietary burden (mg TFA/kg bw/d)
Beef	0.035	0.29
Dairy	0.073	0.061
Swine	0.031	0.026
Poultry (layer)	0.071	0.059

#### Conversion Factors (CF) for monitoring to risk assessment

##### Animal products

Table to be deleted if not relevant (RD-Mo = RD-RA)

Conversion factors derived from the livestock feeding studies at the different feeding levels								
Study	Ruminant/Pig				Poultry			
Feeding levels	Level 1	Level 2	Level 3	Level 4	Level 1	Level 2	Level 3	Level 4
Muscle								
Fat								
Liver								
Kidney								
Milk								
Egg								
Comments (up to 250 characters)	No conversion factor needs to be applied since the residue definition for enforcement corresponds to the residue definition for risk assessment.							

##### Plant products

Table to be deleted if not relevant (RD-Mo = RD-RA)

Mean Conversion Factors (CF) calculated at the different PHIs in the supervised residues trials <sup>(a)</sup>								
OECD Guidance, series on Pesticides No 66								
PHI <sup>(b)</sup> (days)								Comments
Representative uses (row to be deleted if not relevant)								
MRL application (row to be deleted if not relevant)								

**List of end points**

<b>Rapporteur Member State</b>	<b>Month and year</b>	<b>Active Substance (Name)</b>
<b>Poland</b>	<b>2017</b>	<b>Flufenacet</b>

**Section 3 Residues**

Comments (up to 250 characters): No conversion factor needs to be applied since the residue definition for enforcement corresponds to the residue definition for risk assessment.								

<sup>(a)</sup>: CF calculated at the supported PHI are underlined.

<sup>(b)</sup>: 0-/0+ for samples collected just before/after the last application



List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Poland	2017	Flufenacet

Section 3 Residues

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

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

OECD Guideline 308 and OECD Guidance, series on testing and assessment No 30				
Crop (RAC)/Edible part or Crop (RAC)/Processed product	Number of studies <sup>(a)</sup>	Processing Factor (PF)		Conversion Factor (CF <sub>P</sub> ) for RA <sup>(b)</sup>
		Individual values	Median PF	
Representative uses (row to be deleted if not relevant)				
Maize	1	<1		
Soybean	1	<1		
Wheat				
Bran	3	2.1 – 5.2	4.4	
Middlings	3	0.8 – 3.2	3.0	
Shorts	3	0.89 – 5.3	4.4	
White flour	3	0.1 – 0.44	0.3 (mean)**	
White bread	2	0.5 – 0.8	0.7 (mean)	
Whole meal	2	1.1 – 1.3	1.2 (mean)	
Whole meal bread	2	0.9 – 1.2	1.1 (mean)	
Wheat germ	3	1.2 – 1.6	1.3	
Starch	2	< 1*	-	
Gluten	2	1.0 – 1.2	1.1 (mean)	
Gluten feed meal	2	< 1*	-	
Aspirated grain fraction	1	0.49	-	
		*Residues < LOQ in processed fraction ** mean from 2 studies with residues >LOQ in processed fraction		
Barley				
Processing into beer				
Malt sprouts	2	not calculated*		
Brewer's malt	2	not calculated*		
Brewer's grain	2	not calculated*		
Hops draff	2	not calculated*		
Brewer's yeast	2	not calculated*		
Beer	2	not calculated*		
Processing into distillers grain				
Distillers grain fresh	2	not calculated*		
Distillers grain dry	2	>1**		
Processing into pearl barley				
Pearl barley rub off	2	>1**		
Pearl barley	2	not calculated*		
		*residues < LOQ in raw agricultural commodity and processed fraction ** residues < LOQ in raw agricultural commodity and > LOQ in processed fraction		
MRL application (row to be deleted if not relevant)				

#### List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Poland	2017	Flufenacet

#### Section 3 Residues

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

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

Crop (RAC)/Edible part or Crop (RAC)/Processed product	Number of studies <sup>(a)</sup>	Processing Factor (PF)		Conversion Factor (CF <sub>p</sub> ) for RA <sup>(b)</sup>
		Individual values	Median PF	

<sup>(a)</sup>: Studies with residues in the RAC at or close to the LOQ should be disregarded (unless concentration)

<sup>(b)</sup>: When the residue definition for risk assessment differs from the residue definition for monitoring

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

Including all uses (representative uses and uses related to an MRL application).

#### Flufenacet

##### ADI

TMDI according to EFSA PRIMo

NTMDI, according to EFSA PRIMo

IEDI (% ADI), according to EFSA PRIMo

NEDI (% ADI), according to EFSA PRIMo

Factors included in the calculations

0.005 mg/kg bw per day
Highest TMDI: 21.9% ADI (WHO cluster diet B)
Highest NTMDI: not calculated
Highest IEDI: not calculated
Highest NEDI: not calculated

##### ARfD

NESTI (% ARfD), according to EFSA PRIMo

Factors included in IESTI and NESTI

0.017 mg/kg bw
Highest NESTI: 7.3% ARfD (milk) – children
Highest NESTI: 3.5% ARfD (poultry meat) – adults

#### TFA

##### ADI

TMDI according to EFSA PRIMo

NTMDI, according to EFSA PRIMo

IEDI (% ADI), according to EFSA PRIMo

NEDI (% ADI), according to EFSA PRIMo

Factors included in the calculations

0.05 mg/kg bw per day
Highest TMDI: 23.7% ADI (WHO cluster diet B)
Highest NTMDI: not calculated
Highest IEDI: not calculated
Highest NEDI: not calculated

##### ARfD

NESTI (% ARfD), according to EFSA PRIMo

Factors included in IESTI and NESTI

0.75 mg/kg bw (proposed by Co-RMS)
Highest NESTI: 7.5% ARfD (scarole) – children
Highest NESTI: 3.0% ARfD (Chinese cabbage) – adults

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Poland	2017	Flufenacet

Section 3 Residues

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

Code <sup>(a)</sup>	Commodity/Group	MRL/Import tolerance <sup>(b)</sup> ( mg/kg) and Comments	
Plant commodities			
Representative uses (row to be deleted if not relevant)			
0500010	Barley	0.1	As set in Commission Regulation (EU) 1127/2014 of 20 October 2014
0500050	Oat	0.05*	
0500070	Rye	0.05*	
0500090	Wheat	0.1	
MRL application (row to be deleted if not relevant)			
Animal commodities			
			As set in Commission Regulation (EU) 1127/2014 of 20 October 2014

(a): Commodity code number, as listed in Annex I of Regulation (EC) No 396/2005

(b): MRLs proposed at the LOQ, should be annotated by an asterisk (\*) after the figure.

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

#### Environmental fate and behaviour

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

Mineralisation after 100 days	2.7 % after 91 d, [ <sup>14</sup> C- <i>U-Phenyl</i> ]-label (n= 1) 10.2 – 20.8 % after 100 d, [ <sup>14</sup> C- <i>U-Phenyl</i> ]-label (n= 3) 31.9 % after 90 d, [ <sup>14</sup> C-2- <i>Thiadiazole</i> ]-label (n= 1) 4.5 – 6.5 % after 120-121 d, [ <sup>14</sup> C-5- <i>Thiadiazole</i> ]-label (n= 4)
Non-extractable residues after 100 days	16.3 % after 91 d, [ <sup>14</sup> C- <i>U-Phenyl</i> ]-label (n= 1) 29.9 – 56.2 % after 100 d, [ <sup>14</sup> C- <i>U-Phenyl</i> ]-label (n= 3) 6.2 % after 90 d, [ <sup>14</sup> C-2- <i>Thiadiazole</i> ]-label (n= 1) 10.6 – 17.2 % after 120-121 d, [ <sup>14</sup> C-5- <i>Thiadiazole</i> ]-label (n= 4)
Metabolites requiring further consideration - name and/or code, % of applied (range and maximum)	FOE Sulfonic acid – max. 26.3 % at 100 d (n= 6); [ <sup>14</sup> C- <i>U-Phenyl</i> ] label; FOE Alcohol – max. 21.2 % at 88 d (n= 3); [ <sup>14</sup> C- <i>U-Phenyl</i> ] label; FOE Oxalate – max. 26.5 % at 365 d (n= 6); [ <sup>14</sup> C- <i>U-Phenyl</i> ] label; FOE Methylsulfone – max. 6.6 % at 100 d (n= 3); [ <sup>14</sup> C- <i>U-Phenyl</i> ] label;  FOE Thiadone – max. 5.8 % at 10 d (n= 5); [ <sup>14</sup> C-2- <i>Thiadiazole</i> ] & [ <sup>14</sup> C-5- <i>Thiadiazole</i> ] labels FOE 5043-Trifluoroethanesulfonic acid – max. 6.0 % at 14 d (n= 4); [ <sup>14</sup> C-5- <i>Thiadiazole</i> ] label Trifluoroacetic acid (TFA) – max. 81.5 % at 91 d (n= 4); [ <sup>14</sup> C-5- <i>Thiadiazole</i> ] label  Sterile conditions: <i>not examined</i>

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

Mineralisation after 100 days	0.5 % after 180 d, [ <sup>14</sup> C- <i>Phenyl</i> ]-label (n= 1) <0.1 – 0.1 % after 90 d, [ <sup>14</sup> C-5- <i>Thiadiazole</i> ]-label (n= 2)
Non-extractable residues after 100 days	24.2 % after 180 d, [ <sup>14</sup> C- <i>Phenyl</i> ]-label (n= 1) 14.3 – 23.0 % after 120 d, [ <sup>14</sup> C-5- <i>Thiadiazole</i> ]-label (n= 2)
Metabolites that may require further consideration for risk assessment - name and/or code, % of applied (range and maximum)	FOE Oxalate – 14.5 % at 30 d (n= 1); [ <sup>14</sup> C- <i>Phenyl</i> ] label; FOE Thiadone – 8.8 % at 62 d (n= 2); [ <sup>14</sup> C-5- <i>Thiadiazole</i> ] label; Trifluoroacetic acid (TFA) – 16.5 % at 120 d (n= 2); [ <sup>14</sup> C-5- <i>Thiadiazole</i> ] label;  Sterile conditions: <i>not examined</i>

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

Metabolites that may require further consideration for risk assessment - name and/or code, % of applied (range and maximum)	<i>Not relevant – Flufenacet was demonstrated to be not prone to photolytical degradation on the soil surface.</i>
Mineralisation at study end	0.2 % after 10.25 days, [ <sup>14</sup> C- <i>Phenyl</i> ]-label (n= 1) – irradiated sample; 0.1 % after 10.25 days, [ <sup>14</sup> C- <i>Phenyl</i> ]-label (n= 1) – dark control
Non-extractable residues at study end	3.2 % after 10.25 days, [ <sup>14</sup> C- <i>Phenyl</i> ]-label (n= 1) – irradiated sample 4.4 % after 10.25 days, [ <sup>14</sup> C- <i>Phenyl</i> ]-label (n= 1) – dark control

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

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

Parent - Flufenacet	Dark aerobic conditions						
Soil type	OC [%]	pH <sup>a)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	DT <sub>50</sub> (d) 20 °C pF2/10kPa <sup>b)</sup>	St. (x <sup>2</sup> )	Method of calculation
Loamy sand	2.58	6.2 <sup>1)</sup>	20°C; 40% MWHC	31.9/ 106.1	31.9	8.53	SFO
Silt loam	0.9	7.3 <sup>1)</sup>	20°C; 40% MWHC	16.9/ 56.0	13.86	11.0	SFO
Silt loam	2.40	5.8 <sup>1)</sup>	20°C; 40% MWHC	20.4/ 67.9	20.44	5.47	SFO
Sandy loam	0.35	6.2 <sup>2)</sup>	21°C; 75% of ½ bar	32.2/ 107.0	20.90	2.36	SFO
Sandy loam	1.41	6.1 <sup>3)</sup>	20°C; 50% MWHC	7.35/ 24.4	7.04	11.23	SFO
Silt loam	2.5	6.7 <sup>3)</sup>	19.1°C; 55% MWHC	15.8/ 52.6	15.36	4.88	SFO
Loamy sand	2.4	6.1 <sup>3)</sup>	19.9°C; 55% MWHC	19.85/ 65.9	19.45	3.03	SFO
Clay loam	5.3	7.2 <sup>3)</sup>	19.9°C; 55% MWHC	16.3/ 54.2	15.49	4.67	SFO
Loam	2.2	5.4 <sup>3)</sup>	19.9°C; 55% MWHC	14.9/ 49.5	14.61	4.27	SFO
Sandy loam	0.35	6.2 <sup>2)</sup>	21°C; 75% of ½ bar	57.6/ 191.42	37.40	2.80	SFO
Geometric mean (if not pH dependent) <i>n</i> = 10				20.22/ 67.19	17.89	----	SFO
Median <i>n</i> = 10				18.38/ 60.95	17.47	----	SFO
pH dependence,					No		

<sup>a)</sup> Measured in: CaCl<sub>2</sub>/water for results marked <sup>1)</sup>, distilled water for results marked <sup>2)</sup> and 0.01M CaCl<sub>2</sub> for results marked <sup>3)</sup>;

<sup>b)</sup> Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7

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

FOE Oxalate (FOE OXA)	Dark aerobic conditions; Precursor from which the f.f. was derived was Flufenacet							
Soil type	OC [%]	pH <sup>a)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	f. f. k <sub>f</sub> / k <sub>de</sub>	DT <sub>50</sub> (d) 20 °C pF2/10kPa <sup>b)</sup>	St. (x <sup>2</sup> )	Method of calculation
Loamy sand	2.58	6.2 <sup>1)</sup>	20°C; 40% MWHC	6.9/ 22.8	0.448	6.7	25.2	SFO; Flufenacet as parent
Silt loam	0.9	7.3 <sup>1)</sup>	20°C; 40% MWHC	18.9/ 62.9	0.422	15.5	12.7	SFO; Flufenacet as parent
Silt loam	2.40	5.8 <sup>1)</sup>	20°C; 40% MWHC	13.09/ 43.48	0.350	13.09	10.5	SFO; Flufenacet as parent
Sandy loam	0.35	6.2 <sup>2)</sup>	21°C; 75% of ½ bar	1000/ >1000 <sup>c)</sup>	0.484	Not determined	3.99	SFO; Flufenacet as parent
Geometric mean (if not pH dependent) <i>n</i> = 3				11.95/ 39.65	----	11.08	----	SFO
Arithmetic mean (for <i>f</i> ) <i>n</i> = 4				----	0.426	----	----	SFO
pH dependence,						No		

<sup>a)</sup> Measured in: CaCl<sub>2</sub>/water for results marked <sup>1)</sup>, distilled water for results marked <sup>2)</sup> and 0.01M CaCl<sub>2</sub> for results marked <sup>3)</sup>;

<sup>b)</sup> Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7;

<sup>c)</sup> Default values presented for completeness and not used in calculation of mean values nor in exposure assessment;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

FOE Sulfonic acid (FOE SA)	Dark aerobic conditions; Metabolite as parent dosed in test soils marked <sup>2)</sup> ; the precursor from which the f.f. was derived was <i>Flufenacet</i> in test soils marked <sup>1)</sup>							
Soil type <sup>3)</sup>	OC [%]	pH <sup>4)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	f. f. k <sub>t</sub> / k <sub>dg</sub>	DT <sub>50</sub> (d) 20 °C pF2/10kPa <sup>5)</sup>	St. (x <sup>2</sup> )	Method of calculation
Loamy sand <sup>1)</sup>	2.58	6.2 <sup>1)</sup>	20°C; 40% MWHC	1000/ >1000 <sup>d)</sup>	0.257	Not determined	15.4	SFO; Flufenacet as parent
Silt loam <sup>1)</sup>	0.9	7.3 <sup>1)</sup>	20°C; 40% MWHC	1000/ >1000 <sup>d)</sup>	0.272	Not determined	8.42	SFO; Flufenacet as parent
Silt loam <sup>1)</sup>	2.40	5.8 <sup>1)</sup>	20°C; 40% MWHC	1000/ >1000 <sup>d)</sup>	0.143	Not determined	6.56	SFO; Flufenacet as parent
Sandy loam <sup>1)</sup>	0.35	6.2 <sup>2)</sup>	21°C; 75% of ½ bar	1000/ >1000 <sup>d)</sup>	0.108	Not determined	6.28	SFO; Flufenacet as parent
Sand <sup>2)</sup>	0.57	5.3 <sup>3)</sup>	20°C; 75% of ½ bar	318/1060	---	260.76	1.78	SFO; FOE SA as parent
Loamy sand <sup>2)</sup>	2.48	6.3 <sup>3)</sup>	20°C; 75% of ½ bar	211/701	---	211.00	1.88	SFO; FOE SA as parent
Sandy loam <sup>2)</sup>	1.47	6.3 <sup>3)</sup>	20°C; 40% MWHC	62.31/ 206.99	---	49.85	3.05	SFO; FOE SA as parent
Silt loam <sup>2)</sup>	0.88	6.8 <sup>3)</sup>	20°C; 40% MWHC	60.26/ 200.18	---	40.37	3.03	SFO; FOE SA as parent
Loamy sand <sup>2)</sup>	1.7	6.2 <sup>3)</sup>	19.6°C; 55% MWHC	73.38/ 243.77	---	70.44	1.28	SFO; FOE SA as parent
Loam <sup>2)</sup>	4.6	7.0 <sup>3)</sup>	19.6°C; 55% MWHC	6.71/ 22.30	---	6.25	5.59	SFO; FOE SA as parent
Silt loam <sup>2)</sup>	2.0	6.1 <sup>3)</sup>	19.6°C; 55% MWHC	28.58/ 94.95	---	25.79	7.68	SFO; FOE SA as parent
Sandy loam <sup>2)</sup>	1.8	5.0 <sup>3)</sup>	19.6°C; 55% MWHC	49.77/ 165.32	---	47.78	3.66	SFO; FOE SA as parent
Loam <sup>2)</sup>	2.8	5.6 <sup>3)</sup>	19.9°C; 55% MWHC	27.30/ 90.70	---	27.03	3.25	SFO; FOE SA as parent
Silt loam <sup>2)</sup>	1.8	6.8 <sup>3)</sup>	19.9°C; 55% MWHC	21.79/ 72.39	---	21.57	6.41	SFO; FOE SA as parent
Sandy loam <sup>2)</sup>	1.1	6.8 <sup>3)</sup>	19.9°C; 55% MWHC	63.87/ 212.16	---	63.23	1.45	SFO; FOE SA as parent
Clay <sup>2)</sup>	1.9	7.0 <sup>3)</sup>	19.9°C; 55% MWHC	11.86/ 39.39	---	10.10	6.49	SFO; FOE SA as parent
Geometric mean (if not pH dependent) n = 12				45.54/ 151.32	---	40.97	---	SFO
Median n = 12				55.02/ 182.75	---	44.08	---	SFO
Arithmetic mean (for ff) n = 4 pH dependence,				---	0.195	---	---	No

<sup>1)</sup> For soils marked <sup>1)</sup> experiment performed with Flufenacet dosed as parent; for soils marked <sup>2)</sup> experiment performed with FOE sulfonic acid applied as parent;

<sup>2)</sup> Measured in: CaCl<sub>2</sub>/water for results marked <sup>1)</sup>, distilled water for results marked <sup>2)</sup> and in (0.01M) CaCl<sub>2</sub> for results marked <sup>3)</sup>;

<sup>3)</sup> Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7;

<sup>4)</sup> Default values presented for completeness and not used in calculation of mean values nor in exposure assessment;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

FOE Methylsulfone (FOE MET)	Dark aerobic conditions; Metabolite as parent dosed in test soils marked <sup>2)</sup> ; the precursor from which the f.f. was derived was <i>Flufenacet</i> in test soils marked <sup>1)</sup>							
Soil type <sup>1)</sup>	OC [%]	pH <sup>2)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	f. f. K <sub>f</sub> / K <sub>dp</sub>	DT <sub>50</sub> (d) 20 °C pF2/10kPa <sup>3)</sup>	St. (x <sup>2</sup> )	Method of calculation
Loamy sand <sup>1)</sup>	2.58	6.2 <sup>1)</sup>	20°C; 40% MWHC	1000/ >1000 <sup>4)</sup>	0.061	Not determined	28.5	SFO; Flufenacet as parent
Silt loam <sup>1)</sup>	0.9	7.3 <sup>1)</sup>	20°C; 40% MWHC	174/ 576	0.096	142.68	14.4	SFO; Flufenacet as parent
Silt loam <sup>1)</sup>	2.40	5.8 <sup>1)</sup>	20°C; 40% MWHC	1000/ >1000 <sup>4)</sup>	0.052	Not determined	17.3	SFO; Flufenacet as parent
Loamy sand <sup>2)</sup>	1.7	6.2 <sup>2)</sup>	19.6°C; 55% MWHC	43.14/ 143.32	----	41.85	3.37	SFO; FOE MET as parent
Loam <sup>2)</sup>	4.6	7.0 <sup>2)</sup>	19.6°C; 55% MWHC	23.30/ 77.41	----	22.60	3.04	SFO; FOE MET as parent
Silt loam <sup>2)</sup>	2.0	6.1 <sup>2)</sup>	19.6°C; 55% MWHC	43.84/ 145.64	----	42.52	3.58	SFO; FOE MET as parent
Sandy loam <sup>2)</sup>	1.8	5.0 <sup>2)</sup>	19.6°C; 55% MWHC	96.13/ 319.32	----	93.25	3.32	SFO; FOE MET as parent
Loam <sup>2)</sup>	2.8	5.6 <sup>2)</sup>	19.9°C; 55% MWHC	82.53/ 274.14	----	81.70	2.11	SFO; FOE MET as parent
Silt loam <sup>2)</sup>	1.8	6.8 <sup>2)</sup>	19.9°C; 55% MWHC	63.98/ 212.53	----	63.34	2.88	SFO; FOE MET as parent
Sandy loam <sup>2)</sup>	1.1	6.8 <sup>2)</sup>	19.9°C; 55% MWHC	146.78/ 487.60	----	145.31	2.10	SFO; FOE MET as parent
Clay <sup>2)</sup>	1.9	7.0 <sup>2)</sup>	19.9°C; 55% MWHC	163.06/ 541.68	----	138.83	1.70	SFO; FOE MET as parent
Geometric mean (if not pH dependent) <i>n</i> = 9				76/82/ 255.09	----	72.57	----	SFO
Median <i>n</i> = 9				82.53/ 274.14	----	81.70	----	SFO
Arithmetic mean (for <i>f</i> ) <i>n</i> = 3					0.070		----	SFO
pH dependence						No		

- <sup>a)</sup> For soils marked <sup>1)</sup> experiment performed with Flufenacet dosed as parent; for soils marked <sup>2)</sup> experiment performed with FOE Methylsulfone applied as parent;  
<sup>b)</sup> Measured in: CaCl<sub>2</sub>/water for results marked <sup>1)</sup> and in (0.01M) CaCl<sub>2</sub> for results marked <sup>2)</sup>  
<sup>c)</sup> Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7;  
<sup>d)</sup> Default values presented for completeness and not used in calculation of mean values nor in exposure assessment.

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

FOE Thiadone (FOE THIA)	Dark aerobic conditions; Metabolite as parent dosed in test soils marked <sup>2)</sup> ; the precursor from which the f.f. was derived was <i>Flufenacet</i> in test soils marked <sup>1)</sup>							
Soil type <sup>a)</sup>	OC [%]	pH <sup>b)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	f. f. k <sub>t</sub> / K <sub>dp</sub>	DT <sub>50</sub> (d) 20 °C pF2/10kPa <sup>c)</sup>	St. (x <sup>2</sup> )	Method of calculation
Silt loam <sup>1)</sup>	2.5	6.7 <sup>1)</sup>	19.1°C; 55% MWHC	1.13/ 3.77	0.913	1.10	16.42	SFO; Flufenacet as parent
Loamy sand <sup>1)</sup>	2.4	6.1 <sup>1)</sup>	19.9°C; 55% MWHC	1.36/ 4.53	0.524	1.33	15.65	SFO; Flufenacet as parent
Clay loam <sup>1)</sup>	5.3	7.2 <sup>1)</sup>	19.9°C; 55% MWHC	2.84/ 9.45	0.438	2.70	16.36	SFO; Flufenacet as parent
Loam <sup>1)</sup>	2.2	5.4 <sup>1)</sup>	19.9°C; 55% MWHC	1.99/ 6.60	0.404	1.95	14.73	SFO; Flufenacet as parent
Sandy loam <sup>1)</sup>	0.35	6.2 <sup>2)</sup>	21°C; 75% of ½ bar	15.9/ 52.9	---	10.32	4.95	SFO; top-down approach
Loamy sand <sup>2)</sup>	1.91	7.2 <sup>3)</sup>	20°C; 75% of ½ bar	1.98/ 6.59	---	1.27	6.72	SFO; FOE THIA as parent
Sandy loam <sup>2)</sup>	1.28	6.5 <sup>3)</sup>	20°C; 75% of ½ bar	1.40/ 4.66	---	0.90	5.67	SFO; FOE THIA as parent
Silt loam <sup>2)</sup>	1.66	7.7 <sup>3)</sup>	20°C; 75% of ½ bar	2.93/ 9.74	---	2.29	3.71	SFO; FOE THIA as parent
Geometric mean (if not pH dependent) <i>n</i> = 8				2.41/ 8.00	---	1.95	---	SFO
Median <i>n</i> = 8				1.99/ 6.60	---	1.64	---	SFO
Arithmetic mean (for <i>ff</i> ) <i>n</i> = 4					0.570	---	---	SFO
pH dependence,						No		

<sup>a)</sup> For soils marked <sup>1)</sup> experiment performed with Flufenacet dosed as parent; for soils marked <sup>2)</sup> experiment performed with FOE Thiadone applied as parent;

<sup>b)</sup> Measured in: 0.01 M CaCl<sub>2</sub>; for results marked <sup>1)</sup>, distilled water for results marked <sup>2)</sup> and in not specified medium for results marked <sup>3)</sup>;

<sup>c)</sup> Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7.

FOE 5043-Trifluoroethane-sulfonic acid (FOE TFESA)	Dark aerobic conditions; Precursor from which the f.f. was derived was <i>FOE Thiadone</i> and soils were treated with <i>Flufenacet</i>							
Soil type <sup>a)</sup>	OC [%]	pH <sup>b)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	f. f. k <sub>t</sub> / K <sub>dp</sub>	DT <sub>50</sub> (d) 20 °C pF2/10kPa <sup>c)</sup>	St. (x <sup>2</sup> )	Method of calculation
Silt loam	2.5	6.7	19.1°C; 55% MWHC	9.10/ 30.23	0.264	8.83	5.85	SFO; Flufenacet as parent; FOE TFESA formed from FOE Thiadone
Loamy sand	2.4	6.1	19.9°C; 55% MWHC	4.48/ 14.87	0.534	4.39	18.25	SFO; Flufenacet as parent; FOE TFESA formed from FOE Thiadone
Clay loam	5.3	7.2	19.9°C; 55% MWHC	20.9/ 69.5	0.422	19.87	4.31	SFO; top-down approach
Loam	2.2	5.4	19.9°C; 55% MWHC	2.24/ 7.45	0.655	2.19	12.3	SFO; top-down approach
Geometric mean (if not pH dependent) <i>n</i> = 4				6.61/ 21.96	---	6.41	---	
Arithmetic mean (for <i>ff</i> ) <i>n</i> = 4				---	0.469	---	---	
pH dependence,						No (although the DT <sub>50</sub> values in combination with the relevant soil pH indicate such possibility, the data set and the range of DT <sub>50</sub> s are, in RMS's opinion, both too narrow to draw such a definitive conclusion, moreover because the two extreme values – lowest for pH = 5.4 and highest for pH = 7.2, were determined using the top-down approach.)		

<sup>a)</sup> For all test soils experiment performed with Flufenacet dosed as parent;

<sup>b)</sup> Measured in 0.01 M CaCl<sub>2</sub>;

<sup>c)</sup> Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7.



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Trifluoroacetic acid (TFA)	Dark aerobic conditions; Metabolite as parent dosed in test soils marked <sup>2)</sup> ; the precursors from which the f.f. was derived were <i>Flufenacet</i> <sup>1)</sup> and <i>FOE Thiadone</i> <sup>2)</sup> in test soils treated with <i>Flufenacet</i> and marked <sup>1)</sup>							
Soil type <sup>a)</sup>	OC [%]	pH <sup>b)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	f. f. k <sub>f</sub> / k <sub>dep</sub> <sup>c)</sup>	DT <sub>50</sub> (d) 20 °C pF2/10kPa <sup>d)</sup>	St. (x <sup>2</sup> )	Method of calculation
Silt loam <sup>1)</sup>	2.5	6.7	19.1 <sup>0</sup> C; 55% MWHC	1000/ >1000 <sup>e)</sup>	0.087 <sup>1)</sup> 0.736 <sup>2)</sup>	1000 <sup>g)</sup>	10.49	SFO; Flufenacet as parent; TFA formed from Flufenacet and FOE Thiadone
Loamy sand <sup>1)</sup>	2.4	6.1	19.9 <sup>0</sup> C; 55% MWHC	1000/ >1000 <sup>e)</sup>	0.476 <sup>1)</sup> 0.466 <sup>2)</sup>	1000 <sup>g)</sup>	10.34	SFO; Flufenacet as parent; TFA formed from Flufenacet and FOE Thiadone
Clay loam <sup>1)</sup>	5.3	7.2	19.9 <sup>0</sup> C; 55% MWHC	1000/ >1000 <sup>e)</sup>	0.562 <sup>1)</sup> 0.578 <sup>2)</sup>	1000 <sup>g)</sup>	9.45	SFO; Flufenacet as parent; TFA formed from Flufenacet and FOE Thiadone
Loam <sup>1)</sup>	2.2	5.4	19.9 <sup>0</sup> C; 55% MWHC	1000/ >1000 <sup>e)</sup>	0.596 <sup>1)</sup> 0.345 <sup>2)</sup>	1000 <sup>g)</sup>	9.44	SFO; Flufenacet as parent; TFA formed from Flufenacet and FOE Thiadone
Loam <sup>2)</sup>	2.8	5.6	19.9 <sup>0</sup> C; 55% MWHC	10000/ >10000 <sup>e)</sup>	----	1000 <sup>g)</sup>	4.95	SFO; TFA as parent
Silt loam <sup>2)</sup>	1.8	6.8	19.9 <sup>0</sup> C; 55% MWHC	10000/ >10000 <sup>e)</sup>	----	1000 <sup>g)</sup>	6.72	SFO; TFA as parent
Sandy loam <sup>2)</sup>	1.1	6.8	19.9 <sup>0</sup> C; 55% MWHC	10000/ >10000 <sup>e)</sup>	----	1000 <sup>g)</sup>	5.67	SFO; TFA as parent
Clay <sup>2)</sup>	1.9	7.0	19.9 <sup>0</sup> C; 55% MWHC	10000/ >10000 <sup>e)</sup>	----	1000 <sup>g)</sup>	3.71	SFO; TFA as parent
Geometric mean (if not pH dependent)				----		1000 <sup>g)</sup>	----	SFO
Arithmetic mean				----	0.430 <sup>1)</sup> 0.531 <sup>2)</sup>	----	----	SFO
pH dependence						No		

<sup>a)</sup> For soils marked <sup>1)</sup> experiment performed with Flufenacet dosed as parent; for soils marked <sup>2)</sup> experiment performed with TFA applied as parent;

<sup>b)</sup> Measured in 0.01 M CaCl<sub>2</sub>;

<sup>c)</sup> The values marked <sup>1)</sup> are for TFA forming from Flufenacet and the values marked <sup>2)</sup> are for TFA forming from FOE Thiadone;

<sup>d)</sup> Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7;

<sup>e)</sup> Default values reported by the used modelling tools; the averages not calculated;

<sup>f)</sup> Maximum FOCUS default value accepted by the current GW/SW modelling tools;

List of end points

Rapporteur Member State	Month and year	<b>Active substance and Plant Protection Product (Name)</b>
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

The kinetic endpoints determined in laboratory studies on aerobic soils, recommended to be used in model exposure assessment for soil, groundwater and surface water compartments.

Compound	Compartment	Recommended endpoints					
		Maximum observed in soil		Kinetic formation fraction - ff		Persistence in soil – DT <sub>50</sub> value	
		Observed soil maximum [%]	Remark	ff	Remark	DT <sub>50</sub> [days]	Remark
Flufenacet	Soil	Not applicable	Not applicable – parent compound	----	Not applicable – parent compound	57.6	Longest not normalised lab value
	Groundwater			----		17.89	Normalised lab geomean value
	Surface Water			----		17.89	Normalised lab geomean value
FOE Sulfonic acid	Soil	26.5	Recommended for simple modelling <sup>1)</sup>	0.272	Precursor: flufenacet; highest ff, to be used in complex modelling <sup>2)</sup>	318	Longest not normalised lab value
	Groundwater	----	Not applicable	0.195	Precursor: flufenacet;	45.11	Normalised lab geomean value
	Surface Water	26.5	To be used in calculations at Steps 1 and 2	0.195	Precursor: flufenacet; to be used in Step 3-4 assessment	45.11	Normalised lab geomean value
FOE Oxalate	Soil	26.3	Recommended for simple modelling <sup>1)</sup>	0.484	Precursor: flufenacet; highest ff, to be used in complex modelling <sup>2)</sup>	18.9	Longest not normalised lab value
	Groundwater	----	Not applicable	0.426	Precursor: flufenacet;	11.08	Normalised lab geomean value
	Surface Water	26.3	To be used in calculations at Steps 1 and 2	0.426	Precursor: flufenacet; to be used in Step 3-4 assessment	11.08	Normalised lab geomean value
FOE Methylsulfone	Soil	6.6	Recommended for simple modelling <sup>1)</sup>	0.096	Precursor: flufenacet; highest ff, to be used in complex modelling <sup>2)</sup>	174	Longest not normalised lab value
	Groundwater	----	Not applicable	0.070	Precursor: flufenacet;	81.70	Normalised lab median value
	Surface Water	6.6	To be used in calculations at Steps 1 and 2	0.070	Precursor: flufenacet; to be used in Step 3-4 assessment	81.70	Normalised lab median value
FOE Thiadone	Soil	5.8	Recommended for simple modelling <sup>1)</sup>	0.913	Precursor: flufenacet; highest ff, to be used in complex modelling <sup>2)</sup>	15.9	Longest not normalised lab value
	Groundwater	----	Not applicable	0.570	Precursor: flufenacet;	1.95	Normalised lab geomean value
	Surface Water	5.8	To be used in calculations at Steps 1 and 2	0.570	Precursor: flufenacet; to be used in Step 3-4 assessment	1.95	Normalised lab geomean value
FOE 5043-Trifluoroethane-sulfonic acid	Soil	6.0	Recommended for simple modelling <sup>1)</sup>	0.655	Precursor: Thiadone; highest ff, to be used in complex modelling <sup>2)</sup>	20.9	Longest not normalised lab value
	Groundwater	----	Not applicable	0.469	Precursor: Thiadone;	6.41	Normalised lab geomean value
	Surface Water	6.0	To be used in calculations at Steps 1 and 2	0.469	Precursor: Thiadone; to be used in Step 3-4 assessment	6.41	Normalised lab geomean value
Trifluoroacetic acid (TFA)	Soil	81.5	Recommended for simple modelling <sup>1)</sup>	0.430	Precursor: flufenacet; average ff, to be used in complex modelling <sup>2, 3)</sup>	10000	Longest lab value (default)
				0.531	Precursor: Thiadone; average ff, to be used in complex modelling <sup>2, 3)</sup>		
	Groundwater	----	Not applicable	0.430	Precursor: flufenacet;	1000	FOCUS default for non-degrading compound
				0.531	Precursor: Thiadone;		
	Surface Water	81.5	To be used in calculations at Steps 1 and 2	0.430	Precursor: flufenacet; to be used in Step 3-4 assessment	1000	FOCUS default for non-degrading compound
				0.531	Precursor: Thiadone; to be used in Step 3-4 assessment		

**Footnotes to the table:**

- 1) By the term "simple modelling" are understood calculations performed using simple models with metabolites applied as parent;
- 2) The term "complex models" concerns calculations performed using more sophisticated tools, e.g. ESCAPE, in which metabolites are calculated as formed from their precursor (parent compound or preceding degradation product);
- 3) For that compound, due to the complex formation scheme, average ff values are proposed to be used in complex soil exposure assessment with the average ff for Thiadone to be used in case it becomes necessary to recalculate the value to obtain the best formation of TFA in that process (as if from parent).

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

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

Parent - Flufenacet	Aerobic conditions								
Soil type (indicate if bare or cropped soil was used).	Location (country or USA state).	OC [%]	pH <sup>a)</sup>	Depth (cm)	DT <sub>50</sub> (d) actual	DT <sub>90</sub> (d) actual	St. (χ <sup>2</sup> )	DT <sub>50</sub> (d) Norm <sup>b)</sup>	Method of calculation
Sandy loam (bare soil)	Germany (Breitenfelde; 30159/0)	1.69	6.2	0-10	33.1	110.0	13.3	----	SFO
Sandy loam (bare soil)	Germany (Kirchlauter; 30162/0)	0.61	7.1	0-10	52.9	176.0	6.43	----	SFO
Sandy loam (bare soil)	Germany (Monheim; 30163/9)	1.45	6.7	0-10	48.2	160.0	16.1	----	SFO
Silt loam (bare soil)	Germany (Burscheid; 30164/7)	0.97	6.5	0-10	16.1	53.4	6.83	----	SFO
Silt loam (cropped soil)	North France (Fresne-L'Archeveque; 30248/1)	1.11	6.0	0-10	38.0	126.0	15.8	----	SFO
Silt loam (cropped soil)	North France (Fresne-L'Archeveque; 30250/3)	1.86	5.2	0-10	51.3	170.0	11.0	----	SFO
Loam (cropped soil)	South France (Laudun; 30251/1)	0.62	7.6	0-10	30.4	101.0	10.2	----	SFO
Loam (cropped soil)	South France (St. Etienne du Gres; 30253/8)	0.80	7.7	0-10	41.1	137.0	6.68	----	SFO
Silt loam (bare soil)	Germany (Burscheid; 30499/9)	0.97	6.5	0-10	31.5	140.0	7.11	----	DFOP
Sandy loam (bare soil)	Germany (Monheim; 30500/6)	1.45	6.7	0-10	68.1	226.0	5.1	----	SFO
Silt loam (cropped soil)	South France (Saussey-la-Campagne; 30254/6)	0.92	7.4	0-10	14.2	56.7	2.79	----	FOMC
Silt loam (cropped soil)	North France (Fresne-L'Archeveque ; 30455/7)	1.00	6.6	0-10	17.2	57.2	3.32	----	SFO
Clay loam (cropped soil)	South France (Laudun; 40163/3)	1.28	7.7	0-10	49.0	163.0	9.86	----	SFO
Silt loam (cropped soil)	South France (St. Etienne du Gres; 40164/1)	0.96	7.7	0-10	48.1	160.0	7.08	----	SFO
Silt loam (cropped soil)	Italy (Ravenna; 40494/2)	0.98	7.8	0-10	34.4	114.0	7.23	----	SFO
Silty loam (cropped soil)	Italy (S. Romualdo; 40495/0)	1.11	7.8	0-10	50.7	168.0	6.58	----	SFO
Geometric mean (if not pH dependent)					35.7	122.3	----	----	----
pH dependence, Yes or No					No				

<sup>a)</sup> all values determined in 0.01 M CaCl<sub>2</sub>;

<sup>b)</sup> Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7, values are DegT50matrix

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

FOE Sulfonic acid	Aerobic conditions; Studies with Flufenacet dosed as precursor									
Soil type	Location	OC [%]	pH <sup>a)</sup>	Depth (cm)	DT <sub>50</sub> (d) actual	DT <sub>90</sub> (d) actual	St. (x <sup>2</sup> )	DT <sub>50</sub> (d) Norm <sup>b)</sup>	f. f. k <sub>r</sub> / k <sub>dp</sub>	Method of calculation
Silt loam (cropped soil)	North France (Fresne-L'Archeveque; 30248/1)	1.11	6.0	0-10	60.6	201.0	23.3	----	0.094	SFO, Flufenacet as parent
Silt loam (cropped soil)	North France (Fresne-L'Archeveque; 30250/3)	1.86	5.2	0-10	75.3	250.0	9.83	----	0.119	SFO, Flufenacet as parent
Loam (cropped soil)	South France (St. Etienne du Gres; 30253/8)	0.80	7.7	0-10	30.8	102.0	12.1	----	0.142	SFO, Flufenacet as parent
Silt loam (cropped soil)	South France (St. Etienne du Gres; 40164/1)	0.96	7.7	0-10	94.9	315.0	20.5	----	0.072	SFO, Flufenacet as parent
Geometric mean (if not pH dependent)					60.4	200.4	----	----	----	----
Arithmetic mean					----	----	----	----	0.107	----
pH dependence,					No					

<sup>a)</sup> all values determined in 0.01 M CaCl<sub>2</sub>

<sup>b)</sup> Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7 values are DegT50matrix

FOE Oxalate	Aerobic conditions; Studies with Flufenacet dosed as precursor									
Soil type	Location	OC [%]	pH <sup>a)</sup>	Depth (cm)	DT <sub>50</sub> (d) actual	DT <sub>90</sub> (d) actual	St. (x <sup>2</sup> )	DT <sub>50</sub> (d) Norm <sup>b)</sup>	f. f. k <sub>r</sub> / k <sub>dp</sub>	Method of calculation
Loam (cropped soil)	South France (St. Etienne du Gres; 30253/8)	0.80	7.7	0-10	68.0	226.0	4.53	----	0.119	SFO, Flufenacet as parent
Geometric mean (if not pH dependent)					----	----	----	----	----	----
Arithmetic mean					----	----	----	----	----	----
pH dependence,					No					

<sup>a)</sup> all values determined in 0.01 M CaCl<sub>2</sub>

<sup>b)</sup> Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7 values are DegT50matrix

#### Combined laboratory and field kinetic endpoints for modelling (when not from different populations)

Rate of degradation in soil active substance, normalised geometric mean (if not pH dependent)

Not applicable

Rate of degradation in soil transformation products, normalised geometric mean (if not pH dependent)

Not applicable

Kinetic formation fraction (f. f. k<sub>r</sub> / k<sub>dp</sub>) of transformation products, arithmetic mean

Not applicable

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

Soil accumulation and plateau concentration

Plateau concentration of x mg/kg reached after x years (based on calculation) *Please refer to the results of calculation of PEC<sub>soil</sub>; the experimental values not determined*

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

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

Parent - Flufenacet	Dark anaerobic conditions						
Soil type	OC	pH <sup>a)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	DT <sub>50</sub> (d) 20 °C <sup>b)</sup>	St. (χ <sup>2</sup> )	Method of calculation
Sandy loam (Howe)	0.35	6.2	21/ 100% (waterlogged soil)	229.69/ 895.64	314.35	6.03	DFOP – persistence; SFO (slow phase DFOP) - modelling
Silt loam (Hoefchen am Hohenseh 4a)	2.00	6.3	20/ 100% (waterlogged soil)	22.66/ 156.90	59.65	1.08	DFOP – persistence; SFO (slow phase DFOP) - modelling
Loam (Dollendorf II)	4.6	7.0	20/ 100% (waterlogged soil)	13.51/ 110.02	41.51	9.49	DFOP – persistence; SFO (slow phase DFOP) - modelling
Geometric mean (if not pH dependent)				41.27/ 249.12	91.99	----	----

<sup>a)</sup> Measured in water

<sup>b)</sup> Normalised using a Q10 of 2.58

**Rate of degradation in soil (anaerobic) laboratory studies transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.1.4 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.1)**

FOE Oxalate	Dark anaerobic conditions Precursor from which the f.f. was derived was <i>Flufenacet</i> .							
Soil type	OC	pH <sup>b)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	f. f. k <sub>f</sub> / k <sub>dp</sub>	DT <sub>50</sub> (d) 20°C <sup>b)</sup>	St. (χ <sup>2</sup> )	Method of calculation
Sandy loam (Howe)	0.35	6.2	21/ 100% (waterlogged soil)	311/ 1030	0.293	----	6.62	SFO – top-down approach
Geometric mean (if not pH dependent)				-----	-----	-----	-----	-----
Arithmetic mean				-----	-----	-----	-----	-----

<sup>a)</sup> Measured in water

<sup>b)</sup> Normalised using a Q10 of 2.58

FOE Sulfonic acid	Dark anaerobic conditions    Precursor from which the f.f. was derived was <i>Flufenacet</i> .							
Soil type	OC	pH <sup>b)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	f. f. k <sub>f</sub> / k <sub>dp</sub>	DT <sub>50</sub> (d) 20°C <sup>b)</sup>	St. (χ²)	Method of calculation
Sandy loam (Howe)	0.35	6.2	21/ 100% (waterlogged soil)	352/ 1170	----	----	6.03	SFO – top-down approach
Geometric mean (if not pH dependent)				-----	-----	-----	-----	-----
Arithmetic mean				-----	-----	-----	-----	-----

<sup>a)</sup> Measured in water

<sup>b)</sup> Normalised using a Q10 of 2.58

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

FOE Thiadone	Dark anaerobic conditions Precursor from which the f.f. was derived was <i>Flufenacet</i> .							
Soil type	OC	pH <sup>a)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	f. f. k <sub>r</sub> / k <sub>dp</sub>	DT <sub>50</sub> (d) 20°C <sup>b)</sup>	St. (χ <sup>2</sup> )	Method of calculation
Silt loam (Hoefchen am Hohenseh 4a)	2.00	6.3	20/ 100% (waterlogged soil)	97.04/ 322.30	0.425	97.04	4.95	SFO
Loam (Dollendorf II)	4.6	7.0	20/ 100% (waterlogged soil)	33.90/ 112.60	0.425	33.90	5.58	SFO
Geometric mean (if not pH dependent)				57.36/ 190.50	----	57.36	----	----
Arithmetic mean				----	0.425	----	----	----

<sup>a)</sup> Measured in water

<sup>b)</sup> Normalised using a Q10 of 2.58

Trichloroacetic acid	Dark anaerobic conditions Precursor from which the f.f. was derived was <i>Flufenacet</i> .							
Soil type	OC	pH <sup>a)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d)	f. f. k <sub>r</sub> / k <sub>dp</sub>	DT <sub>50</sub> (d) 20°C <sup>b)</sup>	St. (χ <sup>2</sup> )	Method of calculation
Silt loam (Hoefchen am Hohenseh 4a)	2.00	6.3	20/ 100% (waterlogged soil)	1000/ >1000	0.575	1000	2.54	SFO
Loam (Dollendorf II)	4.6	7.0	20/ 100% (waterlogged soil)	1000/ >1000	0.575	1000	3.35	SFO
Geometric mean (if not pH dependent)				1000/ >1000	----	1000	----	----
Arithmetic mean				----	0.575	----	----	----

<sup>a)</sup> Measured in water

<sup>b)</sup> Normalised using a Q10 of 2.58

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

Parent - Flufenacet	Soil photolysis					
Soil type	OC	pH <sup>a)</sup>	t. °C / % MWHC	DT <sub>50</sub> / DT <sub>90</sub> (d) calculated at ??°N	St. (χ <sup>2</sup> )	Method of calculation
US Sandy loam	0.67%	6.4	T = 25 ± 1°C; 75% of ½ bar (75% FC)	DT <sub>50</sub> = 265.67 d; DT <sub>90</sub> = 882.55 d; Calculated at 33° 27' N (Phoenix, AZ; USA)	1.03	SFO, non-linear regression, OLS

<sup>a)</sup> Measured in: medium for performing measurements not given

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

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

##### Parent - Flufenacet

Soil Type	OC %	Soil pH <sup>a)</sup>	K <sub>d</sub> (mL/g)	K <sub>doc</sub> (mL/g)	K <sub>F</sub> (mL/g)	K <sub>Foc</sub> (mL/g)	1/n
Silt loam	1.68	5.9 <sup>1)</sup>			3.18	189.28	0.848
Clay loam	1.28	6.4 <sup>1)</sup>			2.81	219.53	0.878
Loamy sand	0.23	6.4 <sup>1)</sup>			1.48	643.48	0.894
Sandy loam	1.4	6.4 <sup>1)</sup>			4.55	325.00	0.920
Loamy sand	2.2	5.8 <sup>2)</sup>			3.555	161.6	0.928
Silt loam	1.6	6.5 <sup>2)</sup>			3.280	205.0	0.926
Silt loam	2.7	5.3 <sup>2)</sup>			5.101	188.9	0.926
Loam	4.4	7.3 <sup>2)</sup>			7.495	178.5	0.903
Sandy loam	1.7	5.1 <sup>2)</sup>			3.391	195.2	0.980
Loam	2.1	4.9 <sup>3)</sup>			8.956	426.5	0.958
Geometric mean (if not pH dependent)*					<b>3.89</b>	<b>245.9</b>	
Arithmetic mean (if not pH dependent)							<b>0.916</b>
pH dependence, <i>Yes or No</i>					No		

<sup>a)</sup> Measured in: medium not specified for values marked 1), 0.01M CaCl<sub>2</sub> for values marked 2) and CaCl<sub>2</sub> for values marked 3);

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

##### FOE Oxalate

Soil Type	OC %	Soil pH <sup>a)</sup>	K <sub>d</sub> (mL/g)	K <sub>doc</sub> (mL/g)	K <sub>F</sub> (mL/g)	K <sub>Foc</sub> (mL/g)	1/n
Sandy loam	0.75	6.3	----	----	0.096	12.80	0.933
Silty clay loam	2.13	6.6	----	----	0.153	7.18	0.824
Silty clay	1.21	6.0	----	----	0.157	12.97	0.978
Geometric mean (if not pH dependent)*					0.132	10.60	----
Arithmetic mean (if not pH dependent)					----	----	0.912
pH dependence,					No		

<sup>a)</sup> All values measured in water;

##### FOE Sulfonic acid

Soil Type	OC %	Soil pH <sup>a)</sup>	K <sub>d</sub> (mL/g)	K <sub>doc</sub> (mL/g)	K <sub>F</sub> (mL/g)	K <sub>Foc</sub> (mL/g)	1/n
Sand	0.27	5.8	----	----	0.051	18.88	0.865
Sandy loam	0.75	6.3	----	----	0.106	14.13	1.002
Silty clay loam	2.13	6.6	----	----	0.204	9.58	0.931
Silty clay	1.21	6.0	----	----	0.072	5.95	1.183
Geometric mean (if not pH dependent)*					0.094	11.10	----
Arithmetic mean (if not pH dependent)					----	----	0.995
pH dependence,					No		

<sup>a)</sup> All values measured in water;

##### FOE Methylsulfone

Soil Type (USDA)	OC %	Soil pH <sup>a)</sup>	K <sub>d</sub> (mL/g)	K <sub>doc</sub> (mL/g)	K <sub>F</sub> (mL/g)	K <sub>Foc</sub> (mL/g)	1/n
Loam	1.8	5.5	----	----	0.6582	37.4	0.892
Silt loam	2.4	6.8	----	----	1.2797	52.9	0.888
Clay loam	4.6	7.4	----	----	1.5688	33.2	0.900
Sandy loam	0.7	6.8	----	----	0.5253	75.0	0.910
Silt loam	1.7	7.2	----	----	2.9201	171.8	0.860
Geometric mean (if not pH dependent)					1.1518	61.03	----
Arithmetic mean (if not pH dependent)					----	----	0.860
pH dependence,					No		

<sup>a)</sup> All values measured in water;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

FOE Thiadone							
Soil Type	OC %	Soil pH <sup>a)</sup>	K <sub>d</sub> (mL/g)	K <sub>doc</sub> (mL/g)	K <sub>F</sub> (mL/g)	K <sub>Foc</sub> (mL/g)	1/n
Sand	0.27	5.8	----	----	0.115	42.59	0.781
Sandy loam	0.75	6.3	----	----	0.332	44.27	0.806
Silty clay loam	2.13	6.6	----	----	0.611	28.68	0.672
Silty clay	1.21	6.0	----	----	0.703	58.10	0.796
Geometric mean (if not pH dependent)*					0.358	42.10	----
Arithmetic mean (if not pH dependent)					----	----	0.764
pH dependence,				No			

<sup>a)</sup> All values measured in water;

FOE 5043-Trifluoroethanesulfonic acid ( FOE TFESA)							
Soil Type (USDA)	OC %	Soil pH <sup>a)</sup>	K <sub>d</sub> (mL/g)	K <sub>doc</sub> (mL/g)	K <sub>F</sub> (mL/g)	K <sub>Foc</sub> (mL/g)	1/n
Loamy sand	1.8	6.6	----	----	0.0	0.0001	1.0
Loam	5.0	7.5	----	----	0.0	0.0001	1.0
Silt loam	1.7	6.7	----	----	0.0	0.0001	1.0
Silt loam	2.8	5.3	----	----	0.0	0.0001	1.0
Sandy loam	1.9	5.4	----	----	0.0	0.0001	1.0
Geometric mean (if not pH dependent)					0.0	0.0001	----
Arithmetic mean (if not pH dependent)					----	----	1.0
pH dependence,				No			

<sup>a)</sup> All values measured in water;

Trifluoroacetic acid (TFA)							
Soil Type (USDA)	OC %	Soil pH <sup>a)</sup>	K <sub>d</sub> (mL/g)	K <sub>doc</sub> (mL/g)	K <sub>F</sub> (mL/g)	K <sub>Foc</sub> (mL/g)	1/n
Loam	1.76	5.5	----	----	0.0	0.0001	1.0
Silt loam	2.42	6.8	----	----	0.0	0.0001	1.0
Clay loam	4.72	7.4	----	----	0.0	0.0001	1.0
Sandy loam	0.7	6.8	----	----	0.0	0.0001	1.0
Silt loam	1.7	7.2	----	----	0.0	0.0001	1.0
Geometric mean (if not pH dependent)					0.0	0.0001	----
Arithmetic mean (if not pH dependent)					----	----	1.0
pH dependence,				No			

<sup>a)</sup> All values measured in water;

FOE Methylsulfide							
Soil Type (USDA)	OC %	Soil pH <sup>a)</sup>	K <sub>d</sub> (mL/g)	K <sub>doc</sub> (mL/g)	K <sub>F</sub> (mL/g)	K <sub>Foc</sub> (mL/g)	1/n
Not applicable – QSAR value	1.76	5.5	----	----	----	598	----
Geometric mean (if not pH dependent)					----	----	----
Arithmetic mean (if not pH dependent)					----	----	----
pH dependence,				Not applicable			



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

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

Column leaching

<i>Not examined</i>

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

Column leaching – TFA

<p>Test compound: <i>TFA applied as parent</i>  Elution (mm): <i>200 mm</i>  Time period (d): <i>48 hours (2 days)</i></p> <p>Test soil: <i>Loamy sand; OC = 1.8; pH = 6.2;</i>  Leachate: <i>95.5 % total radioactivity in leachate</i>  <i>95.5 % active substance (TFA)</i>  <i>6.2 % total radioactivity retained in soil profile</i>  Koc (mL/g) = <i>0.0</i>.</p> <p>Test soil: <i>Loam; OC = 5.2; pH = 7.4;</i>  Leachate: <i>73.2 % total radioactivity in leachate</i>  <i>73.2 % active substance (TFA)</i>  <i>30.1 % total radioactivity retained in soil profile</i>  Koc (mL/g) = <i>0.0</i>.</p> <p>Test soil: <i>Silt loam; OC = 1.6; pH = 6.5;</i>  Leachate: <i>92.1 % total radioactivity in leachate</i>  <i>92.1 % active substance (TFA)</i>  <i>7.3 % total radioactivity retained in soil profile</i>  Koc (mL/g) = <i>0.0</i>.</p> <p>Test soil: <i>Sandy loam; OC = 1.9; pH = 5.3;</i>  Leachate: <i>66.2 % total radioactivity in leachate</i>  <i>66.2 % active substance (TFA)</i>  <i>36.7 % total radioactivity retained in soil profile</i>  Koc (mL/g) = <i>0.0</i>.</p>
<p>Test compound: <i>TFA applied as parent</i>  Elution (mm): <i>502 mm</i>  Time period (d): <i>120 hours (6 days)</i></p> <p>Test soil: <i>Loamy sand; OC = 1.8; pH = 6.2;</i>  Leachate: <i>101.1 % total radioactivity in leachate</i>  <i>101.1 % active substance (TFA)</i>  Koc (mL/g) = <i>4.5</i>.</p> <p>Test soil: <i>Loam; OC = 5.2; pH = 7.4;</i>  Leachate: <i>96.3 % total radioactivity in leachate</i>  <i>96.3 % active substance (TFA)</i>  Koc (mL/g) = <i>0.0</i>.</p> <p>Test soil: <i>Silt loam; OC = 1.6; pH = 6.5;</i>  Leachate: <i>98.6 % total radioactivity in leachate</i>  <i>98.6 % active substance (TFA)</i>  Koc (mL/g) = <i>11.3</i>.</p> <p>Test soil: <i>Sandy loam; OC = 1.9; pH = 5.3;</i>  Leachate: <i>100.9 % total radioactivity in leachate</i>  <i>100.9 % active substance (TFA)</i>  Koc (mL/g) = <i>7.1</i>.</p>

Column leaching – TFA

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

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

Lysimeter/ field leaching studies *Lysimeter #15*

Location: *Experimental lysimeter farm of BAYER AG, Monheim NRW, Germany; 51° 4' N, 6° 55' E;*  
Study type (e.g. lysimeter, field): *outdoor lysimeter*  
Soil properties: *topsoil layer 0 – 30 cm texture: Sandy loam, pH = 7.04, OC= 1.41%, WHC = 32.45 [vol % H<sub>2</sub>O] – Field Capacity*  
Dates of application : *10/05/1993 – 1<sup>st</sup> application; 05/05/1994 – 2<sup>nd</sup> application;*  
Crop : */Interception estimated: Grain maize (corn) – 1<sup>st</sup>, target crop, CI = 0%; Grain maize (corn) – 2<sup>nd</sup>, target crop, CI = 0%; Sugar beet, 3<sup>rd</sup>, succeeding, crop, CI not required;*  
Number of applications: **2 years (+ one without application), 1 application per year**  
Duration. *3 years*  
Application rate: **480 g/ha – 1<sup>st</sup> and 2<sup>nd</sup> application**  
Average annual rainfall (mm): **745 mm (long-term value covering period 1966–1995); 1<sup>st</sup> experimental year precipitation (rainfall + irrigation): 943.1 mm, 2<sup>nd</sup> experimental year precipitation (rainfall + irrigation): 914.2 mm, 3<sup>rd</sup> experimental year precipitation (rainfall + irrigation): 600.1 mm; total: 2457 mm**  
Average annual leachate volume (mm): *Volume of leachate collected (total): 1<sup>st</sup> experimental year: 349.8 L, 2<sup>nd</sup> experimental year: 317.6 L, 3<sup>rd</sup> experimental year: 13.0 L, total volume collected: 680.4 L*  
% radioactivity in leachate (maximum/year): *1<sup>st</sup> experimental year: 0.772% AR, 2<sup>nd</sup> experimental year: 0.250% AR, 3<sup>rd</sup> experimental year: 0.006% AR, total: 0.64% AR*  
Individual annual maximum concentrations (e.g. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> yr): *1<sup>st</sup> experimental year (leachate collected on week 37): total TRR 2.350 [µg a. i. equivalents/L], acidic TRR 2.228 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 5.19 [% total TRR], Flufenacet ≤0.007 [µg/L], FOE Alcohol 0.001 [µg/L], FOE Oxalate 0.007 [µg/L], FOE Sulfonic acid 1.293 [µg/L], FOE Thioglycolate sulfoxide 0.079 [µg/L] Unidentified radioactivity, no of components: 1, 0.052 µg/L parent equivalents.*  
Individual annual average concentrations (e.g. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> yr): *1<sup>st</sup> experimental year annual leachate: total TRR 1.062 [µg a. i. equivalents/L], acidic TRR 0.99 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 6.47 [% total TRR], Flufenacet 0.020 [µg/L], FOE Alcohol <0.002 [µg/L], FOE Oxalate 0.015 [µg/L], FOE Sulfonic acid 0.589 [µg/L], FOE Thioglycolate sulfoxide 0.016 [µg/L] Unidentified radioactivity, no of components: 1, 0.030 µg/L parent equivalents.*  
*2<sup>nd</sup> experimental year annual leachate: total TRR 0.758 [µg a. i. equivalents/L], acidic TRR 0.670 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 11.10 [% total TRR], Flufenacet 0.003 [µg/L], FOE Alcohol 0.003 [µg/L], FOE Oxalate <0.018 [µg/L], FOE Sulfonic acid 0.235 [µg/L], FOE Thioglycolate sulfoxide 0.020 [µg/L] Unidentified radioactivity, no of components: 1, 0.037 µg/L parent equivalents.*  
*3<sup>rd</sup> experimental year annual leachate: total TRR 0.432 [µg a. i. equivalents/L], acidic TRR 0.334 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 22.80 [% total TRR], FOE Sulfonic acid ≤0.25 [µg/L], Unidentified radioactivity: no data.*  
*average annual leachate: total TRR 0.906 [µg a. i. equivalents/L], acidic TRR 0.83 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 8.42 [% total TRR],*  
Amount of radioactivity in the soils at the end of the study = *total 43.16 % AR, in top 0-30cm layer 40.289% AR, in 30-60 cm layer 2.095% AR, below 60 cm 0.777% AR, identified in the*

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Lysimeter/ field leaching studies *Lysimeter #16*

top 30-cm layer: Flufenacet **1860.96** [µg] (concentration **3.91** [µg/kg]), FOE Alcohol **143.49** [µg] (concentration **0.30** [µg/kg]), FOE Oxalate **212.84** [µg] (concentration **0.45** [µg/kg]), FOE Sulfonic acid **71.44** [µg] (concentration **0.15** [µg/kg]).

Location: *Experimental lysimeter farm of BAYER AG, Monheim NRW, Germany; 51° 4' N, 6° 55' E;*  
Study type (e.g. lysimeter, field): *outdoor lysimeter*  
Soil properties: *topsoil layer 0 – 30 cm texture: Sandy loam, pH = 7.04, OC= 1.41%, WHC = 32.45 [vol % H<sub>2</sub>O] – Field Capacity*  
Dates of application : *10/05/1993 – 1<sup>st</sup> application; 05/05/1994 – 2<sup>nd</sup> application;*  
Crop : */Interception estimated: Grain maize (corn) – 1<sup>st</sup>, target crop, CI = 0%; Grain maize (corn) – 2<sup>nd</sup>, target crop, CI = 0%; Sugar beet, 3<sup>rd</sup>, succeeding, crop, CI not required;*  
Number of applications: **2** years (+ one without application), **1** application per year  
Duration. **3** years  
Application rate: **480** g/ha – *1<sup>st</sup> and 2<sup>nd</sup> application*  
Average annual rainfall (mm): **745** mm (*long-term value covering period 1966 – 1995*); *1<sup>st</sup> experimental year precipitation (rainfall + irrigation): 943.1 mm, 2<sup>nd</sup> experimental year precipitation (rainfall + irrigation): 914.2 mm, 3<sup>rd</sup> experimental year precipitation (rainfall + irrigation): 600.1 mm, total: 2457 mm*  
Average annual leachate volume (mm): *Volume of leachate collected (total): 1<sup>st</sup> experimental year: 402.4 L, 2<sup>nd</sup> experimental year: 299.9 L, 3<sup>rd</sup> experimental year: 17.0 L, total volume collected: 719.3 L*  
% radioactivity in leachate (maximum/year): *1<sup>st</sup> experimental year: 0.815% AR, 2<sup>nd</sup> experimental year: 0.161% AR, 3<sup>rd</sup> experimental year: 0.006% AR, total: 0.58% AR*  
Individual annual maximum concentrations (e.g. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> yr): *1<sup>st</sup> experimental year (leachate collected on week 35): total TRR 1.989 [µg a. i. equivalents/L], acidic TRR 1.915 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 3.72 [% total TRR], Flufenacet <0.017 [µg/L], FOE Alcohol 0.004 [µg/L], FOE Oxalate 0.041 [µg/L], FOE Sulfonic acid 1.090 [µg/L], FOE Thioglycolate sulfoxide 0.036 [µg/L] Unidentified radioactivity, no of components: 1, 0.052 µg/L parent equivalents.*  
Individual annual average concentrations (e.g. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> yr): *1<sup>st</sup> experimental year annual leachate: total TRR 0.931 [µg a. i. equivalents/L], acidic TRR 0.87 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 6.82 [% total TRR], Flufenacet 0.033 [µg/L], FOE Alcohol 0.000 [µg/L], FOE Oxalate 0.004 [µg/L], FOE Sulfonic acid 0.489 [µg/L], FOE Thioglycolate sulfoxide 0.014 [µg/L] Unidentified radioactivity, no of components: 1, 0.033 µg/L parent equivalents.*  
*2<sup>nd</sup> experimental year annual leachate: total TRR 0.516 [µg a. i. equivalents/L], acidic TRR 0.46 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 11.19 [% total TRR], Flufenacet 0.003 [µg/L], FOE Alcohol 0.005 [µg/L], FOE Oxalate <0.014 [µg/L], FOE Sulfonic acid 0.149 [µg/L], FOE Thioglycolate sulfoxide 0.015 [µg/L] Unidentified radioactivity, no of components: 1, 0.041 µg/L parent equivalents.*  
*3<sup>rd</sup> experimental year annual leachate: total TRR 0.353 [µg a. i. equivalents/L], acidic TRR 0.23 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 34.56 [% total TRR], Flufenacet 0.003 [µg/L], FOE Alcohol 0.005 [µg/L], FOE Oxalate <0.014 [µg/L], FOE Sulfonic acid 0.149 [µg/L], FOE Thioglycolate sulfoxide 0.015 [µg/L] Unidentified radioactivity, no of components: 1, 0.041 µg/L parent equivalents.*  
*average annual leachate: total TRR 0.742 [µg a. i. equivalents/L], acidic TRR 0.68 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 8.39 [% total TRR],*  
Amount of radioactivity in the soils at the end of the study = *total 45.03 % AR, in top 0-30cm layer 41.414% AR, in 30-60 cm layer 3.128% AR, below 60 cm 0.485% AR, identified in the*

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Lysimeter/ field leaching studies *Lysimeter #17*

top 30-cm layer: Flufenacet **1839.68** [ $\mu\text{g}$ ] (concentration **3.91** [ $\mu\text{g}/\text{kg}$ ]), FOE Alcohol **159.02** [ $\mu\text{g}$ ] (concentration **0.34** [ $\mu\text{g}/\text{kg}$ ]), FOE Oxalate **167.72** [ $\mu\text{g}$ ] (concentration **0.36** [ $\mu\text{g}/\text{kg}$ ]), FOE Sulfonic acid **138.39** [ $\mu\text{g}$ ] (concentration **0.29** [ $\mu\text{g}/\text{kg}$ ]).

Location: *Experimental lysimeter farm of BAYER AG, Monheim NRW, Germany; 51° 4' N, 6° 55' E;*  
Study type (e.g. lysimeter, field): *outdoor lysimeter*  
Soil properties: *topsoil layer 0 – 30 cm texture: Sandy loam, pH = 7.04, OC = 1.41%, WHC = 32.45 [vol % H<sub>2</sub>O] – Field Capacity*  
Dates of application : *13/05/1993 – 1<sup>st</sup> application; 03/11/1993 – 2<sup>nd</sup> application;*  
Crop : */Interception estimated: Fodder maize (for silage) – 1<sup>st</sup>, target crop, CI = 0%; Winter wheat (corn) – 2<sup>nd</sup>, target crop, CI = 0%; Sugar beet, 3<sup>rd</sup>, succeeding, crop, CI not required;*  
Number of applications: **1** year (+ 1.5 without application), **2** applications per year  
Duration. **2.5** years  
Application rate: **480** g/ha – 1<sup>st</sup> application, **180** g/ha – 2<sup>nd</sup> application,  
Average annual rainfall (mm): **745** mm (long-term value covering period 1966 – 1995); 1<sup>st</sup> experimental year precipitation (rainfall + irrigation): **948.1** mm, 2<sup>nd</sup> experimental year precipitation (rainfall + irrigation): **888.9** mm, 3<sup>rd</sup> experimental year precipitation (rainfall + irrigation): **442.0** mm, total: **2279** mm  
Average annual leachate volume (mm): *Volume of leachate collected (total): 1<sup>st</sup> experimental year: 399.1 L, 2<sup>nd</sup> experimental year: 365.4 L, 3<sup>rd</sup> experimental year: 17.5 L, total volume collected: 782.0 L*  
% radioactivity in leachate (maximum/year): 1<sup>st</sup> experimental year: **1.436**% AR, 2<sup>nd</sup> experimental year: **0.122**% AR, 3<sup>rd</sup> experimental year: **0.006**% AR, total: **1.56**% AR  
Individual annual maximum concentrations (e.g. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> yr):  
1<sup>st</sup> experimental year (leachate collected on week 38): total TRR **5.106** [ $\mu\text{g}$  a. i. equivalents/L], acidic TRR **4.940** [ $\mu\text{g}$  a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity **4.26** [% total TRR], Flufenacet **<0.011** [ $\mu\text{g}/\text{L}$ ], FOE Alcohol **0.006** [ $\mu\text{g}/\text{L}$ ], FOE Oxalate **0.005** [ $\mu\text{g}/\text{L}$ ], FOE Sulfonic acid **3.375** [ $\mu\text{g}/\text{L}$ ], FOE Thioglycolate sulfoxide **0.017** [ $\mu\text{g}/\text{L}$ ] Unidentified radioactivity, no of components: **1**, **0.065**  $\mu\text{g}/\text{L}$  parent equivalents.  
Individual annual average concentrations (e.g. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> yr):  
1<sup>st</sup> experimental year annual leachate: total TRR **2.380** [ $\mu\text{g}$  a. i. equivalents/L], acidic TRR **2.26** [ $\mu\text{g}$  a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity **5.31** [% total TRR], Flufenacet **0.004** [ $\mu\text{g}/\text{L}$ ], FOE Alcohol **0.034** [ $\mu\text{g}/\text{L}$ ], FOE Oxalate **0.017** [ $\mu\text{g}/\text{L}$ ], FOE Sulfonic acid **1.355** [ $\mu\text{g}/\text{L}$ ], FOE Thioglycolate sulfoxide **0.030** [ $\mu\text{g}/\text{L}$ ] Unidentified radioactivity, no of components: **1**, **0.080**  $\mu\text{g}/\text{L}$  parent equivalents.  
2<sup>nd</sup> experimental year annual leachate: total TRR **0.221** [ $\mu\text{g}$  a. i. equivalents/L], acidic TRR **0.19** [ $\mu\text{g}$  a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity **17.06** [% total TRR], Flufenacet **0.002** [ $\mu\text{g}/\text{L}$ ], FOE Alcohol **0.001** [ $\mu\text{g}/\text{L}$ ], FOE Oxalate **0.009** [ $\mu\text{g}/\text{L}$ ], FOE Sulfonic acid **0.013** [ $\mu\text{g}/\text{L}$ ], FOE Thioglycolate sulfoxide **0.022** [ $\mu\text{g}/\text{L}$ ] Unidentified radioactivity, no of components: **1**, **0.035**  $\mu\text{g}/\text{L}$  parent equivalents.  
3<sup>rd</sup> experimental year annual leachate: total TRR **0.239** [ $\mu\text{g}$  a. i. equivalents/L], acidic TRR **0.15** [ $\mu\text{g}$  a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity **35.22** [% total TRR], acidic TRR not profiled, Unidentified radioactivity: **no data**.  
average annual leachate: total TRR **1.310** [ $\mu\text{g}$  a. i. equivalents/L], acidic TRR **1.25** [ $\mu\text{g}$  a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity **6.28** [% total TRR],  
Amount of radioactivity in the soils at the end of the study = total **42.33** % AR, in top 0-30cm layer **37.80**% AR, in 30-60 cm layer

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Lysimeter/ field leaching studies *Lysimeter #18*

**2.46% AR, below 60 cm 2.00% AR, identified in the top 30-cm layer: Flufenacet 450.75 [µg] (concentration 1.07 [µg/kg]), FOE Alcohol 60.09 [µg] (concentration 0.14 [µg/kg]), FOE Oxalate 28.23 [µg] (concentration 0.07 [µg/kg]), FOE Sulfonic acid 45.74 [µg] (concentration 0.11 [µg/kg]).**

Location: *Experimental lysimeter farm of BAYER AG, Monheim NRW, Germany; 51° 4' N, 6°55' E;*  
Study type (e.g. lysimeter, field): *outdoor lysimeter*  
Soil properties: *topsoil layer 0 – 30 cm texture: Sandy loam, pH = 7.04, OC= 1.41%, WHC = 32.45 [vol % H<sub>2</sub>O] – Field Capacity*  
Dates of application : *13/05/1993 – 1<sup>st</sup> application; 03/11/1993 – 2<sup>nd</sup> application;*  
Crop : */Interception estimated: Fodder maize (for silage) – 1<sup>st</sup>, target crop, CI = 0%; Winter wheat (corn) – 2<sup>nd</sup>, target crop, CI = 0%; Sugar beet, 3<sup>rd</sup>, succeeding, crop, CI not required;*  
Number of applications: **1 year (+ 1.5 without application), 2 applications per year**  
Duration. **2.5 years**  
Application rate: **480 g/ha – 1<sup>st</sup> application, 180 g/ha – 2<sup>nd</sup> application,**  
Average annual rainfall (mm): **745 mm (long-term value covering period 1966 – 1995); 1<sup>st</sup> experimental year precipitation (rainfall + irrigation): 948.1 mm, 2<sup>nd</sup> experimental year precipitation (rainfall + irrigation): 888.9 mm, 3<sup>rd</sup> experimental year precipitation (rainfall + irrigation): 442.0 mm, total: 2279 mm**  
Average annual leachate volume (mm): *Volume of leachate collected (total): 1<sup>st</sup> experimental year: 383.1 L, 2<sup>nd</sup> experimental year: 368.9 L, 3<sup>rd</sup> experimental year: 19.1 L, total volume collected: 771.1 L*  
% radioactivity in leachate (maximum/year): *1<sup>st</sup> experimental year: 1.563% AR, 2<sup>nd</sup> experimental year: 0.150% AR, 3<sup>rd</sup> experimental year: 0.007% AR, total: 1.72% AR*  
Individual annual maximum concentrations (e.g. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> yr): *1<sup>st</sup> experimental year (leachate collected on week 38): total TRR 5.455 [µg a. i. equivalents/L], acidic TRR 5.255 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 3.58 [% total TRR], Flufenacet <0.001 [µg/L], FOE Alcohol 0.044 [µg/L], FOE Oxalate 0.036 [µg/L], FOE Sulfonic acid 3.682 [µg/L], FOE Thioglycolate sulfoxide 0.028 [µg/L] Unidentified radioactivity, no of components: 1, 0.041 µg/L parent equivalents.*  
Individual annual average concentrations (e.g. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> yr): *1<sup>st</sup> experimental year annual leachate: total TRR 2.699 [µg a. i. equivalents/L], acidic TRR 2.56 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 5.35 [% total TRR], Flufenacet 0.005 [µg/L], FOE Alcohol 0.016 [µg/L], FOE Oxalate 0.006 [µg/L], FOE Sulfonic acid 1.616 [µg/L], FOE Thioglycolate sulfoxide 0.027 [µg/L] Unidentified radioactivity, no of components: 1, 0.045 µg/L parent equivalents.*  
*2<sup>nd</sup> experimental year annual leachate: total TRR 0.269 [µg a. i. equivalents/L], acidic TRR 0.22 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 23.02 [% total TRR], Flufenacet 0.005 [µg/L], FOE Alcohol 0.004 [µg/L], FOE Oxalate 0.006 [µg/L], FOE Sulfonic acid 0.016 [µg/L], FOE Thioglycolate sulfoxide 0.019 [µg/L] Unidentified radioactivity, no of components: 1, 0.008 µg/L parent equivalents.*  
*3<sup>rd</sup> experimental year annual leachate: total TRR 0.238 [µg a. i. equivalents/L], acidic TRR 0.14 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 40.88 [% total TRR], acidic TRR not profiled, Unidentified radioactivity: no data.*  
average annual leachate: *total TRR 1.492 [µg a. i. equivalents/L], acidic TRR 1.38 [µg a. i. equivalents/L], <sup>14</sup>CO<sub>2</sub>-associated radioactivity 6.85 [% total TRR],*  
Amount of radioactivity in the soils at the end of the study = *total*

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

Section 4 Environmental fate and behaviour

*52.96% AR, in top 0-30cm layer 48.2% AR, in 30-60 cm layer 3.1% AR, below 60 cm 1.7% AR, identified in the top 30-cm layer: Flufenacet 528.48 [µg] (concentration 1.06 [µg/kg]), FOE Alcohol 87.67 [µg] (concentration 0.18 [µg/kg]), FOE Oxalate 63.74 [µg] (concentration 0.13 [µg/kg]), FOE Sulfonic acid 43.42 [µg] (concentration 0.09 [µg/kg]).*

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

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

Hydrolytic degradation of the active substance and metabolites > 10 % *results for Flufenacet*

pH 5: <i>stable (DT<sub>50</sub> &gt; 10000 days) at 25 °C (1<sup>st</sup> order - SFO, <math>\chi^2=0.234</math>)</i> <i>no degradation products detected</i>
pH 7: <i>stable (DT<sub>50</sub> = 1570 days) at 25 °C (1<sup>st</sup> order - SFO, <math>\chi^2=0.238</math>)</i> <i>no degradation products detected</i>
pH 9: <i>stable (DT<sub>50</sub> = 655 days) at 25 °C (1<sup>st</sup> order - SFO, <math>\chi^2=0.255</math>)</i> <i>no degradation products detected</i>
pH 5: <i>stable at 25 °C</i> <i>no degradation products detected</i>
pH 7: <i>stable at 25 °C</i> <i>no degradation products detected</i>
pH 9: <i>stable at 25 °C</i> <i>no degradation products detected</i>

Hydrolytic degradation of the active substance and metabolites > 10 % *results for FOE Thiadone*

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

Photolytic degradation of active substance and metabolites above 10 % - results for Flufenacet, direct photolysis

DT <sub>50</sub> : <i>2550 days (compound considered to be photolytically stable in sterile aqueous buffer solution)</i> Estimated DT <sub>50</sub> at 33°26'N (Phoenix, AZ, USA) <i>7430 days (June)</i>
9.6 10 <sup>-4</sup> mol · Einstein <sup>-1</sup>

Quantum yield of direct phototransformation in water at λ > 290 nm- results for Flufenacet

Photolytic degradation of active substance and metabolites above 10 % - results for FOE Thiadone, direct photolysis

DT <sub>50</sub> : <i>not determined – the compound is photolytically stable in sterile aqueous buffer solution</i>
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Photolytic degradation of active substance and metabolites above 10 % - results for Flufenacet, indirect photolysis

<i>Fully reliable results not available</i>
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Photolytic degradation of active substance and metabolites above 10 % - results for FOE Thiadone, indirect photolysis

DT <sub>50</sub> : <i>5.8 days</i> Estimated DT <sub>50</sub> at 33° 26'N (Phoenix, AZ, USA) <i>15.8 days (June)</i> Estimated DT <sub>50</sub> at 38° 03'N (Athens, Greece, EU) <i>24.4 days (June)</i> Estimated DT <sub>50</sub> at 51° 30'N (London, UK, EU) <i>30.5 days (July)</i>
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##### 'Ready biodegradability' (Regulation (EU) N° 283/2013, Annex Part A, point 7.2.2.1)

Readily biodegradable (yes/no)

<i>No data submitted, substance considered not readily biodegradable</i>
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List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

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

Parent										
System identifier (indicate fresh, estuarine or marine)	pH water phase	pH sed	t. °C <sup>a)</sup>	DT <sub>50</sub> /DT <sub>90</sub> whole sys. (suspended sediment test)		St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> Water (pelagic test)		St. (x <sup>2</sup> )	Method of calculation
				At study temp	Normalised to x °C		At study temp	Norma lised to 20 °C <sup>b)</sup>		
Pelagic fresh water, biologically viable system	7.5	not appl	23.8	not applicable	not applicable	not appl	473/ 1570	664/ 2204	3.22	SFO
Pelagic fresh water, sterilised system	7.5	not appl	23.8	not applicable	not applicable	not appl	2230/ 7410	3130/ 10403	2.02	SFO

<sup>a)</sup> Temperature of incubation=temperature that the environmental media was collected or std temperature of 20°C

<sup>b)</sup> Normalised using a Q10 of 2.58 to the temperature of the environmental media at the point of sampling. (note temp of x should be stated).

Metabolite FOE Alcohol	Max in total system 4.4 % after 368 days (biologically viable); 6.8 % after 368 days (sterilised)									
System identifier (indicate fresh, estuarine or marine)	pH water phase	pH sed <sup>a)</sup>	t. °C <sup>b)</sup>	DT <sub>50</sub> /DT <sub>90</sub> whole sys. (suspended sediment test)		St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> Water (pelagic test)		St. (x <sup>2</sup> )	Method of calculation
				At study temp	Normalised to x °C <sup>c)</sup>		At study temp	Normalised to x °C <sup>c)</sup>		
Pelagic fresh water, biologically viable system	7.5	not appl	23.8	not applicable	not applicable	not appl	Not determined	Not determined	----	Not determined
Pelagic fresh water, sterilised system	7.5	not appl	23.8	not applicable	not applicable	not appl	Not determined	Not determined	----	Not determined

Metabolite FOE Oxalate										
Max in total system 24.0% after 368 days (biologically viable); not detected in sterilised samples										
System identifier (indicate fresh, estuarine or marine)	pH water phase	pH sed <sup>a)</sup>	t. °C <sup>b)</sup>	DT <sub>50</sub> /DT <sub>90</sub> whole sys. (suspended sediment test)		St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> Water (pelagic test)		St. (x <sup>2</sup> )	Method of calculation
				At study temp	Normalise d to x °C <sup>c)</sup>		At study temp	Norma lised to x °C <sup>c)</sup>		
Pelagic fresh water, biologically viable system	7.5	not appl	23.8	not applica- ble	not applicable	not appl	Not deter- mined	Not deter- mined	----	Not determined



List of end points

Rapporteur Member State

Month and year

**Active substance and Plant  
Protection Product (Name)**

POLAND	Flufenacet
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**Section 4 Environmental fate and behaviour**

<b>Metabolite FOE Sulfonic acid</b>		<b>Max in total system 8.6 % after 368 days (biologically viable); not detected in sterilised samples</b>								
System identifier (indicate fresh, estuarine or marine)	pH water phase	pH sed a)	t. °C <sup>b)</sup>	DT <sub>50</sub> /DT <sub>90</sub> whole sys. (suspended sediment test)		St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> Water (pelagic test)		St. (x <sup>2</sup> )	Method of calculation
				At study temp	Normalise d to x °C <sup>c)</sup>		At study temp	Norma lised to x °C <sup>c)</sup>		
Pelagic fresh water, biologically viable system	7.5	not appl	23.8	not applica- ble	not applicable	not appl	Not deter- mined	Not deter- mined	----	Not determined

<b>Mineralisation and non extractable residues (for parent dosed experiments)</b>					
System identifier (indicate fresh, estuarine or marine)	pH water phase	pH sed	Mineralisation x % after n d. (end of the study).	Non-extractable residues. max x % after n d (suspended sediment test)	Non-extractable residues. max x % after n d (end of the study) (suspended sediment test)
Pelagic fresh water, biologically viable system	7.5	----	3.0% after 368 days	not applicable	not applicable
Pelagic fresh water, sterilised system	7.5	----	0.8% after 368 days	not applicable	not applicable

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

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

<b>Parent:</b> Flufenacet		<b>Distribution:</b> <b>NESA test system: max. in water 94.9% on DAT 0, max. in sediment 22.9% on DAT 30;</b> <b>BRP test system: max. in water 95.0% on DAT 0, max. in sediment 34.2% on DAT 30;</b> <b>NESA 1 test system: max. in water 83.99% on DAT 0, max. in sediment 12.4% on DAT 7;</b> <b>BRP 1 test system: max. in water 83.2% on DAT 0, max. in sediment 26.1% on DAT 14</b>								
Water / sediment system	pH water phase	pH sed <sup>a)</sup>	t. °C	DT <sub>50</sub> /DT <sub>90</sub> whole sys.	St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> water	St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> sed	St. (x <sup>2</sup> )	Method of calculation
NESA; silty clay loam sediment	7.5	7.9 <sup>a)</sup>	20	90.34 d./ 300.10 d.	2.18	58.72 d./ 195.10 d	4.94	140.50 d./ 466.80 d.	2.08	Whole sys.: SFO; Water: SFO - persistence; Sed.: SFO top-down
BRP; silty clay loam sediment	7.3	7.8 <sup>a)</sup>	20	89.00 d./ 295.70 d.	3.80	31.23 d./ 211.00 d	4.04	120.50 d./ 400.20 d.	7.53	Whole sys.: SFO; Water: SFO - persistence; Sed.: SFO top-down
NESA 1; silty clay sediment	7.2	7.8 <sup>b)</sup>	20	19.57 d./ 65.33 d.	9.84	16.98 d./ 56.40 d.	6.82	17.64 d./ 58.61 d.	7.31	Whole sys.: SFO; Water: SFO - persistence; Sed.: SFO top-down
BRP 1; silty clay loam sediment	6.9	7.8 <sup>b)</sup>	20	38.11 d./ 126.60 d.	4.93	23.84 d./ 79.20 d.	12.5	47.91 d./ 159.10 d.	7.74	Whole sys.: SFO; Water: SFO - persistence; Sed.: SFO top-down
Geometric mean at 20°C <sup>b)</sup>				49.55 d./ 164.54 d.	n. a. <sup>c)</sup>	29.35 d./ 116.45 d	n. a. <sup>c)</sup>	61.50 d./ 204.30 d.	n. a. <sup>c)</sup>	

<sup>a)</sup> Medium, in which pH was measured, not specified;

<sup>b)</sup> Measured in H<sub>2</sub>O;

<sup>c)</sup> n. a. = not applicable.

<b>Metabolite FOE</b> Oxalate		<b>Distribution :</b> <b>NESA test system: max. in water - 4.6% on DAT 157, max. in sediment - 0.2% on DAT 30, max. in whole system - 4.6% on DAT 157;</b> <b>BRP test system: max. in water - 4.8% on DAT 157, max. in sediment - 0.6% on DAT 157, max. in whole system - 5.4% on DAT 157;</b> <b>kinetic formation fraction (k<sub>f</sub>/k<sub>dep</sub>): reliable values not determined;</b>								
Water / sediment system	pH water phase	pH sed <sup>a)</sup>	t. °C	DT <sub>50</sub> /DT <sub>90</sub> whole sys.	St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> water	St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> sed	St. (x <sup>2</sup> )	Method of calculation
NESA; silty clay loam sediment	7.5	7.9 <sup>a)</sup>	20	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not applicable
BRP; silty clay loam sediment	7.3	7.8 <sup>a)</sup>	20	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not applicable
Geometric mean at 20°C <sup>b)</sup>				Not applicable	n. a. <sup>b)</sup>	Not applicable	n. a. <sup>b)</sup>	Not applicable	n. a. <sup>b)</sup>	Not applicable

<sup>a)</sup> Medium, in which pH was measured, not specified;

<sup>b)</sup> n. a. = not applicable.

List of end points

Rapporteur Member State	Month and year	<b>Active substance and Plant Protection Product (Name)</b>
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

<b>Metabolite FOE Sulfonic acid</b>	<b>Distribution :</b> <b>NESA test system: max. in water - 1.7% on DAT 157, max. in sediment – not found, max. in whole stsem – 1.7% on DAT 157;</b> <b>BRP test system: max. in water – 3.0% on DAT 157, max. in sediment – 0.6% on DAT 157, max. in whole system – 3.2% on DAT 157;</b> <b>kinetic formation fraction (<math>k_f/k_{dp}</math>): reliable values not determined;</b>									
Water / sediment system	pH water phase	pH sed <sup>a)</sup>	t. °C	DT <sub>50</sub> /DT <sub>90</sub> whole sys.	St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> water	St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> sed	St. (x <sup>2</sup> )	Method of calculation
NESA; silty clay loam sediment	7.5	7.9 <sup>a)</sup>	20	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not applicable
BRP; silty clay loam sediment	7.3	7.8 <sup>a)</sup>	20	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not applicable
Geometric mean at 20°C <sup>b)</sup>				Not applicable	n. a. <sup>b)</sup>	Not applicable	n. a. <sup>b)</sup>	Not applicable	n. a. <sup>b)</sup>	Not applicable

<sup>a)</sup> Medium, in which pH was measured, not specified;

<sup>b)</sup> n. a. = not applicable.

<b>Metabolite FOE Methylsulfone</b>	<b>Distribution :</b> <b>NESA test system: max. in water – 5.0% on DAT 100, max. in sediment – 1.4% on DAT 100, max. in whole system – 6.4% on DAT 100;</b> <b>BRP test system: max. in water – 6.5% on DAT 120, max. in sediment – 1.0% on DAT 100, max. in whole system – 7.2% on DAT 120;</b> <b>kinetic formation fraction (<math>k_f/k_{dp}</math>): reliable values not determined;</b>									
Water / sediment system	pH water phase	pH sed <sup>a)</sup>	t. °C	DT <sub>50</sub> /DT <sub>90</sub> whole sys.	St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> water	St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> sed	St. (x <sup>2</sup> )	Method of calculation
NESA; silty clay loam sediment	7.5	7.9 <sup>a)</sup>	20	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not applicable
BRP; silty clay loam sediment	7.3	7.8 <sup>a)</sup>	20	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not applicable
Geometric mean at 20°C <sup>b)</sup>				Not applicable	n. a. <sup>b)</sup>	Not applicable	n. a. <sup>b)</sup>	Not applicable	n. a. <sup>b)</sup>	Not applicable

<sup>a)</sup> Medium, in which pH was measured, not specified;

<sup>b)</sup> n. a. = not applicable.

<b>Metabolite FOE Methylsulfide</b>	<b>Distribution :</b> <b>NESA test system: max. in water – 8.0% on DAT 157, max. in sediment – 3.5% on DAT 157, max. in whole system – 11.4% on DAT 157;</b> <b>BRP test system: max. in water – 2.7% on DAT 120, max. in sediment 2.7% on DAT 157; max. in whole system – 4.5% on DAT 157;</b> <b>kinetic formation fraction (<math>k_f/k_{dp}</math>): reliable values not determined;</b>									
Water / sediment system	pH water phase	pH sed <sup>a)</sup>	t. °C	DT <sub>50</sub> /DT <sub>90</sub> whole sys.	St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> water	St. (x <sup>2</sup> )	DT <sub>50</sub> /DT <sub>90</sub> sed	St. (x <sup>2</sup> )	Method of calculation
NESA; silty clay loam sediment	7.5	7.9 <sup>a)</sup>	20	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not applicable
BRP; silty clay loam sediment	7.3	7.8 <sup>a)</sup>	20	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not applicable
Geometric mean at 20°C <sup>b)</sup>				Not applicable	n. a. <sup>b)</sup>	Not applicable	n. a. <sup>b)</sup>	Not applicable	n. a. <sup>b)</sup>	Not applicable

<sup>a)</sup> Medium, in which pH was measured, not specified;

<sup>b)</sup> n. a. = not applicable.

List of end points

Rapporteur Member State	Month and year	<b>Active substance and Plant Protection Product (Name)</b>
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

<b>Metabolite FOE</b> <b>Thiadone</b>	<b>Distribution :</b> <b>NESA 1 test system: max. in water – 81.8% on DAT 55, max. in sediment – 3.0 on DAT 156, max. in whole system – 84.3% on DAT 55;</b> <b>BRP 1 test system: max. in water – 60.0% on DAT 100, max. in sediment – 3.8% on DAT 100, max. in whole system – 63.8% on DAT 100;</b> <b>kinetic formation fraction (<math>k_f/k_{dp}</math>): reliable values not determined;</b>									
Water / sediment system	pH water phase	pH sed <sup>a)</sup>	t. °C	DT <sub>50</sub> /DT <sub>90</sub> whole sys.	St. ( $\chi^2$ )	DT <sub>50</sub> /DT <sub>90</sub> water	St. ( $\chi^2$ )	DT <sub>50</sub> /DT <sub>90</sub> sed	St. ( $\chi^2$ )	Method of calculation
NESA 1; silty clay sediment	7.2	7.8 <sup>a)</sup>	20	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not applicable
BRP 1; silty clay loam sediment	6.9	7.8 <sup>a)</sup>	20	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not determined	n. a. <sup>b)</sup>	Not applicable
Geometric mean at 20°C <sup>b)</sup>				Not applicable	n. a. <sup>b)</sup>	Not applicable	n. a. <sup>b)</sup>	Not applicable	n. a. <sup>b)</sup>	Not applicable

<sup>a)</sup> Measured in H<sub>2</sub>O;

<sup>b)</sup> n. a. = not applicable.

<b>Mineralisation and non extractable residues (from parent dosed experiments)</b>					
Water / sediment system	pH water phase	pH sed	Mineralisation x % after n d. (end of the study).	Non-extractable residues in sed. max x % after n d	Non-extractable residues in sed. max x % after n d (end of the study)
NESA; silty clay loam sediment	7.5	7.9 <sup>a)</sup>	3.4% on DAT 157 (end of the study)	28.5% on DAT 157 (end of the study)	28.5% on DAT 157 (end of the study)
BRP; silty clay loam sediment	7.3	7.8 <sup>a)</sup>	1.5% on DAT 157 (end of the study)	46.4% on DAT 157 (end of the study)	46.4% on DAT 157 (end of the study)
NESA 1; silty clay sediment	7.2	7.8 <sup>b)</sup>	15.3% on DAT 156 (end of the study)	3.3% on DAT 55	2.2% on DAT 156 (end of the study)
BRP 1; silty clay loam sediment	6.9	7.8 <sup>b)</sup>	15.0% on DAT 156 (end of the study)	9.6% on DAT 100	7.5% on DAT 156 (end of the study)

<sup>a)</sup> Medium, in which pH was measured, not specified;

<sup>b)</sup> Measured in H<sub>2</sub>O.

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

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

The key physico-chemical properties of Flufenacet and its major degradation products relevant for the determination of the fate and behaviour in the atmosphere.

Parameter	Compound <sup>1)</sup>							
	FOE 5043	FOE Oxalate	FOE S. A.	FOE Methylsulfone	FOE Methylsulfide	FOE Thiadone	FOE TFESA	TFA <sup>2)</sup>
Molecular weight [g/mol]	363.4	225.2	275.3	257.3	241.0	170.1	164.1	114.02
Vapour pressure $V_p$ [Pa] at $T = 20^\circ\text{C}$	9 E-5 <sup>3)</sup>	4.5 E-7	1.35 E-7 <sup>6)</sup>	8.6 E-4	8.06 E-3 <sup>10)</sup>	2.05	<1.0 E-8	<1.0 E-6
Solubility in water, $S_{\text{aq}}$ [mg/L] at $T = 20^\circ\text{C}$	pH 5	56 <sup>4)</sup>	> 1.2 E5	5.5 E4 <sup>7)</sup>	4.1 E3 <sup>9)</sup>	2.0 E3 <sup>11)</sup>	95.5 E4 <sup>13)</sup>	>1.6 E5
	pH 7	56	> 1.2 E5	5.5 E4 <sup>7)</sup>	4.1 E3 <sup>9)</sup>	2.0 E3 <sup>11)</sup>	> 1.0 E5	>1.6 E5
	pH 9	53	>1.2 E5	5.5 E4 <sup>7)</sup>	4.1 E3 <sup>9)</sup>	2.0 E3 <sup>11)</sup>	> 1.0 E5	>1.6 E5
Henry's law constant, $H$ , [Pa·m <sup>3</sup> /mol] at $T = 20^\circ\text{C}$	pH 5	1.2 E-3 <sup>5)</sup>	<8.4 E-10	n. a. <sup>8)</sup>	n. a. <sup>8)</sup>	1.72 E-2 <sup>12)</sup>	0.012 (pH<5)	<1.2 E-11
	pH 7	1.3 E-3 <sup>5)</sup>	<6.8 E-10	n. a. <sup>8)</sup>	5.7 E-5	1.72 E-2 <sup>12)</sup>	n. a. <sup>8)</sup>	<1.2 E-11
	pH 9	1.1 E-3 <sup>5)</sup>	<6.8 E-10	n. a. <sup>8)</sup>	n. a. <sup>8)</sup>	1.72 E-2 <sup>12)</sup>	n. a. <sup>8)</sup>	<1.2 E-11

**Footnotes to the table:**

- 1) The following code-names were used to denominate the substances: FOE 5043 for Flufenacet, FOE S. A. for FOE Sulfonic acid, FOE TFESA for FOE Trifluoroethanesulfonic acid and TFA for Trifluoroacetic acid;
- 2) In aqueous solution TFA, being a very strong acid with  $\text{pK}_a = 1.6$ , is fully dissociated, therefore the values are provided for trifluoroacetate and the test substance used to determine them was TFA-Na salt;
- 3) In section B.2 it was stated that Flufenacet isomerised by evaporation forming a mixture containing 10% of Flufenacet and 90% of its *N*-isomer; as a result, the value is that characteristic for *N*-isomer of Flufenacet;
- 4) The value determined at pH = 4;
- 5) The values determined for *N*-isomer of Flufenacet, using the solubility values determined for that compound;
- 6) The measured value not provided; instead the Applicant presented the value determined theoretically, using QSAR method, and for  $T = 25^\circ\text{C}$ ; RMS subsequently converted that value to presented here value for  $T = 20^\circ\text{C}$  using appropriate Van't Hoff equation (presented in the "Manual for FOCUS TOXSWA version 2.2.1", Alterra Report No. 586, Wageningen, 2006);
- 7) The value determined in unbuffered solution and representative for the whole environmentally relevant pH range , since it was experimentally demonstrated that water solubility of FOE S. A. is not pH-dependent;
- 8) Value not available;
- 9) The value determined in pH = 7 buffer solution, but considered representative for the whole environmentally relevant pH range , since it was experimentally demonstrated that water solubility of FOE Methylsulfone is not pH-dependent;
- 10) The theoretical value determined by the RMS using QSAR methods – it was calculated using Modified Grain method for  $T = 25^\circ\text{C}$ ; for more details please refer to the data presented in the table B.8.8-a.3\_CA-4 under the point B.8.8-A.3 – Appendix 3, of this Renewal Assessment Report;
- 11) The value determined in pH = 6.1 buffer solution, but considered representative for the whole environmentally relevant pH range , since it was experimentally demonstrated that water solubility of FOE Methylsulfide is not pH-dependent;
- 12) The theoretical value determined by the RMS using QSAR methods – it was calculated using Modified Grain method for  $T = 25^\circ\text{C}$ ; for more details please refer to the data presented in the table B.8.8-a.3\_CA-4 under the point B.8.8-A.3 – Appendix 3, of this Renewal Assessment Report;
- 13) The value determined at pH = 5.77.

Direct photolysis in air

Photochemical oxidative degradation in air

Volatilisation

Metabolites

<i>Not studied - no data requested</i>
DT <sub>50</sub> of 4.7 hours derived by the Atkinson model (version 1.55.). OH (12 h) concentration assumed = 1.5 E6
from plant surfaces (BBA guideline): <i>not examined</i>
from soil surfaces (BBA guideline): 16.5% (7.9 – 29.2%) after 24 hours
Degradation products requiring assessment due to their medium/high volatilisation potential: FOE Methylsulfide, FOE Methylsulfone, FOE Thiadone, TFA
Data for FOE Methylsulfide: Direct photolysis in air: <i>Not studied - no data requested</i> Photochemical oxidative degradation in air: DT <sub>50</sub> of 0.563 days derived by the Atkinson model (version 1.92.). OH (12 h) concentration assumed = 1.5 E6 Volatilisation: <ul style="list-style-type: none"><li>- from soil surfaces (BBA guideline): <i>Not studied - no data requested, the compound is aquatic metabolite, not expected to be formed in soil;</i></li><li>- from plant surfaces (BBA guideline): <i>Not studied - no data requested, the compound is an aquatic metabolite, not expected to be formed on plant surfaces</i></li></ul>

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Data for FOE Methylsulfone:  
 Direct photolysis in air: *Not studied - no data requested*  
 Photochemical oxidative degradation in air: *DT<sub>50</sub> of 0.517 days derived by the Atkinson model (version 1.92.). OH (12 h) concentration assumed = 1.5 E6*  
 Volatilisation:  
 - from soil surfaces (BBA guideline): *not examined, not requested*  
 - from plant surfaces (BBA guideline): *Not studied - no data requested, the compound is a soil metabolite, not expected to be formed on plant surfaces*

Data for FOE Thiadone:  
 Direct photolysis in air: *Not studied - no data requested*  
 Photochemical oxidative degradation in air: *DT<sub>50</sub> derived by the Atkinson model (version 1.92.). OH (12 h) concentration assumed = 1.5 E6 not possible to be determined, therefore it may be assumed that the compound does not undergo the photochemical oxidative degradation in air*  
 Volatilisation:  
 - from soil surfaces (BBA guideline): *not examined, not requested – the compound being not persistent in soil is not expected to migrate from that compartment into the atmosphere in any significant amounts*  
 - from plant surfaces (BBA guideline): *Not studied - no data requested, the compound is a soil and aquatic metabolite, not expected to be formed on plant surfaces*

Data for TFA:  
 Direct photolysis in air: *Not studied - no data requested*  
 Photochemical oxidative degradation in air: *DT<sub>50</sub> 20.569 days derived by the Atkinson model (version 1.92.). OH (12 h) concentration assumed = 1.5 E6,*  
 Volatilisation:  
 - from plant surfaces (BBA guideline): *not examined, not requested – in soil TFA will be present in dissociated form, what is a factor very strongly limiting its volatility and hence the would-be migration to the air compartment*  
 - from plant surfaces (BBA guideline): *Not studied - no data requested, the compound is a soil metabolite, not expected to be formed on plant surfaces*

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

Environmental occurring residues requiring further assessment by other disciplines (toxicology and ecotoxicology) and or requiring consideration for groundwater exposure

Soil: Flufenacet, FOE Oxalate, FOE Sulfonic acid, FOE Methylsulfone, FOE Thiadone, FOE Trifluorethanesulfonic acid, Trifluoroacetic acid  
 Surface water: Flufenacet, FOE Oxalate, FOE Sulfonic acid, FOE Methylsulfide, FOE Methylsulfone, FOE Thiadone, FOE Trifluorethanesulfonic acid, Trifluoroacetic acid  
 Sediment: Flufenacet  
 Ground water: Flufenacet, FOE Oxalate, FOE Sulfonic acid, FOE Methylsulfone, FOE Thiadone, FOE Trifluorethanesulfonic acid, Trifluoroacetic acid (same as for soil compartment)  
 Air: Flufenacet, FOE Thiadone and Trifluoroacetic acid

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

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

Definition proposed on the basis of the results of the evaluation of the environmental fate and behaviour  
 Soil: Flufenacet, FOE Sulfonic acid, FOE Methylsulfone, Trifluoroacetic acid  
 Surface water: Flufenacet, FOE Oxalate, FOE Sulfonic acid, FOE Methylsulfide, FOE Thiadone, Trifluoroacetic acid  
 Sediment: Flufenacet  
 Ground water: Flufenacet, FOE Oxalate, FOE Sulfonic acid, FOE Methylsulfone, FOE Trifluorethanesulfonic acid, Trifluoroacetic acid  
 Air: Flufenacet, FOE Thiadone and Trifluoroacetic acid  
 Additionally see section 5, Ecotoxicology

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

Soil (indicate location and type of study)	No relevant data available
Surface water (indicate location and type of study)	No relevant data available
Ground water (indicate location and type of study)	No relevant data available
Air (indicate location and type of study)	No relevant data available

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

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

Parent Method of calculation	Molecular weight: 363.3 g/mol DT <sub>50</sub> (d): 57.6 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i> Modelling tool: ESCAPE 1.1, calculation mode: "Residues from different applications treated separately"
Application data	Crop: <i>Winter cereals</i> Depth of soil layer: 5cm for 1-year PEC and 20cm for accumulation Soil bulk density: 1.5g/cm <sup>3</sup> % plant interception: 0% ( <i>early post-emergence BBCH 10-13</i> ) Number of applications: 1 Interval (d): <i>not applicable</i> Application rate(s): 240 g a.s./ha
Metabolite 1: FOE Oxalate Method of calculation	Molecular weight: 225.2 g/mol DT <sub>50</sub> (d): 18.9 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 48.4% and transformation scheme Flufenacet → FOE Oxalate</i>
Metabolite 2: FOE Sulfonic acid Method of calculation	Molecular weight: 275.3 g/mol DT <sub>50</sub> (d): 318 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 27.2% and transformation scheme Flufenacet → FOE Sulfonic acid</i>
Metabolite 3: FOE Methylsulfone Method of calculation	Molecular weight: 273.3 g/mol DT <sub>50</sub> (d): 174 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 9.6% and transformation scheme Flufenacet → FOE Methylsulfone</i>
Metabolite 4: FOE Thiadone Method of calculation	Molecular weight: 170.1 g/mol DT <sub>50</sub> (d): 15.9 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 91.3% and transformation scheme Flufenacet → FOE Thiadone → FOE TFESA</i>
Metabolite 5: FOE 5043-Trifluoroethanesulfonic acid (FOE TFESA) Method of calculation	Molecular weight: 164.1 g/mol DT <sub>50</sub> (d): 20.9 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 65.5% and transformation scheme Flufenacet → FOE Thiadone → FOE TFESA</i>
Metabolite 6: Trifluoroacetic acid (TFA) Method of calculation	Molecular weight: 114.0 g/mol DT <sub>50</sub> (d): 10000 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 96.1% and transformation scheme Flufenacet → TSA</i>



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

1-year PEC <sub>SOIL</sub> in 0 – 5-cm. layer calculated for:									
Time period	DAT	Flufenacet		FOE Oxalate		FOE Sulfonic acid		FOE Methylsulfone	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.3200	----	0.0186	----	0.0452	----	0.0134	----
	1	0.3162	0.3181	0.0186	0.0186	0.0452	0.0452	0.0134	0.0134
Short-term	2	0.3124	0.3126	0.0186	0.0186	0.0452	0.0452	0.0134	0.0134
	4	0.3050	0.3124	0.0186	0.0186	0.0452	0.0452	0.0134	0.0134
Long-term	7	0.2941	0.3069	0.0184	0.0186	0.0452	0.0452	0.0134	0.0134
	14	0.2704	0.2945	0.0180	0.0186	0.0451	0.0452	0.0133	0.0134
	21	0.2485	0.2828	0.0173	0.0185	0.0450	0.0452	0.0133	0.0134
	28	0.2285	0.2717	0.0166	0.0184	0.0449	0.0452	0.0132	0.0134
	42	0.1930	0.2512	0.0148	0.0180	0.0444	0.0452	0.0130	0.0134
	50	0.1753	0.2405	0.0138	0.0178	0.0441	0.0451	0.0128	0.0133
	100	0.0961	0.1861	0.0081	0.0159	0.0415	0.0448	0.0115	0.0131
Assessment of the accumulation potential: background concentration in 0-20-cm soil layer for:									
Type of value:		Flufenacet		FOE Oxalate		FOE Sulfonic acid		FOE Methylsulfone	
Final background concentration in 0 – 20-cm layer [mg/kg]		0.0010		0.0001		0.0122		0.0016	
Obtained after [years]		10		10		10		10	
Assessment of the accumulation potential: accumulation PEC <sub>SOIL</sub> in 0 – 5-cm soil layer for:									
Time period	DAT	Flufenacet		FOE Oxalate		FOE Sulfonic acid		FOE Methylsulfone	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.3210	----	0.0187	----	0.0574	----	0.0150	----
	1	0.3172	0.3191	0.0187	0.0187	0.0574	0.0574	0.0150	0.0150
Short-term	2	0.3134	0.3172	0.0187	0.0187	0.0574	0.0574	0.0150	0.0150
	4	0.3060	0.3134	0.0187	0.0187	0.0574	0.0574	0.0150	0.0150
Long-term	7	0.2952	0.3079	0.0185	0.0187	0.0574	0.0574	0.0150	0.0150
	14	0.2714	0.2955	0.0181	0.0186	0.0573	0.0574	0.0149	0.0150
	21	0.2495	0.2838	0.0174	0.0186	0.0572	0.0574	0.0149	0.0150
	28	0.2295	0.2727	0.0166	0.0184	0.0570	0.0574	0.0148	0.0150
	42	0.1940	0.2522	0.0149	0.0181	0.0566	0.0573	0.0146	0.0150
	50	0.1763	0.2415	0.0138	0.0179	0.0562	0.0573	0.0144	0.0149
	100	0.0971	0.1871	0.0082	0.0160	0.0536	0.0569	0.0131	0.0147

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

1-year PEC <sub>SOIL</sub> in 0 – 5-cm. layer calculated for:									
Time period	DAT	Flufenacet		FOE Thiadone		FOE 5043-Trifluoro-ethanesulfonic acid		Trifluoroacetic acid (TFA)	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.3200	----	0.0236	----	0.0160	----	0.0888	----
	1	0.3162	0.3181	0.0236	0.0236	0.0160	0.0160	0.0888	0.0888
Short-term	2	0.3124	0.3126	0.0236	0.0236	0.0160	0.0160	0.0888	0.0888
	4	0.3050	0.3124	0.0235	0.0236	0.0159	0.0160	0.0888	0.0888
	7	0.2941	0.3069	0.0233	0.0236	0.0159	0.0160	0.0888	0.0888
Long-term	14	0.2704	0.2945	0.0227	0.0235	0.0156	0.0159	0.0888	0.0888
	21	0.2485	0.2828	0.0217	0.0234	0.0151	0.0159	0.0888	0.0888
	28	0.2285	0.2717	0.0206	0.0232	0.0146	0.0158	0.0888	0.0888
	42	0.1930	0.2512	0.0182	0.0228	0.0133	0.0156	0.0887	0.0888
	50	0.1753	0.2405	0.0168	0.0224	0.0125	0.0155	0.0887	0.0888
	100	0.0961	0.1861	0.0097	0.0197	0.0077	0.0143	0.0885	0.0888
Assessment of the accumulation potential: background concentration in 0-20-cm soil layer for:									
Type of value:		Flufenacet		FOE Thiadone		FOE 5043-Trifluoro-ethanesulfonic acid		Trifluoroacetic acid (TFA)	
Final background concentration in 0 – 20-cm layer [mg/kg]		0.0010		0.0001		0.0001		0.5296	
Obtained after [years]		10		10		10		49	
Assessment of the accumulation potential: accumulation PEC <sub>SOIL</sub> in 0 – 5-cm soil layer for:									
Time period	DAT	Flufenacet		FOE Thiadone		FOE 5043-Trifluoro-ethanesulfonic acid		Trifluoroacetic acid (TFA)	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.3210	----	0.0237	----	0.0161	----	0.6184	----
	1	0.3172	0.3191	0.0237	0.0237	0.0161	0.0161	0.6184	0.6184
Short-term	2	0.3134	0.3172	0.0237	0.0237	0.0161	0.0161	0.6184	0.6184
	4	0.3060	0.3134	0.0236	0.0237	0.0160	0.0161	0.6184	0.6184
	7	0.2952	0.3079	0.0234	0.0237	0.0160	0.0161	0.6183	0.6184
Long-term	14	0.2714	0.2955	0.0228	0.0236	0.0157	0.0160	0.6183	0.6183
	21	0.2495	0.2838	0.0218	0.0235	0.0152	0.0160	0.6183	0.6183
	28	0.2295	0.2727	0.0207	0.0233	0.0147	0.0159	0.6183	0.6183
	42	0.1940	0.2522	0.0183	0.0229	0.0134	0.0157	0.6183	0.6183
	50	0.1763	0.2415	0.0169	0.0225	0.0126	0.0156	0.6183	0.6183
	100	0.0971	0.1871	0.0098	0.0198	0.0078	0.0143	0.6181	0.6183

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Parent Method of calculation	Molecular weight: 363.3 g/mol DT <sub>50</sub> (d): 57.6 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i> Modelling tool: <i>ESCAPE 1.1, calculation mode: "Residues from different applications treated separately"</i>
Application data	Crop: <i>Winter cereals</i> Depth of soil layer: <i>5cm for 1-year PEC and 20cm for accumulation</i> Soil bulk density: <i>1.5g/cm³</i> % plant interception: <i>0% (early post-emergence BBCH 11-13)</i> Number of applications: <i>1</i> Interval (d): <i>not applicable</i> Application rate(s): <i>160 g a.s./ha</i>
Metabolite 1: FOE Oxalate Method of calculation	Molecular weight: 225.2 g/mol DT <sub>50</sub> (d): 18.9 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 48.4% and transformation scheme Flufenacet → FOE Oxalate</i>
Metabolite 2: FOE Sulfonic acid Method of calculation	Molecular weight: 275.3 g/mol DT <sub>50</sub> (d): 318 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 27.2% and transformation scheme Flufenacet → FOE Sulfonic acid</i>
Metabolite 3: FOE Methylsulfone Method of calculation	Molecular weight: 273.3 g/mol DT <sub>50</sub> (d): 174 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 9.6% and transformation scheme Flufenacet → FOE Methylsulfone</i>
Metabolite 4: FOE Thiadone Method of calculation	Molecular weight: 170.1 g/mol DT <sub>50</sub> (d): 15.9 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 91.3% and transformation scheme Flufenacet → FOE Thiadone → FOE TFESA</i>
Metabolite 5: FOE 5043-Trifluoroethanesulfonic acid (FOE TFESA) Method of calculation	Molecular weight: 164.1 g/mol DT <sub>50</sub> (d): 20.9 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 65.5% and transformation scheme Flufenacet → FOE Thiadone → FOE TFESA</i>
Metabolite 6: Trifluoroacetic acid (TFA) Method of calculation	Molecular weight: 114.0 g/mol DT <sub>50</sub> (d): 10000 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 96.1% and transformation scheme Flufenacet → TSA</i>

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

1-year PEC <sub>SOIL</sub> in 0 – 5-cm. layer calculated for:									
Time period	DAT	Flufenacet		FOE Oxalate		FOE Sulfonic acid		FOE Methylsulfone	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.2133	----	0.0124	----	0.0302	----	0.0089	----
	1	0.2108	0.2121	0.0124	0.0124	0.0302	0.0302	0.0089	0.0089
	2	0.2083	0.2108	0.0124	0.0124	0.0302	0.0302	0.0089	0.0089
	4	0.2033	0.2083	0.0124	0.0124	0.0302	0.0302	0.0089	0.0089
Short-term	7	0.1961	0.2046	0.0123	0.0124	0.0301	0.0302	0.0089	0.0089
	14	0.1803	0.1963	0.0120	0.0124	0.0301	0.0302	0.0089	0.0089
	21	0.1657	0.1885	0.0116	0.0123	0.0300	0.0302	0.089	0.0089
	28	0.1523	0.1811	0.0110	0.0122	0.0299	0.0301	0.0088	0.0089
	42	0.1287	0.1675	0.0099	0.0120	0.0296	0.0301	0.0086	0.0089
	50	0.1169	0.1603	0.0092	0.0119	0.0294	0.0301	0.0085	0.0089
	100	0.0640	0.1241	0.0054	0.0106	0.0276	0.0298	0.0076	0.0088
	Assessment of the accumulation potential: background concentration in 0-20-cm soil layer for:								
Type of value:		Flufenacet		FOE Oxalate		FOE Sulfonic acid		FOE Methylsulfone	
Final background concentration in 0 – 20-cm layer [mg/kg]		0.0007		0.0001		0.0081		0.0011	
Obtained after [years]		10		10		10		10	
Assessment of the accumulation potential: accumulation PEC <sub>SOIL</sub> in 0 – 5-cm soil layer for:									
Time period	DAT	Flufenacet		FOE Oxalate		FOE Sulfonic acid		FOE Methylsulfone	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.2140	----	0.0125	----	0.0383	----	0.0100	----
	1	0.2114	0.2127	0.0125	0.0125	0.0383	0.0383	0.0100	0.0100
	2	0.2089	0.2115	0.0125	0.0125	0.0383	0.0383	0.0100	0.0100
	4	0.2040	0.1090	0.0124	0.0125	0.0383	0.0383	0.0100	0.0100
Short-term	7	0.1968	0.2053	0.0124	0.0125	0.0383	0.0383	0.0100	0.0100
	14	0.1809	0.1970	0.0121	0.0124	0.0382	0.0383	0.0100	0.0100
	21	0.1664	0.1892	0.0116	0.0124	0.0381	0.0383	0.0099	0.0100
	28	0.1530	0.1818	0.0111	0.0123	0.0380	0.0382	0.0099	0.0100
	42	0.1294	0.1681	0.0099	0.0121	0.0377	0.0382	0.0097	0.0100
	50	0.1176	0.1610	0.0092	0.0119	0.0375	0.0382	0.0096	0.0100
	100	0.0647	0.1247	0.0055	0.0106	0.0357	0.0379	0.0087	0.0098

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

1-year PEC <sub>SOIL</sub> in 0 – 5-cm. layer calculated for:									
Time period	DAT	Flufenacet		FOE Thiadone		FOE 5043-Trifluoro-ethanesulfonic acid		Trifluoroacetic acid (TFA)	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.2133	----	0.0157	----	0.0107	----	0.0592	----
	1	0.2108	0.2121	0.0157	0.0157	0.0106	0.0106	0.0592	0.0592
	2	0.2083	0.2108	0.0157	0.0157	0.0106	0.0106	0.0592	0.0592
	4	0.2033	0.2083	0.0157	0.0157	0.0106	0.0106	0.0592	0.0592
	7	0.1961	0.2046	0.0156	0.0157	0.0106	0.0106	0.0592	0.0592
Long-term	14	0.1803	0.1963	0.0151	0.0157	0.0104	0.0106	0.0592	0.0592
	21	0.1657	0.1885	0.0145	0.0156	0.0101	0.0106	0.0592	0.0592
	28	0.1523	0.1811	0.0137	0.0155	0.0097	0.0105	0.0592	0.0592
	42	0.1287	0.1675	0.0121	0.0152	0.0089	0.0104	0.0592	0.0592
	50	0.1169	0.1603	0.0112	0.0150	0.0083	0.0103	0.0591	0.0592
	100	0.0640	0.1241	0.0064	0.0131	0.0052	0.0095	0.0590	0.0592
Assessment of the accumulation potential: background concentration in 0-20-cm soil layer for:									
Type of value:		Flufenacet		FOE Thiadone		FOE 5043-Trifluoro-ethanesulfonic acid		Trifluoroacetic acid (TFA)	
Final background concentration in 0 – 20-cm layer [mg/kg]		0.0007		0.0001		0.0001		0.3530	
Obtained after [years]		10		10		10		49	
Assessment of the accumulation potential: accumulation PEC <sub>SOIL</sub> in 0 – 5-cm soil layer for:									
Time period	DAT	Flufenacet		FOE Thiadone		FOE 5043-Trifluoro-ethanesulfonic acid		Trifluoroacetic acid (TFA)	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.2140	----	0.0158	----	0.0107	----	0.4122	----
	1	0.2114	0.2127	0.0158	0.0158	0.0107	0.0107	0.4122	0.4122
	2	0.2089	0.2115	0.0158	0.0158	0.0107	0.0107	0.4122	0.4122
	4	0.2040	0.1090	0.0157	0.0158	0.0107	0.0107	0.4122	0.4122
	7	0.1968	0.2053	0.0156	0.0158	0.0106	0.0107	0.4122	0.4122
Long-term	14	0.1809	0.1970	0.0152	0.0157	0.0104	0.0107	0.4122	0.4122
	21	0.1664	0.1892	0.0145	0.0157	0.0101	0.0107	0.4122	0.4122
	28	0.1530	0.1818	0.0138	0.0156	0.0098	0.0106	0.4122	0.4122
	42	0.1294	0.1681	0.0122	0.0152	0.0089	0.0105	0.4122	0.4122
	50	0.1176	0.1610	0.0113	0.0150	0.0084	0.0104	0.4122	0.4122
	100	0.0647	0.1247	0.0065	0.0132	0.0052	0.0096	0.4121	0.4122

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Parent Method of calculation	Molecular weight: 363.3 g/mol DT <sub>50</sub> (d): 57.6 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i> Modelling tool: <i>ESCAPE 1.1, calculation mode: "Residues from different applications treated separately"</i>
Application data	Crop: <i>Winter cereals</i> Depth of soil layer: <i>5cm for 1-year PEC and 20cm for accumulation</i> Soil bulk density: <i>1.5g/cm³</i> % plant interception: <i>0% (pre-emergence to early post-emergence BBCH 00-22)</i> Number of applications: <i>1</i> Interval (d): <i>not applicable</i> Application rate(s): <i>120 g a.s./ha</i>
Metabolite 1: FOE Oxalate Method of calculation	Molecular weight: 225.2 g/mol DT <sub>50</sub> (d): 18.9 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 48.4% and transformation scheme Flufenacet → FOE Oxalate</i>
Metabolite 2: FOE Sulfonic acid Method of calculation	Molecular weight: 275.3 g/mol DT <sub>50</sub> (d): 318 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 27.2% and transformation scheme Flufenacet → FOE Sulfonic acid</i>
Metabolite 3: FOE Methylsulfone Method of calculation	Molecular weight: 273.3 g/mol DT <sub>50</sub> (d): 174 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 9.6% and transformation scheme Flufenacet → FOE Methylsulfone</i>
Metabolite 4: FOE Thiadone Method of calculation	Molecular weight: 170.1 g/mol DT <sub>50</sub> (d): 15.9 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 91.3% and transformation scheme Flufenacet → FOE Thiadone → FOE TFESA</i>
Metabolite 5: FOE 5043-Trifluoroethanesulfonic acid (FOE TFESA) Method of calculation	Molecular weight: 164.1 g/mol DT <sub>50</sub> (d): 20.9 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 65.5% and transformation scheme Flufenacet → FOE Thiadone → FOE TFESA</i>
Metabolite 6: Trifluoroacetic acid (TFA) Method of calculation	Molecular weight: 114.0 g/mol DT <sub>50</sub> (d): 10000 days Kinetics: SFO Field or Lab: <i>representative worst case from lab studies.</i>
Application data	Application rate assumed: <i>not applicable – sequential modelling using ff = 96.1% and transformation scheme Flufenacet → TSA</i>

List of end points

Rapporteur Member State

Month and year

**Active substance and Plant  
Protection Product (Name)**

POLAND	Flufenacet
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**Section 4 Environmental fate and behaviour**

1-year PEC <sub>SOIL</sub> in 0 – 5-cm. layer calculated for:									
Time period	DAT	Flufenacet		FOE Oxalate		FOE Sulfonic acid		FOE Methylsulfone	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.1600	----	0.0093	----	0.0226	----	0.0067	----
	1	0.1581	0.1590	0.0093	0.0093	0.0226	0.0226	0.0067	0.0067
	2	0.1562	0.1581	0.0093	0.0093	0.0226	0.0226	0.0067	0.0067
	4	0.1525	0.1562	0.0093	0.0093	0.0226	0.0226	0.0067	0.0067
	7	0.1471	0.1534	0.0092	0.0093	0.0226	0.0226	0.0067	0.0067
Short-term	14	0.1352	0.1472	0.0090	0.0093	0.0226	0.0226	0.0067	0.0067
	21	0.1243	0.1414	0.0087	0.0092	0.0225	0.0226	0.0066	0.0067
	28	0.1142	0.1358	0.0083	0.0092	0.0224	0.0226	0.0066	0.0067
	42	0.0965	0.1256	0.0074	0.0090	0.0222	0.0226	0.0065	0.0067
	50	0.0877	0.1202	0.0069	0.0089	0.0220	0.0226	0.0064	0.0067
	100	0.0480	0.0930	0.0041	0.0097	0.0207	0.0224	0.0057	0.0066
Assessment of the accumulation potential: background concentration in 0-20-cm soil layer for:									
Type of value:		Flufenacet		FOE Oxalate		FOE Sulfonic acid		FOE Methylsulfone	
Final background concentration in 0 – 20-cm layer [mg/kg]		0.0005		<0.0001		0.0061		0.0008	
Obtained after [years]		10		10		10		10	
Assessment of the accumulation potential: accumulation PEC <sub>SOIL</sub> in 0 – 5-cm soil layer for:									
Time period	DAT	Flufenacet		FOE Oxalate		FOE Sulfonic acid		FOE Methylsulfone	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.1605	----	0.0094	----	0.0287	----	0.0075	----
	1	0.1586	0.1595	0.0094	0.0094	0.0287	0.0287	0.0075	0.0075
	2	0.1567	0.1586	0.0093	0.0094	0.0287	0.0287	0.0075	0.0075
	4	0.1530	0.1567	0.0093	0.0093	0.0287	0.0287	0.0075	0.0075
	7	0.1476	0.1539	0.0093	0.0093	0.0287	0.0287	0.0075	0.0075
Short-term	14	0.1357	0.1478	0.0090	0.0093	0.0287	0.0287	0.0075	0.0075
	21	0.1248	0.1491	0.0087	0.0093	0.0286	0.0287	0.0074	0.0075
	28	0.1147	0.1363	0.0083	0.0092	0.0285	0.0287	0.0074	0.0075
	42	0.0970	0.1261	0.0074	0.0091	0.0283	0.0287	0.0073	0.0075
	50	0.0882	0.1207	0.0069	0.0089	0.0281	0.0286	0.0072	0.0075
	100	0.0485	0.0935	0.0041	0.0080	0.0268	0.0285	0.0065	0.0074

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

1-year PEC <sub>SOIL</sub> in 0 – 5-cm. layer calculated for:									
Time period	DAT	Flufenacet		FOE Thiadone		FOE 5043-Trifluoroethanesulfonic acid		Trifluoroacetic acid (TFA)	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.1600	----	0.0118	----	0.0080	----	0.0444	----
	1	0.1581	0.1590	0.0118	0.0118	0.0080	0.0080	0.0444	0.0444
	2	0.1562	0.1581	0.0118	0.0118	0.0080	0.0080	0.0444	0.0444
	4	0.1525	0.1562	0.0118	0.0118	0.0080	0.0080	0.0444	0.0444
	7	0.1471	0.1534	0.0117	0.0118	0.0079	0.0080	0.0444	0.0444
Short-term	14	0.1352	0.1472	0.0113	0.0118	0.0078	0.0080	0.0444	0.0444
	21	0.1243	0.1414	0.0109	0.0117	0.0076	0.0079	0.0444	0.0444
	28	0.1142	0.1358	0.0103	0.0116	0.0073	0.0079	0.0444	0.0444
	42	0.0965	0.1256	0.0091	0.0114	0.0067	0.0078	0.0444	0.0444
	50	0.0877	0.1202	0.0084	0.0112	0.0062	0.0078	0.0444	0.0444
	100	0.0480	0.0930	0.0048	0.0098	0.0039	0.0071	0.0433	0.0444
Assessment of the accumulation potential: background concentration in 0-20-cm soil layer for:									
Type of value:		Flufenacet		FOE Thiadone		FOE 5043-Trifluoroethanesulfonic acid		Trifluoroacetic acid	
Final background concentration in 0 – 20-cm layer [mg/kg]		0.0005		0.0001		<0.0001		0.2648	
Obtained after [years]		10		10		10		49	
Assessment of the accumulation potential: accumulation PEC <sub>SOIL</sub> in 0 – 5-cm soil layer for:									
Time period	DAT	Flufenacet		FOE Thiadone		FOE 5043-Trifluoroethanesulfonic acid		Trifluoroacetic acid (TFA)	
		Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]	Actual PEC <sub>SOIL</sub> [mg/kg]	TWA PEC <sub>SOIL</sub> [mg/kg]
Initial	0	0.1605	----	0.0119	----	0.0080	----	0.3092	----
	1	0.1586	0.1595	0.0119	0.0119	0.0080	0.0080	0.3092	0.3092
	2	0.1567	0.1586	0.0118	0.0119	0.0080	0.0080	0.3092	0.3092
	4	0.1530	0.1567	0.0118	0.0119	0.0080	0.0080	0.3092	0.3092
	7	0.1476	0.1539	0.0117	0.0118	0.0080	0.0080	0.3092	0.3092
Short-term	14	0.1357	0.1478	0.0114	0.0118	0.0078	0.0080	0.3092	0.3092
	21	0.1248	0.1491	0.0109	0.0117	0.0076	0.0080	0.3092	0.3092
	28	0.1147	0.1363	0.0104	0.0117	0.0073	0.0080	0.3092	0.3092
	42	0.0970	0.1261	0.0092	0.0114	0.0067	0.0079	0.3091	0.3092
	50	0.0882	0.1207	0.0085	0.0113	0.0063	0.0078	0.3091	0.3092
	100	0.0485	0.0935	0.0049	0.0099	0.0039	0.0072	0.3090	0.3092



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

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

Method of calculation and type of study (*e.g.* modelling, field leaching, lysimeter)

For FOCUS gw modelling, values used –  
Modelling using FOCUS model(s), with appropriate FOCUSgw scenarios, according to FOCUS guidance.  
Model(s) used: *FOCUS PEARL 4.4.4 and FOCUS PELMO 4.4.3.*  
Crop: *Winter cereals*

Substance-specific input parameters:

Compound: **Flufenacet**  
Function: *parent compound*  
Molar weight: 363.3 g/mol  
Water solubility 56 mg/L at 20°C  
Vapour pressure: 9.0 E-5 Pa at 20°C  
Rate of degradation in soil: DT<sub>50</sub> = 17.87 d; rate constant *k* = 0.0387 [days<sup>-1</sup>]; geomean lab values normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction: not applicable – parent compound  
Adsorption parameters: K<sub>OC</sub>: 245.9 mL/g (geomean), K<sub>OM</sub>: 142.63 mL/g (geomean), 1/*n* = 0.916 (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.744 (calculated value)

Compound: **FOE Oxalate**  
Function: *degradation product*  
Molar weight: 225.2 g/mol  
Water solubility 120000 mg/L at 20°C  
Vapour pressure: 4.5 E-7 Pa at 20°C  
Rate of degradation in soil: DT<sub>50</sub> = 11.08 d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction: *ff* = 0.426, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO) *k* = 0.00164862 [days<sup>-1</sup>]  
Adsorption parameters: K<sub>OC</sub>: 10.60 mL/g (geomean), K<sub>OM</sub>: 6.15 mL/g (geomean), 1/*n* = 0.912 (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.8 (FOCUS default)

Compound: **FOE Sulfonic acid**  
Function: *degradation product*  
Molar weight: 275.3 g/mol  
Water solubility 55000 mg/L at 20°C  
Vapour pressure: 1.35 E-7 Pa at 20°C  
Rate of degradation in soil: DT<sub>50</sub> = 45.11 d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction: *ff* = 0.195, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO) *k* = 0.00075465 [days<sup>-1</sup>]  
Adsorption parameters: K<sub>OC</sub>: 11.10 mL/g (geomean), K<sub>OM</sub>: 6.44 mL/g (geomean), 1/*n* = 0.995 (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.46 (experimental PUF)

Compound: **FOE Methylsulfone**  
Function: *degradation product*  
Molar weight: 273.3 g/mol  
Water solubility 4100 mg/L at 20°C  
Vapour pressure: 8.6 E-4 Pa at 20°C  
Rate of degradation in soil: DT<sub>50</sub> = 81.70 d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction: *ff* = 0.070, precursor: Flufenacet, rate

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Application rate

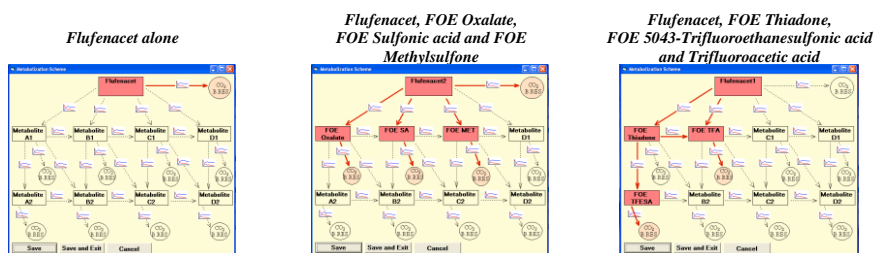
<p>constant of precursor (FOCUS PELMO)  <math>k = 0.0002709</math> [days<sup>-1</sup>]            Adsorption parameters: <math>K_{OC}: 61.03</math> mL/g (geomean), <math>K_{OM}: 35.40</math> mL/g (geomean), <math>1/n = 0.860</math> (arithmetic mean); pH dependence: no;            Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>FOE Thiadone</b>            Function: <i>degradation product</i>            Molar weight: 170.1 g/mol            Water solubility 100000 mg/L at 20°C            Vapour pressure: 2.05 Pa at 20°C            Rate of degradation in soil: <math>DT_{50} = 1.85</math> d; rate constant <math>k = 0.3557</math> [days<sup>-1</sup>]; geomean lab values normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.            Kinetic formation fraction: <math>f_f = 0.570</math>, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  <math>k = 0.022059</math> [days<sup>-1</sup>]            Adsorption parameters: <math>K_{OC}: 42.10</math> mL/g (geomean), <math>K_{OM}: 24.42</math> mL/g (geomean), <math>1/n = 0.764</math> (arithmetic mean); pH dependence: no;            Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>FOE 5043-Trifluoroethanesulfonic acid (FOE TFESA)</b>            Function: <i>degradation product</i>            Molar weight: 164.1 g/mol            Water solubility 160000 mg/L at 20°C            Vapour pressure: 1.8 E-8 Pa at 20°C            Rate of degradation in soil: <math>DT_{50} = 6.41</math> d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.            Kinetic formation fraction: <math>f_f = 0.469</math>, precursor: FOE Thiadone, rate constant of precursor (FOCUS PELMO)  <math>k = 0.1668233</math> [days<sup>-1</sup>]            Adsorption parameters: <math>K_{OC}: 0.0001</math> mL/g (default value), <math>K_{OM}: 0.0001</math> mL/g (default value), <math>1/n = 1.000</math> (default value); pH dependence: no;            Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>Trifluoroacetic acid (TFA)</b>            Function: <i>degradation product</i>            Molar weight: 114.0 g/mol            Water solubility 500000 mg/L at 20°C            Vapour pressure: 1.0 E-6 Pa at 20°C            Rate of degradation in soil: <math>DT_{50} = 1000</math> d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.            Kinetic formation fraction: <math>f_f = 0.430</math>, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  <math>k = 0.016641</math> [days<sup>-1</sup>];  <math>f_f = 0.531</math>, precursor: FOE Thiadone, rate constant of precursor (FOCUS PELMO) <math>k = 0.1888767</math> [days<sup>-1</sup>]            Adsorption parameters: <math>K_{OC}: 0.0001</math> mL/g (default value), <math>K_{OM}: 0.0001</math> mL/g (default value), <math>1/n = 1.000</math> (default value); pH dependence: no;            Crop uptake factor: TSCF = 0.59 (experimental PUF)</p>	<p>Gross application rate: 240 g/ha.            Crop growth stage: BBCH 10-13 (early post-emergence)            Canopy interception %: 0%            Application rate net of interception: 240 g/ha.            No. of applications: 1            Time of application (absolute or relative application dates):  <i>relative, 1 day post emergence (autumn)</i></p>
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List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

The transformation schemes assumed in modelling, as provided by FOCUS PELMO (identical in FOCUS PEARL).



Modelling tool	FOCUS Scenario	Results – 80 <sup>th</sup> percentile PEC <sub>GW</sub> [µg/L] for the compound:						
		Flufenacet	FOE OXA	FOE SA	FOE MET	FOE THIA	FOE TFESA	TFA
FOCUS PEARL 4.4.4.	Châteaudun	<0.0001	0.0680	2.0485	0.0395	<0.0001	0.0788	22.4267
	Hamburg	<0.0001	0.5403	3.6530	0.1590	<0.0001	0.5185	14.2007
	Jokioinen	<0.0001	0.5581	4.9120	0.0644	<0.0001	1.3008	20.9169
	Kremsmünster	<0.0001	0.1713	2.2715	0.1066	<0.0001	0.0843	11.1477
	Okehampton	<0.0001	0.7009	2.8135	0.1637	<0.0001	0.4407	9.7383
	Piacenza	<0.0001	0.1010	1.3799	0.0811	<0.0001	0.0663	13.8053
	Porto	<0.0001	0.4724	1.7835	0.0843	<0.0001	0.3424	7.5005
	Sevilla	<0.0001	0.0005	0.2023	<0.0001	<0.0001	0.0007	9.0195
	Thiva	<0.0001	0.0084	0.8712	0.0147	<0.0001	0.0096	19.8584
FOCUS PELMO 4.4.3.	Châteaudun	<0.001	0.056	1.713	0.025	<0.001	0.086	16.810
	Hamburg	<0.001	0.733	3.550	0.156	<0.001	0.840	10.902
	Jokioinen	<0.001	0.787	4.396	0.075	<0.001	1.574	14.859
	Kremsmünster	<0.001	0.177	2.216	0.100	<0.001	0.144	9.988
	Okehampton	<0.001	0.848	2.945	0.159	<0.001	0.582	9.198
	Piacenza	<0.001	0.262	1.724	0.088	<0.001	0.267	10.928
	Porto	<0.001	0.989	2.201	0.123	<0.001	0.756	6.564
	Sevilla	<0.001	0.017	0.296	<0.001	<0.001	0.040	10.733
	Thiva	<0.001	0.024	0.764	0.007	<0.001	0.039	14.622

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Method of calculation and type of study (*e.g.* modelling, field leaching, lysimeter)

For FOCUS gw modelling, values used –  
Modelling using FOCUS model(s), with appropriate FOCUSgw scenarios, according to FOCUS guidance.  
Model(s) used: *FOCUS PEARL 4.4.4 and FOCUS PELMO 4.4.3.*  
Crop: *Winter cereals*

Substance-specific input parameters:

Compound: **Flufenacet**  
Function: *parent compound*  
Molar weight: *363.3 g/mol*  
Water solubility *56 mg/L at 20°C*  
Vapour pressure: *9.0 E-5 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 17.87$  d; rate constant  $k = 0.0387$  [days<sup>-1</sup>]; geomean lab values normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction: not applicable – parent compound  
Adsorption parameters:  $K_{OC}$ : *245.9 mL/g (geomean)*,  $K_{OM}$ : *142.63 mL/g (geomean)*,  $1/n = 0.916$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.744 (calculated value)

Compound: **FOE Oxalate**  
Function: *degradation product*  
Molar weight: *225.2 g/mol*  
Water solubility *120000 mg/L at 20°C*  
Vapour pressure: *4.5 E-7 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 11.08$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.426$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.00164862$  [days<sup>-1</sup>]  
Adsorption parameters:  $K_{OC}$ : *10.60 mL/g (geomean)*,  $K_{OM}$ : *6.15 mL/g (geomean)*,  $1/n = 0.912$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.8 (FOCUS default)

Compound: **FOE Sulfonic acid**  
Function: *degradation product*  
Molar weight: *275.3 g/mol*  
Water solubility *55000 mg/L at 20°C*  
Vapour pressure: *1.35 E-7 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 45.11$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.195$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.00075465$  [days<sup>-1</sup>]  
Adsorption parameters:  $K_{OC}$ : *11.10 mL/g (geomean)*,  $K_{OM}$ : *6.44 mL/g (geomean)*,  $1/n = 0.995$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.46 (experimental PUF)

Compound: **FOE Methylsulfone**  
Function: *degradation product*  
Molar weight: *273.3 g/mol*  
Water solubility *4100 mg/L at 20°C*  
Vapour pressure: *8.6 E-4 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 81.70$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.070$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.0002709$  [days<sup>-1</sup>]

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

<p>Adsorption parameters: <math>K_{OC}</math>: 61.03 mL/g (geomean), <math>K_{OW}</math>: 35.40 mL/g (geomean), <math>1/n</math>: 0.860 (arithmetic mean); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>FOE Thiadone</b>  Function: <i>degradation product</i>  Molar weight: 170.1 g/mol  Water solubility 100000 mg/L at 20°C  Vapour pressure: 2.05 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 1.85 d; rate constant <math>k</math> = 0.3557 [days<sup>-1</sup>]; geomean lab values normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.570, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.022059 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 42.10 mL/g (geomean), <math>K_{OW}</math>: 24.42 mL/g (geomean), <math>1/n</math>: 0.764 (arithmetic mean); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>FOE 5043-Trifluoroethanesulfonic acid (FOE TFESA)</b>  Function: <i>degradation product</i>  Molar weight: 164.1 g/mol  Water solubility 160000 mg/L at 20°C  Vapour pressure: 1.8 E-8 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 6.41 d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.469, precursor: FOE Thiadone, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.1668233 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 0.0001 mL/g (default value), <math>K_{OW}</math>: 0.0001 mL/g (default value), <math>1/n</math>: 1.000 (default value); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>Trifluoroacetic acid (TFA)</b>  Function: <i>degradation product</i>  Molar weight: 114.0 g/mol  Water solubility 500000 mg/L at 20°C  Vapour pressure: 1.0 E-6 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 1000 d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.430, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.016641 [days<sup>-1</sup>]; <math>f_f</math> = 0.531, precursor: FOE Thiadone, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.1888767 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 0.0001 mL/g (default value), <math>K_{OW}</math>: 0.0001 mL/g (default value), <math>1/n</math>: 1.000 (default value); pH dependence: no; Crop uptake factor: TSCF = 0.59 (experimental PUF)</p>	<p>Gross application rate: 160 g/ha.  Crop growth stage: BBCH 11-13 (early post-emergence)  Canopy interception %: 0%  Application rate net of interception: 160 g/ha.  No. of applications: 1  Time of application (absolute or relative application dates): <i>relative, 2 days post emergence (autumn)</i></p>
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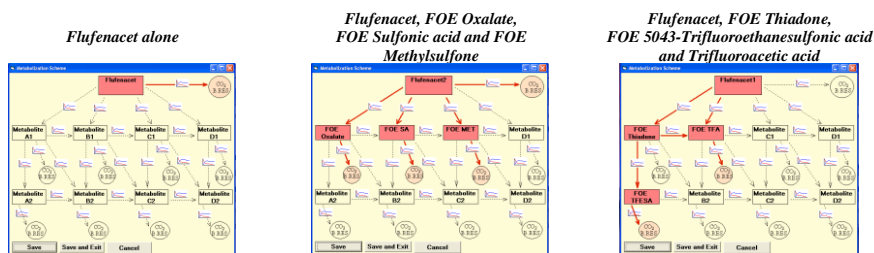
Application rate

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

The transformation schemes assumed in modelling, as provided by FOCUS PELMO (identical in FOCUS PEARL).



Modelling tool	FOCUS Scenario	Results – 80 <sup>th</sup> percentile PEC <sub>GW</sub> [µg/L] for the compound:						
		Flufenacet	FOE OXA	FOE SA	FOE MET	FOE THIA	FOE TFESA	TFA
FOCUS PEARL 4.4.4.	Châteaudun	<0.0001	0.0319	1.3486	0.0204	<0.0001	0.0512	14.9187
	Hamburg	<0.0001	0.3314	2.4278	0.0908	<0.0001	0.3406	9.4560
	Jokioinen	<0.0001	0.3419	3.2612	0.0339	<0.0001	0.8550	13.8753
	Kremsmünster	<0.0001	0.1063	1.5073	0.0611	<0.0001	0.0550	7.4321
	Okehampton	<0.0001	0.4388	1.8649	0.0944	<0.0001	0.2918	6.4439
	Piacenza	<0.0001	0.0641	0.9147	0.0462	<0.0001	0.0429	9.1896
	Porto	<0.0001	0.2889	1.1708	0.0475	<0.0001	0.2225	5.0259
	Sevilla	<0.0001	0.0003	0.1355	<0.0001	<0.0001	0.0005	6.0499
FOCUS PELMO 4.4.3.	Thiva	<0.0001	0.0050	0.5788	0.0071	<0.0001	0.0062	13.2606
	Châteaudun	<0.001	0.030	1.139	0.013	<0.001	0.054	11.156
	Hamburg	<0.001	0.452	2.337	0.089	<0.001	0.555	7.226
	Jokioinen	<0.001	0.487	2.921	0.040	<0.001	1.028	9.933
	Kremsmünster	<0.001	0.110	1.471	0.058	<0.001	0.092	6.654
	Okehampton	<0.001	0.527	1.951	0.094	<0.001	0.384	6.105
	Piacenza	<0.001	0.163	1.135	0.051	<0.001	0.177	7.267
	Porto	<0.001	0.615	1.495	0.070	<0.001	0.496	4.349
	Sevilla	<0.001	0.010	0.202	<0.001	<0.001	0.026	7.141
	Thiva	<0.001	0.014	0.497	0.003	<0.001	0.025	9.677

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Method of calculation and type of study (*e.g.* modelling, field leaching, lysimeter)

For FOCUS gw modelling, values used –  
Modelling using FOCUS model(s), with appropriate FOCUSgw scenarios, according to FOCUS guidance.  
Model(s) used: *FOCUS PEARL 4.4.4 and FOCUS PELMO 4.4.3.*  
Crop: *Winter cereals*

Substance-specific input parameters:

Compound: **Flufenacet**  
Function: *parent compound*  
Molar weight: *363.3 g/mol*  
Water solubility *56 mg/L at 20°C*  
Vapour pressure: *9.0 E-5 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 17.87$  d; rate constant  $k = 0.0387$  [days<sup>-1</sup>]; geomean lab values normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction: not applicable – parent compound  
Adsorption parameters:  $K_{OC}$ : *245.9 mL/g (geomean)*,  $K_{OM}$ : *142.63 mL/g (geomean)*,  $1/n = 0.916$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.744 (calculated value)

Compound: **FOE Oxalate**  
Function: *degradation product*  
Molar weight: *225.2 g/mol*  
Water solubility *120000 mg/L at 20°C*  
Vapour pressure: *4.5 E-7 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 11.08$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.426$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.00164862$  [days<sup>-1</sup>]  
Adsorption parameters:  $K_{OC}$ : *10.60 mL/g (geomean)*,  $K_{OM}$ : *6.15 mL/g (geomean)*,  $1/n = 0.912$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.8 (FOCUS default)

Compound: **FOE Sulfonic acid**  
Function: *degradation product*  
Molar weight: *275.3 g/mol*  
Water solubility *55000 mg/L at 20°C*  
Vapour pressure: *1.35 E-7 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 45.11$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.195$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.00075465$  [days<sup>-1</sup>]  
Adsorption parameters:  $K_{OC}$ : *11.10 mL/g (geomean)*,  $K_{OM}$ : *6.44 mL/g (geomean)*,  $1/n = 0.995$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.46 (experimental PUF)

Compound: **FOE Methylsulfone**  
Function: *degradation product*  
Molar weight: *273.3 g/mol*  
Water solubility *4100 mg/L at 20°C*  
Vapour pressure: *8.6 E-4 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 81.70$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.070$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.0002709$  [days<sup>-1</sup>]

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Application rate

<p>Adsorption parameters: <math>K_{OC}</math>: 61.03 mL/g (geomean), <math>K_{OW}</math>: 35.40 mL/g (geomean), <math>1/n</math>: 0.860 (arithmetic mean); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>FOE Thiadone</b>  Function: <i>degradation product</i>  Molar weight: 170.1 g/mol  Water solubility 100000 mg/L at 20°C  Vapour pressure: 2.05 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 1.85 d; rate constant <math>k</math> = 0.3557 [days<sup>-1</sup>]; geomean lab values normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.570, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.022059 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 42.10 mL/g (geomean), <math>K_{OW}</math>: 24.42 mL/g (geomean), <math>1/n</math>: 0.764 (arithmetic mean); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>FOE 5043-Trifluoroethanesulfonic acid (FOE TFESA)</b>  Function: <i>degradation product</i>  Molar weight: 164.1 g/mol  Water solubility 160000 mg/L at 20°C  Vapour pressure: 1.8 E-8 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 6.41 d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.469, precursor: FOE Thiadone, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.1668233 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 0.0001 mL/g (default value), <math>K_{OW}</math>: 0.0001 mL/g (default value), <math>1/n</math>: 1.000 (default value); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>Trifluoroacetic acid (TFA)</b>  Function: <i>degradation product</i>  Molar weight: 114.0 g/mol  Water solubility 500000 mg/L at 20°C  Vapour pressure: 1.0 E-6 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 1000 d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.430, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.016641 [days<sup>-1</sup>]; <math>f_f</math> = 0.531, precursor: FOE Thiadone, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.1888767 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 0.0001 mL/g (default value), <math>K_{OW}</math>: 0.0001 mL/g (default value), <math>1/n</math>: 1.000 (default value); pH dependence: no; Crop uptake factor: TSCF = 0.59 (experimental PUF)</p>	<p>Gross application rate: 120 g/ha.  Crop growth stage: BBCH 00-22 (pre-emergence to early post-emergence)  Canopy interception %: 0%  Application rate net of interception: 120 g/ha.  No. of applications: 1  Time of application (absolute or relative application dates):  <i>relative 10 days before emergence (autumn)</i></p>
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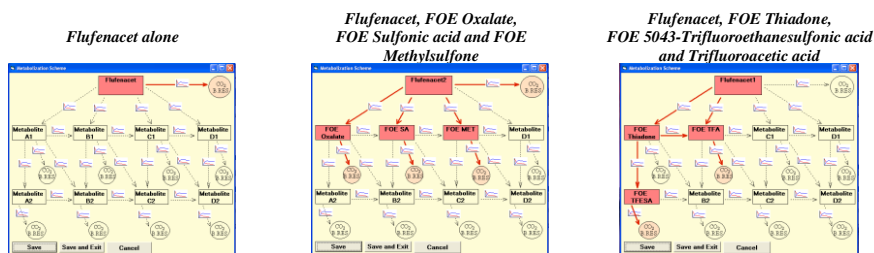


List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

The transformation schemes assumed in modelling, as provided by FOCUS PELMO (identical in FOCUS PEARL).



Modelling tool	FOCUS Scenario	Results – 80 <sup>th</sup> percentile PEC <sub>GW</sub> [µg/L] for the compound:						
		Flufenacet	FOE OXA	FOE SA	FOE MET	FOE THIA	FOE TFESA	TFA
FOCUS PEARL 4.4.4.	Châteaudun	<0.0001	0.0413	1.0941	0.0134	<0.0001	0.0482	11.4205
	Hamburg	<0.0001	0.2892	1.8507	0.0627	<0.0001	0.3108	7.2430
	Jokioinen	<0.0001	0.2622	2.5267	0.0215	<0.0001	0.7172	11.0793
	Kremsmünster	<0.0001	0.0866	1.1617	0.0410	<0.0001	0.0558	5.5921
	Okehampton	<0.0001	0.3628	1.4783	0.0657	<0.0001	0.2290	5.3218
	Piacenza	<0.0001	0.0511	0.7227	0.0316	<0.0001	0.0500	6.9839
	Porto	<0.0001	0.2826	0.9804	0.0340	<0.0001	0.2021	3.9382
	Sevilla	<0.0001	0.0001	0.0902	<0.0001	<0.0001	0.0006	4.8563
FOCUS PELMO 4.4.3.	Thiva	<0.0001	0.0053	0.5133	0.0049	<0.0001	0.0085	10.3094
	Châteaudun	<0.001	0.035	0.880	0.009	<0.001	0.048	8.645
	Hamburg	<0.001	0.454	1.897	0.062	<0.001	0.498	6.033
	Jokioinen	<0.001	0.370	2.235	0.026	<0.001	0.811	7.568
	Kremsmünster	<0.001	0.090	1.163	0.039	<0.001	0.082	5.102
	Okehampton	<0.001	0.428	1.526	0.064	<0.001	0.312	4.752
	Piacenza	<0.001	0.145	0.966	0.036	<0.001	0.163	5.545
	Porto	<0.001	0.589	1.204	0.050	<0.001	0.409	3.626
	Sevilla	<0.001	0.062	0.416	<0.001	<0.001	0.051	5.507
	Thiva	<0.001	0.021	0.517	0.003	<0.001	0.032	7.962

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Method of calculation and type of study (*e.g.* modelling, field leaching, lysimeter)

For FOCUS gw modelling, values used –  
Modelling using FOCUS model(s), with appropriate FOCUSgw scenarios, according to FOCUS guidance.  
Model(s) used: *FOCUS PEARL 4.4.4 and FOCUS PELMO 4.4.3.*  
Crop: *Winter cereals*

Substance-specific input parameters:

Compound: **Flufenacet**  
Function: *parent compound*  
Molar weight: *363.3 g/mol*  
Water solubility *56 mg/L at 20°C*  
Vapour pressure: *9.0 E-5 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 17.87$  d; rate constant  $k = 0.0387$  [days<sup>-1</sup>]; geomean lab values normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction: not applicable – parent compound  
Adsorption parameters:  $K_{OC}$ : *245.9 mL/g (geomean)*,  $K_{OM}$ : *142.63 mL/g (geomean)*,  $1/n = 0.916$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.744 (calculated value)

Compound: **FOE Oxalate**  
Function: *degradation product*  
Molar weight: *225.2 g/mol*  
Water solubility *120000 mg/L at 20°C*  
Vapour pressure: *4.5 E-7 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 11.08$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.426$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.00164862$  [days<sup>-1</sup>]  
Adsorption parameters:  $K_{OC}$ : *10.60 mL/g (geomean)*,  $K_{OM}$ : *6.15 mL/g (geomean)*,  $1/n = 0.912$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.8 (FOCUS default)

Compound: **FOE Sulfonic acid**  
Function: *degradation product*  
Molar weight: *275.3 g/mol*  
Water solubility *55000 mg/L at 20°C*  
Vapour pressure: *1.35 E-7 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 45.11$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.195$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.00075465$  [days<sup>-1</sup>]  
Adsorption parameters:  $K_{OC}$ : *11.10 mL/g (geomean)*,  $K_{OM}$ : *6.44 mL/g (geomean)*,  $1/n = 0.995$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.46 (experimental PUF)

Compound: **FOE Methylsulfone**  
Function: *degradation product*  
Molar weight: *273.3 g/mol*  
Water solubility *4100 mg/L at 20°C*  
Vapour pressure: *8.6 E-4 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 81.70$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.070$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.0002709$  [days<sup>-1</sup>]

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

<p>Adsorption parameters: <math>K_{OC}</math>: 61.03 mL/g (geomean), <math>K_{OW}</math>: 35.40 mL/g (geomean), <math>1/n</math>: 0.860 (arithmetic mean); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>FOE Thiadone</b>  Function: <i>degradation product</i>  Molar weight: 170.1 g/mol  Water solubility 100000 mg/L at 20°C  Vapour pressure: 2.05 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 1.85 d; rate constant <math>k</math> = 0.3557 [days<sup>-1</sup>]; geomean lab values normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.570, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.022059 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 42.10 mL/g (geomean), <math>K_{OW}</math>: 24.42 mL/g (geomean), <math>1/n</math>: 0.764 (arithmetic mean); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>FOE 5043-Trifluoroethanesulfonic acid (FOE TFESA)</b>  Function: <i>degradation product</i>  Molar weight: 164.1 g/mol  Water solubility 160000 mg/L at 20°C  Vapour pressure: 1.8 E-8 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 6.41 d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.469, precursor: FOE Thiadone, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.1668233 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 0.0001 mL/g (default value), <math>K_{OW}</math>: 0.0001 mL/g (default value), <math>1/n</math>: 1.000 (default value); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>Trifluoroacetic acid (TFA)</b>  Function: <i>degradation product</i>  Molar weight: 114.0 g/mol  Water solubility 500000 mg/L at 20°C  Vapour pressure: 1.0 E-6 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 1000 d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.430, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.016641 [days<sup>-1</sup>]; <math>f_f</math> = 0.531, precursor: FOE Thiadone, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.1888767 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 0.0001 mL/g (default value), <math>K_{OW}</math>: 0.0001 mL/g (default value), <math>1/n</math>: 1.000 (default value); pH dependence: no; Crop uptake factor: TSCF = 0.59 (experimental PUF)</p>	<p>Gross application rate: 160 g/ha.  Crop growth stage: BBCH 11-13 (early post-emergence)  Canopy interception %: 0%  Application rate net of interception: 160 g/ha.  No. of applications: 1  Time of application (absolute or relative application dates):  absolute, spring, 15. 03. for scenarios Chateaudun, Piacenza, Potro, Sevilla, Thiva, 01. 04. for scenarios Hamburg, Kremsmunster, Okehampton, and 15. 04. for scenario Jokioinen</p>
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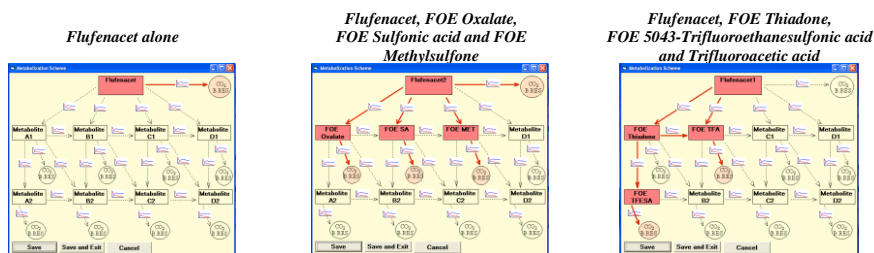
Application rate

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

The transformation schemes assumed in modelling, as provided by FOCUS PELMO (identical in FOCUS PEARL).



Modelling tool	FOCUS Scenario	Results – 80 <sup>th</sup> percentile PEC <sub>GW</sub> [µg/L] for the compound:						
		Flufenacet	FOE OXA	FOE SA	FOE MET	FOE THIA	FOE TFESA	TFA
FOCUS PEARL 4.4.4.	Châteaudun	<0.0001	0.0121	0.9863	0.0147	<0.0001	0.0036	15.3016
	Hamburg	<0.0001	0.1436	2.3552	0.0794	<0.0001	0.1016	10.8856
	Jokioinen	<0.0001	0.1290	2.7188	0.0285	<0.0001	0.1862	13.9942
	Kremsmünster	<0.0001	0.0829	1.4960	0.0546	<0.0001	0.0326	7.6491
	Okehampton	<0.0001	0.0986	1.4263	0.0737	<0.0001	0.0317	6.4081
	Piacenza	<0.0001	0.0264	0.7279	0.0370	<0.0001	0.0079	9.6696
	Porto	<0.0001	0.0184	0.7583	0.0288	<0.0001	0.0070	7.1608
	Sevilla	<0.0001	0.0005	0.2407	<0.0001	<0.0001	0.0009	11.5395
FOCUS PELMO 4.4.3.	Thiva	<0.0001	0.0016	0.4601	0.0046	<0.0001	0.0014	17.6164
	Châteaudun	<0.001	0.006	0.672	0.007	<0.001	0.002	9.638
	Hamburg	<0.001	0.076	1.548	0.070	<0.001	0.036	5.829
	Jokioinen	<0.001	0.141	2.210	0.031	<0.001	0.151	7.271
	Kremsmünster	<0.001	0.080	1.450	0.050	<0.001	0.032	6.061
	Okehampton	<0.001	0.094	1.251	0.067	<0.001	0.035	4.053
	Piacenza	<0.001	0.021	0.837	0.037	<0.001	0.014	6.882
	Porto	<0.001	0.031	0.609	0.040	<0.001	0.015	3.749
	Sevilla	<0.001	0.001	0.156	<0.001	<0.001	0.001	5.365
	Thiva	<0.001	<0.001	0.175	0.001	<0.001	<0.001	5.964

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Method of calculation and type of study (*e.g.* modelling, field leaching, lysimeter)

For FOCUS gw modelling, values used –  
Modelling using FOCUS model(s), with appropriate FOCUSgw scenarios, according to FOCUS guidance.  
Model(s) used: *FOCUS PEARL 4.4.4 and FOCUS PELMO 4.4.3.*  
Crop: *Winter cereals*

Substance-specific input parameters:

Compound: **Flufenacet**  
Function: *parent compound*  
Molar weight: *363.3 g/mol*  
Water solubility *56 mg/L at 20°C*  
Vapour pressure: *9.0 E-5 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 17.87$  d; rate constant  $k = 0.0387$  [days<sup>-1</sup>]; geomean lab values normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction: not applicable – parent compound  
Adsorption parameters:  $K_{OC}$ : *245.9 mL/g (geomean)*,  $K_{OM}$ : *142.63 mL/g (geomean)*,  $1/n = 0.916$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.744 (calculated value)

Compound: **FOE Oxalate**  
Function: *degradation product*  
Molar weight: *225.2 g/mol*  
Water solubility *120000 mg/L at 20°C*  
Vapour pressure: *4.5 E-7 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 11.08$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.426$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.00164862$  [days<sup>-1</sup>]  
Adsorption parameters:  $K_{OC}$ : *10.60 mL/g (geomean)*,  $K_{OM}$ : *6.15 mL/g (geomean)*,  $1/n = 0.912$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.8 (FOCUS default)

Compound: **FOE Sulfonic acid**  
Function: *degradation product*  
Molar weight: *275.3 g/mol*  
Water solubility *55000 mg/L at 20°C*  
Vapour pressure: *1.35 E-7 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 45.11$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.195$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.00075465$  [days<sup>-1</sup>]  
Adsorption parameters:  $K_{OC}$ : *11.10 mL/g (geomean)*,  $K_{OM}$ : *6.44 mL/g (geomean)*,  $1/n = 0.995$  (arithmetic mean); pH dependence: no;  
Crop uptake factor: TSCF = 0.46 (experimental PUF)

Compound: **FOE Methylsulfone**  
Function: *degradation product*  
Molar weight: *273.3 g/mol*  
Water solubility *4100 mg/L at 20°C*  
Vapour pressure: *8.6 E-4 Pa at 20°C*  
Rate of degradation in soil:  $DT_{50} = 81.70$  d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  
Kinetic formation fraction:  $f = 0.070$ , precursor: Flufenacet, rate constant of precursor (FOCUS PELMO)  
 $k = 0.0002709$  [days<sup>-1</sup>]

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Application rate

<p>Adsorption parameters: <math>K_{OC}</math>: 61.03 mL/g (geomean), <math>K_{OW}</math>: 35.40 mL/g (geomean), <math>1/n</math>: 0.860 (arithmetic mean); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>FOE Thiadone</b>  Function: <i>degradation product</i>  Molar weight: 170.1 g/mol  Water solubility 100000 mg/L at 20°C  Vapour pressure: 2.05 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 1.85 d; rate constant <math>k</math> = 0.3557 [days<sup>-1</sup>]; geomean lab values normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.570, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.022059 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 42.10 mL/g (geomean), <math>K_{OW}</math>: 24.42 mL/g (geomean), <math>1/n</math>: 0.764 (arithmetic mean); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>FOE 5043-Trifluoroethanesulfonic acid (FOE TFESA)</b>  Function: <i>degradation product</i>  Molar weight: 164.1 g/mol  Water solubility 160000 mg/L at 20°C  Vapour pressure: 1.8 E-8 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 6.41 d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.469, precursor: FOE Thiadone, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.1668233 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 0.0001 mL/g (default value), <math>K_{OW}</math>: 0.0001 mL/g (default value), <math>1/n</math>: 1.000 (default value); pH dependence: no; Crop uptake factor: TSCF = 0.8 (FOCUS default)</p> <p>Compound: <b>Trifluoroacetic acid (TFA)</b>  Function: <i>degradation product</i>  Molar weight: 114.0 g/mol  Water solubility 500000 mg/L at 20°C  Vapour pressure: 1.0 E-6 Pa at 20°C  Rate of degradation in soil: <math>DT_{50}</math> = 1000 d; geomean lab value normalized to 20 °C and pF2 with Q10 of 2.58 and Walker equation coefficient 0.7.  Kinetic formation fraction: <math>f_f</math> = 0.430, precursor: Flufenacet, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.016641 [days<sup>-1</sup>]; <math>f_f</math> = 0.531, precursor: FOE Thiadone, rate constant of precursor (FOCUS PELMO) <math>k</math> = 0.1888767 [days<sup>-1</sup>]  Adsorption parameters: <math>K_{OC}</math>: 0.0001 mL/g (default value), <math>K_{OW}</math>: 0.0001 mL/g (default value), <math>1/n</math>: 1.000 (default value); pH dependence: no; Crop uptake factor: TSCF = 0.59 (experimental PUF)</p>	<p>Gross application rate: 120 g/ha.  Crop growth stage: BBCH 00-22 (pre-emergence to early post-emergence)  Canopy interception %: 0%  Application rate net of interception: 120 g/ha.  No. of applications: 1  Time of application (absolute or relative application dates):  <i>absolute, spring, 15. 03. for scenarios Chateaudun, Piacenza, Potro, Sevilla, Thiva, 01. 04. for scenarios Hamburg,</i></p>
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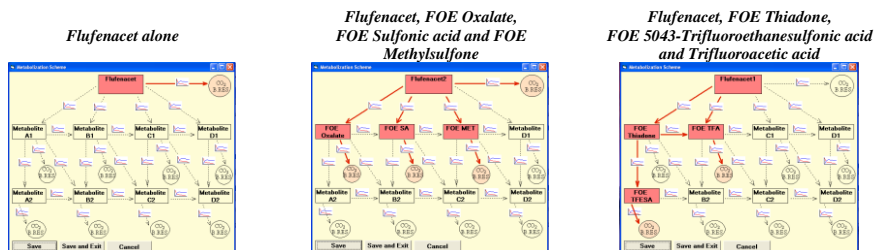
List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

*Kremsmünster, Okehampton, and 15. 04. for scenario Jokioinen*

The transformation schemes assumed in modelling, as provided by FOCUS PELMO (identical in FOCUS PEARL).



Modelling tool	FOCUS Scenario	Results – 80 <sup>th</sup> percentile PEC <sub>GW</sub> [µg/L] for the compound:						
		Flufenacet	FOE OXA	FOE SA	FOE MET	FOE THIA	FOE TFESA	TFA
FOCUS PEARL 4.4.4.	Châteaudun	<0.0001	0.0085	0.7389	0.0092	<0.0001	0.0027	11.4799
	Hamburg	<0.0001	0.1028	1.7648	0.0537	<0.0001	0.0760	8.1665
	Jokioinen	<0.0001	0.0919	2.0373	0.0176	<0.0001	0.1396	10.4972
	Kremsmünster	<0.0001	0.0597	1.1211	0.0363	<0.0001	0.0244	5.7373
	Okehampton	<0.0001	0.0718	1.0690	0.0503	<0.0001	0.0237	4.8073
	Piacenza	<0.0001	0.0190	0.5452	0.0250	<0.0001	0.0059	7.2530
	Porto	<0.0001	0.0131	0.5682	0.0189	<0.0001	0.0053	5.3731
	Sevilla	<0.0001	0.0003	0.1806	<0.0001	<0.0001	0.0007	8.6689
FOCUS PELMO 4.4.3.	Thiva	<0.0001	0.0011	0.3450	0.0027	<0.0001	0.010	13.2204
	Châteaudun	<0.001	0.004	0.503	0.005	<0.001	0.002	7.226
	Hamburg	<0.001	0.055	1.160	0.047	<0.001	0.027	4.374
	Jokioinen	<0.001	0.102	1.656	0.019	<0.001	0.113	5.456
	Kremsmünster	<0.001	0.058	1.087	0.033	<0.001	0.024	4.546
	Okehampton	<0.001	0.068	0.938	0.046	<0.001	0.026	3.039
	Piacenza	<0.001	0.015	0.626	0.025	<0.001	0.010	5.155
	Porto	<0.001	0.023	0.456	0.026	<0.001	0.011	2.808
	Sevilla	<0.001	0.001	0.117	<0.001	<0.001	0.001	4.026
	Thiva	<0.001	<0.001	0.131	0.001	<0.001	<0.001	4.471

PEC<sub>(gw)</sub> From lysimeter / field studies

Parent	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year
Annual average (µg/L)			
Metabolite X	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year
Annual average (µg/L)			

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

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

##### 1) Use: Winter cereals, post-emergence, BBCH 10-13, autumn, application rate 240 g Flufenacet/ha

Parent Parameters used in FOCUSsw step 1 and 2	Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1 Molecular weight (g/mol): 363.3 K <sub>OC</sub> (mL/g): 245.9 DT <sub>50</sub> soil (d): 17.87 days (geomean SFO lab value normalised to T = 20°C and pF2) DT <sub>50</sub> water/sediment system (d): 49.6 d (geomean from sediment water studies) DT <sub>50</sub> water (d): 1000 days DT <sub>50</sub> sediment (d): 49.6 days Crop interception (%): 0 % (no crop canopy)
Parameters used in FOCUSsw step 3	Version control no.'s of FOCUS software: FOCUS SWASH 3.1 Water solubility (mg/L): 56 Vapour pressure: 0.00009 Pa at 20°C K <sub>OC</sub> (mL/g): 245.9 (geomean, general) 1/n: 0.916 (arithmetic mean, general) Q10=2.58, Walker equation coefficient 0.7 Crop uptake factor: 0.744 (TSCF calculated value)
Application rate	Crop and growth stage: Winter cereals, BBCH 10-13, "CAM 1" for R-scenarios; Number of applications: 1 Interval (d): not applicable – single application Application rate(s): 240 g a.s./ha Application window: Steps 1-2: October - February Step 3: 1 day after emergence defined for each scenario as a starting day for 30-days application window: - for D1 ditch/stream scenario: 26/09 (JD 269); - for D2 ditch/stream scenario: 26/10 (JD 299); - for D3 ditch scenario: 22/11 (JD 326); - for D4 pond/stream scenario: 23/09 (JD266); - for D5 pond/stream scenario: 11/11 (JD 315); - for D6 ditch scenario: 01/12 (JD 335); - for R1 pond/stream scenario: 13/11 (JD 317); - for R2 stream scenario: crop not defined; - for R3 stream scenario: 02/12 (JD 336); - for R4 stream scenario: 11/11 (JD 315); CAM 1 for R scenarios
Parameters used in FOCUSsw step 4	Version control no.'s of FOCUS software: FOCUS TOXSWA 3.3.1; SWAN 3.0.0. Substance specific input parameters and application window as at Step 3 Mitigation measures applied: a) for buffer zone 10 metres: 10-metres wide no-spray zone for all scenarios (Spray drift reduction); reduction factors for run-off (R scenarios): 0.6 for run-off volume and flux, 0.85 for erosion mass and flux (FOCUS values) b) for buffer zone 20 metres: 20-metres wide no-spray zone for all scenarios (Spray drift reduction); reduction factors for run-off (R scenarios): 0.8 for run-off volume and flux, 0.95 for erosion mass and flux (FOCUS values); c) for buffer zone 10 metres in VFS-mod : 10-metres wide no-spray zone for all scenarios (Spray drift reduction); 10-metres wide Vegetated Filter Stripe (reduction calculated by the tool for run-off (R scenarios):



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	62.454	----	148.147	----
1	61.050	61.752	150.122	149.135
2	60.203	61.189	148.039	149.106
4	58.544	60.279	143.959	147.548
7	56.140	59.017	138.048	144.734
14	50.908	56.249	125.183	138.122
21	46.164	53.665	113.517	131.833
28	41.862	51.243	102.938	125.910
42	34.423	46.836	84.647	115.105
50	30.782	44.553	75.693	109.502
100	15.305	33.351	37.636	81.984

Results obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	27.593	----	66.541	----	22.433	----	54.030	----
1	27.422	27.507	66.279	66.410	22.266	22.350	53.816	53.923
2	27.314	27.438	66.017	66.279	22.178	22.286	53.604	53.816
4	27.099	27.322	65.497	66.018	22.003	22.188	53.181	53.604
7	26.779	27.158	64.724	65.628	21.744	22.053	52.554	53.288
14	26.047	26.785	62.956	64.732	21.150	21.749	51.118	52.561
21	25.336	26.420	61.236	63.852	20.572	21.453	49.722	51.846
28	24.644	26.062	59.564	62.988	10.010	21.162	48.364	51.145
42	23.316	25.366	56.355	61.307	18.932	20.597	45.758	49.779
50	22.590	24.980	54.599	60.373	18.342	20.283	44.333	49.021
100	18.536	24.738	44.800	54.956	15.463	18.463	36.376	44.662

Data on application pattern for STEP 3.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	26. 09 – 26. 10	03. 10. 1982/9:00	16. 03.1982/9:59	Drainage
D1 – stream	26. 09 – 26. 10	03. 10. 1982/ 9:00	16. 03. 1982/6:59	Drainage
D2 – ditch	26. 10 – 25. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D2 – stream	26. 10 – 25. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D3 – ditch	22. 11 – 22. 12	22. 11. 1992/9:00	22. 11. 1992/9:00	Spray drift
D4 – pond	23. 09 – 23. 10	28. 09. 1985/9:00	24. 12. 1985/9:59	Drainage
D4 – stream	23. 09 – 23. 10	28. 09. 1986/9:00	07. 12. 1985/9:00	Drainage
D5 – pond	11. 11 – 11. 12	27. 11. 1978/9:00	15. 02. 1979/17:00	Drainage
D5 – stream	11. 11 – 11. 12	27. 11. 1978/9:00	27. 11. 1978/9:00	Spray drift
D6 – ditch	01. 12 – 31. 12	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	13. 11 – 13. 12	14. 11. 1978/9:00	31. 12. 1978/15:00	Run-off
R1 – stream	13. 11 – 13. 12	14. 11. 1978/9:00	25. 11. 1978/7:59	Run-off
R2 – stream		Crop not defined in this scenario		
R3 – stream	02. 12 – 02. 01	05. 12. 1980/9:00	16. 12. 1980/9:00	Run-off
R4 – stream	11. 11 – 11. 12	10. 12. 1979/9:00	21. 12. 1979/2:00	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 3 for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	6.543 <sup>1)</sup> 6.541 <sup>2)</sup>	----	17.365	----	4.082 <sup>1)</sup> 4.080 <sup>2)</sup>	----	10.378	----
1	6.457	6.524	17.360	17.364	4.041	4.072	10.376	10.378
2	6.355	6.499	17.350	17.363	3.951	4.054	10.368	10.377
4	5.992	6.427	17.317	17.358	3.712	4.002	10.341	10.374
7	5.440	6.286	17.249	17.345	3.353	3.912	10.267	10.365
14	4.610	6.007	16.994	17.297	2.790	3.724	9.598	10.320
21	4.079	5.947	16.305	17.236	2.382	3.687	7.657	10.256
28	4.166	5.687	16.156	17.228	2.560	3.516	8.208	10.247
42	3.327	5.267	14.726	17.167	1.454	3.230	5.939	10.172
50	2.648	5.163	13.685	17.064	0.0174	3.165	5.286	9.998
100	0.792	4.261	7.284	15.860	0.002694	2.295	2.628	8.481
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	6.199 <sup>1)</sup> 6.197 <sup>2)</sup>	----	7.619	----	3.882 <sup>1)</sup> 3.881 <sup>2)</sup>	----	4.466	----
1	2.146	3.920	7.570	7.599	1.299	2.342	4.446	4.452
2	2.368	3.347	7.516	7.579	1.724	2.002	4.410	4.444
4	2.017	3.197	7.439	7.539	1.159	1.896	4.377	4.421
7	2.082	3.049	7.282	7.518	1.178	1.809	4.287	4.405
14	2.043	2.846	6.940	7.416	1.465	1.702	4.077	4.346
21	2.265	2.588	6.637	7.380	1.285	1.559	3.890	4.315
28	1.600	2.465	n. c. <sup>3)</sup>	7.318	0.935	1.479	n. c. <sup>3)</sup>	4.275
42	1.291	2.257	n. c. <sup>3)</sup>	7.296	0.713	1.354	n. c. <sup>3)</sup>	4.242
50	4.070	2.119	n. c. <sup>3)</sup>	7.264	2.525	1.269	n. c. <sup>3)</sup>	4.221
100	1.202	1.679	n. c. <sup>3)</sup>	7.055	0.688	0.994	n. c. <sup>3)</sup>	4.087
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.514 <sup>1)</sup> 1.513 <sup>2)</sup>	----	0.401	----	1.168 <sup>1)</sup> 1.168 <sup>2)</sup>	----	3.689	----
1	0.294	0.971	0.267	0.369	1.166	1.167	3.689	3.689
2	0.0154	0.535	0.192	0.317	1.164	1.167	3.689	3.689
4	0.00164	0.270	0.137	0.247	1.156	1.166	3.687	3.689
7	5.78 E-4	0.155	0.104	0.195	1.136	1.163	3.682	3.689
14	1.77 E-4	0.0755	0.0735	0.142	1.082	1.149	3.666	3.688
21	9.2 E-5	0.0517	0.0597	0.117	1.032	1.131	3.646	3.686
28	6.3 E-5	0.0388	0.0510	0.102	0.969	1.112	3.623	3.684
42	3.7 E-5	0.0259	0.0402	0.0832	0.853	1.069	n. c. <sup>3)</sup>	3.677
50	3.0 E-5	0.0217	0.0359	0.0760	0.809	1.042	n. c. <sup>3)</sup>	3.672
100	9 E-6	0.0109	0.0218	0.0519	0.620	0.901	n. c. <sup>3)</sup>	3.603

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;  
3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Results of the calculations obtained at Step 3 for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.647 <sup>1)</sup> 1.647 <sup>2)</sup>	----	1.648	----	1.170 <sup>1)</sup> 1.170 <sup>2)</sup>	----	3.505	----
1	1.221	1.462	1.645	1.647	1.167	1.169	3.505	3.505
2	1.478	1.389	1.634	1.646	1.161	1.169	3.505	3.505
4	1.160	1.343	1.599	1.641	1.146	1.166	3.505	3.505
7	0.967	1.257	1.530	1.627	1.122	1.158	3.504	3.505
14	0.520	1.038	1.323	1.580	1.069	1.137	3.501	3.505
21	0.258	0.842	1.133	1.517	1.026	1.114	n. c. <sup>3)</sup>	3.504
28	0.128	0.688	0.981	1.443	0.988	1.093	n. c. <sup>3)</sup>	3.503
42	0.0472	0.489	0.871	1.299	0.864	1.049	n. c. <sup>3)</sup>	3.485
50	0.0941	0.422	0.792	1.233	0.805	1.022	n. c. <sup>3)</sup>	3.454
100	0.00656	0.226	0.473	0.951	n. c. <sup>3)</sup>	0.788	n. c. <sup>3)</sup>	2.666

Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.420 <sup>1)</sup> 1.419 <sup>2)</sup>	----	1.074	----	5.693 <sup>1)</sup> 5.692 <sup>2)</sup>	----	4.168	----
1	0.0115	0.775	1.057	1.073	3.214	4.376	4.097	4.155
2	0.00134	0.744	1.025	1.072	2.372	3.957	3.974	4.123
4	3.55 E-4	0.736	0.949	1.059	1.448	3.720	3.637	4.028
7	1.40 E-4	0.685	0.846	1.030	0.618	2.962	3.075	3.826
14	4.5 E-5	0.565	0.681	0.948	0.200	1.938	2.290	3.366
21	2.4 E-5	0.420	0.578	0.873	0.226	1.413	2.004	3.001
28	1.5 E-5	0.332	0.509	0.811	1.021	1.307	2.907	2.801
42	0.0115	0.242	0.482	0.716	0.185	0.995	2.023	2.719
50	0.0844	0.216	0.461	0.680	0.134	0.972	1.789	2.604
100	0.0341	0.130	n. c. <sup>3)</sup>	0.516	0.170	0.605	1.473	1.161

Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.116 <sup>1)</sup> 0.116 <sup>2)</sup>	----	0.408	----	5.811 <sup>1)</sup> 5.810 <sup>2)</sup>	----	1.280	----
1	0.115	0.116	0.408	0.408	0.00562	2.413	0.608	0.977
2	0.114	0.115	0.408	0.408	0.00177	1.209	0.447	0.775
4	0.112	0.114	0.408	0.408	5.94 E-4	0.605	0.329	0.588
7	0.109	0.112	0.407	0.408	1.08 E-4	0.346	0.255	0.463
14	0.102	0.109	0.404	0.408	2.55 E-4	0.186	0.200	0.341
21	0.0964	0.106	0.400	0.408	0.0116	0.124	0.161	0.285
28	0.0911	0.103	0.395	0.407	1.5 E-5	0.0941	0.133	0.250
42	0.0816	0.0978	0.383	0.405	6.4 E-5	0.0702	0.152	0.222
50	0.0762	0.0950	0.375	0.404	1.6 E-5	0.0626	0.126	0.208
100	0.0510	0.0894	0.289	0.393	4 E-6	0.0315	0.0730	0.152

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;  
3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 3 for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	7.641 <sup>1)</sup> 7.639 <sup>2)</sup>	----	1.891	----	5.980 <sup>1)</sup> 5.979 <sup>2)</sup>	----	1.550	----
1	0.0206	3.941	0.979	1.537	3.173	3.099	1.396	1.298
2	0.00595	1.981	0.724	1.239	0.00654	2.239	0.845	1.237
4	0.00195	0.933	0.535	0.949	0.00119	1.121	0.578	0.987
7	8.31 E-4	0.568	0.416	0.751	4.37 E-4	0.641	0.434	0.786
14	0.00131	0.431	0.553	0.689	1.38 E-4	0.331	0.305	0.577
21	5.17 E-4	0.288	0.399	0.616	7.3 E-5	0.221	0.247	0.477
28	2.83 E-4	0.229	0.331	0.554	4.7 E-5	0.166	0.211	0.416
42	1.36 E-4	0.153	0.256	0.467	2.8 E-5	0.110	0.166	0.340
50	1.05 E-4	0.128	0.228	0.431	2.7 E-5	0.0927	0.146	0.310
100	4.0 E-5	0.0679	0.149	0.312	9 E-6	0.0464	0.0840	0.210

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 10 metres buffer zone:

Data on application pattern at STEP 4, 10 –metres buffer zone (FOCUS).

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	26. 09 – 26. 10	03. 10. 1982/9:00	16. 03. 1982/9:59	Drainage
D1 – stream	26. 09 – 26. 10	03. 10. 1982/ 9:00	16. 03. 1982/6:59	Drainage
D2 – ditch	26. 10 – 25. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D2 – stream	26. 10 – 25. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D3 – ditch	22. 11 – 22. 12	22. 11. 1992/9:00	22. 11. 1992/9:00	Spray drift
D4 – pond	23. 09 – 23. 10	28. 09. 1985/9:00	24. 12. 1985/9:59	Drainage
D4 – stream	23. 09 – 23. 10	28. 09. 1986/9:00	07. 12. 1985/9:00	Drainage
D5 – pond	11. 11 – 11. 12	27. 11. 1978/9:00	15. 02. 1979/17:00	Drainage
D5 – stream	11. 11 – 11. 12	27. 11. 1978/9:00	04. 02. 1979/11:00	Drainage
D6 – ditch	01. 12 – 31. 12	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	13. 11 – 13. 12	14. 11. 1978/9:00	31. 12. 1978/15:00	Run-off
R1 – stream	13. 11 – 13. 12	14. 11. 1978/9:00	25. 11. 1978/7:59	Run-off
R2 – stream	Crop not defined in this scenario			
R3 – stream	02. 12 – 02. 01	05. 12. 1980/9:00	16. 12. 1980/9:00	Run-off
R4 – stream	11. 11 – 11. 12	10. 12. 1979/9:00	21. 12. 1979/2:00	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations at Step 4, 10-metres buffer zone, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	6.543 <sup>1)</sup> 6.541 <sup>2)</sup>	----	17.365	----	4.082 <sup>1)</sup> 4.080 <sup>2)</sup>	----	10.378	----
1	6.457	6.524	17.360	17.364	4.041	4.072	10.376	10.378
2	6.355	6.499	17.350	17.363	3.951	4.054	10.368	10.377
4	5.992	6.427	17.317	17.358	3.712	4.002	10.341	10.374
7	5.440	6.286	17.249	17.345	3.353	3.912	10.267	10.365
14	4.610	6.007	16.994	17.297	2.790	3.724	9.598	10.320
21	4.079	5.947	16.305	17.236	2.382	3.687	7.657	10.256
28	4.166	5.687	16.156	17.228	2.560	3.516	8.208	10.247
42	3.327	5.267	14.726	17.167	1.454	3.230	5.939	10.172
50	2.648	5.163	13.685	17.064	0.0174	3.165	5.286	9.998
100	0.792	4.261	7.284	15.860	0.00269	2.295	2.628	8.481
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	6.199 <sup>1)</sup> 6.197 <sup>2)</sup>	----	7.554	----	3.882 <sup>1)</sup> 3.881 <sup>2)</sup>	----	4.455	----
1	2.416	3.920	7.506	7.535	1.299	2.342	4.435	4.441
2	2.368	3.347	7.452	7.515	1.724	2.002	4.399	4.433
4	2.017	3.197	7.376	7.475	1.159	1.896	4.366	4.410
7	2.082	3.049	7.221	7.453	1.178	1.809	4.277	4.394
14	2.043	2.846	6.882	7.351	1.465	1.702	4.067	4.336
21	2.265	2.588	6.582	7.314	1.285	1.559	3.881	4.304
28	1.599	2.465	n. c. <sup>3)</sup>	7.251	0.935	1.479	n. c. <sup>3)</sup>	4.264
42	1.290	2.257	n. c. <sup>3)</sup>	7.224	0.713	1.354	n. c. <sup>3)</sup>	4.230
50	4.070	2.119	n. c. <sup>3)</sup>	7.191	2.525	1.269	n. c. <sup>3)</sup>	4.209
100	1.202	1.679	n. c. <sup>3)</sup>	6.967	0.688	0.994	n. c. <sup>3)</sup>	4.072
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.218 <sup>1)</sup> 0.217 <sup>2)</sup>	----	0.0611	----	1.159 <sup>1)</sup> 1.159 <sup>2)</sup>	----	3.560	----
1	0.0420	0.139	0.0410	0.0564	1.158	1.159	3.650	3.650
2	0.00228	0.0768	0.0297	0.0487	1.156	1.158	3.650	3.650
4	2.59 E-4	0.0388	0.0213	0.0382	1.147	1.157	3.647	3.650
7	9.0 E-5	0.0222	0.0162	0.0303	1.128	1.154	3.642	3.650
14	2.8 E-5	0.0111	0.0114	0.0221	1.074	1.141	3.626	3.649
21	1.4 E-5	0.00743	0.00925	0.0182	1.024	1.123	3.607	3.647
28	1.0 E-5	0.00558	0.00792	0.0158	0.962	1.104	3.584	3.644
42	6 E-6	0.00372	0.00625	0.0129	0.847	1.061	n. c. <sup>3)</sup>	3.638
50	5 E-6	0.00313	0.00558	0.0118	0.803	1.034	n. c. <sup>3)</sup>	3.633
100	1 E-6	0.00156	0.00339	0.00806	0.615	0.894	n. c. <sup>3)</sup>	3.562

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;  
3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations at Step 4, 10-metres buffer zone, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.674 <sup>1)</sup> ----- 1.674 <sup>2)</sup>	----	1.641	----	1.163 <sup>1)</sup> ----- 1.162 <sup>2)</sup>	----	3.468	----
1	1.221	1.462	1.638	1.640	1.159	1.162	3.468	3.468
2	1.478	1.389	1.627	1.639	1.154	1.161	3.468	3.468
4	1.160	1.343	1.592	1.634	1.139	1.158	3.468	3.468
7	0.967	1.257	1.523	1.620	1.114	1.151	3.467	3.468
14	0.520	1.038	1.317	1.573	1.062	1.130	n. c. <sup>3)</sup>	3.468
21	0.258	0.842	1.127	1.510	1.019	1.107	n. c. <sup>3)</sup>	3.468
28	0.128	0.688	0.976	1.436	0.981	1.086	n. c. <sup>3)</sup>	3.466
42	0.0472	0.489	0.866	1.293	0.859	1.043	n. c. <sup>3)</sup>	3.447
50	0.0941	0.422	0.788	1.227	0.799	1.015	n. c. <sup>3)</sup>	3.415
100	0.00656	0.226	0.470	0.946	n. c. <sup>3)</sup>	0.781	n. c. <sup>3)</sup>	2.622
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.249 <sup>1)</sup> ----- 1.248 <sup>2)</sup>	----	1.064	----	5.693 <sup>1)</sup> ----- 5.692 <sup>2)</sup>	----	3.818	----
1	0.613	0.775	1.047	1.063	3.214	4.376	3.750	3.807
2	0.760	0.744	1.015	1.061	2.372	3.957	3.637	3.778
4	0.820	0.736	0.939	1.049	1.448	3.720	3.315	3.691
7	0.799	0.685	0.837	1.019	0.618	2.962	2.780	3.498
14	0.199	0.565	0.672	0.938	0.200	1.938	2.049	3.056
21	0.0745	0.420	0.570	0.863	0.226	1.410	1.798	2.715
28	0.0409	0.332	0.501	0.802	1.021	1.109	1.723	2.542
42	0.0667	0.242	0.475	0.707	0.185	0.995	1.878	2.487
50	0.0604	0.216	0.454	0.671	0.134	0.869	1.658	2.385
100	n. c. <sup>3)</sup>	0.130	n. c. <sup>3)</sup>	0.507	0.170	0.545	1.398	2.000
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0543 <sup>1)</sup> ----- 0.0543 <sup>2)</sup>	----	0.201	----	2.602 <sup>1)</sup> ----- 2.601 <sup>2)</sup>	----	0.572	----
1	0.0536	0.0540	0.201	0.201	0.00259	1.076	0.271	0.437
2	0.0531	0.0537	0.201	0.201	8.17 E-4	0.539	0.197	0.346
4	0.0521	0.0532	0.201	0.201	2.70 E-4	0.270	0.143	0.261
7	0.0507	0.0524	0.200	0.201	4.9 E-5	0.154	0.109	0.204
14	0.0477	0.0509	0.198	0.201	8.9 E-5	0.0796	0.0843	0.148
21	0.0450	0.0494	0.196	0.200	0.00467	0.0753	0.0677	0.123
28	0.0425	0.0481	0.194	0.200	6 E-6	0.0403	0.0558	0.108
42	0.0383	0.0457	0.188	0.199	2.9 E-5	0.0312	0.0655	0.0955
50	0.0357	0.0459	0.184	0.199	1.2 E-5	0.0269	0.0540	0.0898
100	0.0239	0.0427	0.144	0.193	2 E-6	0.0135	0.0310	0.0651

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations at Step 4, 10-metres buffer zone, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.446 <sup>1)</sup> 3.445 <sup>2)</sup>	----	0.853	----	2.699 <sup>1)</sup> 2.698 <sup>2)</sup>	----	0.707	----
1	0.00956	1.777	0.440	0.693	1.423	1.395	0.604	0.593
2	0.00278	0.894	0.321	0.556	0.00302	1.006	0.387	0.565
4	8.93 E-4	0.448	0.233	0.423	5.50 E-4	0.504	0.263	0.451
7	3.77 E-4	0.256	0.179	0.332	2.02 E-4	0.288	0.196	0.358
14	6.04 E-4	0.194	0.244	0.305	6.3 E-5	0.146	0.137	0.262
21	2.33 E-4	0.130	0.174	0.272	3.3 E-5	0.0974	0.111	0.216
28	1.26 E-4	0.0998	0.144	0.244	2.1 E-5	0.0731	0.0944	0.188
42	6.0 E-5	0.0666	0.111	0.205	1.3 E-5	0.0487	0.0740	0.153
50	4.6 E-5	0.0560	0.0987	0.189	1.2 E-5	0.0409	0.0654	0.140
100	1.7 E-5	0.0296	0.0646	0.136	4 E-6	0.0205	0.0374	0.0946

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 20 metres buffer zone:

Data on application pattern for STEP 4, 20-metres buffer zone.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	26. 09 – 26. 10	03. 10. 1982/9:00	16. 03. 1982/9:59	Drainage
D1 – stream	26. 09 – 26. 10	03. 10. 1982/ 9:00	16. 03. 1982/6:59	Drainage
D2 – ditch	26. 10 – 25. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D2 – stream	26. 10 – 25. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D3 – ditch	22. 11 – 22. 12	22. 11. 1992/9:00	22. 11. 1992/9:00	Spray drift
D4 – pond	23. 09 – 23. 10	28. 09. 1985/9:00	24. 12. 1985/11:00	Drainage
D4 – stream	23. 09 – 23. 10	28. 09. 1986/9:00	07. 12. 1985/9:00	Drainage
D5 – pond	11. 11 – 11. 12	27. 11. 1978/9:00	15. 02. 1979/18:00	Drainage
D5 – stream	11. 11 – 11. 12	27. 11. 1978/9:00	04. 02. 1979/11:00	Drainage
D6 – ditch	01. 12 – 31. 12	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	13. 11 – 13. 12	14. 11. 1978/9:00	25. 11. 1978/7:59	Run-off
R1 – stream	13. 11 – 13. 12	14. 11. 1978/9:00	25. 11. 1978/7:59	Run-off
R2 – stream	Crop not defined in this scenario			
R3 – stream	02. 12 – 02. 01	05. 12. 1980/9:00	16. 12. 1980/9:00	Run-off
R4 – stream	11. 11 – 11. 12	10. 12. 1979/9:00	21. 12. 1979/2:00	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	6.543 <sup>1)</sup> ----- 6.541 <sup>2)</sup>	----	17.365	----	4.082 <sup>1)</sup> ----- 4.080 <sup>2)</sup>	----	10.378	----
1	6.457	6.524	17.360	17.364	4.041	4.072	10.376	10.378
2	6.355	6.499	17.350	17.363	3.951	4.054	10.368	10.377
4	5.992	6.427	17.317	17.358	3.712	4.002	10.341	10.374
7	5.440	6.286	17.249	17.345	3.353	3.912	10.267	10.365
14	4.610	6.007	16.994	17.297	2.790	3.724	9.598	10.320
21	4.079	5.947	16.305	17.236	2.382	3.687	7.657	10.256
28	4.166	5.687	16.156	17.228	2.560	3.516	8.208	10.247
42	3.327	5.267	14.726	17.167	1.454	3.230	5.939	10.172
50	2.648	5.163	13.685	17.064	0.0174	3.165	5.286	9.998
100	0.792	4.261	7.284	15.860	0.00269	2.295	2.628	8.481
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	6.199 <sup>1)</sup> ----- 6.197 <sup>2)</sup>	----	7.549	----	3.882 <sup>1)</sup> ----- 3.881 <sup>2)</sup>	----	4.454	----
1	2.416	3.920	7.500	7.529	1.299	2.342	4.434	4.440
2	2.368	3.347	7.447	7.509	1.724	2.002	4.398	4.431
4	2.017	3.197	7.371	7.469	1.159	1.896	4.365	4.409
7	2.082	3.049	7.216	7.448	1.178	1.809	4.276	4.393
14	2.043	2.846	6.878	7.346	1.465	1.702	4.066	4.334
21	2.265	2.588	6.578	7.309	1.285	1.559	3.880	4.303
28	1.599	2.465	n. c. <sup>3)</sup>	7.246	0.935	1.479	n. c. <sup>3)</sup>	4.263
42	1.290	2.257	n. c. <sup>3)</sup>	7.219	0.713	1.354	n. c. <sup>3)</sup>	4.229
50	4.070	2.119	n. c. <sup>3)</sup>	7.185	2.525	1.269	n. c. <sup>3)</sup>	4.207
100	1.202	1.679	n. c. <sup>3)</sup>	6.960	0.688	0.994	n. c. <sup>3)</sup>	4.070
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.113 <sup>1)</sup> ----- 0.113 <sup>2)</sup>	----	0.0324	----	1.154 <sup>1)</sup> ----- 1.154 <sup>2)</sup>	----	3.629	----
1	0.0218	0.0725	0.0220	0.0300	1.153	1.154	3.628	3.629
2	0.00120	0.0399	0.0159	0.0259	1.151	1.153	3.628	3.629
4	1.39 E-4	0.0202	0.0114	0.0204	1.143	1.152	3.625	3.628
7	4.8 E-5	0.0116	0.00864	0.0161	1.123	1.149	3.620	3.628
14	1.5 E-5	0.00579	0.00609	0.0118	1.070	1.136	3.605	3.627
21	8 E-6	0.00387	0.00494	0.00971	1.020	1.118	3.586	3.625
28	5 E-6	0.00290	0.00423	0.00844	0.958	1.099	3.563	3.623
42	3 E-6	0.00194	0.00334	0.00689	0.843	1.057	n. c. <sup>3)</sup>	3.616
50	3 E-6	0.00163	0.00298	0.00630	0.800	1.030	n. c. <sup>3)</sup>	3.612
100	1 E-6	8.14 E-4	0.00181	0.00430	0.613	0.891	n. c. <sup>3)</sup>	3.540

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.674 <sup>1)</sup> 1.674 <sup>2)</sup>	----	1.640	----	1.159 <sup>1)</sup> 1.158 <sup>2)</sup>	----	3.449	----
1	1.221	1.462	1.637	1.639	1.155	1.158	3.449	3.449
2	1.478	1.389	1.627	1.638	1.150	1.157	3.448	3.449
4	1.160	1.343	1.591	1.633	1.135	1.154	3.448	3.449
7	0.967	1.257	1.522	1.620	1.111	1.147	3.447	3.448
14	0.520	1.038	1.317	1.573	1.059	1.126	n. c. <sup>3)</sup>	3.448
21	0.258	0.842	1.126	1.509	1.016	1.103	n. c. <sup>3)</sup>	3.448
28	0.128	0.688	0.975	1.436	0.978	1.082	n. c. <sup>3)</sup>	3.446
42	0.0472	0.489	0.866	1.292	0.856	1.039	n. c. <sup>3)</sup>	3.426
50	0.0941	0.422	0.787	1.226	0.797	1.012	n. c. <sup>3)</sup>	3.394
100	0.00656	0.226	0.469	0.945	n. c. <sup>3)</sup>	0.777	n. c. <sup>3)</sup>	2.598
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.249 <sup>1)</sup> 1.248 <sup>2)</sup>	----	1.063	----	5.693 <sup>1)</sup> 5.692 <sup>2)</sup>	----	3.789	----
1	0.613	0.775	1.046	1.061	3.214	4.376	3.722	3.778
2	0.760	0.744	1.014	1.060	2.372	3.957	3.610	3.749
4	0.820	0.736	0.938	1.048	1.448	3.720	3.290	3.663
7	0.799	0.685	0.836	1.018	0.618	2.962	2.575	3.471
14	0.199	0.565	0.671	0.937	0.200	1.938	2.030	3.030
21	0.0745	0.420	0.569	0.862	0.226	1.410	1.781	2.691
28	0.0409	0.332	0.500	0.801	1.021	1.109	2.709	2.521
42	0.0667	0.242	0.474	0.706	0.185	0.995	1.866	2.468
50	0.0604	0.216	0.454	0.670	0.134	0.869	1.648	2.368
100	n. c. <sup>3)</sup>	0.130	n. c. <sup>3)</sup>	0.506	0.170	0.545	1.392	1.987
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0310 <sup>1)</sup> 0.0310 <sup>2)</sup>	----	0.117	----	1.354 <sup>1)</sup> 1.354 <sup>2)</sup>	----	0.301	----
1	0.0305	0.0308	0.117	0.117	0.00139	0.559	0.145	0.231
2	0.0302	0.0306	0.117	0.117	4.40 E-4	0.280	0.105	0.183
4	0.0295	0.0302	0.117	0.117	1.44 E-4	0.140	0.0757	0.138
7	0.0286	0.0297	0.117	0.117	2.6 E-5	0.0802	0.0578	0.108
14	0.0266	0.0287	0.116	0.117	4.4 E-5	0.0414	0.0444	0.0786
21	0.0248	0.0278	0.115	0.117	0.00234	0.0276	0.0356	0.0653
28	0.0231	0.0271	0.114	0.117	3 E-6	0.0209	0.0294	0.0571
42	0.0289	0.0265	0.110	0.116	1.5 E-5	0.0162	0.0347	0.0505
50	0.0269	0.0267	0.108	0.116	6 E-6	0.0140	0.0286	0.0475
100	0.0179	0.0246	0.0851	0.113	1 E-6	0.00704	0.0164	0.0344

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.799 <sup>1)</sup> 1.799 <sup>2)</sup>	----	0.452	----	1.410 <sup>1)</sup> 1.410 <sup>2)</sup>	----	0.375	----
1	0.00512	0.928	0.236	0.368	0.741	0.728	0.341	0.316
2	0.00150	0.466	0.171	0.296	0.00161	0.525	0.207	0.301
4	4.79 E-4	0.234	0.124	0.225	2.96 E-4	0.263	0.140	0.241
7	2.02 E-4	0.134	0.0950	0.177	1.08 E-4	0.150	0.105	0.191
14	3.24 E-4	0.102	0.130	0.162	3.4 E-5	0.0761	0.0730	0.140
21	1.25 E-4	0.0678	0.0927	0.145	1.8 E-5	0.0508	0.0590	0.115
28	6.7 E-5	0.0521	0.0765	0.130	1.1 E-5	0.0381	0.0503	0.100
42	3.2 E-5	0.0348	0.0589	0.109	7 E-6	0.0254	0.0394	0.0817
50	2.4 E-5	0.0292	0.0524	0.101	6 E-6	0.0213	0.0348	0.0746
100	9 E-6	0.0155	0.0343	0.0724	2 E-6	0.0107	0.0200	0.0504

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 10 metres buffer zone VFS-mod:

Data on application pattern for STEP 4, 10 – metres buffer zone VFS.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	26. 09 – 26. 10	03. 10. 1982/9:00	16. 03. 1982/9:59	Drainage
D1 – stream	26. 09 – 26. 10	03. 10. 1982/ 9:00	16. 03. 1982/6:59	Drainage
D2 – ditch	26. 10 – 25. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D2 – stream	26. 10 – 25. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D3 – ditch	22. 11 – 22. 12	22. 11. 1992/9:00	22. 11. 1992/9:00	Spray drift
D4 – pond	23. 09 – 23. 10	28. 09. 1985/9:00	24. 12. 1985/9:59	Drainage
D4 – stream	23. 09 – 23. 10	28. 09. 1986/9:00	07. 12. 1985/9:00	Drainage
D5 – pond	11. 11 – 11. 12	27. 11. 1978/9:00	15. 02. 1979/17:00	Drainage
D5 – stream	11. 11 – 11. 12	27. 11. 1978/9:00	04. 02. 1979/11:00	Drainage
D6 – ditch	01. 12 – 31. 12	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	13. 11 – 13. 12	14. 11. 1978/9:00	14. 11. 1978/9:00	Spray drift
R1 – stream	13. 11 – 13. 12	14. 11. 1978/9:00	14. 11. 1978/9:00	Spray drift
R2 – stream	Crop not defined in this scenario			
R3 – stream	02. 12 – 02. 01	05. 12. 1980/9:00	05. 12. 1980/9:00	Spray drift
R4 – stream	11. 11 – 11. 12	10. 12. 1979/9:00	10. 12. 1979/9:00	Spray drift

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	6.543 <sup>1)</sup> ----- 6.541 <sup>2)</sup>	----	17.365	----	4.082 <sup>1)</sup> ----- 4.080 <sup>2)</sup>	----	10.378	----
1	6.457	6.524	17.360	17.364	4.041	4.072	10.376	10.378
2	6.355	6.499	17.350	17.363	3.951	4.054	10.368	10.377
4	5.992	6.427	17.317	17.358	3.712	4.002	10.341	10.374
7	5.440	6.286	17.249	17.345	3.353	3.912	10.267	10.365
14	4.610	6.007	16.994	17.297	2.790	3.724	9.598	10.320
21	4.079	5.947	16.305	17.236	2.382	3.687	7.657	10.256
28	4.166	5.687	16.156	17.228	2.560	3.516	8.208	10.247
42	3.327	5.267	14.726	17.167	1.454	3.230	5.939	10.172
50	2.648	5.163	13.685	17.064	0.0174	3.165	5.286	9.998
100	0.792	4.261	7.284	15.860	0.00269	2.295	2.628	8.481
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	6.199 <sup>1)</sup> ----- 6.197 <sup>2)</sup>	----	7.554	----	3.882 <sup>1)</sup> ----- 3.881 <sup>2)</sup>	----	4.455	----
1	2.416	3.920	7.506	7.535	1.299	2.342	4.435	4.441
2	2.368	3.347	7.452	7.515	1.724	2.002	4.399	4.433
4	2.017	3.197	7.376	7.475	1.159	1.896	4.366	4.410
7	2.082	3.049	7.221	7.453	1.178	1.809	4.277	4.394
14	2.043	2.846	6.882	7.351	1.465	1.702	4.067	4.336
21	2.265	2.588	6.582	7.314	1.285	1.559	3.881	4.304
28	1.599	2.465	n. c. <sup>3)</sup>	7.251	0.935	1.479	n. c. <sup>3)</sup>	4.264
42	1.290	2.257	n. c. <sup>3)</sup>	7.224	0.713	1.354	n. c. <sup>3)</sup>	4.230
50	4.070	2.119	n. c. <sup>3)</sup>	7.191	2.525	1.269	n. c. <sup>3)</sup>	4.209
100	1.202	1.679	n. c. <sup>3)</sup>	6.967	0.688	0.994	n. c. <sup>3)</sup>	4.072
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.218 <sup>1)</sup> ----- 0.217 <sup>2)</sup>	----	0.0611	----	1.159 <sup>1)</sup> ----- 1.159 <sup>2)</sup>	----	3.560	----
1	0.0420	0.139	0.0410	0.0564	1.158	1.159	3.650	3.650
2	0.00228	0.0768	0.0297	0.0487	1.156	1.158	3.650	3.650
4	2.59 E-4	0.0388	0.0213	0.0382	1.147	1.157	3.647	3.650
7	9.0 E-5	0.0222	0.0162	0.0303	1.128	1.154	3.642	3.650
14	2.8 E-5	0.0111	0.0114	0.0221	1.074	1.141	3.626	3.649
21	1.4 E-5	0.00743	0.00925	0.0182	1.024	1.123	3.607	3.647
28	1.0 E-5	0.00558	0.00792	0.0158	0.962	1.104	3.584	3.644
42	6 E-6	0.00372	0.00625	0.0129	0.847	1.061	n. c. <sup>3)</sup>	3.638
50	5 E-6	0.00313	0.00558	0.0118	0.803	1.034	n. c. <sup>3)</sup>	3.633
100	1 E-6	0.00156	0.00339	0.00806	0.615	0.894	n. c. <sup>3)</sup>	3.562

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained Step 4, 10-metres buffer zone VFS, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.674 <sup>1)</sup> ----- 1.674 <sup>2)</sup>	----	1.641	----	1.163 <sup>1)</sup> ----- 1.162 <sup>2)</sup>	----	3.468	----
1	1.221	1.462	1.638	1.640	1.159	1.162	3.468	3.468
2	1.478	1.389	1.627	1.639	1.154	1.161	3.468	3.468
4	1.160	1.343	1.592	1.634	1.139	1.158	3.468	3.468
7	0.967	1.257	1.523	1.620	1.114	1.151	3.467	3.468
14	0.520	1.038	1.317	1.573	1.062	1.130	n. c. <sup>3)</sup>	3.468
21	0.258	0.842	1.127	1.510	1.019	1.107	n. c. <sup>3)</sup>	3.468
28	0.128	0.688	0.976	1.436	0.981	1.086	n. c. <sup>3)</sup>	3.466
42	0.0472	0.489	0.866	1.293	0.859	1.043	n. c. <sup>3)</sup>	3.447
50	0.0941	0.422	0.788	1.227	0.799	1.015	n. c. <sup>3)</sup>	3.415
100	0.00656	0.226	0.470	0.946	n. c. <sup>3)</sup>	0.781	n. c. <sup>3)</sup>	2.622
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.249 <sup>1)</sup> ----- 1.248 <sup>2)</sup>	----	1.064	----	5.693 <sup>1)</sup> ----- 5.692 <sup>2)</sup>	----	3.818	----
1	0.613	0.775	1.047	1.063	3.214	4.376	3.750	3.807
2	0.760	0.744	1.015	1.061	2.372	3.957	3.637	3.778
4	0.820	0.736	0.939	1.049	1.448	3.720	3.315	3.691
7	0.799	0.685	0.837	1.019	0.618	2.962	2.780	3.498
14	0.199	0.565	0.672	0.938	0.200	1.938	2.049	3.056
21	0.0745	0.420	0.570	0.863	0.226	1.410	1.798	2.715
28	0.0409	0.332	0.501	0.802	1.021	1.109	1.723	2.542
42	0.0667	0.242	0.475	0.707	0.185	0.995	1.878	2.487
50	0.0604	0.216	0.454	0.671	0.134	0.869	1.658	2.385
100	n. c. <sup>3)</sup>	0.130	n. c. <sup>3)</sup>	0.507	0.170	0.545	1.398	2.000
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0326 <sup>1)</sup> ----- 0.0326 <sup>2)</sup>	----	0.989	----	0.194 <sup>1)</sup> ----- 0.194 <sup>2)</sup>	----	0.0214	----
1	0.0318	0.0321	0.989	0.989	7.7 E-5	0.0394	0.0103	0.0160
2	0.0313	0.0318	0.988	0.989	2.4 E-5	0.0175	0.0724	0.0125
4	0.0304	0.0313	0.988	0.989	7 E-6	0.00875	0.00512	0.00938
7	0.0294	0.0307	0.987	0.988	3 E-6	0.00500	0.00387	0.00729
14	0.0274	0.0295	0.982	0.988	1 E-6	0.00250	0.00272	0.00526
21	0.0256	0.0285	0.972	0.987	<1.0 E-6	0.00167	0.00220	0.00433
28	0.0238	0.0276	0.960	0.986	<1.0 E-6	0.00125	0.00188	0.00375
42	0.0208	0.0258	0.931	0.982	<1.0 E-6	8.34 E-4	0.00149	0.00306
50	0.0229	0.0251	0.913	0.980	1.0 E-5	0.00112	0.00496	0.00321
100	0.0152	0.0219	0.735	0.954	<1.0 E-6	5.70 E-4	0.00167	0.00284

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.272 <sup>1)</sup> 0.272 <sup>2)</sup>	----	0.0391	----	0.192 <sup>1)</sup> 0.192 <sup>2)</sup>	----	0.0179	----
1	3.90 E-4	0.0701	0.0199	0.0308	4.8 E-5	0.0285	0.00847	0.0131
2	1.07 E-4	0.0352	0.0141	0.0244	1.5 E-5	0.0142	0.00593	0.0103
4	3.0 E-5	0.0176	0.0100	0.0184	5 E-6	0.00713	0.00417	0.00765
7	1.2 E-5	0.0101	0.00760	0.0143	2 E-6	0.00407	0.00314	0.00594
14	4 E-6	0.00504	0.00535	0.0103	1 E-6	0.00204	0.00219	0.00427
21	<1.0 E-6	0.00336	0.00434	0.00851	<1.0 E-6	0.00136	0.00176	0.00350
28	2 E-6	0.00252	0.00372	0.00739	<1.0 E-6	0.00102	0.00150	0.00303
42	1 E-6	0.00168	0.00295	0.00603	<1.0 E-6	6.79 E-4	0.00118	0.00247
50	1 E-6	0.00141	0.00266	0.00552	<1.0 E-6	5.71 E-4	0.00105	0.00225
100	<1.0 E-6	7.07 E-4	0.00158	0.00379	<1.0 E-6	2.85 E-4	5.93 E-4	0.00152

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

Metabolite *FOE Oxalate*

Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1

Molecular weight: 225.2

Soil or water metabolite: *soil and water metabolite*

Koc (mL/g): 10.60 (*geomean*)

DT<sub>50</sub> soil (d): 11.08 days (*normalised lab geomean*)

DT<sub>50</sub> water/sediment system (d): 1000 d (*FOCUS Default*)

DT<sub>50</sub> water (d): 1000 d (*FOCUS Default*)

DT<sub>50</sub> sediment (d): 1000 d (*FOCUS Default*)

Crop interception (%): 0 % (*no crop canopy*)

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

Total Water and Sediment: 5.4 %

Soil: 26.3%

*Calculations not performed*

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Crop and growth stage: *Winter cereals, BBCH 10 -13;*

Number of applications: 1

Interval (d): *not applicable – single application*

Application rate(s): 240 g a.s./ha

Application window:

*Steps 1-2: October - February*

Main routes of entry

*As defined by the modelling tool*

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	12.933	----	1.363	----
1	12.923	12.928	1.370	1.366
2	12.914	12.923	1.369	1.368
4	12.896	12.914	1.367	1.368
7	12.869	12.901	1.364	1.367
14	12.807	12.869	1.358	1.364
21	12.745	12.838	1.351	1.361
28	12.683	12.807	1.344	1.357
42	12.561	12.745	1.331	1.351
50	12.491	12.710	1.324	1.347
100	12.066	12.494	1.279	1.324

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	5.079	----	0.538	----	4.078	----	0.432	----
1	5.075	5.077	0.538	0.538	4.075	4.076	0.432	0.432
2	5.072	5.075	0.537	0.538	4.072	4.075	0.431	0.432
4	5.065	5.072	0.537	0.537	4.066	4.072	0.431	0.431
7	5.054	5.067	0.535	0.537	4.058	4.068	0.430	0.431
14	5.030	5.054	0.533	0.535	4.038	4.058	0.428	0.430
21	5.005	5.042	0.530	0.534	4.019	4.048	0.426	0.429
28	4.981	5.030	0.528	0.533	3.999	4.038	0.424	0.428
42	4.933	5.006	0.523	0.530	3.961	4.019	0.420	0.426
50	4.906	4.992	0.520	0.529	3.939	4.008	0.417	0.425
100	4.739	4.907	0.502	0.520	3.805	3.929	0.403	0.417

Metabolite *FOE Sulfonic acid*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1
Molecular weight: 275.3
Soil or water metabolite: <i>soil and water metabolite</i>
Koc (mL/g): 11.10 ( <i>geomean</i> )
DT <sub>50</sub> soil (d): 45.11 days ( <i>normalised lab geomean</i> )
DT <sub>50</sub> water/sediment system (d): 1000 d ( <i>FOCUS Default</i> )
DT <sub>50</sub> water (d): 1000 d ( <i>FOCUS Default</i> )
DT <sub>50</sub> sediment (d): 1000 d ( <i>FOCUS Default</i> )
Crop interception (%): 0 % ( <i>no crop canopy</i> )
Maximum occurrence observed (% molar basis with respect to the parent)
Total Water and Sediment: 3.2 %
Soil: 26.5%
Calculations not performed
Crop and growth stage: <i>Winter cereals, BBCH 10 -13;</i>
Number of applications: 1
Interval (d): <i>not applicable – single application</i>
Application rate(s): 240 g a.s./ha
Application window:
<i>Steps 1-2: October - February</i>
<i>As defined by the modelling tool</i>

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	15.882	----	1.757	----
1	15.871	15.876	1.762	1.759
2	15.860	15.871	1.760	1.760
4	15.838	15.860	1.758	1.760
7	15.805	15.843	1.754	1.758
14	15.728	15.805	1.746	1.754
21	15.652	15.767	1.737	1.750
28	15.576	15.728	1.729	1.746
42	15.426	15.653	1.712	1.737
50	15.341	15.610	1.703	1.733
100	14.818	15.344	1.645	1.703

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	7.500	----	0.831	----	6.007	----	0.666	----
1	7.490	7.493	0.831	0.831	6.003	6.005	0.666	0.666
2	7.485	7.490	0.830	0.831	5.998	6.003	0.665	0.666
4	7.475	7.485	0.829	0.830	5.990	5.998	0.664	0.665
7	7.459	7.477	0.827	0.829	5.978	5.992	0.663	0.665
14	7.423	7.459	0.823	0.827	5.949	5.978	0.660	0.663
21	7.387	7.441	0.819	0.825	5.920	5.963	0.657	0.662
28	7.351	7.423	0.815	0.823	5.891	5.949	0.654	0.660
42	7.280	7.387	0.808	0.819	5.834	5.920	0.647	0.657
50	7.240	7.367	0.803	0.817	5.802	5.904	0.644	0.655
100	6.993	7.241	0.776	0.803	5.604	5.803	0.622	0.644

Metabolite *FOE Methylsulfone*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: <i>"FOCUS STEPS 1-2"</i> ver. 2.1 Molecular weight: 273.3 Soil or water metabolite: <i>soil and water metabolite</i> Koc (mL/g): 61.03 (geomean) DT <sub>50</sub> soil (d): 81.70 days (normalised lab median) DT <sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default) DT <sub>50</sub> water (d): 1000 d (FOCUS Default) DT <sub>50</sub> sediment (d): 1000 d (FOCUS Default) Crop interception (%): 0 % (no crop canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 7.2 % Soil: 6.6%
Calculations not performed
Crop and growth stage: <i>Winter cereals, BBCH 10 -13</i> ; Number of applications: 1 Interval (d): <i>not applicable – single application</i> Application rate(s): 240 g a.s./ha Application window: <i>Steps 1-2: October - February</i> <i>As defined by the modelling tool</i>

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	3.792	----	2.241	----
1	3.781	3.786	2.307	2.274
2	3.778	3.783	2.306	2.290
4	3.773	3.779	2.303	2.297
7	3.765	3.775	2.298	2.299
14	3.747	3.765	2.287	2.295
21	3.729	3.756	2.276	2.291
28	3.711	3.747	2.265	2.285
42	3.675	3.729	2.243	2.275
50	3.654	3.719	2.230	2.269
100	3.530	3.655	2.154	2.230

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.888	----	1.150	----	1.533	----	0.933	----
1	1.884	1.886	1.149	1.149	1.529	1.531	0.933	0.933
2	1.883	1.885	1.148	1.149	1.528	1.530	0.932	0.933
4	1.880	1.883	1.147	1.148	1.526	1.529	0.931	0.932
7	1.876	1.881	1.144	1.147	1.523	1.527	0.929	0.931
14	1.867	1.876	1.139	1.144	1.516	1.523	0.924	0.929
21	1.858	1.872	1.133	1.142	1.508	1.519	0.920	0.927
28	1.849	1.867	1.128	1.139	1.501	1.516	0.915	0.924
42	1.831	1.858	1.117	1.133	1.486	1.508	0.907	0.920
50	1.821	1.853	1.111	1.130	1.478	1.504	0.902	0.917
100	1.759	1.822	1.073	1.111	1.428	1.479	0.871	0.902

Metabolite *FOE Methylsulfide*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1 Molecular weight: 241.33 Soil or water metabolite: <i>water metabolite</i> Koc (mL/g): 598.0 (QSAR value) DT <sub>50</sub> soil (d): 1000 d (FOCUS Default) DT <sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default) DT <sub>50</sub> water (d): 1000 d (FOCUS Default) DT <sub>50</sub> sediment (d): 1000 d (FOCUS Default) Crop interception (%): 0 % (no crop canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 11.4 % Soil: 0.0001%
Calculations not performed
Crop and growth stage: <i>Winter cereals, BBCH 10 -13</i> ; Number of applications: 1 Interval (d): <i>not applicable – single application</i> Application rate(s): 240 g a.s./ha Application window: <i>Steps 1-2: October - February</i>
As defined by the modelling tool

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	0.167	----	<0.001	----
1	0.093	0.130	0.556	0.279
2	0.093	0.112	0.556	0.417
4	0.093	0.102	0.555	0.486
7	0.093	0.098	0.554	0.515
14	0.092	0.095	0.551	0.534
21	0.092	0.094	0.548	0.539
28	0.091	0.093	0.546	0.541
42	0.090	0.093	0.540	0.541
50	0.090	0.092	0.537	0.541
100	0.087	0.090	0.519	0.535



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.167	----	0.554	----	0.167	----	0.554	----
1	0.118	0.142	0.554	0.554	0.118	0.142	0.554	0.554
2	0.110	0.128	0.554	0.554	0.110	0.128	0.554	0.554
4	0.109	0.119	0.553	0.554	0.109	0.119	0.553	0.554
7	0.093	0.109	0.552	0.553	0.093	0.109	0.552	0.553
14	0.092	0.101	0.549	0.552	0.092	0.101	0.549	0.552
21	0.092	0.098	0.546	0.550	0.092	0.098	0.546	0.550
28	0.091	0.096	0.544	0.549	0.091	0.096	0.544	0.549
42	0.090	0.094	0.538	0.546	0.090	0.094	0.538	0.546
50	0.090	0.094	0.535	0.545	0.090	0.094	0.535	0.545
100	0.087	0.091	0.517	0.535	0.087	0.091	0.517	0.535

Metabolite *FOE Thiadone*

Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
 ver. 2.1  
 Molecular weight: 170.1  
 Soil or water metabolite: *soil and water metabolite*  
 Koc (mL/g): 42.10 (*geomean*)  
 DT<sub>50</sub> soil (d): 1.95 days (*normalised lab geomean*)  
 DT<sub>50</sub> water/sediment system (d): 1000 d (*FOCUS Default*)  
 DT<sub>50</sub> water (d): 1000 d (*FOCUS Default*)  
 DT<sub>50</sub> sediment (d): 1000 d (*FOCUS Default*)  
 Crop interception (%): 0 % (*no crop canopy*)  
 Maximum occurrence observed (% molar basis with respect to the parent)  
 Total Water and Sediment: 84.3 %  
 Soil: 5.9%

Parameters used in FOCUSsw step 3 (if performed)

*Calculations not performed*

Application rate

Crop and growth stage: *Winter cereals, BBCH 10 -13;*  
 Number of applications: 1  
 Interval (d): *not applicable – single application*  
 Application rate(s): 240 g a.s./ha  
 Application window:  
*Steps 1-2: October - February*

Main routes of entry

*As defined by the modelling tool*

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	2.928	----	0.866	----
1	2.880	2.904	1.212	1.039
2	2.878	2.891	1.211	1.126
4	2.874	2.883	1.210	1.168
7	2.868	2.878	1.207	1.185
14	2.854	2.869	1.201	1.195
21	2.840	2.862	1.196	1.196
28	2.826	2.855	1.190	1.195
42	2.799	2.841	1.178	1.192
50	2.783	2.833	1.172	1.189
100	2.689	2.784	1.132	1.170

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.086	----	0.450	----	1.036	----	0.430	----
1	1.070	1.078	0.450	0.450	1.020	1.028	0.492	0.429
2	1.069	1.074	0.450	0.450	1.020	1.024	0.429	0.429
4	1.068	1.071	0.449	0.450	1.018	1.021	0.428	0.429
7	1.065	1.069	0.448	0.449	1.016	1.020	0.428	0.429
14	1.060	1.066	0.446	0.448	1.011	1.017	0.425	0.428
21	1.055	1.063	0.444	0.447	1.006	1.014	0.423	0.426
28	1.050	1.061	0.442	0.446	1.001	1.011	0.421	0.425
42	1.040	1.055	0.438	0.444	0.992	1.007	0.417	0.423
50	1.034	1.052	0.435	0.443	0.986	1.004	0.415	0.422
100	0.999	1.034	0.420	0.435	0.953	0.987	0.401	0.415

Metabolite *FOE 5043-Trifluoroethanesulfonic acid*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 164.1  
Soil or water metabolite: *soil metabolite*  
Koc (mL/g): 0.0001 (default)  
DT<sub>50</sub> soil (d): 6.41 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 0.0001 %  
Soil: 6.0

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 10 -13;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 240 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	2.168	----	0.000	----
1	2.166	2.167	0.000	0.000
2	2.165	2.166	0.000	0.000
4	2.162	2.165	0.000	0.000
7	2.157	2.163	0.000	0.000
14	2.147	2.157	0.000	0.000
21	2.137	2.152	0.000	0.000
28	2.126	2.147	0.000	0.000
42	2.106	2.137	0.000	0.000
50	2.094	2.131	0.000	0.000
100	2.023	2.095	0.000	0.000

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained for at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.703	----	0.000	----	0.563	----	0.000	----
1	0.703	0.703	0.000	0.000	0.562	0.563	0.000	0.000
2	0.702	0.703	0.000	0.000	0.562	0.562	0.000	0.000
4	0.701	0.702	0.000	0.000	0.561	0.562	0.000	0.000
7	0.700	0.702	0.000	0.000	0.560	0.561	0.000	0.000
14	0.696	0.700	0.000	0.000	0.557	0.560	0.000	0.000
21	0.693	0.698	0.000	0.000	0.555	0.559	0.000	0.000
28	0.690	0.697	0.000	0.000	0.552	0.557	0.000	0.000
42	0.683	0.693	0.000	0.000	0.547	0.555	0.000	0.000
50	0.679	0.691	0.000	0.000	0.544	0.553	0.000	0.000
100	0.656	0.680	0.000	0.000	0.525	0.544	0.000	0.000

Metabolite *Trifluoroacetic acid (TFA)*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 114.0  
Soil or water metabolite: *soil metabolite*  
Koc (mL/g): 0.0001 (default)  
DT<sub>50</sub> soil (d): 1000 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 0.0001 %  
Soil: 81.5

Parameters used in FOCUSsw step 3 (if performed)

*Calculations not performed*

Application rate

Crop and growth stage: *Winter cereals, BBCH 10 -13;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 240 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

*As defined by the modelling tool*

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	20.457	----	0.000	----
1	20.443	20.450	0.000	0.000
2	20.429	20.443	0.000	0.000
4	20.400	20.429	0.000	0.000
7	20.358	20.407	0.000	0.000
14	20.259	20.358	0.000	0.000
21	20.161	20.309	0.000	0.000
28	20.064	20.260	0.000	0.000
42	19.870	20.162	0.000	0.000
50	19.760	20.106	0.000	0.000
100	19.087	19.764	0.000	0.000

List of end points

Rapporteur Member State

Month and year

**Active substance and Plant  
Protection Product (Name)**

POLAND		Flufenacet
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**Section 4 Environmental fate and behaviour**

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	10.200	----	0.000	----	8.160	----	0.000	----
1	10.193	10.200	0.000	0.000	8.154	8.157	0.000	0.000
2	10.186	10.193	0.000	0.000	8.149	8.154	0.000	0.000
4	10.172	10.186	0.000	0.000	8.138	8.149	0.000	0.000
7	10.151	10.175	0.000	0.000	8.121	8.140	0.000	0.000
14	10.102	10.151	0.000	0.000	8.081	8.121	0.000	0.000
21	10.053	10.126	0.000	0.000	8.042	8.101	0.000	0.000
28	10.004	10.102	0.000	0.000	8.003	8.081	0.000	0.000
42	9.907	10.053	0.000	0.000	7.926	8.043	0.000	0.000
50	9.853	10.025	0.000	0.000	7.882	8.020	0.000	0.000
100	9.517	9.855	0.000	0.000	7.614	7.884	0.000	0.000

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

#### 2) Use: Winter cereals, post-emergence, BBCH 11-13, autumn, application rate 160 g Flufenacet/ha

Parent Parameters used in FOCUSsw step 1 and 2	Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1 Molecular weight (g/mol): 363.3 K <sub>oc</sub> (mL/g): 245.9 DT <sub>50</sub> soil (d): 17.87 days (geomean SFO lab value normalised to T = 20°C and pF2) DT <sub>50</sub> water/sediment system (d): 49.6 d (geomean from sediment water studies) DT <sub>50</sub> water (d): 1000 days DT <sub>50</sub> sediment (d): 49.6 days Crop interception (%): 0 % (no crop canopy)
Parameters used in FOCUSsw step 3	Version control no.'s of FOCUS software: FOCUS SWASH 3.1 Water solubility (mg/L): 56 Vapour pressure: 0.00009 Pa at 20°C K <sub>oc</sub> (mL/g): 245.9 (geomean, general) 1/n: 0.916 (arithmetic mean, general) Q10=2.58, Walker equation coefficient 0.7 Crop uptake factor: 0.744 (TSCF calculated value)
Application rate	Crop and growth stage: Winter cereals, BBCH 11-13, "CAM 1" for R-scenarios; Number of applications: 1 Interval (d): not applicable – single application Application rate(s): 160 g a.s./ha Application window: Steps 1-2: October - February Step 3: 2 days after emergence defined for each scenario as a starting day for 30-days application window: - for D1 ditch/stream scenario: 27/09 (JD 270); - for D2 ditch/stream scenario: 27/10 (JD 300); - for D3 ditch scenario: 23/11 (JD 327); - for D4 pond/stream scenario: 24/09 (JD 267); - for D5 pond/stream scenario: 12/11 (JD 316); - for D6 ditch scenario: 02/12 (JD 336); - for R1 pond/stream scenario: 14/11 (JD 318); - for R2 stream scenario: crop not defined; - for R3 stream scenario: 03/12 (JD 337); - for R4 stream scenario: 12/11 (JD 316); CAM 1 for R scenarios
Parameters used in FOCUSsw step 4	Version control no.'s of FOCUS software: FOCUS TOXSWA 3.3.1; SWAN 3.0.0. Substance specific input parameters and application window as at Step 3 Mitigation measures applied: a) for buffer zone 10 metres: 10-metres wide no-spray zone for all scenarios (Spray drift reduction); reduction factors for run-off (R scenarios): 0.6 for run-off volume and flux, 0.85 for erosion mass and flux (FOCUS values) b) for buffer zone 20 metres: 20-metres wide no-spray zone for all scenarios (Spray drift reduction); reduction factors for run-off (R scenarios): 0.8 for run-off volume and flux, 0.95 for erosion mass and flux (FOCUS values); c) for buffer zone 10 metres in VFS-mod : 10-metres wide no-spray zone for all scenarios (Spray drift reduction); 10-metres wide Vegetated Filter Stripe (reduction calculated by the tool for run-off (R scenarios):

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	41.636	----	98.765	----
1	40.700	41.168	100.081	99.423
2	40.135	40.792	98.692	99.404
4	39.029	40.186	95.972	98.365
7	37.427	39.344	92.032	96.489
14	33.939	37.499	83.455	92.082
21	30.776	35.777	75.678	87.889
28	27.908	34.162	68.626	83.940
42	22.949	31.224	56.431	76.737
50	20.521	29.702	50.462	73.001
100	10.204	22.234	25.090	54.656

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	18.395	----	44.361	----	14.956	----	36.020	----
1	18.281	18.338	44.186	44.273	14.844	14.900	35.877	35.949
2	18.209	18.292	44.011	44.186	14.785	14.857	35.736	35.878
4	18.066	18.215	43.664	44.012	14.669	14.792	35.454	35.736
7	17.853	18.105	43.149	43.752	14.496	14.702	35.036	35.526
14	17.365	17.856	41.971	43.155	14.100	14.500	34.079	35.040
21	16.891	17.613	40.824	42.568	13.715	14.302	33.148	34.564
28	16.429	17.375	39.709	41.992	13.340	14.108	32.243	34.096
42	15.544	16.911	37.570	40.871	12.621	13.731	30.505	33.186
50	15.060	16.653	36.399	40.249	12.228	13.522	29.555	32.681
100	12.357	15.159	29.867	36.637	10.034	12.308	24.251	29.748

Data on application pattern at STEP 3.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	27. 09 – 27. 10	03. 10. 1982/9:00	16. 03. 1982/9:59	Drainage
D1 – stream	27. 09 – 27. 10	03. 10. 1982/ 9:00	16. 03. 1982/8:00	Drainage
D2 – ditch	27. 10 – 26. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D2 – stream	27. 10 – 26. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D3 – ditch	23. 11 – 23. 12	22. 11. 1992/9:00	22. 11. 1992/9:00	Spray drift
D4 – pond	24. 09 – 24. 10	28. 09. 1985/9:00	24. 12. 1985/14:00	Drainage
D4 – stream	24. 09 – 24. 10	28. 09. 1986/9:00	07. 12. 1985/9:00	Drainage
D5 – pond	12. 11 – 12. 12	27. 11. 1978/9:00	15. 02. 1979/18:00	Drainage
D5 – stream	12. 11 – 12. 12	27. 11. 1978/9:00	27. 11. 1978/9:00	Spray drift
D6 – ditch	02. 12 – 02. 01	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	14. 11 – 14. 12	14. 11. 1978/9:00	31. 12. 1978/15:00	Run-off
R1 – stream	14. 11 – 14. 12	14. 11. 1978/9:00	25. 11. 1978/7:59	Run-off
R2 – stream	Crop not defined in this scenario			
R3 – stream	03. 12 – 03. 01	05. 12. 1980/9:00	16. 12. 1980/9:00	Run-off
R4 – stream	12. 11 – 12. 12	10. 12. 1979/9:00	21. 12. 1979/2:00	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 3 for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	4.328 <sup>1)</sup> 4.327 <sup>2)</sup>	----	11.617	----	2.699 <sup>1)</sup> 2.699 <sup>2)</sup>	----	6.958	----
1	4.261	4.315	11.615	11.617	2.671	2.693	6.956	6.958
2	4.178	4.296	11.609	11.616	2.613	2.680	6.952	6.957
4	3.948	4.252	11.590	11.613	2.462	2.648	6.934	6.956
7	3.603	4.156	11.550	11.606	2.232	2.585	6.883	6.950
14	3.065	3.945	11.382	11.578	1.863	2.446	6.368	6.921
21	2.719	3.908	10.907	11.532	1.593	2.423	5.084	6.873
28	2.771	3.748	10.837	11.512	1.710	2.317	5.421	6.860
42	2.217	3.446	9.867	11.464	0.967	2.117	3.955	6.801
50	1.759	3.374	9.162	11.394	0.0117	2.068	3.519	6.678
100	0.527	2.810	4.871	10.592	0.00181	1.511	1.748	5.653
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.957 <sup>1)</sup> 3.955 <sup>2)</sup>	----	4.987	----	2.480 <sup>1)</sup> 2.479 <sup>2)</sup>	----	2.919	----
1	1.490	2.528	4.955	4.975	0.796	1.507	2.907	2.910
2	1.463	2.145	4.919	4.962	1.072	1.281	2.882	2.905
4	1.240	2.070	4.870	4.935	0.711	1.225	2.861	2.890
7	1.292	1.966	4.768	4.920	0.727	1.161	2.803	2.879
14	1.286	1.829	4.545	4.852	0.929	1.092	2.667	2.841
21	1.436	1.665	4.348	4.824	0.812	1.002	2.546	2.817
28	1.007	1.589	n. c. <sup>3)</sup>	4.781	0.589	0.952	n. c. <sup>3)</sup>	2.790
42	0.821	1.458	n. c. <sup>3)</sup>	4.757	0.451	0.874	n. c. <sup>3)</sup>	2.762
50	2.650	1.369	n. c. <sup>3)</sup>	4.733	1.644	0.819	n. c. <sup>3)</sup>	2.747
100	0.782	1.089	n. c. <sup>3)</sup>	4.576	0.447	0.644	n. c. <sup>3)</sup>	2.647
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.010 <sup>1)</sup> 1.010 <sup>2)</sup>	----	0.272	----	0.756 <sup>1)</sup> 0.755 <sup>2)</sup>	----	2.430	----
1	0.197	0.650	0.182	0.250	0.755	0.755	2.430	2.430
2	0.0104	0.358	0.131	0.215	0.754	0.755	2.430	2.430
4	0.00112	0.181	0.0935	0.168	0.748	0.755	2.429	2.430
7	3.92 E-4	0.104	0.0709	0.133	0.736	0.753	2.425	2.430
14	1.21 E-4	0.0519	0.0501	0.0968	0.701	0.744	2.415	2.429
21	6.3 E-5	0.0346	0.0406	0.0798	0.669	0.732	2.402	2.428
28	4.3 E-5	0.0260	0.0348	0.0694	0.628	0.720	2.387	2.426
42	2.5 E-5	0.0173	0.0274	0.0566	0.552	0.692	n. c. <sup>3)</sup>	2.422
50	2.1 E-5	0.0146	0.0244	0.0518	0.524	0.675	n. c. <sup>3)</sup>	2.419
100	6 E-6	0.0729	0.0148	0.0353	0.401	0.583	n. c. <sup>3)</sup>	2.373

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;  
3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Results of the calculations obtained at Step 3 for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.081 <sup>1)</sup> 1.080 <sup>2)</sup>	----	1.081	----	0.766 <sup>1)</sup> 0.765 <sup>2)</sup>	----	2.315	----
1	0.773	0.936	1.078	1.081	0.764	0.765	2.315	2.315
2	0.956	0.886	1.069	1.080	0.760	0.765	2.315	2.315
4	0.743	0.857	1.049	1.077	0.750	0.763	2.315	2.315
7	0.628	0.804	0.999	1.069	0.734	0.758	2.315	2.315
14	0.347	0.668	0.865	1.039	0.700	0.744	n. c. <sup>3)</sup>	2.315
21	0.173	0.545	0.742	0.999	0.671	0.729	n. c. <sup>3)</sup>	2.315
28	0.0860	0.447	0.644	0.952	0.646	0.715	n. c. <sup>3)</sup>	2.314
42	0.0317	0.318	0.573	0.858	0.565	0.686	n. c. <sup>3)</sup>	2.302
50	0.0605	0.275	0.520	0.815	0.525	0.668	n. c. <sup>3)</sup>	2.281
100	0.00411	0.147	0.311	0.629	n. c. <sup>3)</sup>	0.513	n. c. <sup>3)</sup>	1.751
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.946 <sup>1)</sup> 0.946 <sup>2)</sup>	----	0.714	----	3.732 <sup>1)</sup> 3.731 <sup>2)</sup>	----	2.722	----
1	0.00768	0.498	0.703	0.713	2.100	2.859	2.677	2.715
2	9.15 E-4	0.497	0.682	0.712	1.555	2.563	2.600	2.695
4	2.41 E-4	0.489	0.630	0.704	0.955	2.403	2.382	2.637
7	9.5 E-5	0.451	0.562	0.683	0.407	1.918	2.013	2.506
14	3.1 E-5	0.372	0.451	0.629	0.124	1.239	1.493	2.203
21	1.6 E-5	0.276	0.382	0.578	0.141	0.906	1.304	1.963
28	1.0 E-5	0.218	0.335	0.537	0.673	0.843	1.918	1.834
42	0.00621	0.156	0.317	0.473	0.114	0.640	1.324	1.783
50	0.0483	0.139	0.303	0.449	0.0828	0.628	1.167	1.707
100	0.0216	0.0841	n. c. <sup>3)</sup>	0.338	0.105	0.390	0.953	1.414
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0797 <sup>1)</sup> 0.0796 <sup>2)</sup>	----	0.281	----	3.790 <sup>1)</sup> 3.789 <sup>2)</sup>	----	0.845	----
1	0.0786	0.0791	0.281	0.281	0.00374	1.574	0.405	0.647
2	0.0778	0.0787	0.281	0.281	0.00118	0.789	0.298	0.514
4	0.0763	0.0779	0.281	0.281	3.95 E-4	0.395	0.219	0.391
7	0.0742	0.0768	0.280	0.281	7.2 E-5	0.226	0.170	0.308
14	0.0698	0.0745	0.278	0.281	1.46 E-4	0.121	0.133	0.227
21	0.0658	0.0723	0.275	0.281	0.0070	0.0810	0.108	0.190
28	0.0622	0.0703	0.272	0.280	1.0 E-5	0.0615	0.0889	0.167
42	0.0559	0.0668	0.263	0.279	4.6 E-5	0.0465	0.104	0.149
50	0.0521	0.0649	0.258	0.278	1.8 E-5	0.0415	0.0862	0.140
100	0.0349	0.0603	0.198	0.271	3 E-6	0.0209	0.0497	0.102

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;  
3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 3 for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	4.980 <sup>1)</sup> 4.979 <sup>2)</sup>	----	1.248	----	3.957 <sup>1)</sup> 3.955 <sup>2)</sup>	----	1.037	----
1	0.0136	2.568	0.652	1.018	2.133	2.050	0.946	0.874
2	0.00397	1.291	0.482	0.821	0.00444	1.489	0.573	0.834
4	0.00129	0.647	0.356	0.630	8.06 E-4	0.745	0.392	0.667
7	5.53 E-4	0.370	0.277	0.499	2.96 E-4	0.426	0.294	0.531
14	8.81 E-4	0.283	0.370	0.459	9.3 E-5	0.220	0.207	0.390
21	3.47 E-4	0.189	0.267	0.411	4.9 E-5	0.147	0.167	0.323
28	1.89 E-4	0.150	0.222	0.370	3.2 E-5	0.110	0.143	0.281
42	9.1 E-5	0.100	0.171	0.312	1.9 E-5	0.0734	0.112	0.230
50	7.0 E-5	0.0841	0.153	0.288	1.8 E-5	0.0617	0.0992	0.210
100	2.7 E-5	0.0447	0.101	0.209	6 E-6	0.0309	0.0571	0.143

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 10 metres buffer zone:

Data on application pattern at STEP 4, 10 –metres buffer zone.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	27. 09 – 27. 10	03. 10. 1982/9:00	16. 03.1982/15:59	Drainage
D1 – stream	27. 09 – 27. 10	03. 10. 1982/ 9:00	16. 03. 1982/6:59	Drainage
D2 – ditch	27. 10 – 26. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D2 – stream	27. 10 – 26. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D3 – ditch	23. 11 – 23. 12	22. 11. 1992/9:00	22. 11. 1992/9:00	Spray drift
D4 – pond	24. 09 – 24. 10	28. 09. 1985/9:00	24. 12. 1985/15:00	Drainage
D4 – stream	24. 09 – 24. 10	28. 09. 1986/9:00	07. 12. 1985/9:00	Drainage
D5 – pond	12. 11 – 12. 12	27. 11. 1978/9:00	15. 02. 1979/18:59	Drainage
D5 – stream	12. 11 – 12. 12	27. 11. 1978/9:00	04. 02. 1979/11:00	Drainage
D6 – ditch	02. 12 – 02. 01	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	14. 11 – 14. 12	14. 11. 1978/9:00	31. 12. 1978/15:00	Run-off
R1 – stream	14. 11 – 14. 12	14. 11. 1978/9:00	25. 11. 1978/7:59	Run-off
R2 – stream	Crop not defined in this scenario			
R3 – stream	03. 12 – 03. 01	05. 12. 1980/9:00	16. 12. 1980/9:00	Run-off
R4 – stream	12. 11 – 12. 12	10. 12. 1979/9:00	21. 12. 1979/2:00	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained attep 4, 10-metres buffer zone, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	4.328 <sup>1)</sup> ----- 4.327 <sup>2)</sup>	----	11.671	----	2.699 <sup>1)</sup> ----- 2.699 <sup>2)</sup>	----	6.958	----
1	4.261	4.315	11.615	11.617	2.671	2.693	6.956	6.958
2	4.178	4.296	11.609	11.616	2.613	2.680	6.952	6.957
4	3.948	4.252	11.590	11.613	2.462	2.648	6.934	6.956
7	3.603	4.156	11.550	11.606	2.232	2.585	6.883	6.950
14	3.065	3.945	11.382	11.578	1.863	2.446	6.368	6.921
21	2.719	3.908	10.907	11.532	1.593	2.423	5.084	6.873
28	2.771	3.748	10.837	11.512	1.710	2.317	5.421	6.860
42	2.217	3.446	9.867	11.464	0.967	2.117	3.955	6.801
50	1.759	3.374	9.162	11.394	0.0117	2.068	3.519	6.678
100	0.527	2.810	4.871	10.592	0.00181	1.511	1.748	5.653
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.957 <sup>1)</sup> ----- 3.955 <sup>2)</sup>	----	4.943	----	2.480 <sup>1)</sup> ----- 2.479 <sup>2)</sup>	----	2.912	----
1	1.490	2.528	4.911	4.930	0.796	1.507	2.899	2.903
2	1.463	2.145	4.875	4.918	1.072	1.281	2.875	2.898
4	1.240	1.070	4.827	4.891	0.711	1.225	2.854	2.883
7	1.291	1.966	4.726	4.875	0.727	1.161	2.796	2.871
14	1.285	1.829	4.506	4.808	0.929	1.092	2.660	2.833
21	1.436	1.665	4.311	4.779	0.812	1.002	2.540	2.809
28	1.007	1.589	n. c. <sup>3)</sup>	4.736	0.589	0.952	n. c. <sup>3)</sup>	2.783
42	0.821	1.458	n. c. <sup>3)</sup>	4.708	0.541	0.874	n. c. <sup>3)</sup>	2.753
50	2.650	1.369	n. c. <sup>3)</sup>	4.684	1.644	0.819	n. c. <sup>3)</sup>	2.739
100	0.782	1.089	n. c. <sup>3)</sup>	4.520	0.447	0.644	n. c. <sup>3)</sup>	2.638
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.145 <sup>1)</sup> ----- 0.145 <sup>2)</sup>	----	0.0413	----	0.750 <sup>1)</sup> ----- 0.750 <sup>2)</sup>	----	2.403	----
1	0.0282	0.0932	0.0280	0.0382	0.749	0.750	2.403	2.403
2	0.00155	0.0514	0.0203	0.0330	0.748	0.749	2.403	2.403
4	1.77 E-4	0.0260	0.0145	0.0260	0.743	0.749	2.402	2.403
7	6.1 E-5	0.0149	0.0110	0.0206	0.730	0.747	2.398	2.403
14	1.9 E-5	0.00745	0.00776	0.0150	0.696	0.738	2.388	2.402
21	1.0 E-5	0.00497	0.00629	0.0124	0.664	0.727	2.375	2.401
28	7 E-6	0.00373	0.00539	0.0108	0.623	0.714	2.360	2.400
42	4 E-6	0.00249	0.00425	0.00878	0.544	0.687	n. c. <sup>3)</sup>	2.395
50	3 E-6	0.00209	0.00380	0.00803	0.520	0.669	n. c. <sup>3)</sup>	2.392
100	1 E-6	0.00105	0.00230	0.00548	0.398	0.579	n. c. <sup>3)</sup>	2.346

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.081 <sup>1)</sup> 1.080 <sup>2)</sup>	----	1.076	----	0.761 <sup>1)</sup> 0.760 <sup>2)</sup>	----	2.291	----
1	0.773	0.936	1.073	1.076	0.759	0.760	2.291	2.291
2	0.956	0.886	1.064	1.075	0.755	0.760	2.291	2.291
4	0.743	0.857	1.044	1.072	0.745	0.758	2.291	2.291
7	0.628	0.804	0.995	1.064	0.729	0.753	2.290	2.291
14	0.347	0.668	0.861	1.035	0.695	0.739	n. c. <sup>3)</sup>	2.291
21	0.173	0.545	0.738	0.995	0.667	0.724	n. c. <sup>3)</sup>	2.290
28	0.0860	0.447	0.640	0.947	0.641	0.710	n. c. <sup>3)</sup>	2.289
42	0.0317	0.318	0.570	0.854	0.561	0.682	n. c. <sup>3)</sup>	2.276
50	0.0605	0.275	0.517	0.811	0.522	0.664	n. c. <sup>3)</sup>	2.254
100	0.00411	0.147	0.309	0.626	n. c. <sup>3)</sup>	0.509	n. c. <sup>3)</sup>	1.721
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.812 <sup>1)</sup> 0.812 <sup>2)</sup>	----	0.707	----	3.732 <sup>1)</sup> 3.731 <sup>2)</sup>	----	2.485	----
1	0.388	0.498	0.696	0.706	2.100	2.859	2.442	2.479
2	0.488	0.497	0.675	0.705	1.555	2.563	2.372	2.461
4	0.541	0.489	0.624	0.697	0.955	2.403	2.164	2.408
7	0.535	0.451	0.556	0.677	0.407	1.918	1.813	2.285
14	0.133	0.372	0.445	0.622	0.124	1.239	1.330	1.993
21	0.0492	0.276	0.376	0.571	0.141	0.902	1.165	1.769
28	0.0262	0.218	0.330	0.530	0.673	0.708	1.793	1.659
42	0.0433	0.156	0.312	0.467	0.114	0.640	1.225	1.626
50	0.0390	0.139	0.298	0.443	0.0826	0.558	1.079	1.559
100	n. c. <sup>3)</sup>	0.0841	n. c. <sup>3)</sup>	0.333	0.105	0.349	0.902	1.305
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0370 <sup>1)</sup> 0.0370 <sup>2)</sup>	----	0.138	----	1.697 <sup>1)</sup> 1.696 <sup>2)</sup>	----	0.377	----
1	0.0365	0.0368	0.138	0.138	0.00172	0.702	0.181	0.289
2	0.0362	0.0366	0.138	0.138	5.46 E-4	0.352	0.131	0.229
4	0.0355	0.0362	0.138	0.138	1.80 E-4	0.176	0.0949	0.173
7	0.0345	0.0357	0.137	0.138	3.2 E-5	0.101	0.0727	0.135
14	0.0325	0.0346	0.136	0.138	5.8 E-5	0.0519	0.0561	0.0986
21	0.0306	0.0336	0.135	0.138	0.00317	0.0346	0.0451	0.0820
28	0.0289	0.0327	0.133	0.137	4 E-6	0.0263	0.0371	0.0717
42	0.0261	0.0311	0.129	0.137	2.1 E-5	0.0207	0.0450	0.0640
50	0.0243	0.0306	0.126	0.136	8 E-6	0.0179	0.0369	0.0603
100	0.0163	0.0287	0.0981	0.133	1 E-6	0.00899	0.0211	0.0439

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.246 <sup>1)</sup> 2.246 <sup>2)</sup>	----	0.562	----	1.786 <sup>1)</sup> 1.785 <sup>2)</sup>	----	0.473	----
1	0.00633	1.158	0.293	0.458	0.956	0.923	0.433	0.399
2	0.00185	0.582	0.213	0.368	0.00205	0.669	0.262	0.381
4	5.93 E-4	0.292	0.155	0.280	3.74 E-4	0.335	0.178	0.304
7	2.50 E-4	0.167	0.119	0.220	1.37 E-4	0.192	0.133	0.242
14	4.60 E-4	0.128	0.164	0.203	4.3 E-5	0.0971	0.0927	0.177
21	1.57 E-4	0.0851	0.117	0.182	2.2 E-5	0.0648	0.0749	0.146
28	8.4 E-5	0.0655	0.0962	0.163	1.4 E-5	0.0486	0.0638	0.127
42	4.0 E-5	0.0437	0.0741	0.137	8 E-6	0.0324	0.0500	0.104
50	3.1 E-5	0.0367	0.0660	0.126	8 E-6	0.0272	0.0442	0.0946
100	1.2 E-5	0.0195	0.0434	0.0911	2 E-6	0.0136	0.0254	0.0640

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 20 metres buffer zone:

Data on application pattern at STEP 4, 20-metres buffer zone.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	27. 09 – 27. 10	03. 10. 1982/9:00	16. 03.1982/15:59	Drainage
D1 – stream	27. 09 – 27. 10	03. 10. 1982/ 9:00	16. 03. 1982/8:00	Drainage
D2 – ditch	27. 10 – 26. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D2 – stream	27. 10 – 26. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D3 – ditch	23. 11 – 23. 12	22. 11. 1992/9:00	22. 11. 1992/9:00	Spray drift
D4 – pond	24. 09 – 24. 10	28. 09. 1985/9:00	24. 12. 1985/15:00	Drainage
D4 – stream	24. 09 – 24. 10	28. 09. 1986/9:00	07. 12. 1985/9:00	Drainage
D5 – pond	12. 11 – 12. 12	27. 11. 1978/9:00	15. 02. 1979/18:59	Drainage
D5 – stream	12. 11 – 12. 12	27. 11. 1978/9:00	04. 02. 1979/11:00	Drainage
D6 – ditch	02. 12 – 02. 01	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	14. 11 – 14. 12	14. 11. 1978/9:00	31. 12. 1978/15:00	Run-off
R1 – stream	14. 11 – 14. 12	14. 11. 1978/9:00	25. 11. 1978/7:59	Run-off
R2 – stream	Crop not defined in this scenario			
R3 – stream	03. 12 – 03. 01	05. 12. 1980/9:00	16. 12. 1980/9:00	Run-off
R4 – stream	12. 11 – 12. 12	10. 12. 1979/9:00	21. 12. 1979/2:00	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained for Flufenacet at Step 4, 20-metres buffer zone, – results obtained for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	4.328 <sup>1)</sup> ----- 4.327 <sup>2)</sup>	----	11.617	----	2.699 <sup>1)</sup> ----- 2.699 <sup>2)</sup>	----	6.958	----
1	4.261	4.315	11.615	11.617	2.671	2.693	6.956	6.958
2	4.178	4.296	11.609	11.616	2.613	2.680	6.952	6.957
4	3.948	4.252	11.590	11.613	2.462	2.648	6.934	6.956
7	3.603	4.156	11.550	11.606	2.232	2.585	6.883	6.950
14	3.065	3.945	11.382	11.578	1.863	2.446	6.368	6.921
21	2.719	3.908	10.907	11.532	1.593	2.423	5.084	6.873
28	2.771	3.748	10.837	11.512	1.710	2.317	5.421	6.860
42	2.217	3.446	9.867	11.464	0.967	2.117	3.955	6.801
50	1.759	3.374	9.162	11.394	0.0117	2.068	3.519	6.678
100	0.527	2.810	4.871	10.592	0.00181	1.511	1.748	5.653
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.957 <sup>1)</sup> ----- 3.955 <sup>2)</sup>	----	4.939	----	2.480 <sup>1)</sup> ----- 2.479 <sup>2)</sup>	----	2.911	----
1	1.490	2.528	4.908	4.927	0.796	1.507	2.898	2.902
2	1.463	2.145	4.872	4.914	1.072	1.281	2.874	2.897
4	1.240	2.070	4.824	4.887	0.711	1.225	2.853	2.882
7	1.291	1.966	4.723	4.872	0.727	1.161	2.796	2.870
14	1.285	1.829	4.503	4.804	0.929	1.092	2.659	2.832
21	1.436	1.665	4.308	4.775	0.812	1.002	2.539	2.808
28	1.007	1.589	n. c. <sup>3)</sup>	4.733	0.589	0.952	n. c. <sup>3)</sup>	2.782
42	0.821	1.458	n. c. <sup>3)</sup>	4.704	0.451	0.874	n. c. <sup>3)</sup>	2.752
50	2.650	1.369	n. c. <sup>3)</sup>	4.680	1.644	0.819	n. c. <sup>3)</sup>	2.738
100	0.782	1.089	n. c. <sup>3)</sup>	4.515	0.447	0.644	n. c. <sup>3)</sup>	2.636
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0754 <sup>1)</sup> ----- 0.0753 <sup>2)</sup>	----	0.0291	----	0.747 <sup>1)</sup> ----- 0.746 <sup>2)</sup>	----	2.389	----
1	0.0146	0.0483	0.0149	0.0203	0.746	0.746	2.389	2.389
2	8.10 E-4	0.0267	0.0108	0.0175	0.745	0.746	2.389	2.389
4	9.5 E-5	0.0135	0.00774	0.0138	0.740	0.746	2.389	2.389
7	3.3 E-5	0.00772	0.00587	0.0109	0.727	0.744	2.387	2.389
14	1.0 E-5	0.00387	0.00414	0.00799	0.693	0.735	2.374	2.388
21	5 E-6	0.00258	0.00335	0.00659	0.661	0.724	2.361	2.387
28	4 E-6	0.00194	0.00287	0.00573	0.620	0.711	2.346	2.385
42	2 E-6	0.00129	0.00227	0.00468	0.546	0.684	n. c. <sup>3)</sup>	2.381
50	2 E-6	0.00109	0.00202	0.00428	0.518	0.667	n. c. <sup>3)</sup>	2.378
100	1 E-6	5.43 E-4	0.00123	0.00292	0.397	0.577	n. c. <sup>3)</sup>	2.330

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.081 <sup>1)</sup> 1.080 <sup>2)</sup>	----	1.076	----	0.758 <sup>1)</sup> 0.758 <sup>2)</sup>	----	2.278	----
1	0.773	0.936	1.072	1.075	0.756	0.758	2.278	2.278
2	0.956	0.886	1.064	1.075	0.752	0.757	2.278	2.278
4	0.743	0.857	1.044	1.072	0.743	0.755	2.277	2.278
7	0.628	0.804	0.994	1.064	0.727	0.750	n. c. <sup>3)</sup>	2.278
14	0.347	0.668	0.861	1.034	0.693	0.737	n. c. <sup>3)</sup>	2.277
21	0.173	0.545	0.738	0.994	0.664	0.722	n. c. <sup>3)</sup>	2.277
28	0.0860	0.447	0.640	0.497	0.639	0.708	n. c. <sup>3)</sup>	2.276
42	0.0317	0.318	0.570	0.853	0.559	0.679	n. c. <sup>3)</sup>	2.262
50	0.0605	0.275	0.517	0.810	0.520	0.661	n. c. <sup>3)</sup>	2.240
100	0.00411	0.147	0.308	0.625	n. c. <sup>3)</sup>	0.506	n. c. <sup>3)</sup>	1.704
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.812 <sup>1)</sup> 0.812 <sup>2)</sup>	----	0.706	----	3.732 <sup>1)</sup> 3.731 <sup>2)</sup>	----	2.466	----
1	0.388	0.498	0.695	0.705	2.100	2.859	2.424	2.459
2	0.488	0.497	0.674	0.704	1.555	2.563	2.354	2.442
4	0.541	0.489	0.623	0.696	0.955	2.403	2.147	2.389
7	0.535	0.451	0.555	0.676	0.407	1.918	1.798	2.267
14	0.133	0.372	0.444	0.621	0.124	1.239	1.317	1.976
21	0.0492	0.276	0.376	0.571	0.141	0.902	1.154	1.753
28	0.0262	0.218	0.329	0.529	0.673	0.708	1.783	1.645
42	0.0433	0.156	0.312	0.466	0.114	0.640	1.217	1.613
50	0.0390	0.139	0.298	0.442	0.0826	0.558	1.071	1.547
100	n. c. <sup>3)</sup>	0.0841	n. c. <sup>3)</sup>	0.332	0.105	0.349	0.898	1.296
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0208 <sup>1)</sup> 0.0208 <sup>2)</sup>	----	0.0806	----	0.883 <sup>1)</sup> 0.883 <sup>2)</sup>	----	0.199	----
1	0.0205	0.0207	0.0806	0.0806	9.20 E-4	0.365	0.0964	0.153
2	0.0203	0.0206	0.0806	0.0806	2.94 E-4	0.183	0.0697	0.121
4	0.0200	0.0204	0.0805	0.0806	9.6 E-5	0.0915	0.0503	0.0918
7	0.0194	0.0201	0.0804	0.0806	1.7 E-5	0.0523	0.0384	0.0718
14	0.0183	0.0195	0.0797	0.0805	2.9 E-5	0.0270	0.0295	0.0522
21	0.0172	0.0189	0.789	0.0804	0.00159	0.0180	0.0237	0.0434
28	0.0163	0.0184	0.0779	0.0803	2 E-6	0.0137	0.0195	0.0379
42	0.0147	0.0176	0.0756	0.0800	1.1 E-5	0.0108	0.0238	0.0338
50	0.0137	0.0178	0.0740	0.0797	4 E-6	0.00928	0.0195	0.0318
100	0.00918	0.0165	0.0581	0.0776	1 E-6	0.00467	0.0111	0.0232

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.173 <sup>1)</sup> 1.172 <sup>2)</sup>	----	0.298	----	0.933 <sup>1)</sup> 0.933 <sup>2)</sup>	----	0.251	----
1	0.00338	0.604	0.157	0.243	0.498	0.482	0.231	0.213
2	0.00100	0.304	0.114	0.196	0.00109	0.349	0.140	0.203
4	3.18 E-4	0.152	0.0824	0.149	2.01 E-4	0.175	0.0950	0.162
7	1.34 E-4	0.0872	0.0631	0.117	7.3 E-5	0.0999	0.0708	0.129
14	2.18 E-4	0.0666	0.0872	0.108	2.3 E-5	0.0506	0.0494	0.0944
21	8.4 E-5	0.0445	0.0620	0.0966	1.2 E-5	0.0338	0.0399	0.0779
28	4.5 E-5	0.0342	0.0511	0.0866	8 E-6	0.0253	0.0340	0.0677
42	2.1 E-5	0.0228	0.0393	0.0728	5 E-6	0.0169	0.0267	0.0552
50	1.6 E-5	0.0192	0.0350	0.0671	4 E-6	0.0142	0.0236	0.0504
100	6 E-6	0.0102	0.0230	0.0484	1 E-6	0.00711	0.0135	0.0341

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 10 metres buffer zone VFS-mod:

Data on application pattern at STEP 4, 10 –metres buffer zone VFS.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	27. 09 – 27. 10	03. 10. 1982/9:00	16. 03. 1982/15:59	Drainage
D1 – stream	27. 09 – 27. 10	03. 10. 1982/ 9:00	16. 03. 1982/6:59	Drainage
D2 – ditch	27. 10 – 26. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D2 – stream	27. 10 – 26. 11	03. 11. 1986/9:00	15. 12. 1986/6:00	Drainage
D3 – ditch	23. 11 – 23. 12	22. 11. 1992/9:00	22. 11. 1992/9:00	Spray drift
D4 – pond	24. 09 – 24. 10	28. 09. 1985/9:00	24. 12. 1985/15:00	Drainage
D4 – stream	24. 09 – 24. 10	28. 09. 1986/9:00	07. 12. 1985/9:00	Drainage
D5 – pond	12. 11 – 12. 12	27. 11. 1978/9:00	15. 02. 1979/18:59	Drainage
D5 – stream	12. 11 – 12. 12	27. 11. 1978/9:00	04. 02. 1979/11:00	Drainage
D6 – ditch	02. 12 – 02. 01	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	14. 11 – 14. 12	14. 11. 1978/9:00	14. 11. 1978/9:00	Spray drift
R1 – stream	14. 11 – 14. 12	14. 11. 1978/9:00	14. 11. 1978/9:00	Spray drift
R2 – stream	Crop not defined in this scenario			
R3 – stream	03. 12 – 03. 01	05. 12. 1980/9:00	05. 12. 1980/9:00	Spray drift
R4 – stream	12. 11 – 12. 12	10. 12. 1979/9:00	10. 12. 1979/9:00	Spray drift

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	4.328 <sup>1)</sup> 4.327 <sup>2)</sup>	----	11.671	----	2.699 <sup>1)</sup> 2.699 <sup>2)</sup>	----	6.958	----
1	4.261	4.315	11.615	11.617	2.671	2.693	6.956	6.958
2	4.178	4.296	11.609	11.616	2.613	2.680	6.952	6.957
4	3.948	4.252	11.590	11.613	2.462	2.648	6.934	6.956
7	3.603	4.156	11.550	11.606	2.232	2.585	6.883	6.950
14	3.065	3.945	11.382	11.578	1.863	2.446	6.368	6.921
21	2.719	3.908	10.907	11.532	1.593	2.423	5.084	6.873
28	2.771	3.748	10.837	11.512	1.710	2.317	5.421	6.860
42	2.217	3.446	9.867	11.464	0.967	2.117	3.955	6.801
50	1.759	3.374	9.162	11.394	0.0117	2.068	3.519	6.678
100	0.527	2.810	4.871	10.592	0.00181	1.511	1.748	5.653
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.957 <sup>1)</sup> 3.955 <sup>2)</sup>	----	4.943	----	2.480 <sup>1)</sup> 2.479 <sup>2)</sup>	----	2.912	----
1	1.490	2.528	4.911	4.930	0.796	1.507	2.899	2.903
2	1.463	2.145	4.875	4.918	1.072	1.281	2.875	2.898
4	1.240	1.070	4.827	4.891	0.711	1.225	2.854	2.883
7	1.291	1.966	4.726	4.875	0.727	1.161	2.796	2.871
14	1.285	1.829	4.506	4.808	0.929	1.092	2.660	2.833
21	1.436	1.665	4.311	4.779	0.812	1.002	2.540	2.809
28	1.007	1.589	n. c. <sup>3)</sup>	4.736	0.589	0.952	n. c. <sup>3)</sup>	2.783
42	0.821	1.458	n. c. <sup>3)</sup>	4.708	0.541	0.874	n. c. <sup>3)</sup>	2.753
50	2.650	1.369	n. c. <sup>3)</sup>	4.684	1.644	0.819	n. c. <sup>3)</sup>	2.739
100	0.782	1.089	n. c. <sup>3)</sup>	4.520	0.447	0.644	n. c. <sup>3)</sup>	2.638
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.145 <sup>1)</sup> 0.145 <sup>2)</sup>	----	0.0413	----	0.750 <sup>1)</sup> 0.750 <sup>2)</sup>	----	2.403	----
1	0.0282	0.0932	0.0280	0.0382	0.749	0.750	2.403	2.403
2	0.00155	0.0514	0.0203	0.0330	0.748	0.749	2.403	2.403
4	1.77 E-4	0.0260	0.0145	0.0260	0.743	0.749	2.402	2.403
7	6.1 E-5	0.0149	0.0110	0.0206	0.730	0.747	2.398	2.403
14	1.9 E-5	0.00745	0.00776	0.0150	0.696	0.738	2.388	2.402
21	1.0 E-5	0.00497	0.00629	0.0124	0.664	0.727	2.375	2.401
28	7 E-6	0.00373	0.00539	0.0108	0.623	0.714	2.360	2.400
42	4 E-6	0.00249	0.00425	0.00878	0.544	0.687	n. c. <sup>3)</sup>	2.395
50	3 E-6	0.00209	0.00380	0.00803	0.520	0.669	n. c. <sup>3)</sup>	2.392
100	1 E-6	0.00105	0.00230	0.00548	0.398	0.579	n. c. <sup>3)</sup>	2.346

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.081 <sup>1)</sup> ----- 1.080 <sup>2)</sup>	----	1.076	----	0.761 <sup>1)</sup> ----- 0.760 <sup>2)</sup>	----	2.291	----
1	0.773	0.936	1.073	1.076	0.759	0.760	2.291	2.291
2	0.956	0.886	1.064	1.075	0.755	0.760	2.291	2.291
4	0.743	0.857	1.044	1.072	0.745	0.758	2.291	2.291
7	0.628	0.804	0.995	1.064	0.729	0.753	2.290	2.291
14	0.347	0.668	0.861	1.035	0.695	0.739	n. c. <sup>3)</sup>	2.291
21	0.173	0.545	0.738	0.995	0.667	0.724	n. c. <sup>3)</sup>	2.290
28	0.0860	0.447	0.640	0.947	0.641	0.710	n. c. <sup>3)</sup>	2.289
42	0.0317	0.318	0.570	0.854	0.561	0.682	n. c. <sup>3)</sup>	2.276
50	0.0605	0.275	0.517	0.811	0.522	0.664	n. c. <sup>3)</sup>	2.254
100	0.00411	0.147	0.309	0.626	n. c. <sup>3)</sup>	0.509	n. c. <sup>3)</sup>	1.721
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.812 <sup>1)</sup> ----- 0.812 <sup>2)</sup>	----	0.707	----	3.732 <sup>1)</sup> ----- 3.731 <sup>2)</sup>	----	2.485	----
1	0.388	0.498	0.696	0.706	2.100	2.859	2.442	2.479
2	0.488	0.497	0.675	0.705	1.555	2.563	2.372	2.461
4	0.541	0.489	0.624	0.697	0.955	2.403	2.164	2.408
7	0.535	0.451	0.556	0.677	0.407	1.918	1.813	2.285
14	0.133	0.372	0.445	0.622	0.124	1.239	1.330	1.993
21	0.0492	0.276	0.376	0.571	0.141	0.902	1.165	1.769
28	0.0262	0.218	0.330	0.530	0.673	0.708	1.793	1.659
42	0.0433	0.156	0.312	0.467	0.114	0.640	1.225	1.626
50	0.0390	0.139	0.298	0.443	0.0826	0.558	1.079	1.559
100	n. c. <sup>3)</sup>	0.0841	n. c. <sup>3)</sup>	0.333	0.105	0.349	0.902	1.305
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0218 <sup>1)</sup> ----- 0.0217 <sup>2)</sup>	----	0.0675	----	0.129 <sup>1)</sup> ----- 0.129 <sup>2)</sup>	----	0.0143	----
1	0.0212	0.0214	0.0675	0.0675	5.2 E-5	0.0233	0.00698	0.0108
2	0.0208	0.0212	0.0675	0.0675	1.6 E-5	0.0117	0.00491	0.00848
4	0.0203	0.0209	0.0675	0.0675	5 E-6	0.00583	0.00347	0.00635
7	0.0196	0.0205	0.0674	0.0675	2 E-6	0.00333	0.00262	0.00494
14	0.0183	0.0197	0.0671	0.0675	1 E-6	0.00167	0.00184	0.00356
21	0.0170	0.0190	0.0664	0.0674	<1.0 E-6	0.00111	0.00149	0.00293
28	0.0158	0.0184	0.0655	0.0674	<1.0 E-6	8.34 E-4	0.00127	0.00254
42	0.0138	0.0172	0.0636	0.0671	<1.0 E-6	5.56 E-4	0.00101	0.00219
50	0.0155	0.0167	0.0623	0.0669	7 E-6	7.78 E-4	0.00360	0.00220
100	0.0103	0.0147	0.0501	0.0651	<1.0 E-6	3.95 E-4	0.00119	0.00198

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	<b>Active substance and Plant Protection Product (Name)</b>
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained a Step 4, 10-metres buffer zone VFS, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.181 <sup>1)</sup>	----	0.0262	----	0.128 <sup>1)</sup>	----	0.0120	----
	0.181 <sup>2)</sup>				0.128 <sup>2)</sup>			
1	2.61 E-4	0.0468	0.0135	0.0208	3.2 E-5	0.0190	0.00576	0.00881
2	7.3 E-5	0.0235	0.00957	0.0165	1.1 E-5	0.00950	0.00403	0.00694
4	2.1 E-5	0.0117	0.00680	0.0124	3 E-6	0.00475	0.00283	0.00518
7	8 E-6	0.00672	0.00515	0.00969	1 E-6	0.00272	0.00213	0.00402
14	3 E-6	0.00336	0.00362	0.00701	<1.0 E-6	0.00136	0.00148	0.00289
21	<1.0 E-6	0.00224	0.00294	0.00577	<1.0 E-6	9.06 E-4	0.00119	0.00237
28	1 E-6	0.00168	0.00252	0.00501	<1.0 E-6	6.79 E-4	0.00101	0.00206
42	1 E-6	0.00112	0.00200	0.00409	<1.0 E-6	4.53 E-4	7.99 E-4	0.00167
50	1 E-6	9.42 E-4	0.00180	0.00374	<1.0 E-6	3.80 E-4	7.15 E-4	0.00157
100	<1.0 E-6	4.71 E-4	0.00107	0.00257	<1.0 E-6	1.90 E-4	4.02 E-4	0.00103

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Oxalate*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 225.2  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 10.60 (geomean)  
DT<sub>50</sub> soil (d): 11.08 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 5.4 %  
Soil: 26.3%

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 11-13;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 160 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

*As defined by the modelling tool*

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	8.622	----	0.909	----
1	8.615	8.619	0.913	0.911
2	8.609	8.615	0.913	0.912
4	8.597	8.609	0.911	0.912
7	8.598	8.600	0.909	0.911
14	8.540	8.580	0.905	0.909
21	8.497	8.559	0.901	0.907
28	8.456	8.538	0.896	0.905
42	8.374	8.497	0.888	0.901
50	8.328	8.474	0.883	0.898
100	8.044	8.329	0.853	0.883

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.386	----	0.359	----	2.719	----	0.288	----
1	3.384	3.385	0.358	0.359	2.717	2.718	0.288	0.288
2	3.381	3.384	0.358	0.358	2.715	2.717	0.288	0.288
4	3.377	3.381	0.358	0.358	2.711	2.175	0.287	0.288
7	3.369	3.378	0.357	0.358	2.705	2.712	0.287	0.287
14	3.353	3.370	0.355	0.357	2.692	2.705	0.285	0.287
21	3.337	3.361	0.354	0.356	2.679	2.699	0.284	0.286
28	3.321	3.353	0.352	0.355	2.666	2.692	0.283	0.285
42	3.289	3.337	0.348	0.354	2.640	2.679	0.280	0.284
50	3.271	3.328	0.346	0.353	2.626	2.672	0.278	0.283
100	3.159	3.271	0.335	0.347	2.536	2.626	0.269	0.278

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Sulfonic acid*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 275.3  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 11.10 (geomean)  
DT<sub>50</sub> soil (d): 45.11 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 3.2 %  
Soil: 26.5%

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 11 -13;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 160 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	10.588	----	1.171	----
1	10.580	10.584	1.174	1.173
2	10.573	10.581	1.174	1.173
4	10.558	10.573	1.172	1.173
7	10.537	10.562	1.170	1.172
14	10.486	10.537	1.164	1.169
21	10.435	10.511	1.158	1.167
28	10.384	10.486	1.153	1.164
42	10.284	10.435	1.142	1.158
50	10.227	10.406	1.135	1.155
100	9.879	10.229	1.097	1.135

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	4.997	----	0.554	----	4.005	----	0.444	----
1	4.993	4.995	0.554	0.554	4.002	4.003	0.444	0.444
2	4.990	4.993	0.554	0.554	3.999	4.002	0.444	0.444
4	4.983	4.990	0.553	0.554	3.993	3.999	0.443	0.444
7	4.973	4.985	0.552	0.553	3.985	3.995	0.442	0.443
14	4.949	4.973	0.549	0.552	3.966	3.985	0.440	0.442
21	4.925	4.961	0.546	0.550	3.947	3.976	0.438	0.441
28	4.901	4.949	0.544	0.549	3.928	3.966	0.436	0.440
42	4.853	4.925	0.538	0.546	3.890	3.947	0.431	0.438
50	4.827	4.911	0.535	0.545	3.868	3.936	0.429	0.437
100	4.662	4.828	0.517	0.536	3.736	3.869	0.414	0.429

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Methylsulfone*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 273.3  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 61.03 (geomean)  
DT<sub>50</sub> soil (d): 81.70 days (normalised lab median)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 7.2 %  
Soil: 6.6%

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 11 -13;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 160 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	2.528	----	1.494	----
1	2.520	2.524	1.538	1.516
2	2.519	2.522	1.537	1.527
4	2.515	2.519	1.535	1.532
7	2.510	2.517	1.532	1.532
14	2.498	2.510	1.524	1.530
21	2.486	2.504	1.517	1.527
28	2.474	2.498	1.510	1.524
42	2.450	2.486	1.495	1.517
50	2.436	2.479	1.487	1.513
100	2.353	2.437	1.436	1.487

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.259	----	0.767	----	1.022	----	0.622	----
1	1.256	1.257	0.766	0.776	1.020	1.021	0.622	0.622
2	1.255	1.257	0.766	0.766	1.019	1.020	0.621	0.622
4	1.253	1.255	0.764	0.766	1.017	1.019	0.621	0.621
7	1.251	1.254	0.763	0.765	1.015	1.018	0.619	0.621
14	1.245	1.251	0.759	0.763	1.010	1.015	0.616	0.619
21	1.239	1.248	0.756	0.761	1.006	1.013	0.613	0.618
28	1.233	1.245	0.752	0.756	1.001	1.010	0.610	0.616
42	1.221	1.239	0.745	0.756	0.991	1.006	0.604	0.613
50	1.214	1.235	0.740	0.753	0.985	1.003	0.601	0.612
100	1.173	1.214	0.715	0.741	0.952	0.986	0.581	0.601

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Methylsulfide*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: <i>"FOCUS STEPS 1-2"</i> ver. 2.1 Molecular weight: 241.33 Soil or water metabolite: <i>water metabolite</i> Koc (mL/g): 598.0 (QSAR value) DT <sub>50</sub> soil (d): 1000 d (FOCUS Default) DT <sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default) DT <sub>50</sub> water (d): 1000 d (FOCUS Default) DT <sub>50</sub> sediment (d): 1000 d (FOCUS Default) Crop interception (%): 0 % (no crop canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 11.4 % Soil: 0.0001%
Calculations not performed
Crop and growth stage: <i>Winter cereals, BBCH 11 -13;</i> Number of applications: 1 Interval (d): <i>not applicable – single application</i> Application rate(s): 160 g a.s./ha Application window: <i>Steps 1-2: October - February</i>
As defined by the modelling tool

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	0.111	----	<0.001	----
1	0.062	0.087	0.371	0.185
2	0.062	0.074	0.371	0.278
4	0.062	0.068	0.370	0.324
7	0.062	0.065	0.369	0.343
14	0.061	0.064	0.367	0.356
21	0.061	0.063	0.366	0.359
28	0.061	0.062	0.364	0.361
42	0.060	0.062	0.360	0.361
50	0.060	0.061	0.358	0.361
100	0.058	0.060	0.346	0.356

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.111	----	0.370	----	0.111	----	0.370	----
1	0.078	0.095	0.369	0.369	0.078	0.095	0.369	0.369
2	0.074	0.085	0.369	0.369	0.074	0.085	0.369	0.369
4	0.073	0.079	0.369	0.369	0.073	0.079	0.369	0.369
7	0.062	0.073	0.368	0.369	0.062	0.073	0.368	0.369
14	0.061	0.067	0.366	0.368	0.061	0.067	0.366	0.368
21	0.061	0.065	0.364	0.367	0.061	0.065	0.364	0.367
28	0.061	0.064	0.362	0.366	0.061	0.064	0.362	0.366
42	0.060	0.063	0.359	0.364	0.060	0.063	0.359	0.364
50	0.058	0.061	0.345	0.357	0.058	0.061	0.345	0.357
100	0.087	0.091	0.517	0.535	0.087	0.091	0.517	0.535

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Thiadone*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 170.1  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 42.10 (geomean)  
DT<sub>50</sub> soil (d): 1.95 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 84.3 %  
Soil: 5.9%

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 11 -13;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 160 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	1.952	----	0.577	----
1	1.920	1.936	0.808	0.693
2	1.918	1.927	0.808	0.750
4	1.916	1.922	0.807	0.779
7	1.912	1.919	0.805	0.790
14	1.903	1.913	0.801	0.797
21	1.893	1.908	0.797	0.797
28	1.884	1.903	0.793	0.797
42	1.866	1.894	0.786	0.794
50	1.856	1.889	0.781	0.793
100	1.792	1.856	0.755	0.780

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.724	----	0.300	----	0.691	----	0.286	----
1	0.713	0.718	0.300	0.300	0.680	0.685	0.286	0.286
2	0.713	0.716	0.300	0.300	0.680	0.683	0.286	0.286
4	0.712	0.714	0.299	0.300	0.679	0.681	0.286	0.286
7	0.710	0.713	0.299	0.300	0.677	0.680	0.285	0.286
14	0.707	0.711	0.297	0.299	0.674	0.678	0.284	0.285
21	0.703	0.709	0.296	0.298	0.671	0.676	0.282	0.284
28	0.700	0.707	0.295	0.297	0.668	0.674	0.281	0.284
42	0.693	0.704	0.292	0.296	0.661	0.671	0.278	0.282
50	0.689	0.702	0.290	0.295	0.658	0.669	0.277	0.282
100	0.666	0.690	0.280	0.290	0.635	0.658	0.267	0.277

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE 5043-Trifluoroethanesulfonic acid*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: <i>"FOCUS STEPS 1-2"</i> ver. 2.1 Molecular weight: 164.1 Soil or water metabolite: <i>soil metabolite</i> Koc (mL/g): 0.0001 (default) DT <sub>50</sub> soil (d): 6.41 days (normalised lab geomean) DT <sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default) DT <sub>50</sub> water (d): 1000 d (FOCUS Default) DT <sub>50</sub> sediment (d): 1000 d (FOCUS Default) Crop interception (%): 0 % (no crop canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 0.0001 % Soil: 6.0
Calculations not performed
Crop and growth stage: <i>Winter cereals, BBCH 11 -13;</i> Number of applications: 1 Interval (d): <i>not applicable – single application</i> Application rate(s): 160 g a.s./ha Application window: <i>Steps 1-2: October - February</i>
As defined by the modelling tool

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	1.445	----	0.000	----
1	1.444	1.445	0.000	0.000
2	1.443	1.444	0.000	0.000
4	1.441	1.443	0.000	0.000
7	1.438	1.442	0.000	0.000
14	1.431	1.438	0.000	0.000
21	1.424	1.435	0.000	0.000
28	1.418	1.431	0.000	0.000
42	1.404	1.424	0.000	0.000
50	1.396	1.421	0.000	0.000
100	1.349	1.396	0.000	0.000

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.469	----	0.000	----	0.375	----	0.000	----
1	0.469	0.469	0.000	0.000	0.375	0.375	0.000	0.000
2	0.468	0.469	0.000	0.000	0.375	0.375	0.000	0.000
4	0.468	0.468	0.000	0.000	0.374	0.375	0.000	0.000
7	0.467	0.468	0.000	0.000	0.373	0.374	0.000	0.000
14	0.464	0.467	0.000	0.000	0.372	0.373	0.000	0.000
21	0.462	0.466	0.000	0.000	0.370	0.373	0.000	0.000
28	0.460	0.464	0.000	0.000	0.368	0.372	0.000	0.000
42	0.455	0.462	0.000	0.000	0.364	0.370	0.000	0.000
50	0.453	0.461	0.000	0.000	0.362	0.369	0.000	0.000
100	0.438	0.453	0.000	0.000	0.350	0.362	0.000	0.000



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite: *Trifluoroacetic acid (TFA)*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1  
Molecular weight: 114.0  
Soil or water metabolite: *soil metabolite*  
Koc (mL/g): 0.0001 (default)  
DT<sub>50</sub> soil (d): 1000 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 0.0001 %  
Soil: 81.5

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 11 -13;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 160 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	13.638	----	0.000	----
1	13.629	13.633	0.000	0.000
2	13.619	13.629	0.000	0.000
4	13.600	13.619	0.000	0.000
7	13.572	13.605	0.000	0.000
14	13.506	13.572	0.000	0.000
21	13.441	13.539	0.000	0.000
28	13.376	13.506	0.000	0.000
42	13.247	13.441	0.000	0.000
50	13.173	13.404	0.000	0.000
100	12.725	13.176	0.000	0.000

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	6.800	----	0.000	----	5.440	----	0.000	----
1	6.795	6.798	0.000	0.000	5.436	5.438	0.000	0.000
2	6.791	6.795	0.000	0.000	5.433	5.436	0.000	0.000
4	6.781	6.790	0.000	0.000	5.425	5.433	0.000	0.000
7	6.767	6.784	0.000	0.000	5.414	5.427	0.000	0.000
14	6.734	6.767	0.000	0.000	5.388	5.414	0.000	0.000
21	6.702	6.751	0.000	0.000	5.361	5.401	0.000	0.000
28	6.669	6.735	0.000	0.000	5.336	5.388	0.000	0.000
42	6.605	6.702	0.000	0.000	5.284	5.362	0.000	0.000
50	6.568	6.684	0.000	0.000	5.255	5.350	0.000	0.000
100	6.345	6.600	0.000	0.000	5.076	5.256	0.000	0.000

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

### 3) Use: Winter cereals, pre-emergence, BBCH 00-22, autumn, application rate 120 g Flufenacet/ha

Parent Parameters used in FOCUSsw step 1 and 2	Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1 Molecular weight (g/mol): 363.3 K <sub>oc</sub> (mL/g): 245.9 DT <sub>50</sub> soil (d): 17.87 days (geomean SFO lab value normalised to T = 20°C and pF2) DT <sub>50</sub> water/sediment system (d): 49.6 d (geomean from sediment water studies) DT <sub>50</sub> water (d): 1000 days DT <sub>50</sub> sediment (d): 49.6 days Crop interception (%): 0 % (no crop canopy)
Parameters used in FOCUSsw step 3	Version control no.'s of FOCUS software: FOCUS SWASH 3.1 Water solubility (mg/L): 56 Vapour pressure: 0.00009 Pa at 20°C K <sub>oc</sub> (mL/g): 245.9 (geomean, general) 1/n: 0.916 (arithmetic mean, general) Q10=2.58, Walker equation coefficient 0.7 Crop uptake factor: 0.744 (TSCF calculated value)
Application rate	Crop and growth stage: Winter cereals 00 -22, "CAM 1" for R-scenarios; Number of applications: 1 Interval (d): not applicable – single application Application rate(s): 120 g a.s./ha Application window: Steps 1-2: October - February Step 3: 10 day before emergence defined for each scenario as a starting day for 30-days application window: - for D1 ditch/stream scenario: 15/09 (JD 258); - for D2 ditch/stream scenario: 15/10 (JD 288); - for D3 ditch scenario: 11/11 (JD 315); - for D4 pond/stream scenario: 12/09 (JD 255); - for D5 pond/stream scenario: 31/10 (JD 304); - for D6 ditch scenario: 20/11 (JD 324); - for R1 pond/stream scenario: 02/11 (JD 306); - for R2 stream scenario: crop not defined; - for R3 stream scenario: 21/11 (JD 325); - for R4 stream scenario: 31/10 (JD 304); CAM 1 for R scenarios
Parameters used in FOCUSsw step 4	Version control no.'s of FOCUS software: FOCUS TOXSWA 3.3.1; SWAN 3.0.0. Substance specific input parameters and application window as at Step 3 Mitigation measures applied: a) for buffer zone 10 metres: 10-metres wide no-spray zone for all scenarios (Spray drift reduction); reduction factors for run-off (R scenarios): 0.6 for run-off volume and flux, 0.85 for erosion mass and flux (FOCUS values) b) for buffer zone 20 metres: 20-metres wide no-spray zone for all scenarios (Spray drift reduction); reduction factors for run-off (R scenarios): 0.8 for run-off volume and flux, 0.95 for erosion mass and flux (FOCUS values); c) for buffer zone 10 metres in VFS-mod : 10-metres wide no-spray zone for all scenarios (Spray drift reduction); 10-metres wide Vegetated Filter Stripe (reduction calculated by the tool for run-off (R scenarios):

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	31.227	----	74.074	----
1	30.525	30.876	75.061	74.567
2	30.101	30.594	74.019	74.553
4	29.272	30.140	71.979	73.774
7	28.070	29.508	69.024	72.367
14	25.454	28.125	62.592	69.061
21	23.082	26.833	56.759	65.917
28	20.931	25.622	51.469	62.955
42	17.212	23.418	42.323	57.553
50	15.391	22.277	37.847	54.751
100	7.653	16.676	18.818	40.992

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	13.797	----	33.271	----	11.217	----	27.015	----
1	13.711	13.754	33.139	33.205	11.133	11.175	26.908	26.961
2	13.657	13.719	33.084	33.139	11.089	11.143	26.802	26.908
4	13.549	13.661	32.748	33.009	11.002	11.094	26.591	26.802
7	13.389	13.579	32.362	32.814	10.872	11.027	26.277	26.644
14	13.024	13.392	31.478	32.366	10.575	10.875	25.559	26.280
21	12.668	13.210	30.618	31.926	10.286	10.726	24.861	25.923
28	12.322	13.031	29.782	31.494	10.005	10.581	24.182	25.572
42	11.658	12.683	28.177	30.654	9.466	10.298	22.879	24.890
50	11.294	12.490	27.299	30.187	9.171	10.142	22.166	24.511
100	9.268	11.369	22.400	27.478	7.525	9.231	18.188	22.311

Data on application pattern at STEP 3.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	15. 09 – 15. 10	15. 09 1982/9:00	16. 03.1982/15:59	Drainage
D1 – stream	15. 09 – 15. 10	15. 09. 1982/ 9:00	16. 03. 1982/8:00	Drainage
D2 – ditch	15. 10 – 15. 11	15. 10. 1986/9:00	20. 11. 1986/6:59	Drainage
D2 – stream	15. 10 – 15. 11	15. 10. 1986/9:00	20. 11. 1986/6:59	Drainage
D3 – ditch	11. 11 – 11. 12	14. 11. 1992/9:00	14. 11. 1992/9:00	Spray drift
D4 – pond	12. 09 – 12. 10	12. 09. 1985/9:00	24. 12. 1985/15:00	Drainage
D4 – stream	12. 09 – 12. 10	12. 09. 1986/9:00	12. 09. 1985/9:00	Spray drift
D5 – pond	31. 10 – 30. 11	27. 11. 1978/9:00	15. 02. 1979/18:59	Drainage
D5 – stream	31. 10 – 30. 11	27. 11. 1978/9:00	27. 11. 1978/9:00	Spray drift
D6 – ditch	20. 11 – 20. 12	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	02. 11 – 02. 12	14. 11. 1978/9:00	31. 12. 1978/15:00	Run-off
R1 – stream	02. 11 – 02. 12	14. 11. 1978/9:00	25. 11. 1978/7:59	Run-off
R2 – stream		Crop not defined in this scenario		
R3 – stream	21. 11 – 21. 12	21. 11. 1980/9:00	26. 11. 1980/1:59	Run-off
R4 – stream	31. 10 – 30. 11	03. 11. 1979/9:00	21. 12. 1979/2:00	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Results of the calculations obtained at Step 3 for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.680 <sup>1)</sup> 2.679 <sup>2)</sup>	----	7.476	----	1.672 <sup>1)</sup> 1.671 <sup>2)</sup>	----	4.470	----
1	2.640	2.672	7.475	7.476	1.655	1.668	4.469	4.470
2	2.591	2.661	7.471	7.476	1.621	1.660	4.466	4.469
4	2.455	2.634	7.459	7.474	1.531	1.641	4.455	4.468
7	2.248	2.578	7.433	7.469	1.392	1.603	4.423	4.465
14	1.922	2.457	7.327	7.451	1.169	1.523	4.105	4.447
21	1.710	2.436	7.025	7.424	1.003	1.511	3.278	4.418
28	1.732	2.339	6.979	7.414	1.069	1.446	3.502	4.410
42	1.391	2.171	6.360	7.384	0.608	1.331	2.551	4.372
50	1.104	2.132	5.908	7.339	0.00749	1.308	2.270	4.295
100	0.333	1.772	3.148	6.830	0.00116	0.953	1.129	3.647
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.227 <sup>1)</sup> 3.226 <sup>2)</sup>	----	4.085	----	2.021 <sup>1)</sup> 2.020 <sup>2)</sup>	----	2.424	----
1	1.779	2.142	4.031	4.068	0.994	1.237	2.386	2.409
2	3.069	1.856	3.993	4.046	1.871	1.071	2.365	2.394
4	1.219	1.788	3.979	4.011	0.708	1.032	2.369	2.375
7	1.203	1.644	3.945	3.995	0.696	0.949	2.346	2.369
14	0.896	1.428	3.820	3.949	0.507	0.808	2.271	2.344
21	1.535	1.292	3.715	3.917	0.785	0.732	2.211	2.325
28	1.079	1.235	3.627	3.902	0.648	0.717	2.147	2.310
42	0.971	1.176	3.615	3.853	0.561	0.678	2.125	2.282
50	0.737	1.145	3.482	3.820	0.436	0.662	2.055	2.260
100	0.663	0.888	2.269	3.655	0.388	0.509	1.949	2.156
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.758 <sup>1)</sup> 0.757 <sup>2)</sup>	----	0.207	----	0.398 <sup>1)</sup> 0.397 <sup>2)</sup>	----	1.324	----
1	0.154	0.492	0.138	0.191	0.397	0.397	1.324	1.324
2	0.00871	0.273	0.100	0.165	0.397	0.397	1.324	1.324
4	8.87 E-4	0.138	0.0718	0.129	0.394	0.397	1.324	1.324
7	3.03 E-4	0.0789	0.0545	0.102	0.387	0.396	1.324	1.324
14	9.2 E-5	0.0395	0.0383	0.0745	0.370	0.392	1.322	1.323
21	4.8 E-5	0.0264	0.0310	0.0613	0.352	0.386	1.316	1.323
28	3.0 E-5	0.0198	0.0265	0.0553	0.331	0.379	1.301	1.322
42	1.8 E-5	0.0132	0.0209	0.0434	0.291	0.365	n. c. <sup>3)</sup>	1.320
50	1.4 E-5	0.0111	0.0187	0.0397	0.276	0.355	n. c. <sup>3)</sup>	1.318
100	4 E-6	0.00555	0.0113	0.0271	0.211	0.307	n. c. <sup>3)</sup>	1.295

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;  
3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 3 for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.658 <sup>1)</sup> 0.658 <sup>2)</sup>	----	0.580	----	0.560 <sup>1)</sup> 0.559 <sup>2)</sup>	----	1.672	----
1	0.00128	0.483	0.578	0.580	0.558	0.559	1.672	1.672
2	3.06 E-4	0.460	0.574	0.579	0.555	0.559	1.672	1.672
4	8.6 E-5	0.445	0.564	0.578	0.548	0.557	n. c. <sup>3)</sup>	1.672
7	3.5 E-5	0.417	0.537	0.574	0.536	0.554	n. c. <sup>3)</sup>	1.672
14	1.1 E-5	0.349	0.467	0.558	0.511	0.544	n. c. <sup>3)</sup>	1.671
21	6 E-6	0.285	0.403	0.537	0.490	0.533	n. c. <sup>3)</sup>	1.670
28	4 E-6	0.235	0.351	0.513	0.471	0.522	n. c. <sup>3)</sup>	1.669
42	2 E-6	0.168	0.310	0.464	0.412	0.501	n. c. <sup>3)</sup>	1.657
50	2 E-6	0.145	0.282	0.441	0.383	0.488	n. c. <sup>3)</sup>	1.640
100	0.182	0.0775	0.171	0.341	n. c. <sup>3)</sup>	0.372	n. c. <sup>3)</sup>	1.232
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.710 <sup>1)</sup> 0.710 <sup>2)</sup>	----	0.532	----	2.764 <sup>1)</sup> 2.763 <sup>2)</sup>	----	2.013	----
1	0.00577	0.374	0.524	0.531	1.551	2.112	1.981	2.008
2	6.96 E-4	0.373	0.508	0.530	1.151	1.881	1.927	1.994
4	1.83 E-4	0.365	0.470	0.523	0.711	1.761	1.767	1.953
7	7.2 E-5	0.334	0.418	0.508	0.305	1.408	1.494	1.858
14	2.3 E-5	0.275	0.335	0.467	0.0904	0.903	1.107	1.633
21	1.2 E-5	0.205	0.282	0.429	0.103	0.661	0.966	1.455
28	8 E-6	0.161	0.274	0.398	0.502	0.618	1.432	1.361
42	0.00354	0.114	0.233	0.350	0.0833	0.469	0.985	1.326
50	0.0317	0.102	0.222	0.332	0.0603	0.462	0.868	1.269
100	0.0154	0.0612	n. c. <sup>3)</sup>	0.248	0.0767	0.287	0.707	1.051
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0609 <sup>1)</sup> 0.0609 <sup>2)</sup>	----	0.216	----	2.800 <sup>1)</sup> 2.800 <sup>2)</sup>	----	0.629	----
1	0.0601	0.0605	0.216	0.216	0.00280	1.163	0.304	0.483
2	0.0594	0.0601	0.216	0.216	8.85 E-4	0.583	0.224	0.385
4	0.0583	0.0595	0.216	0.216	2.96 E-4	0.292	0.164	0.293
7	0.0567	0.0587	0.215	0.216	5.4 E-5	0.167	0.127	0.231
14	0.0533	0.0569	0.213	0.216	1.07 E-4	0.0897	0.1000	0.170
21	0.0502	0.0552	0.211	0.216	0.00600	0.0599	0.0810	0.142
28	0.0474	0.0537	0.209	0.215	7 E-6	0.0455	0.0668	0.125
42	0.0427	0.0510	0.202	0.214	3.6 E-5	0.0348	0.0800	0.112
50	0.0398	0.0495	0.198	0.214	1.4 E-5	0.0310	0.0659	0.106
100	0.0267	0.0456	0.151	0.208	2 E-6	0.0156	0.0379	0.0776

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 3 for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.783 <sup>1)</sup> 3.782 <sup>2)</sup>	----	5.248	----	1.167 <sup>1)</sup> 1.166 <sup>2)</sup>	----	0.315	----
1	2.373	2.169	4.602	5.006	0.614	0.605	0.288	0.267
2	1.781	2.008	4.424	4.824	0.00135	0.436	0.176	0.255
4	0.0101	1.272	3.896	4.527	2.48 E-4	0.218	0.120	0.204
7	0.00483	0.730	3.471	4.193	9.1 E-5	0.125	0.0903	0.163
14	0.00235	0.375	2.866	3.699	2.8 E-5	0.0624	0.0636	0.120
21	0.00694	0.266	2.546	3.387	1.5 E-5	0.0416	0.0517	0.0990
28	0.00116	0.204	2.228	3.153	1.0 E-5	0.0312	0.0442	0.0863
42	9.34 E-4	0.142	1.843	2.797	6 E-6	0.0208	0.0349	0.0707
50	7.14 E-4	0.119	1.677	2.636	5 E-6	0.0196	0.0309	0.0647
100	2.65 E-4	0.0598	1.061	1.996	2 E-6	0.00982	0.0178	0.0440

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 10 metres buffer zone:

Data on application pattern at STEP 4, 10 –metres buffer zone.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	15. 09 – 15. 10	15. 09 1982/9:00	16. 03.1982/15:59	Drainage
D1 – stream	15. 09 – 15. 10	15. 09. 1982/ 9:00	16. 03. 1982/8:00	Drainage
D2 – ditch	15. 10 – 15. 11	15. 10. 1986/9:00	20. 11. 1986/6:59	Drainage
D2 – stream	15. 10 – 15. 11	15. 10. 1986/9:00	20. 11. 1986/6:59	Drainage
D3 – ditch	11. 11 – 11. 12	14. 11. 1992/9:00	14. 11. 1992/9:00	Spray drift
D4 – pond	12. 09 – 12. 10	12. 09. 1985/9:00	24. 12. 1985/17:00	Drainage
D4 – stream	12. 09 – 12. 10	12. 09. 1986/9:00	07. 12. 1985/9:00	Drainage
D5 – pond	31. 10 – 30. 11	27. 11. 1978/9:00	15. 02. 1979/18:59	Drainage
D5 – stream	31. 10 – 30. 11	27. 11. 1978/9:00	04. 02. 1979/11:00	Spray drift
D6 – ditch	20. 11 – 20. 12	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	02. 11 – 02. 12	14. 11. 1978/9:00	31. 12. 1978/15:00	Run-off
R1 – stream	02. 11 – 02. 12	14. 11. 1978/9:00	25. 11. 1978/7:59	Run-off
R2 – stream	Crop not defined in this scenario			
R3 – stream	21. 11 – 21. 12	21. 11. 1980/9:00	26. 11. 1980/1:59	Run-off
R4 – stream	31. 10 – 30. 11	03. 11. 1979/9:00	21. 12. 1979/2:00	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.680 <sup>1)</sup> ----- 2.679 <sup>2)</sup>	----	7.476	----	1.672 <sup>1)</sup> ----- 1.671 <sup>2)</sup>	----	4.470	----
1	2.640	2.672	7.475	7.476	1.655	1.668	4.469	4.470
2	2.591	2.661	7.471	7.476	1.621	1.660	4.466	4.469
4	2.455	2.634	7.459	7.474	1.531	1.641	4.455	4.468
7	2.248	2.578	7.433	7.469	1.392	1.603	4.423	4.465
14	1.922	2.457	7.327	7.451	1.169	1.523	4.105	4.447
21	1.710	2.436	7.025	7.424	1.003	1.511	3.278	4.418
28	1.732	2.339	6.979	7.414	1.069	1.446	3.502	4.410
42	1.391	2.171	6.360	7.384	0.608	1.331	2.551	4.372
50	1.104	2.132	5.908	7.339	0.00749	1.308	2.270	4.295
100	0.333	1.772	3.148	6.830	0.00116	0.953	1.129	3.647
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.227 <sup>1)</sup> ----- 3.226 <sup>2)</sup>	----	4.036	----	2.021 <sup>1)</sup> ----- 2.020 <sup>2)</sup>	----	2.385	----
1	1.779	2.142	3.982	4.019	0.994	1.237	2.347	2.369
2	3.069	1.856	3.945	3.997	1.871	1.071	2.326	2.355
4	1.219	1.788	3.932	3.962	0.708	1.032	2.331	2.336
7	1.203	1.644	3.899	3.948	0.696	0.949	2.309	2.331
14	0.895	1.428	3.777	3.903	0.507	0.808	2.236	2.307
21	1.535	1.292	3.675	3.869	0.785	0.732	2.179	2.286
28	1.079	1.234	3.588	3.851	0.648	0.717	2.116	2.270
42	0.971	1.176	3.580	3.805	0.561	0.678	2.097	2.244
50	0.737	1.145	3.450	3.773	0.436	0.662	2.029	2.222
100	0.663	0.888	3.246	3.613	0.388	0.509	1.931	2.123
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.109 <sup>1)</sup> ----- 0.109 <sup>2)</sup>	----	0.0315	----	0.394 <sup>1)</sup> ----- 0.393 <sup>2)</sup>	----	1.304	----
1	0.0220	0.0705	0.0216	0.0292	0.393	0.393	1.304	1.304
2	0.00128	0.0391	0.0157	0.0253	0.393	0.393	1.304	1.304
4	1.40 E-4	0.0197	0.0112	0.0199	0.390	0.393	1.303	1.304
7	4.7 E-5	0.0113	0.00847	0.0158	0.384	0.392	1.301	1.304
14	1.4 E-5	0.00567	0.00593	0.0115	0.366	0.388	1.296	1.303
21	7 E-6	0.00379	0.00480	0.00950	0.349	0.382	1.289	1.303
28	5 E-6	0.00284	0.00411	0.00825	0.327	0.375	1.281	1.302
42	3 E-6	0.00189	0.00325	0.00673	0.288	0.361	n. c. <sup>3)</sup>	1.300
50	2 E-6	0.00159	0.00291	0.00615	0.273	0.352	n. c. <sup>3)</sup>	1.298
100	1 E-6	7.97 E-4	0.00176	0.00420	0.209	0.304	n. c. <sup>3)</sup>	1.274

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Results of the calculations obtained at Step 4, 10-metres buffer zone, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.550 <sup>1)</sup> 0.549 <sup>2)</sup>	----	0.577	----	0.556 <sup>1)</sup> 0.556 <sup>2)</sup>	----	1.654	----
1	0.405	0.483	0.575	0.577	0.554	0.556	n. c. <sup>3)</sup>	1.654
2	0.489	0.460	0.571	0.576	0.552	0.555	n. c. <sup>3)</sup>	1.654
4	0.384	0.445	0.561	0.575	0.545	0.554	n. c. <sup>3)</sup>	1.654
7	0.327	0.417	0.535	0.571	0.533	0.550	n. c. <sup>3)</sup>	1.654
14	0.182	0.349	0.465	0.555	0.508	0.540	n. c. <sup>3)</sup>	1.653
21	0.0933	0.285	0.400	0.535	0.487	0.529	n. c. <sup>3)</sup>	1.652
28	0.0473	0.235	0.348	0.510	0.468	0.519	n. c. <sup>3)</sup>	1.650
42	0.0181	0.168	0.308	0.461	0.409	0.498	n. c. <sup>3)</sup>	1.638
50	0.0306	0.145	0.280	0.438	0.380	0.485	n. c. <sup>3)</sup>	1.620
100	0.00271	0.0775	0.169	0.339	n. c. <sup>3)</sup>	0.369	n. c. <sup>3)</sup>	1.210
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.579 <sup>1)</sup> 0.579 <sup>2)</sup>	----	0.526	----	2.764 <sup>1)</sup> 2.763 <sup>2)</sup>	----	1.834	----
1	0.280	0.374	0.519	0.526	1.551	2.112	1.804	1.829
2	0.354	0.373	0.503	0.525	1.151	1.881	1.754	1.817
4	0.401	0.365	0.465	0.518	0.711	1.760	1.602	1.780
7	0.402	0.334	0.414	0.503	0.305	1.408	1.343	1.690
14	0.0996	0.275	0.330	0.462	0.0902	0.902	0.984	1.474
21	0.0363	0.205	0.278	0.424	0.103	0.657	0.861	1.308
28	0.0188	0.161	0.243	0.393	0.502	0.516	1.338	1.229
42	0.0315	0.114	0.230	0.345	0.0833	0.469	0.910	1.206
50	0.0283	0.102	0.219	0.327	0.0602	0.409	0.801	1.157
100	n. c. <sup>3)</sup>	0.0612	n. c. <sup>3)</sup>	0.244	0.0767	0.255	0.668	0.969
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0283 <sup>1)</sup> 0.0282 <sup>2)</sup>	----	0.106	----	1.254 <sup>1)</sup> 1.253 <sup>2)</sup>	----	0.281	----
1	0.0279	0.0281	0.106	0.106	0.00129	0.518	0.135	0.216
2	0.0276	0.0279	0.106	0.106	4.10 E-4	0.260	0.0982	0.171
4	0.0271	0.0276	0.106	0.106	1.35 E-4	0.130	0.0711	0.129
7	0.0263	0.0272	0.105	0.106	2.4 E-5	0.0743	0.0544	0.101
14	0.0248	0.0264	0.104	0.106	4.3 E-5	0.0384	0.0420	0.0738
21	0.0233	0.0256	0.103	0.106	0.00241	0.0256	0.0338	0.0614
28	0.0220	0.0249	0.102	0.105	3 E-6	0.0194	0.0278	0.0537
42	0.0199	0.0237	0.0990	0.105	1.6 E-5	0.0155	0.0345	0.0481
50	0.0186	0.0231	0.0970	0.105	6 E-6	0.0134	0.0282	0.0454
100	0.0124	0.0217	0.0750	0.102	1 E-6	0.00673	0.0160	0.0332

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.728 <sup>1)</sup> 1.727 <sup>2)</sup>	----	1.213	----	0.527 <sup>1)</sup> 0.526 <sup>2)</sup>	----	0.144	----
1	1.084	0.993	0.989	1.142	0.275	0.272	0.132	0.127
2	0.790	0.923	0.954	1.082	6.23 E-4	0.196	0.0809	0.117
4	0.00364	0.583	0.786	0.992	1.15 E-4	0.0981	0.0548	0.0934
7	0.00124	0.334	0.678	0.890	4.2 E-5	0.0561	0.0409	0.0743
14	4.83 E-4	0.169	0.548	0.761	1.3 E-5	0.0281	0.0286	0.0544
21	0.00276	0.121	0.504	0.687	7 E-6	0.0187	0.0231	0.0449
28	2.46 E-4	0.0918	0.432	0.636	4 E-6	0.0140	0.0197	0.0391
42	1.92 E-4	0.0636	0.358	0.561	3 E-6	0.00935	0.0155	0.0319
50	1.43 E-4	0.0534	0.325	0.527	3 E-6	0.00826	0.0137	0.0292
100	6.4 E-5	0.0268	0.205	0.394	1 E-6	0.00414	0.00789	0.0198

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 20 metres buffer zone:

Data on application pattern at STEP 4, 20-metres buffer zone.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	15. 09 – 15. 10	15. 09 1982/9:00	16. 03.1982/15:59	Drainage
D1 – stream	15. 09 – 15. 10	15. 09. 1982/ 9:00	16. 03. 1982/8:00	Drainage
D2 – ditch	15. 10 – 15. 11	15. 10. 1986/9:00	20. 11. 1986/6:59	Drainage
D2 – stream	15. 10 – 15. 11	15. 10. 1986/9:00	20. 11. 1986/6:59	Drainage
D3 – ditch	11. 11 – 11. 12	14. 11. 1992/9:00	14. 11. 1992/9:00	Spray drift
D4 – pond	12. 09 – 12. 10	12. 09. 1985/9:00	24. 12. 1985/17:00	Drainage
D4 – stream	12. 09 – 12. 10	12. 09. 1986/9:00	07. 12. 1985/9:00	Drainage
D5 – pond	31. 10 – 30. 11	27. 11. 1978/9:00	15. 02. 1979/18:59	Drainage
D5 – stream	31. 10 – 30. 11	27. 11. 1978/9:00	04. 02. 1979/11:00	Spray drift
D6 – ditch	20. 11 – 20. 12	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	02. 11 – 02. 12	14. 11. 1978/9:00	31. 12. 1978/15:00	Run-off
R1 – stream	02. 11 – 02. 12	14. 11. 1978/9:00	25. 11. 1978/7:59	Run-off
R2 – stream		Crop not defined in this scenario		
R3 – stream	21. 11 – 21. 12	21. 11. 1980/9:00	26. 11. 1980/1:59	Run-off
R4 – stream	31. 10 – 30. 11	03. 11. 1979/9:00	21. 12. 1979/2:00	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.680 <sup>1)</sup> ----- 2.679 <sup>2)</sup>	----	7.476	----	1.672 <sup>1)</sup> ----- 1.671 <sup>2)</sup>	----	4.470	----
1	2.640	2.672	7.475	7.476	1.655	1.668	4.469	4.470
2	2.591	2.661	7.471	7.476	1.621	1.660	4.466	4.469
4	2.455	2.634	7.459	7.474	1.531	1.641	4.455	4.468
7	2.248	2.578	7.433	7.469	1.392	1.603	4.423	4.465
14	1.922	2.457	7.327	7.451	1.169	1.523	4.105	4.447
21	1.710	2.436	7.025	7.424	1.003	1.511	3.278	4.418
28	1.732	2.339	6.979	7.414	1.069	1.446	3.502	4.410
42	1.391	2.171	6.360	7.384	0.608	1.331	2.551	4.372
50	1.104	2.132	5.908	7.339	0.00749	1.308	2.270	4.295
100	0.333	1.772	3.148	6.830	0.00116	0.953	1.129	3.647
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.227 <sup>1)</sup> ----- 3.226 <sup>2)</sup>	----	4.032	----	2.021 <sup>1)</sup> ----- 2.020 <sup>2)</sup>	----	2.380	----
1	1.779	2.142	3.979	4.015	0.994	1.237	2.342	2.365
2	3.069	1.856	3.941	3.993	1.871	1.071	2.322	2.350
4	1.219	1.788	3.928	3.959	0.708	1.032	2.327	2.331
7	1.203	1.644	3.896	3.944	0.696	0.949	2.305	2.326
14	0.895	1.428	3.773	3.899	0.507	0.808	2.232	2.302
21	1.535	1.292	3.671	3.865	0.785	0.732	2.175	2.282
28	1.079	1.234	3.585	3.847	0.648	0.717	2.113	2.266
42	0.971	1.176	3.577	3.801	0.561	0.678	2.094	2.239
50	0.737	1.145	3.447	3.769	0.436	0.662	2.026	2.218
100	0.663	0.888	3.244	3.609	0.388	0.509	1.929	2.119
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0567 <sup>1)</sup> ----- 0.0567 <sup>2)</sup>	----	0.0167	----	0.391 <sup>1)</sup> ----- 0.391 <sup>2)</sup>	----	1.293	----
1	0.0114	0.0367	0.0116	0.0155	0.391	0.391	1.293	1.293
2	6.75 E-4	0.0204	0.00839	0.0135	0.390	0.391	1.293	1.293
4	7.5 E-5	0.0103	0.00599	0.0106	0.388	0.391	1.292	1.293
7	2.5 E-5	0.00590	0.00454	0.00845	0.382	0.390	1.290	1.293
14	8 E-6	0.00296	0.00317	0.00617	0.364	0.386	1.285	1.292
21	4 E-6	0.00197	0.00257	0.00508	0.347	0.380	1.278	1.292
28	3 E-6	0.00148	0.00220	0.00441	0.326	0.373	1.270	1.291
42	1 E-6	9.87 E-4	0.00174	0.00360	0.286	0.359	n. c. <sup>3)</sup>	1.288
50	1 E-6	8.30 E-4	0.00156	0.00329	0.282	0.350	n. c. <sup>3)</sup>	1.287
100	<1.0 E-6	4.15 E-4	9.41 E-4	0.00225	0.208	0.303	n. c. <sup>3)</sup>	1.262

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.550 <sup>1)</sup> 0.549 <sup>2)</sup>	----	0.576	----	0.554 <sup>1)</sup> 0.554 <sup>2)</sup>	----	1.644	----
1	0.405	0.483	0.575	0.576	0.552	0.554	n. c. <sup>3)</sup>	1.644
2	0.489	0.460	0.571	0.576	0.550	0.553	n. c. <sup>3)</sup>	1.644
4	0.384	0.445	0.560	0.574	0.543	0.552	n. c. <sup>3)</sup>	1.644
7	0.327	0.417	0.534	0.570	0.531	0.548	n. c. <sup>3)</sup>	1.644
14	0.182	0.349	0.465	0.555	0.506	0.538	n. c. <sup>3)</sup>	1.643
21	0.0933	0.285	0.400	0.534	0.485	0.527	n. c. <sup>3)</sup>	1.642
28	0.0473	0.235	0.348	0.510	0.467	0.517	n. c. <sup>3)</sup>	1.639
42	0.0181	0.168	0.308	0.461	0.408	0.496	n. c. <sup>3)</sup>	1.627
50	0.0306	0.145	0.279	0.438	0.379	0.483	n. c. <sup>3)</sup>	1.609
100	0.00271	0.0775	0.169	0.339	n. c. <sup>3)</sup>	0.367	n. c. <sup>3)</sup>	1.197
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.579 <sup>1)</sup> 0.579 <sup>2)</sup>	----	0.526	----	2.764 <sup>1)</sup> 2.763 <sup>2)</sup>	----	1.819	----
1	0.280	0.374	0.518	0.525	1.551	2.112	1.790	1.814
2	0.354	0.373	0.502	0.524	1.151	1.881	1.741	1.802
4	0.401	0.365	0.464	0.518	0.711	1.760	1.590	1.765
7	0.402	0.334	0.413	0.502	0.305	1.408	1.331	1.677
14	0.0996	0.275	0.329	0.461	0.0902	0.902	0.974	1.461
21	0.0363	0.205	0.277	0.423	0.103	0.657	0.852	1.296
28	0.0188	0.161	0.243	0.392	0.502	0.516	1.330	1.218
42	0.0315	0.114	0.229	0.345	0.0833	0.469	0.904	1.196
50	0.0283	0.102	0.219	0.327	0.0602	0.409	0.796	1.148
100	n. c. <sup>3)</sup>	0.0612	n. c. <sup>3)</sup>	0.244	0.0767	0.255	0.665	0.962
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0158 <sup>1)</sup> 0.0158 <sup>2)</sup>	----	0.0615	----	0.652 <sup>1)</sup> 0.652 <sup>2)</sup>	----	0.148	----
1	0.0156	0.0157	0.0615	0.0615	6.87 E-4	0.269	0.0723	0.114
2	0.0154	0.0156	0.0615	0.0615	2.21 E-4	0.135	0.0522	0.0907
4	0.0151	0.0155	0.0615	0.0615	7.2 E-5	0.0676	0.0377	0.0686
7	0.0147	0.0152	0.0615	0.0615	1.3 E-5	0.0386	0.0288	0.0537
14	0.0139	0.0148	0.0614	0.0615	2.1 E-5	0.0199	0.0221	0.0390
21	0.0131	0.0144	0.0608	0.0614	0.00121	0.0133	0.0178	0.0324
28	0.0123	0.0140	0.0602	0.0613	2 E-6	0.0101	0.0146	0.0284
42	0.0112	0.0133	0.0577	0.0611	9 E-6	0.00805	0.0183	0.0254
50	0.0104	0.0133	0.0565	0.0609	3 E-6	0.00694	0.0149	0.0240
100	0.00697	0.0124	0.0442	0.0592	<1.0 E-6	0.00350	0.00845	0.0175

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.907 <sup>1)</sup>	----	0.532	----	0.275 <sup>1)</sup>	----	0.0761	----
	0.906 <sup>2)</sup>				0.275 <sup>2)</sup>			
1	0.596	0.521	0.420	0.498	0.143	0.142	0.0705	0.0652
2	0.409	0.485	0.406	0.468	3.32 E-4	0.102	0.0434	0.0622
4	0.001854	0.307	0.322	0.425	6.2 E-5	0.0511	0.0293	0.0499
7	5.72 E-4	0.176	0.273	0.376	2.3 E-5	0.0292	0.0219	0.0397
14	2.02 E-4	0.0889	0.217	0.316	7 E-6	0.0146	0.0153	0.0291
21	0.00141	0.0636	0.203	0.282	4 E-6	0.00975	0.0124	0.0240
28	1.04 E-4	0.0482	0.172	0.260	2 E-6	0.00731	0.0106	0.0209
42	8.0 E-5	0.0334	0.143	0.228	1 E-6	0.00488	0.00830	0.0171
50	5.8 E-5	0.0280	0.129	0.214	1 E-6	0.00430	0.00734	0.0156
100	2.8 E-5	0.0140	0.0815	0.159	<1.0 E-6	0.00216	0.00422	0.0106

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 10 metres buffer zone VFS-mod:

Data on application pattern at STEP 4, 10 –metres buffer zone VFS.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	15. 09 – 15. 10	15. 09. 1982/9:00	16. 03. 1982/15:59	Drainage
D1 – stream	15. 09 – 15. 10	15. 09. 1982/ 9:00	16. 03. 1982/8:009	Drainage
D2 – ditch	15. 10 – 15. 11	15. 10. 1986/9:00	20. 11. 1986/6:59	Drainage
D2 – stream	15. 10 – 15. 11	15. 10. 1986/9:00	20. 11. 1986/6:59	Drainage
D3 – ditch	11. 11 – 11. 12	14. 11. 1992/9:00	14. 11. 1992/9:00	Spray drift
D4 – pond	12. 09 – 12. 10	12. 09. 1985/9:00	24. 12. 1985/15:00	Drainage
D4 – stream	12. 09 – 12. 10	12. 09. 1986/9:00	12. 09. 1985/9:00	Spray drift
D5 – pond	31. 10 – 30. 11	27. 11. 1978/9:00	15. 02. 1979/18:59	Drainage
D5 – stream	31. 10 – 30. 11	27. 11. 1978/9:00	27. 11. 1978/9:00	Spray drift
D6 – ditch	20. 11 – 20. 12	06. 12. 1986/ 9:00	25. 12. 1986/12:00	Drainage
R1 – pond	02. 11 – 02. 12	14. 11. 1978/9:00	14. 11. 1978/9:00	Spray drift
R1 – stream	02. 11 – 02. 12	14. 11. 1978/9:00	14. 11. 1978/9:00	Spray drift
R2 – stream	Crop not defined in this scenario			
R3 – stream	21. 11 – 21. 12	21. 11. 1980/9:00	26. 12. 1980/1:59	Run-off
R4 – stream	31. 10 – 30. 11	03. 11. 1979/9:00	03. 11. 1979/9:00	Spray drift

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.680 <sup>1)</sup> ----- 2.679 <sup>2)</sup>	----	7.476	----	1.672 <sup>1)</sup> ----- 1.671 <sup>2)</sup>	----	4.470	----
1	2.640	2.672	7.475	7.476	1.655	1.668	4.469	4.470
2	2.591	2.661	7.471	7.476	1.621	1.660	4.466	4.469
4	2.455	2.634	7.459	7.474	1.531	1.641	4.455	4.468
7	2.248	2.578	7.433	7.469	1.392	1.603	4.423	4.465
14	1.922	2.457	7.327	7.451	1.169	1.523	4.105	4.447
21	1.710	2.436	7.025	7.424	1.003	1.511	3.278	4.418
28	1.732	2.339	6.979	7.414	1.069	1.446	3.502	4.410
42	1.391	2.171	6.360	7.384	0.608	1.331	2.551	4.372
50	1.104	2.132	5.908	7.339	0.00749	1.308	2.270	4.295
100	0.333	1.772	3.148	6.830	0.00116	0.953	1.129	3.647
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.227 <sup>1)</sup> ----- 3.226 <sup>2)</sup>	----	4.036	----	2.021 <sup>1)</sup> ----- 2.020 <sup>2)</sup>	----	2.385	----
1	1.779	2.142	3.982	4.019	0.994	1.237	2.347	2.369
2	3.069	1.856	3.945	3.997	1.871	1.071	2.326	2.355
4	1.219	1.788	3.932	3.962	0.708	1.032	2.331	2.336
7	1.203	1.644	3.899	3.948	0.696	0.949	2.309	2.331
14	0.895	1.428	3.777	3.903	0.507	0.808	2.236	2.307
21	1.535	1.292	3.675	3.869	0.785	0.732	2.179	2.286
28	1.079	1.234	3.588	3.851	0.648	0.717	2.116	2.270
42	0.971	1.176	3.580	3.805	0.561	0.678	2.097	2.244
50	0.737	1.145	3.450	3.773	0.436	0.662	2.029	2.222
100	0.663	0.888	3.246	3.613	0.388	0.509	1.931	2.123
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.109 <sup>1)</sup> ----- 0.109 <sup>2)</sup>	----	0.0315	----	0.394 <sup>1)</sup> ----- 0.393 <sup>2)</sup>	----	1.304	----
1	0.0220	0.0705	0.0216	0.0292	0.393	0.393	1.304	1.304
2	0.00128	0.0391	0.0157	0.0253	0.393	0.393	1.304	1.304
4	1.40 E-4	0.0197	0.0112	0.0199	0.390	0.393	1.303	1.304
7	4.7 E-5	0.0113	0.00847	0.0158	0.384	0.392	1.301	1.304
14	1.4 E-5	0.00567	0.00593	0.0115	0.366	0.388	1.296	1.303
21	7 E-6	0.00379	0.00480	0.00950	0.349	0.382	1.289	1.303
28	5 E-6	0.00284	0.00411	0.00825	0.327	0.375	1.281	1.302
42	3 E-6	0.00189	0.00325	0.00673	0.288	0.361	n. c. <sup>3)</sup>	1.300
50	2 E-6	0.00159	0.00291	0.00615	0.273	0.352	n. c. <sup>3)</sup>	1.298
100	1 E-6	7.97 E-4	0.00176	0.00420	0.209	0.304	n. c. <sup>3)</sup>	1.274

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	<b>Active substance and Plant Protection Product (Name)</b>
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.550 <sup>1)</sup> 0.549 <sup>2)</sup>	----	0.577	----	0.556 <sup>1)</sup> 0.556 <sup>2)</sup>	----	1.654	----
1	0.405	0.483	0.575	0.577	0.554	0.556	n. c. <sup>3)</sup>	1.654
2	0.489	0.460	0.571	0.576	0.552	0.555	n. c. <sup>3)</sup>	1.654
4	0.384	0.445	0.561	0.575	0.545	0.554	n. c. <sup>3)</sup>	1.654
7	0.327	0.417	0.535	0.571	0.533	0.550	n. c. <sup>3)</sup>	1.654
14	0.182	0.349	0.465	0.555	0.508	0.540	n. c. <sup>3)</sup>	1.653
21	0.0933	0.285	0.400	0.535	0.487	0.529	n. c. <sup>3)</sup>	1.652
28	0.0473	0.235	0.348	0.510	0.468	0.519	n. c. <sup>3)</sup>	1.650
42	0.0181	0.168	0.308	0.461	0.409	0.498	n. c. <sup>3)</sup>	1.638
50	0.0306	0.145	0.280	0.438	0.380	0.485	n. c. <sup>3)</sup>	1.620
100	0.00271	0.0775	0.169	0.339	n. c. <sup>3)</sup>	0.369	n. c. <sup>3)</sup>	1.210
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.579 <sup>1)</sup> 0.579 <sup>2)</sup>	----	0.526	----	2.764 <sup>1)</sup> 2.763 <sup>2)</sup>	----	1.834	----
1	0.280	0.374	0.519	0.526	1.551	2.112	1.804	1.829
2	0.354	0.373	0.503	0.525	1.151	1.881	1.754	1.817
4	0.401	0.365	0.465	0.518	0.711	1.760	1.602	1.780
7	0.402	0.334	0.414	0.503	0.305	1.408	1.343	1.690
14	0.0996	0.275	0.330	0.462	0.0902	0.902	0.984	1.474
21	0.0363	0.205	0.278	0.424	0.103	0.657	0.861	1.308
28	0.0188	0.161	0.243	0.393	0.502	0.516	1.338	1.229
42	0.0315	0.114	0.230	0.345	0.0833	0.469	0.910	1.206
50	0.0283	0.102	0.219	0.327	0.0602	0.409	0.801	1.157
100	n. c. <sup>3)</sup>	0.0612	n. c. <sup>3)</sup>	0.244	0.0767	0.255	0.668	0.969
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0164 <sup>1)</sup> 0.0164 <sup>2)</sup>	----	0.0517	----	0.0969 <sup>1)</sup> 0.0969 <sup>2)</sup>	----	0.0108	----
1	0.0159	0.0161	0.0517	0.0517	3.9 E-5	0.0175	0.00530	0.00814
2	0.0157	0.0160	0.0517	0.0517	1.2 E-5	0.00874	0.00373	0.00642
4	0.0152	0.0157	0.0517	0.0517	4 E-6	0.00437	0.00264	0.00482
7	0.0147	0.0154	0.0516	0.0517	2 E-6	0.00250	0.00199	0.00374
14	0.0137	0.0148	0.0513	0.0516	1 E-6	0.00125	0.00140	0.00270
21	0.0128	0.0143	0.0508	0.0516	<1.0 E-6	8.34 E-4	0.00113	0.00225
28	0.0119	0.0138	0.0501	0.0515	<1.0 E-6	6.25 E-4	9.67 E-4	0.00201
42	0.0104	0.0129	0.0487	0.0514	<1.0 E-6	4.17 E-4	7.65 E-4	0.00174
50	0.0118	0.0126	0.0477	0.0512	<1.0 E-6	5.99 E-4	0.00287	0.00168
100	0.00779	0.0111	0.0383	0.0498	<1.0 E-6	3.04 E-4	9.34 E-4	0.00154

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, – for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.275 <sup>1)</sup> 1.274 <sup>2)</sup>	----	2.078	----	0.0975 <sup>1)</sup> 0.0975 <sup>2)</sup>	----	0.0125	----
1	1.131	1.035	1.729	1.915	5.8 E-5	0.0208	0.00622	0.00960
2	0.00294	0.832	1.639	1.821	1.8 E-5	0.0104	0.00439	0.00759
4	0.00325	0.450	1.460	1.699	5 E-6	0.00522	0.00310	0.00570
7	0.00174	0.258	1.307	1.573	2 E-6	0.00298	0.00234	0.00443
14	8.60 E-4	0.131	1.087	1.391	1 E-6	0.00149	0.00162	0.00319
21	5.65 E-4	0.0877	0.943	1.269	<1.0 E-6	9.95 E-4	0.00130	0.00261
28	4.06 E-4	0.0659	0.838	1.178	<1.0 E-6	7.47 E-4	0.00110	0.00226
42	3.35 E-4	0.0441	0.692	1.044	<1.0 E-6	4.98 E-4	8.58 E-4	0.00183
50	2.62 E-4	0.0371	0.631	0.984	<1.0 E-6	4.18 E-4	7.64 E-4	0.00167
100	8.2 E-5	0.0186	0.401	0.748	<1.0 E-6	2.09 E-4	4.49 E-4	0.00113

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Oxalate*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 225.2  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 10.60 (*geomean*)  
DT<sub>50</sub> soil (d): 11.08 days (*normalised lab geomean*)  
DT<sub>50</sub> water/sediment system (d): 1000 d (*FOCUS Default*)  
DT<sub>50</sub> water (d): 1000 d (*FOCUS Default*)  
DT<sub>50</sub> sediment (d): 1000 d (*FOCUS Default*)  
Crop interception (%): 0 % (*no crop canopy*)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 5.4 %  
Soil: 26.3%

Parameters used in FOCUSsw step 3 (if performed)

*Calculations not performed*

Application rate

Crop and growth stage: *Winter cereals, BBCH 00-22;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 120 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

*As defined by the modelling tool*

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	6.466	----	0.682	----
1	6.461	6.464	0.685	0.683
2	6.457	6.462	0.684	0.684
4	6.448	6.457	0.684	0.684
7	6.435	6.450	0.682	0.683
14	6.404	6.435	0.679	0.682
21	6.373	6.419	0.676	0.680
28	6.342	6.404	0.672	0.679
42	6.280	6.373	0.666	0.676
50	6.246	6.355	0.662	0.674
100	6.033	6.247	0.640	0.662

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.540	----	0.269	----	2.039	----	0.216	----
1	2.538	2.539	0.269	0.269	2.037	2.038	0.216	0.216
2	2.536	2.538	0.269	0.269	2.036	2.037	0.216	0.216
4	2.532	2.536	0.268	0.269	2.033	2.036	0.215	0.216
7	2.527	2.533	0.268	0.268	2.029	2.034	0.215	0.215
14	2.515	2.527	0.266	0.268	2.019	2.029	0.214	0.215
21	2.503	2.521	0.265	0.267	2.009	2.024	0.213	0.214
28	2.491	2.515	0.264	0.266	2.000	2.019	0.212	0.214
42	2.467	2.503	0.261	0.265	1.980	2.009	0.210	0.213
50	2.453	2.496	0.260	0.264	1.969	2.004	0.209	0.212
100	2.369	2.453	0.251	0.260	1.902	1.970	0.202	0.209



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Sulfonic acid*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 275.3  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 11.10 (*geomean*)  
DT<sub>50</sub> soil (d): 45.11 days (*normalised lab geomean*)  
DT<sub>50</sub> water/sediment system (d): 1000 d (*FOCUS Default*)  
DT<sub>50</sub> water (d): 1000 d (*FOCUS Default*)  
DT<sub>50</sub> sediment (d): 1000 d (*FOCUS Default*)  
Crop interception (%): 0 % (*no crop canopy*)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 3.2 %  
Soil: 26.5%

Parameters used in FOCUSsw step 3 (if performed)

*Calculations not performed*

Application rate

Crop and growth stage: *Winter cereals, BBCH 00-22;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 120 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

*As defined by the modelling tool*

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	7.941	----	0.879	----
1	7.935	7.938	0.881	0.880
2	7.930	7.935	0.880	0.880
4	7.919	7.930	0.879	0.880
7	7.902	7.921	0.877	0.879
14	7.864	7.902	0.873	0.877
21	7.826	7.883	0.869	0.875
28	7.788	7.864	0.865	0.873
42	7.713	7.826	0.865	0.869
50	7.670	7.805	0.851	0.866
100	7.409	7.672	0.822	0.852

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	3.748	----	0.416	----	3.004	----	0.333	----
1	3.745	3.746	0.415	0.416	3.001	3.002	0.333	0.333
2	3.742	3.745	0.415	0.415	2.999	3.001	0.333	0.333
4	3.737	3.742	0.415	0.415	2.995	2.999	0.332	0.333
7	3.730	3.739	0.414	0.415	2.989	2.996	0.332	0.332
14	3.711	3.730	0.412	0.414	2.974	2.989	0.330	0.332
21	3.693	3.721	0.410	0.413	2.960	2.982	0.328	0.331
28	3.676	3.712	0.408	0.412	2.946	2.974	0.328	0.330
42	3.640	3.694	0.404	0.410	2.917	2.960	0.324	0.328
50	3.620	3.683	0.402	0.409	2.901	2.952	0.322	0.327
100	3.497	3.621	0.388	0.402	2.802	2.902	0.311	0.322

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Metabolite *FOE Methylsulfone*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1 Molecular weight: 273.3 Soil or water metabolite: <i>soil and water metabolite</i> Koc (mL/g): 61.03 (geomean) DT <sub>50</sub> soil (d): 81.70 days (normalised lab median) DT <sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default) DT <sub>50</sub> water (d): 1000 d (FOCUS Default) DT <sub>50</sub> sediment (d): 1000 d (FOCUS Default) Crop interception (%): 0 % (no crop canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 7.2 % Soil: 6.6%
Calculations not performed
Crop and growth stage: <i>Winter cereals, BBCH 00-22</i> ; Number of applications: 1 Interval (d): <i>not applicable – single application</i> Application rate(s): 120 g a.s./ha Application window: <i>Steps 1-2: October - February</i>
As defined by the modelling tool

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	1.896	----	1.121	----
1	1.890	1.893	1.154	1.137
2	1.889	1.891	1.153	1.145
4	1.886	1.890	1.151	1.149
7	1.883	1.887	1.149	1.149
14	1.873	1.883	1.143	1.148
21	1.864	1.878	1.138	1.145
28	1.855	1.874	1.132	1.143
42	1.837	1.864	1.121	1.137
50	1.827	1.859	1.115	1.134
100	1.765	1.828	1.077	1.115

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.944	----	0.575	----	0.767	----	0.467	----
1	0.942	0.943	0.575	0.575	0.765	0.766	0.466	0.467
2	0.941	0.942	0.574	0.575	0.764	0.765	0.466	0.466
4	0.940	0.942	0.573	0.574	0.763	0.764	0.465	0.466
7	0.938	0.941	0.572	0.574	0.761	0.763	0.464	0.466
14	0.934	0.938	0.569	0.572	0.758	0.762	0.462	0.464
21	0.929	0.936	0.567	0.571	0.754	0.760	0.460	0.463
28	0.925	0.934	0.564	0.569	0.750	0.758	0.458	0.462
42	0.916	0.929	0.558	0.567	0.743	0.754	0.453	0.460
50	0.911	0.927	0.555	0.565	0.739	0.752	0.451	0.459
100	0.880	0.911	0.536	0.555	0.714	0.739	0.435	0.451

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Methylsulfide*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: <i>"FOCUS STEPS 1-2"</i> ver. 2.1 Molecular weight: 241.33 Soil or water metabolite: <i>water metabolite</i> Koc (mL/g): 598.0 (QSAR value) DT <sub>50</sub> soil (d): 1000 d (FOCUS Default) DT <sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default) DT <sub>50</sub> water (d): 1000 d (FOCUS Default) DT <sub>50</sub> sediment (d): 1000 d (FOCUS Default) Crop interception (%): 0 % (no crop canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 11.4 % Soil: 0.0001%
Calculations not performed
Crop and growth stage: <i>Winter cereals, BBCH 00-22;</i> Number of applications: 1 Interval (d): <i>not applicable – single application</i> Application rate(s): 120 g a.s./ha Application window: <i>Steps 1-2: October - February</i>
As defined by the modelling tool

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	0.084	----	0.001	----
1	0.047	0.065	0.278	0.139
2	0.046	0.056	0.278	0.208
4	0.046	0.051	0.277	0.243
7	0.046	0.049	0.277	0.258
14	0.046	0.048	0.275	0.267
21	0.046	0.047	0.274	0.270
28	0.046	0.047	0.273	0.271
42	0.045	0.046	0.270	0.271
50	0.0450	0.046	0.269	0.271
100	0.043	0.045	0.260	0.267

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.084	----	0.277	----	0.084	----	0.277	----
1	0.059	0.071	0.277	0.277	0.059	0.071	0.277	0.277
2	0.055	0.064	0.277	0.277	0.055	0.064	0.277	0.277
4	0.054	0.059	0.276	0.277	0.054	0.059	0.276	0.277
7	0.046	0.054	0.276	0.276	0.046	0.054	0.276	0.276
14	0.046	0.050	0.274	0.276	0.046	0.050	0.274	0.276
21	0.046	0.049	0.273	0.275	0.046	0.049	0.273	0.275
28	0.046	0.048	0.272	0.274	0.046	0.048	0.272	0.274
42	0.045	0.047	0.269	0.273	0.045	0.047	0.269	0.273
50	0.045	0.047	0.268	0.272	0.045	0.047	0.268	0.272
100	0.043	0.046	0.259	0.268	0.043	0.046	0.259	0.268

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Thiadone*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 170.1  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 42.10 (geomean)  
DT<sub>50</sub> soil (d): 1.95 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 84.3 %  
Soil: 5.9%

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 00-22;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 120 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	1.464	----	0.433	----
1	1.440	1.452	0.606	0.520
2	1.439	1.446	0.606	0.563
4	1.437	1.442	0.605	0.584
7	1.434	1.439	0.604	0.593
14	1.430	1.435	0.601	0.597
21	1.420	1.431	0.598	0.598
28	1.413	1.427	0.595	0.598
42	1.399	1.420	0.589	0.596
50	1.392	1.416	0.586	0.594
100	1.344	1.392	0.566	0.585

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.543	----	0.225	----	0.518	----	0.215	----
1	0.535	0.539	0.225	0.225	0.510	0.514	0.215	0.215
2	0.535	0.537	0.225	0.225	0.510	0.512	0.215	0.215
4	0.534	0.536	0.225	0.225	0.509	0.511	0.214	0.215
7	0.533	0.535	0.224	0.225	0.508	0.510	0.214	0.214
14	0.530	0.533	0.223	0.224	0.506	0.508	0.213	0.214
21	0.528	0.532	0.222	0.224	0.503	0.507	0.212	0.213
28	0.525	0.530	0.221	0.223	0.501	0.506	0.211	0.213
42	0.520	0.528	0.219	0.222	0.496	0.503	0.209	0.212
50	0.517	0.526	0.218	0.221	0.493	0.502	0.208	0.211
100	0.500	0.517	0.210	0.218	0.476	0.493	0.200	0.208

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE 5043-Trifluoroethanesulfonic acid*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 164.1  
Soil or water metabolite: *soil metabolite*  
Koc (mL/g): 0.0001 (default)  
DT<sub>50</sub> soil (d): 6.41 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 0.0001 %  
Soil: 6.0

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 00-22;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 120 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	1.084	----	0.000	----
1	1.083	1.084	0.000	0.000
2	1.082	1.083	0.000	0.000
4	1.081	1.082	0.000	0.000
7	1.079	1.081	0.000	0.000
14	1.074	1.079	0.000	0.000
21	1.068	1.076	0.000	0.000
28	1.063	1.074	0.000	0.000
42	1.054	1.068	0.000	0.000
50	1.047	1.065	0.000	0.000
100	1.011	1.047	0.000	0.000

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.352	----	0.000	----	0.281	----	0.000	----
1	0.351	0.351	0.000	0.000	0.281	0.281	0.000	0.000
2	0.351	0.351	0.000	0.000	0.281	0.281	0.000	0.000
4	0.351	0.351	0.000	0.000	0.281	0.281	0.000	0.000
7	0.350	0.351	0.000	0.000	0.280	0.281	0.000	0.000
14	0.348	0.350	0.000	0.000	0.279	0.280	0.000	0.000
21	0.347	0.349	0.000	0.000	0.277	0.279	0.000	0.000
28	0.345	0.348	0.000	0.000	0.276	0.279	0.000	0.000
42	0.342	0.347	0.000	0.000	0.273	0.277	0.000	0.000
50	0.340	0.346	0.000	0.000	0.272	0.277	0.000	0.000
100	0.328	0.340	0.000	0.000	0.263	0.272	0.000	0.000

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite: *Trifluoroacetic acid (TFA)*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1  
Molecular weight: 114.0  
Soil or water metabolite: *soil metabolite*  
Koc (mL/g): 0.0001 (default)  
DT<sub>50</sub> soil (d): 1000 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 0.0001 %  
Soil: 81.5

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 00-22;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 120 g a.s./ha  
Application window:  
*Steps 1-2: October - February*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	10.228	----	0.000	----
1	10.221	10.225	0.000	0.000
2	10.214	10.221	0.000	0.000
4	10.200	10.214	0.000	0.000
7	10.179	10.204	0.000	0.000
14	10.130	10.179	0.000	0.000
21	10.081	10.154	0.000	0.000
28	10.032	10.130	0.000	0.000
42	9.935	10.081	0.000	0.000
50	9.880	10.053	0.000	0.000
100	9.544	9.882	0.000	0.000

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	5.100	----	0.000	----	4.080	----	0.000	----
1	5.097	5.098	0.000	0.000	4.077	4.079	0.000	0.000
2	5.093	5.097	0.000	0.000	4.074	4.077	0.000	0.000
4	5.086	5.093	0.000	0.000	4.069	4.074	0.000	0.000
7	5.075	5.088	0.000	0.000	4.060	4.070	0.000	0.000
14	5.051	5.075	0.000	0.000	4.041	4.060	0.000	0.000
21	5.026	5.063	0.000	0.000	4.021	4.051	0.000	0.000
28	5.002	5.051	0.000	0.000	4.002	4.041	0.000	0.000
42	4.954	5.027	0.000	0.000	3.963	4.021	0.000	0.000
50	4.926	5.013	0.000	0.000	3.941	4.010	0.000	0.000
100	4.759	4.927	0.000	0.000	3.807	3.942	0.000	0.000

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

#### 4) Use: Winter cereals, post-emergence, BBCH 11-13, spring, application rate 160 g Flufenacet/ha

Parent Parameters used in FOCUSsw step 1 and 2	Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1 Molecular weight (g/mol): 363.3 K <sub>oc</sub> (mL/g): 245.9 DT <sub>50</sub> soil (d): 17.87 days (geomean SFO lab value normalised to T = 20°C and pF2) DT <sub>50</sub> water/sediment system (d): 49.6 d (geomean from sediment water studies) DT <sub>50</sub> water (d): 1000 days DT <sub>50</sub> sediment (d): 49.6 days Crop interception (%): 0 % (no crop canopy)
Parameters used in FOCUSsw step 3	Version control no.'s of FOCUS software: FOCUS SWASH 3.1 Water solubility (mg/L): 56 Vapour pressure: 0.00009 Pa at 20°C K <sub>oc</sub> (mL/g): 245.9 (geomean, general) 1/n: 0.916 (arithmetic mean, general) Q10=2.58, Walker equation coefficient 0.7 Crop uptake factor: 0.744 (TSCF calculated value)
Application rate	Crop and growth stage: Winter cereals 11 -13, "CAM 1" for R-scenarios; Number of applications: 1 Interval (d): not applicable – single application Application rate(s): 160 g a.s./ha Application window: Steps 1-2: March-May Step 3: the estimated day of the beginning of growth period 1 day after emergence as a starting day for 30-days application window: -for D1 ditch/stream scenario: 25/03 (JD 84); - for D2 ditch/stream scenario: 04/04 (JD 94); - for D3 ditch scenario: 16/04 (JD 106); - for D4 pond/stream scenario: 18/03 (JD 77); - for D5 pond/stream scenario: 15/03 (JD 74); - for D6 ditch scenario: 16/02 (JD 47); - for R1 pond/stream scenario: 01/04 (JD 91); - for R2 stream scenario: crop not defined; - for R3 stream scenario: 15/03 (JD 74); - for R4 stream scenario: 15/03 (JD 74); CAM 1 for R scenarios
Parameters used in FOCUSsw step 4	Version control no.'s of FOCUS software: FOCUS TOXSWA 3.3.1; SWAN 3.0.0. Substance specific input parameters and application window as at Step 3 Mitigation measures applied: a) for buffer zone 10 metres: 10-metres wide no-spray zone for all scenarios (Spray drift reduction); reduction factors for run-off (R scenarios): 0.6 for run-off volume and flux, 0.85 for erosion mass and flux (FOCUS values) b) for buffer zone 20 metres: 20-metres wide no-spray zone for all scenarios (Spray drift reduction); reduction factors for run-off (R scenarios): 0.8 for run-off volume and flux, 0.95 for erosion mass and flux (FOCUS values); c) for buffer zone 10 metres in VFS-mod : 10-metres wide no-spray zone for all scenarios (Spray drift reduction); 10-metres wide Vegetated Filter Stripe (reduction calculated by the tool for run-off (R scenarios):

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	41.636	----	98.765	----
1	40.700	41.168	100.081	99.423
2	40.135	40.793	98.693	99.404
4	39.029	40.186	95.972	98.365
7	37.427	39.344	92.032	96.489
14	33.939	37.499	83.455	92.082
21	30.776	35.777	75.678	87.889
28	27.908	34.162	68.626	83.940
42	22.949	31.224	56.431	76.737
50	20.521	29.702	50.462	73.001
100	10.204	22.234	25.090	54.656

Results of the calculations obtained at Step 2

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	8.076	----	19.337	----	14.956	----	36.020	----
1	7.969	8.022	19.261	19.299	14.844	14.900	35.877	35.949
2	7.938	7.988	19.185	19.261	14.785	14.857	35.736	35.878
4	7.875	7.947	19.034	19.185	14.669	14.792	35.454	35.736
7	7.782	7.896	18.809	19.072	14.496	14.702	35.036	35.526
14	7.570	7.786	18.295	18.812	14.100	14.500	34.079	35.040
21	7.363	7.679	17.796	18.556	13.715	14.302	33.148	34.564
28	7.162	7.575	17.310	18.305	13.340	14.108	32.243	34.096
42	6.776	7.372	16.377	17.816	12.621	13.731	30.505	33.186
50	6.565	7.260	15.867	17.545	12.228	13.522	29.555	32.681
100	5.387	6.608	13.019	15.971	10.036	12.308	24.251	29.748

Data on application pattern at STEP 3.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	25. 03 – 24. 04	29. 03. 1982/9:00	29. 03.1982/9:00	Spray drift
D1 – stream	25. 03 – 24. 04	29. 03. 1982/ 9:00	29. 03. 1982/9:00	Spray drift
D2 – ditch	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/7:00	Drainage
D2 – stream	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/6:00	Drainage
D3 – ditch	16. 04 – 16. 05	20. 04. 1992/9:00	20. 04. 1992/9:00	Spray drift
D4 – pond	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D4 – stream	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D5 – pond	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D5 – stream	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D6 – ditch	16. 02 – 18. 03	27. 02. 1986/ 9:00	27. 02. 1986/9:00	Spray drift
R1 – pond	01. 04 – 01. 05	26. 04. 1984/9:00	30. 05. 1984/12:00	Run-off
R1 – stream	01. 04 – 01. 05	26. 04. 1984/9:00	20. 05. 1984/2:00	Run-off
R2 – stream		Crop not defined in this scenario		
R3 – stream	15. 03 – 14. 04	28. 03. 1980/9:00	20. 04. 1980/1:59	Run-off
R4 – stream	15. 03 – 14. 04	21. 03. 1984/9:00	21. 03. 1984/9:00	Spray drift



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Results of the calculations obtained at Step 3 for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.129 <sup>1)</sup> 1.128 <sup>2)</sup>	----	0.884	----	0.838 <sup>1)</sup> 0.838 <sup>2)</sup>	----	0.322	----
1	0.773	0.964	0.826	0.875	0.0676	0.148	0.307	0.313
2	0.327	0.749	0.757	0.853	0.0666	0.146	0.304	0.310
4	0.130	0.470	0.685	0.803	0.0646	0.144	0.303	0.310
7	0.108	0.319	0.641	0.749	0.0615	0.141	0.301	0.309
14	0.107	0.222	0.607	0.687	0.0661	0.125	0.307	0.308
21	0.0996	0.194	0.592	0.659	0.0598	0.114	0.310	0.306
28	0.0920	0.181	0.579	0.641	0.0455	0.106	0.302	0.306
42	0.0897	0.165	0.550	0.615	0.0450	0.0902	0.264	0.302
50	0.0721	0.161	0.527	0.603	4.23 E-4	0.0834	0.211	0.298
100	0.0165	0.126	0.309	0.541	5.8 E-5	0.0599	0.103	0.260
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.412 <sup>1)</sup> 2.412 <sup>2)</sup>	----	1.088	----	1.574 <sup>1)</sup> 1.573 <sup>2)</sup>	----	0.530	----
1	0.543	1.162	1.088	1.088	0.274	0.561	0.530	0.530
2	0.378	0.899	1.088	1.088	0.169	0.373	0.530	0.530
4	0.284	0.697	1.086	1.088	0.125	0.299	0.528	0.530
7	0.245	0.628	1.082	1.088	0.0849	0.272	0.524	0.530
14	0.210	0.450	1.068	1.086	0.0819	0.191	0.507	0.528
21	0.183	0.372	1.049	1.082	0.0758	0.177	0.511	0.525
28	0.162	0.347	1.024	1.078	0.0672	0.173	0.499	0.521
42	0.133	0.318	0.941	1.066	0.0485	0.162	0.467	0.517
50	0.120	0.302	0.886	1.056	0.0393	0.153	0.442	0.513
100	0.426	0.216	0.602	0.968	0.194	0.113	0.309	0.474
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.014 <sup>1)</sup> 1.013 <sup>2)</sup>	----	0.336	----	0.0357 <sup>1)</sup> 0.0356 <sup>2)</sup>	----	0.0968	----
1	0.484	0.787	0.256	0.321	0.0347	0.0351	0.0966	0.0968
2	0.0684	0.511	0.190	0.291	0.0342	0.0348	0.0964	0.0967
4	0.00342	0.265	0.135	0.236	0.0332	0.0342	0.0961	0.0967
7	9.49 E-4	0.152	0.102	0.189	0.0321	0.0335	0.0956	0.0966
14	2.84 E-4	0.0763	0.0701	0.139	0.0294	0.0321	0.0945	0.0964
21	1.35 E-4	0.0509	0.0546	0.114	0.0274	0.0309	0.0933	0.0962
28	8.8 E-5	0.0382	0.0448	0.0981	0.0257	0.0298	0.0920	0.0960
42	5.2 E-5	0.0255	0.0325	0.0784	0.0234	0.0280	0.0873	0.0955
50	3.8 E-5	0.0214	0.0275	0.0707	0.0221	0.0272	0.0846	0.0951
100	1.0 E-5	0.0107	0.0110	0.0445	0.0167	0.0232	0.0711	0.0917

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 3 for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.763 <sup>1)</sup> 0.763 <sup>2)</sup>	----	0.0252	----	0.0387 <sup>1)</sup> 0.0387 <sup>2)</sup>	----	0.114	----
1	2.83 E-4	0.0353	0.0120	0.0190	0.0378	0.0382	0.114	0.114
2	2.60 E-4	0.0178	0.00888	0.0190	0.0373	0.0379	0.114	0.114
4	2.61 E-4	0.0115	0.00677	0.0189	0.0365	0.0374	0.114	0.114
7	2.65 E-4	0.0108	0.00557	0.0188	0.0355	0.0368	0.113	0.114
14	4.49 E-4	0.00944	0.00468	0.0184	0.0338	0.0357	0.112	0.113
21	3.33 E-4	0.00816	0.00425	0.0179	0.0324	0.0348	0.111	0.113
28	2.31 E-4	0.00693	0.00389	0.0172	0.0312	0.0341	0.109	0.113
42	7.8 E-5	0.00508	0.00314	0.0159	0.0291	0.0328	0.105	0.113
50	1.05 E-4	0.00442	0.00286	0.0152	0.0280	0.0321	0.103	0.112
100	<1.0 E-6	0.00239	0.00145	0.0120	0.0222	0.0285	0.0902	0.109
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.818 <sup>1)</sup> 0.818 <sup>2)</sup>	----	0.0322	----	1.009 <sup>1)</sup> 1.009 <sup>2)</sup>	----	0.215	----
1	0.00152	0.0369	0.0189	0.0244	0.0299	0.409	0.133	0.188
2	0.00149	0.0192	0.0157	0.0208	0.0112	0.212	0.104	0.158
4	0.00142	0.0104	0.0135	0.0177	0.0104	0.111	0.0835	0.127
7	0.00137	0.00659	0.0123	0.0156	0.0104	0.0681	0.0719	0.106
14	0.00120	0.00412	0.0110	0.0136	0.00935	0.0391	0.0616	0.0865
21	0.00108	0.00328	0.0103	0.0126	0.00867	0.0291	0.0568	0.0774
28	7.20 E-4	0.00286	0.00936	0.0119	0.00584	0.0239	0.0516	0.0718
42	4.4 E-5	0.00249	0.00722	0.0109	0.00720	0.0183	0.0482	0.0642
50	3 E-6	0.00236	0.00610	0.0106	0.00174	0.0168	0.0398	0.0611
100	1 E-6	0.00215	0.00276	0.00924	5.6 E-5	0.0116	0.0136	0.0443
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0913 <sup>1)</sup> 0.0912 <sup>2)</sup>	----	0.254	----	1.021 <sup>1)</sup> 1.020 <sup>2)</sup>	----	0.333	----
1	0.0902	0.0907	0.254	0.254	0.00230	0.544	0.191	0.276
2	0.0893	0.0902	0.254	0.254	5.94 E-4	0.273	0.150	0.230
4	0.0876	0.0894	0.254	0.254	4.89 E-4	0.137	0.120	0.185
7	0.0851	0.0881	0.253	0.254	6.96 E-4	0.111	0.139	0.163
14	0.0798	0.0854	0.251	0.254	0.00312	0.0711	0.116	0.147
21	0.0750	0.0831	0.247	0.253	3.9 E-5	0.0557	0.0813	0.130
28	0.0738	0.0816	0.241	0.252	2.1 E-5	0.0477	0.0663	0.116
42	0.0654	0.0794	0.227	0.250	1.4 E-5	0.0348	0.0517	0.101
50	0.0610	0.0777	0.219	0.249	9 E-6	0.0293	0.0430	0.0934
100	0.0392	0.0659	0.186	0.235	2 E-6	0.0151	0.0173	0.0647

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 3 for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.450 <sup>1)</sup> 1.449 <sup>2)</sup>	----	0.606	----	0.668 <sup>1)</sup> 0.668 <sup>2)</sup>	----	0.203	----
1	0.300	1.231	0.382	0.527	2.89 E-4	0.410	0.108	0.168
2	0.00594	0.656	0.290	0.449	8.6 E-5	0.206	0.0803	0.146
4	0.00133	0.329	0.221	0.359	2.6 E-5	0.152	0.147	0.128
7	5.19 E-4	0.189	0.176	0.293	1.0 E-5	0.103	0.0877	0.124
14	1.46 E-4	0.0944	0.129	0.223	3.4 E-5	0.0540	0.0606	0.100
21	7.9 E-5	0.0630	0.104	0.188	8 E-6	0.0360	0.0455	0.0848
28	3.14 E-4	0.0567	0.117	0.173	4 E-6	0.0270	0.0363	0.0740
42	5.5 E-5	0.0381	0.0818	0.149	2 E-6	0.0180	0.0251	0.0595
50	3.6 E-5	0.0363	0.0667	0.137	1 E-6	0.0160	0.0205	0.0537
100	5 E-6	0.0187	0.0236	0.0894	5 E-6	0.00967	0.00650	0.0335

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 10 metres buffer zone:

Data on application pattern at STEP 4, 10 –metres buffer zone.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	25. 03 – 24. 04	29. 03. 1982/9:00	29. 03. 1982/9:00	Spray drift
D1 – stream	25. 03 – 24. 04	29. 03. 1982/ 9:00	29. 03. 1982/9:00	Spray drift
D2 – ditch	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/7:00	Drainage
D2 – stream	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/6:00	Drainage
D3 – ditch	16. 04 – 16. 05	20. 04. 1992/9:00	20. 04. 1992/9:00	Spray drift
D4 – pond	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D4 – stream	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D5 – pond	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D5 – stream	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D6 – ditch	16. 02 – 18. 03	27. 02. 1986/ 9:00	27. 02. 1986/9:00	Spray drift
R1 – pond	01. 04 – 01. 05	26. 04. 1984/9:00	30. 05. 1984/12:00	Run-off
R1 – stream	01. 04 – 01. 05	26. 04. 1984/9:00	20. 05. 1984/2:00	Run-off
R2 – stream	Crop not defined in this scenario			
R3 – stream	15. 03 – 14. 04	28. 03. 1980/9:00	20. 04. 1980/1:59	Run-off
R4 – stream	15. 03 – 14. 04	21. 03. 1984/9:00	15. 05. 1984/12:59	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.259 <sup>1)</sup> 0.259 <sup>2)</sup>	----	0.561	----	0.218 <sup>1)</sup> 0.218 <sup>2)</sup>	----	0.308	----
1	0.206	0.234	0.552	0.560	0.0676	0.148	0.308	0.308
2	0.141	0.231	0.542	0.556	0.0666	0.146	0.308	0.308
4	0.110	0.228	0.532	0.549	0.0646	0.144	0.307	0.308
7	0.104	0.220	0.525	0.541	0.0615	0.141	0.302	0.308
14	0.107	0.197	0.528	0.533	0.0661	0.125	0.247	0.307
21	0.0994	0.182	0.528	0.531	0.0598	0.114	0.263	0.305
28	0.0915	0.168	0.524	0.530	0.0455	0.106	0.217	0.303
42	0.0895	0.144	0.508	0.524	0.0450	0.0902	0.171	0.300
50	0.0716	0.136	0.490	0.521	4.23 E-4	0.0834	0.152	0.296
100	0.0160	0.113	0.288	0.492	5.8 E-5	0.0598	0.0757	0.260
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.412 <sup>1)</sup> 2.412 <sup>2)</sup>	----	1.076	----	1.574 <sup>1)</sup> 1.573 <sup>2)</sup>	----	0.530	----
1	0.543	1.162	1.076	1.076	0.274	0.561	0.530	0.530
2	0.378	0.812	1.076	1.076	0.169	0.373	0.529	0.530
4	0.284	0.696	1.074	1.076	0.125	0.299	0.528	0.530
7	0.245	0.628	1.070	1.076	0.0849	0.272	0.523	0.529
14	0.209	0.450	1.057	1.074	0.0819	0.191	0.507	0.527
21	0.182	0.372	1.038	1.071	0.0758	0.177	0.511	0.525
28	0.161	0.346	1.013	1.066	0.0672	0.173	0.499	0.521
42	0.132	0.317	0.931	1.055	0.0485	0.162	0.467	0.516
50	0.119	0.302	0.876	1.044	0.0393	0.153	0.441	0.512
100	0.426	0.215	0.595	0.958	0.194	0.113	0.309	0.474
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.146 <sup>1)</sup> 0.146 <sup>2)</sup>	----	0.0514	----	0.0224 <sup>1)</sup> 0.0224 <sup>2)</sup>	----	0.0690	----
1	0.0692	0.113	0.0394	0.0493	0.0218	0.0221	0.0690	0.0690
2	0.00984	0.0732	0.0293	0.0447	0.0215	0.0219	0.0690	0.0690
4	5.33 E-4	0.0380	0.0209	0.0365	0.0209	0.0215	0.0690	0.0690
7	1.48 E-4	0.0218	0.0158	0.0293	0.0202	0.0211	0.0690	0.0690
14	4.5 E-5	0.0110	0.0109	0.0215	0.0185	0.0202	0.0689	0.0690
21	2.1 E-5	0.00731	0.00845	0.0176	0.0173	0.0194	0.0688	0.0689
28	1.4 E-5	0.00549	0.00694	0.0152	0.0162	0.0188	0.0685	0.0689
42	8 E-6	0.00366	0.00504	0.0121	0.0148	0.0177	0.0672	0.0688
50	6 E-6	0.00308	0.00427	0.0110	0.0140	0.0171	0.0668	0.0687
100	2 E-6	0.00154	0.00171	0.00690	0.0105	0.0146	n. c. <sup>3)</sup>	0.0678

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.148 <sup>1)</sup> 0.148 <sup>2)</sup>	----	0.0189	----	0.0255 <sup>1)</sup> 0.0255 <sup>2)</sup>	----	0.0778	----
1	2.69 E-4	0.0126	0.0188	0.0189	0.0249	0.0252	0.0778	0.0778
2	2.55 E-4	0.0119	0.0187	0.0189	0.0246	0.0250	0.0778	0.0778
4	2.65 E-4	0.0115	0.0183	0.0188	0.0241	0.0246	0.0778	0.0778
7	4.49 E-4	0.0108	0.0176	0.0187	0.0235	0.0243	0.0777	0.0778
14	3.32 E-4	0.00944	0.0154	0.0183	0.0224	0.0236	0.0774	0.0778
21	2.31 E-4	0.00816	0.0135	0.0178	0.0215	0.0230	0.0761	0.0777
28	1.78 E-4	0.0693	0.0120	0.0171	0.0207	0.0225	0.0748	0.0777
42	7.8 E-5	0.00508	0.0108	0.0158	0.0193	0.0217	0.0720	0.0774
50	1.05 E-4	0.00442	0.00975	0.0151	0.0186	0.0213	0.0705	0.0771
100	<1.0 E-6	0.00239	0.00595	0.0119	0.0147	0.0189	0.0617	0.0746
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.160 <sup>1)</sup> 0.160 <sup>2)</sup>	----	0.0134	----	0.153 <sup>1)</sup> 0.152 <sup>2)</sup>	----	0.0565	----
1	0.00150	0.00836	0.0109	0.0120	0.0122	0.0663	0.0453	0.0527
2	0.00149	0.00495	0.0103	0.0113	0.00976	0.0383	0.0412	0.0486
4	0.00142	0.00325	0.00980	0.0106	0.00995	0.0241	0.0390	0.0486
7	0.00136	0.00252	0.00951	0.0102	0.0101	0.0181	0.0385	0.0447
14	0.00120	0.00225	0.00909	0.00975	0.00918	0.0140	0.0387	0.0445
21	0.00108	0.00222	0.00878	0.00949	0.00856	0.0123	0.0387	0.0442
28	7.20 E-4	0.00208	0.00811	0.00933	0.00571	0.0113	0.0364	0.0439
42	4.4 E-5	0.00198	0.00629	0.00912	0.00715	0.00986	0.0371	0.0431
50	3 E-6	0.00195	0.00530	0.00901	0.00167	0.00979	0.0302	0.0425
100	1 E-6	0.00187	0.00241	0.00834	4.2 E-5	0.00829	0.00984	0.0390
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0422 <sup>1)</sup> 0.0422 <sup>2)</sup>	----	0.124	----	0.464 <sup>1)</sup> 0.464 <sup>2)</sup>	----	0.148	----
1	0.0418	0.0420	0.124	0.124	0.00106	0.248	0.0830	0.121
2	0.0413	0.0418	0.124	0.124	2.78 E-4	0.124	0.0641	0.101
4	0.0406	0.0414	0.124	0.124	2.05 E-4	0.0622	0.0499	0.0800
7	0.0394	0.0408	0.124	0.124	3.16 E-4	0.0491	0.0593	0.0699
14	0.0370	0.0395	0.122	0.124	0.00107	0.0310	0.0489	0.0627
21	0.0347	0.0386	0.121	0.124	1.7 E-5	0.0244	0.0338	0.0552
28	0.0343	0.0381	0.118	0.123	9 E-6	0.0210	0.0273	0.0491
42	0.0304	0.0370	0.111	0.122	6 E-6	0.0146	0.0214	0.0423
50	0.0283	0.0362	0.107	0.121	4 E-6	0.0122	0.0177	0.0392
100	0.0184	0.0184	0.0917	0.114	1 E-6	0.00633	0.00707	0.0269

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.662 <sup>1)</sup>	----	0.262	----	0.287 <sup>1)</sup>	----	0.0927	----
	0.662 <sup>2)</sup>				0.286 <sup>2)</sup>			
1	0.152	0.567	0.164	0.230	5.39 E-4	0.185	0.0495	0.0764
2	0.00282	0.304	0.120	0.194	1.79 E-4	0.0927	0.0364	0.0673
4	6.10 E-4	0.153	0.0878	0.153	0.0484	0.0691	0.0674	0.0586
7	2.30 E-4	0.0873	0.0678	0.122	8.6 E-5	0.0467	0.0400	0.0568
14	6.1 E-5	0.0437	0.0479	0.0901	2.3 E-5	0.0245	0.0273	0.0458
21	3.1 E-5	0.0292	0.0380	0.0746	9 E-6	0.0164	0.0203	0.0386
28	1.43 E-4	0.0254	0.0454	0.0683	5 E-6	0.0123	0.0162	0.0335
42	2.3 E-5	0.0175	0.0312	0.0585	2 E-6	0.00818	0.0111	0.0269
50	1.5 E-5	0.0153	0.0252	0.0537	2 E-6	0.00717	0.00909	0.0242
100	2 E-6	0.00789	0.00877	0.0347	1.6 E-5	0.00402	0.00286	0.0148

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 20 metres buffer zone:

Data on application pattern at STEP 4, 20-metres buffer zone.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	25. 03 – 24. 04	29. 03. 1982/9:00	20. 11.1982/2:00	Drainage
D1 – stream	25. 03 – 24. 04	29. 03. 1982/ 9:00	26. 10. 1982/15:59	Drainage
D2 – ditch	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/7:00	Drainage
D2 – stream	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/6:00	Drainage
D3 – ditch	16. 04 – 16. 05	20. 04. 1992/9:00	20. 04. 1992/9:00	Spray drift
D4 – pond	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D4 – stream	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D5 – pond	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D5 – stream	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D6 – ditch	16. 02 – 18. 03	27. 02. 1986/ 9:00	27. 02. 1986/9:00	Spray drift
R1 – pond	01. 04 – 01. 05	26. 04. 1984/9:00	30. 05. 1984/12:00	Run-off
R1 – stream	01. 04– 01. 05	26. 04. 1984/9:00	20. 05. 1984/2:00	Run-off
R2 – stream	Crop not defined in this scenario			
R3 – stream	15. 03 – 14. 04	28. 03. 1980/9:00	20. 04. 1980/1:59	Run-off
R4 – stream	15. 03 – 14. 04	21. 03. 1984/9:00	15. 05. 1984/12:59	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.232 <sup>1)</sup>	----	0.534	----	0.168 <sup>1)</sup>	----	0.308	----
	0.232 <sup>2)</sup>				0.168 <sup>2)</sup>			
1	0.230	0.232	0.530	0.534	0.0646	0.148	0.308	0.308
2	0.226	0.231	0.525	0.532	0.00481	0.146	0.308	0.308
4	0.212	0.228	0.519	0.528	4.42 E-4	0.144	0.307	0.308
7	0.178	0.220	0.516	0.524	1.55 E-4	0.141	0.302	0.308
14	0.144	0.197	0.522	0.522	5.2 E-5	0.125	0.247	0.307
21	0.111	0.182	0.523	0.521	0.143	0.114	0.263	0.304
28	0.100	0.168	0.520	0.521	0.132	0.106	0.217	0.303
42	0.0749	0.144	0.505	0.517	0.0805	0.0902	0.170	0.300
50	0.0692	0.134	0.487	0.515	0.0637	0.0834	0.152	0.296
100	0.0456	0.112	0.287	0.488	0.0344	0.0598	0.0756	0.260
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.412 <sup>1)</sup>	----	1.075	----	1.574 <sup>1)</sup>	----	0.530	----
	2.412 <sup>2)</sup>				1.573 <sup>2)</sup>			
1	0.543	1.162	1.075	1.075	0.274	0.561	0.530	0.530
2	0.378	0.812	1.075	1.075	0.169	0.373	0.529	0.530
4	0.284	0.696	1.073	1.075	0.125	0.299	0.527	0.529
7	0.245	0.628	1.069	1.075	0.0849	0.272	0.523	0.529
14	0.209	0.450	1.056	1.073	0.0819	0.191	0.507	0.527
21	0.182	0.372	1.037	1.070	0.0758	0.177	0.511	0.525
28	0.161	0.346	1.012	1.065	0.0672	0.173	0.499	0.521
42	0.131	0.317	0.930	1.054	0.0485	0.162	0.467	0.516
50	0.119	0.302	0.875	1.043	0.0393	0.153	0.441	0.512
100	0.426	0.215	0.594	0.957	0.194	0.113	0.309	0.474
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0756 <sup>1)</sup>	----	0.0273	----	0.0153 <sup>1)</sup>	----	0.0599	----
	0.0756 <sup>2)</sup>				0.0152 <sup>2)</sup>			
1	0.0359	0.0586	0.0210	0.0261	0.0149	0.0150	0.0599	0.0599
2	0.00511	0.0380	0.0156	0.0237	0.0146	0.0149	0.0599	0.0599
4	2.84 E-4	0.0197	0.0112	0.0194	0.0142	0.0146	0.0599	0.0599
7	7.9 E-5	0.0113	0.00845	0.0156	0.0137	0.0144	0.0598	0.0599
14	2.4 E-5	0.00569	0.00579	0.0115	0.0126	0.0138	0.0598	0.0598
21	1.1 E-5	0.00380	0.00450	0.00940	0.0118	0.0132	0.0597	0.0598
28	7 E-6	0.00285	0.00370	0.00810	0.0111	0.0128	0.0592	0.0598
42	4 E-6	0.00190	0.00269	0.00647	0.0101	0.0120	0.0584	0.0597
50	3 E-6	0.00160	0.00228	0.00584	0.00956	0.0117	0.0577	0.0597
100	1 E-6	8.00 E-4	9.14 E-4	0.00368	0.00719	0.0102	n. c. <sup>3)</sup>	0.0590

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0769 <sup>1)</sup> 0.0769 <sup>2)</sup>	----	0.0189	----	0.0183 <sup>1)</sup> 0.0183 <sup>2)</sup>	----	0.0582	----
1	2.67 E-4	0.0126	0.0188	0.0189	0.0179	0.0181	0.0582	0.0582
2	2.55 E-4	0.0119	0.0187	0.0189	0.0177	0.0180	0.0582	0.0582
4	2.59 E-4	0.0115	0.0182	0.0188	0.0174	0.0177	0.0582	0.0582
7	2.65 E-4	0.0108	0.0176	0.0187	0.0169	0.0175	0.0582	0.0582
14	4.49 E-4	0.00944	0.0154	0.0183	0.0162	0.0170	0.0579	0.0582
21	3.32 E-4	0.00816	0.0134	0.0178	0.0156	0.0166	0.0574	0.0582
28	2.31 E-4	0.00693	0.0120	0.0171	0.0150	0.0163	0.0563	0.0581
42	7.8 E-5	0.00508	0.0108	0.0158	0.0140	0.0157	0.0541	0.0579
50	1.05 E-4	0.00422	0.00974	0.0151	0.0135	0.0154	0.0529	0.0577
100	<1.0 E-6	0.00239	0.00594	0.0119	0.0107	0.0137	0.0461	0.0558
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0836 <sup>1)</sup> 0.0835 <sup>2)</sup>	----	0.0113	----	0.0834 <sup>1)</sup> 0.0834 <sup>2)</sup>	----	0.0448	----
1	0.00150	0.00507	0.00995	0.0105	0.0107	0.0388	0.0448	0.0448
2	0.00149	0.00330	0.00960	0.0101	0.00963	0.0243	0.0446	0.0448
4	0.00142	0.00242	0.00935	0.00980	0.00991	0.0170	0.0440	0.0448
7	0.00136	0.00234	0.00918	0.00957	0.0101	0.0140	0.0422	0.0447
14	0.00120	0.00225	0.00887	0.00930	0.00917	0.0119	0.0357	0.0445
21	0.00108	0.00222	0.00860	0.00915	0.00856	0.0109	0.0303	0.0442
28	7.20 E-4	0.00208	0.00797	0.00906	0.00570	0.0103	n. c. <sup>3)</sup>	0.0439
42	4.4 E-5	0.00298	0.00619	0.00892	0.00715	0.00918	n. c. <sup>3)</sup>	0.0431
50	3 E-6	0.00195	0.00521	0.00884	0.00166	0.00922	n. c. <sup>3)</sup>	0.0425
100	1 E-6	0.00183	0.00236	0.00824	4.1 E-5	0.00829	n. c. <sup>3)</sup>	0.0390
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0237 <sup>1)</sup> 0.0237 <sup>2)</sup>	----	0.0725	----	0.243 <sup>1)</sup> 0.243 <sup>2)</sup>	----	0.0780	----
1	0.0235	0.0236	0.0725	0.0725	5.58 E-4	0.130	0.0441	0.0643
2	0.0232	0.0235	0.0725	0.0725	1.51 E-4	0.0652	0.0339	0.0534
4	0.0228	0.0232	0.0725	0.0725	1.06 E-4	0.0326	0.0262	0.0423
7	0.0222	0.0229	0.0723	0.0725	1.67 E-4	0.0255	0.0313	0.0369
14	0.0208	0.0222	0.0717	0.0723	1.8 E-5	0.0160	0.0257	0.0331
21	0.0195	0.0218	0.0707	0.0721	9 E-6	0.0126	0.0177	0.0291
28	0.0192	0.0216	0.0693	0.0719	5 E-6	0.0108	0.0143	0.0259
42	0.0170	0.0209	0.0655	0.0712	3 E-6	0.00753	0.0112	0.0223
50	0.0159	0.0204	0.0631	0.0707	1 E-6	0.00633	0.00930	0.0206
100	0.0103	0.0173	0.0536	0.0667	<1.0 E-6	0.00328	0.00370	0.0141

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.348 <sup>1)</sup> 0.348 <sup>2)</sup>	----	0.138	----	0.150 <sup>1)</sup> 0.150 <sup>2)</sup>	----	0.0492	----
1	0.0825	0.298	0.0859	0.122	2.88 E-4	0.0965	0.0266	0.0407
2	0.00153	0.160	0.0629	0.103	9.7 E-5	0.0484	0.0195	0.0360
4	3.29 E-4	0.0804	0.0460	0.0809	0.0254	0.0362	0.0362	0.0314
7	1.23 E-4	0.0460	0.0354	0.0645	4.6 E-5	0.0244	0.0215	0.0304
14	3.2 E-5	0.0231	0.0248	0.0474	1.2 E-5	0.0128	0.0146	0.0245
21	1.6 E-5	0.0154	0.0196	0.0391	5 E-6	0.00856	0.0109	0.0207
28	7.6 E-5	0.0134	0.0236	0.0358	3 E-6	0.00642	0.00865	0.0180
42	1.2 E-5	0.00923	0.0162	0.0306	1 E-6	0.00428	0.00596	0.0144
50	8 E-6	0.00803	0.0131	0.0281	1 E-6	0.00374	0.00486	0.0130
100	1 E-6	0.00415	0.00454	0.0181	9 E-6	0.00209	0.00153	0.00791

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 10 metres buffer zone VFS-mod:

Data on application pattern at STEP 4, 10 –metres buffer zone VFS.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	25. 03 – 24. 04	29. 03. 1982/9:00	29. 03.1982/9:00	Spray drift
D1 – stream	25. 03 – 24. 04	29. 03. 1982/ 9:00	29. 03. 1982/9:00	Spray drift
D2 – ditch	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/7:00	Drainage
D2 – stream	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/6:00	Drainage
D3 – ditch	16. 04 – 16. 05	20. 04. 1992/9:00	20. 04. 1992/9:00	Spray drift
D4 – pond	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D4 – stream	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D5 – pond	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D5 – stream	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D6 – ditch	16. 02 – 18. 03	27. 02. 1986/ 9:00	27. 02. 1986/9:00	Spray drift
R1 – pond	01. 04 – 01. 05	26. 04. 1984/9:00	26. 04. 1984/9:00	Spray drift
R1 – stream	01. 04 – 01. 05	26. 04. 1984/9:00	26. 04. 1984/9:00	Spray drift
R2 – stream	Crop not defined in this scenario			
R3 – stream	15. 03 – 14. 04	28. 03. 1980/9:00	20. 04. 1980/1:59	Run-off
R4 – stream	15. 03 – 14. 04	21. 03. 1984/9:00	21. 03. 1984/9:00	Spray drift

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations at Step 4, 10-metres buffer zone VFS, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.259 <sup>1)</sup> 0.259 <sup>2)</sup>	----	0.561	----	0.218 <sup>1)</sup> 0.218 <sup>2)</sup>	----	0.308	----
1	0.206	0.234	0.552	0.560	0.0676	0.148	0.308	0.308
2	0.141	0.231	0.542	0.556	0.0666	0.146	0.308	0.308
4	0.110	0.228	0.532	0.549	0.0646	0.144	0.307	0.308
7	0.104	0.220	0.525	0.541	0.0615	0.141	0.302	0.308
14	0.107	0.197	0.528	0.533	0.0661	0.125	0.247	0.307
21	0.0994	0.182	0.528	0.531	0.0598	0.114	0.263	0.305
28	0.0915	0.168	0.524	0.530	0.0455	0.106	0.217	0.303
42	0.0895	0.144	0.508	0.524	0.0450	0.0902	0.171	0.300
50	0.0716	0.136	0.490	0.521	4.23 E-4	0.0834	0.152	0.296
100	0.0160	0.113	0.288	0.492	5.8 E-5	0.0598	0.0757	0.260
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.412 <sup>1)</sup> 2.412 <sup>2)</sup>	----	1.076	----	1.574 <sup>1)</sup> 1.573 <sup>2)</sup>	----	0.530	----
1	0.543	1.162	1.076	1.076	0.274	0.561	0.530	0.530
2	0.378	0.812	1.076	1.076	0.169	0.373	0.529	0.530
4	0.284	0.696	1.074	1.076	0.125	0.299	0.528	0.530
7	0.245	0.628	1.070	1.076	0.0849	0.272	0.523	0.529
14	0.209	0.450	1.057	1.074	0.0819	0.191	0.507	0.527
21	0.182	0.372	1.038	1.071	0.0758	0.177	0.511	0.525
28	0.161	0.346	1.013	1.066	0.0672	0.173	0.499	0.521
42	0.132	0.317	0.931	1.055	0.0485	0.162	0.467	0.516
50	0.119	0.302	0.876	1.044	0.0393	0.153	0.441	0.512
100	0.426	0.215	0.595	0.958	0.194	0.113	0.309	0.474
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.146 <sup>1)</sup> 0.146 <sup>2)</sup>	----	0.0514	----	0.0224 <sup>1)</sup> 0.0224 <sup>2)</sup>	----	0.0690	----
1	0.0692	0.113	0.0394	0.0493	0.0218	0.0221	0.0690	0.0690
2	0.00984	0.0732	0.0293	0.0447	0.0215	0.0219	0.0690	0.0690
4	5.33 E-4	0.0380	0.0209	0.0365	0.0209	0.0215	0.0690	0.0690
7	1.48 E-4	0.0218	0.0158	0.0293	0.0202	0.0211	0.0690	0.0690
14	4.5 E-5	0.0110	0.0109	0.0215	0.0185	0.0202	0.0689	0.0690
21	2.1 E-5	0.00731	0.00845	0.0176	0.0173	0.0194	0.0688	0.0689
28	1.4 E-5	0.00549	0.00694	0.0152	0.0162	0.0188	0.0685	0.0689
42	8 E-6	0.00366	0.00504	0.0121	0.0148	0.0177	0.0672	0.0688
50	6 E-6	0.00308	0.00427	0.0110	0.0140	0.0171	0.0668	0.0687
100	2 E-6	0.00154	0.00171	0.00690	0.0105	0.0146	n. c. <sup>3)</sup>	0.0678

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.148 <sup>1)</sup> 0.148 <sup>2)</sup>	----	0.0189	----	0.0255 <sup>1)</sup> 0.0255 <sup>2)</sup>	----	0.0778	----
1	2.69 E-4	0.0126	0.0188	0.0189	0.0249	0.0252	0.0778	0.0778
2	2.55 E-4	0.0119	0.0187	0.0189	0.0246	0.0250	0.0778	0.0778
4	2.65 E-4	0.0115	0.0183	0.0188	0.0241	0.0246	0.0778	0.0778
7	4.49 E-4	0.0108	0.0176	0.0187	0.0235	0.0243	0.0777	0.0778
14	3.32 E-4	0.00944	0.0154	0.0183	0.0224	0.0236	0.0774	0.0778
21	2.31 E-4	0.00816	0.0135	0.0178	0.0215	0.0230	0.0761	0.0777
28	1.78 E-4	0.00693	0.0120	0.0171	0.0207	0.0225	0.0748	0.0777
42	7.8 E-5	0.00508	0.0108	0.0158	0.0193	0.0217	0.0720	0.0774
50	1.05 E-4	0.00442	0.00975	0.0151	0.0186	0.0213	0.0705	0.0771
100	<1.0 E-6	0.00239	0.00595	0.0119	0.0147	0.0189	0.0617	0.0746
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.160 <sup>1)</sup> 0.160 <sup>2)</sup>	----	0.0134	----	0.153 <sup>1)</sup> 0.152 <sup>2)</sup>	----	0.0565	----
1	0.00150	0.00836	0.0109	0.0120	0.0122	0.0663	0.0453	0.0527
2	0.00149	0.00495	0.0103	0.0113	0.00976	0.0383	0.0412	0.0486
4	0.00142	0.00325	0.00980	0.0106	0.00995	0.0241	0.0390	0.0486
7	0.00136	0.00252	0.00951	0.0102	0.0101	0.0181	0.0385	0.0447
14	0.00120	0.00225	0.00909	0.00975	0.00918	0.0140	0.0387	0.0445
21	0.00108	0.00222	0.00878	0.00949	0.00856	0.0123	0.0387	0.0442
28	7.20 E-4	0.00208	0.00811	0.00933	0.00571	0.0113	0.0364	0.0439
42	4.4 E-5	0.00198	0.00629	0.00912	0.00715	0.00986	0.0371	0.0431
50	3 E-6	0.00195	0.00530	0.00901	0.00167	0.00979	0.0302	0.0425
100	1 E-6	0.00187	0.00241	0.00834	4.2 E-5	0.00829	0.00984	0.0390
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0218 <sup>1)</sup> 0.0217 <sup>2)</sup>	----	0.0541	----	0.129 <sup>1)</sup> 0.129 <sup>2)</sup>	----	0.0149	----
1	0.0212	0.0214	0.0541	0.0541	5.7 E-5	0.0244	0.00731	0.0113
2	0.0208	0.0212	0.0541	0.0541	1.8 E-5	0.0122	0.00514	0.00886
4	0.0203	0.0209	0.0540	0.0541	5 E-6	0.00611	0.00361	0.00663
7	0.0196	0.0205	0.0539	0.0541	2 E-6	0.00349	0.00271	0.00515
14	0.0182	0.0197	0.0528	0.0541	1 E-6	0.00175	0.00186	0.00370
21	0.0170	0.0190	0.0516	0.0540	<1.0 E-6	0.00117	0.00148	0.00302
28	0.0160	0.0184	0.0502	0.0538	<1.0 E-6	8.74 E-4	0.00124	0.00260
42	0.0141	0.0172	0.0472	0.0534	<1.0 E-6	5.83 E-4	9.23 E-4	0.00209
50	0.0132	0.0167	0.0452	0.0531	<1.0 E-6	4.90 E-4	7.92 E-4	0.00190
100	0.00867	0.0137	0.0366	0.0501	<1.0 E-6	2.55 E-4	3.69 E-4	0.00125

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

List of end points

Rapporteur Member State	Month and year	<b>Active substance and Plant Protection Product (Name)</b>
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.452 <sup>1)</sup>	----	0.190	----	0.129 <sup>1)</sup>	----	0.0150	----
	0.452 <sup>2)</sup>				0.129 <sup>2)</sup>			
1	0.106	0.388	0.123	0.168	5.8 E-5	0.0245	0.00734	0.0113
2	0.00199	0.208	0.0919	0.143	1.8 E-5	0.0123	0.00516	0.00890
4	4.36 E-4	0.104	0.0690	0.114	5 E-6	0.00614	0.00363	0.00666
7	1.68 E-4	0.0598	0.0545	0.0927	2 E-6	0.00351	0.00274	0.00517
14	4.6 E-5	0.0300	0.0394	0.0700	1 E-6	0.00176	0.00189	0.00372
21	2.4 E-5	0.0200	0.0316	0.0587	<1.0 E-6	0.00117	0.00149	0.00304
28	1.6 E-5	0.0168	0.0265	0.0514	<1.0 E-6	8.78 E-4	0.00125	0.00263
42	8 E-6	0.0112	0.0197	0.0420	<1.0 E-6	5.85 E-4	9.44 E-4	0.00211
50	7 E-6	0.00944	0.0166	0.0382	<1.0 E-6	4.92 E-4	8.19 E-4	0.00192
100	1 E-6	0.00472	0.00611	0.0244	<1.0 E-6	4.24 E-4	9.38 E-4	0.00187

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Oxalate*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 225.2  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 10.60 (geomean)  
DT<sub>50</sub> soil (d): 11.08 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 5.4 %  
Soil: 26.3%

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 11-13*;  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 160 g a.s./ha  
Application window:  
*Steps 1-2: March – May*

Main routes of entry

*As defined by the modelling tool*

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	8.622	----	0.909	----
1	8.615	8.619	0.913	0.911
2	8.609	8.615	0.913	0.912
4	8.597	8.609	0.911	0.912
7	8.580	8.600	0.909	0.911
14	8.538	8.580	0.905	0.909
21	8.500	8.559	0.901	0.907
28	8.456	8.538	0.896	0.905
42	8.374	8.497	0.888	0.901
50	8.328	8.474	0.883	0.898
100	8.044	8.330	0.853	0.883

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.384	----	0.147	----	2.719	----	0.288	----
1	1.382	1.383	0.146	0.147	2.717	2.718	0.288	0.288
2	1.382	1.383	0.146	0.146	2.715	2.717	0.288	0.288
4	1.380	1.382	0.146	0.146	2.711	2.715	0.287	0.288
7	1.377	1.380	0.146	0.146	2.705	2.712	0.287	0.287
14	1.370	1.377	0.145	0.146	2.692	2.705	0.285	0.287
21	1.363	1.373	0.144	0.146	2.679	2.699	0.284	0.286
28	1.357	1.370	0.144	0.145	2.666	2.692	0.282	0.285
42	1.344	1.364	0.142	0.144	2.640	2.679	0.280	0.284
50	1.336	1.360	0.142	0.144	2.626	2.672	0.278	0.283
100	1.291	1.337	0.137	0.142	2.536	2.626	0.269	0.278

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Sulfonic acid*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 275.3  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 11.10 (geomean)  
DT<sub>50</sub> soil (d): 45.11 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 3.2 %  
Soil: 26.5%

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 11-13*;  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 160 g a.s./ha  
Application window:  
*Steps 1-2: March – May*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	10.588	----	1.171	----
1	10.580	10.584	1.174	1.173
2	10.573	10.581	1.174	1.173
4	10.558	10.573	1.172	1.173
7	10.537	10.562	1.170	1.172
14	10.486	10.537	1.164	1.169
21	10.435	10.511	1.158	1.167
28	10.384	10.486	1.153	1.164
42	10.284	10.435	1.142	1.158
50	10.227	10.406	1.135	1.155
100	9.879	10.229	1.097	1.135

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.020	----	0.224	----	4.005	----	0.444	----
1	2.018	2.019	0.224	0.224	4.002	4.003	0.444	0.444
2	2.017	2.018	0.224	0.224	3.999	4.002	0.444	0.444
4	2.014	2.017	0.223	0.224	3.993	3.999	0.443	0.444
7	2.010	2.015	0.223	0.224	3.985	3.995	0.442	0.443
14	2.000	2.010	0.222	0.223	3.966	3.985	0.440	0.442
21	1.991	2.005	0.221	0.222	3.947	3.976	0.438	0.441
28	1.981	2.000	0.220	0.222	3.928	3.966	0.436	0.440
42	1.962	1.991	0.218	0.221	3.890	3.947	0.431	0.438
50	1.951	1.985	0.216	0.220	3.868	3.936	0.429	0.437
100	1.885	1.951	0.209	0.216	3.736	3.869	0.414	0.429

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Methylsulfone*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1 Molecular weight: 273.3 Soil or water metabolite: <i>soil and water metabolite</i> Koc (mL/g): 61.03 (geomean) DT <sub>50</sub> soil (d): 81.70 days (normalised lab median) DT <sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default) DT <sub>50</sub> water (d): 1000 d (FOCUS Default) DT <sub>50</sub> sediment (d): 1000 d (FOCUS Default) Crop interception (%): 0 % (no crop canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 7.2 % Soil: 6.6%
Calculations not performed
Crop and growth stage: <i>Winter cereals, BBCH 11-13</i> ; Number of applications: 1 Interval (d): <i>not applicable – single application</i> Application rate(s): 160 g a.s./ha Application window: <i>Steps 1-2: March – May</i>
As defined by the modelling tool

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	2.528	----	1.494	----
1	2.520	2.524	1.538	1.516
2	2.519	2.522	1.537	1.527
4	2.515	2.519	1.535	1.532
7	2.510	2.517	1.532	1.532
14	2.498	2.510	1.524	1.530
21	2.486	2.504	1.517	1.527
28	2.474	2.498	1.510	1.524
42	2.450	2.486	1.495	1.517
50	2.436	2.479	1.487	1.513
100	2.353	2.437	1.436	1.487

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.549	----	0.334	----	1.022	----	0.622	----
1	0.547	0.548	0.333	0.333	1.020	1.021	0.622	0.622
2	0.546	0.547	0.333	0.333	1.019	1.010	0.621	0.622
4	0.545	0.546	0.333	0.333	1.017	1.019	0.621	0.621
7	0.544	0.546	0.332	0.333	1.015	1.018	0.619	0.621
14	0.542	0.544	0.330	0.332	1.010	1.015	0.616	0.619
21	0.539	0.543	0.329	0.331	1.006	1.013	0.613	0.618
28	0.536	0.542	0.327	0.330	1.001	1.010	0.610	0.616
42	0.531	0.539	0.324	0.329	0.991	1.006	0.604	0.613
50	0.528	0.538	0.322	0.328	0.985	1.003	0.601	0.612
100	0.510	0.528	0.311	0.322	0.952	0.986	0.581	0.601

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Methylsulfide*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1 Molecular weight: 241.33 Soil or water metabolite: water metabolite Koc (mL/g): 598.0 (QSAR value) DT <sub>50</sub> soil (d): 1000 d (FOCUS Default) DT <sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default) DT <sub>50</sub> water (d): 1000 d (FOCUS Default) DT <sub>50</sub> sediment (d): 1000 d (FOCUS Default) Crop interception (%): 0 % (no crop canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 11.4 % Soil: 0.0001%
Calculations not performed
Crop and growth stage: Winter cereals, BBCH 11-13; Number of applications: 1 Interval (d): not applicable – single application Application rate(s): 160 g a.s./ha Application window: Steps 1-2: March – May
As defined by the modelling tool

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	0.111	----	0.001	----
1	0.062	0.087	0.371	0.185
2	0.062	0.074	0.370	0.278
4	0.062	0.068	0.370	0.324
7	0.062	0.065	0.369	0.343
14	0.061	0.064	0.367	0.356
21	0.061	0.063	0.366	0.359
28	0.061	0.062	0.364	0.361
42	0.060	0.062	0.360	0.361
50	0.060	0.061	0.358	0.361
100	0.058	0.060	0.346	0.356

Results of the calculations obtained Methylsulfide at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.111	----	0.369	----	0.111	----	0.369	----
1	0.078	0.095	0.369	0.369	0.078	0.095	0.369	0.369
2	0.074	0.085	0.369	0.369	0.074	0.085	0.369	0.369
4	0.073	0.079	0.368	0.369	0.073	0.079	0.368	0.369
7	0.062	0.073	0.368	0.369	0.062	0.073	0.368	0.369
14	0.061	0.067	0.366	0.368	0.061	0.067	0.366	0.368
21	0.061	0.065	0.364	0.367	0.061	0.065	0.364	0.367
28	0.061	0.064	0.362	0.366	0.061	0.064	0.362	0.366
42	0.060	0.063	0.359	0.364	0.060	0.063	0.359	0.364
50	0.060	0.062	0.357	0.363	0.060	0.062	0.357	0.363
100	0.058	0.061	0.345	0.357	0.058	0.061	0.345	0.357



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Thiadone*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1  
Molecular weight: 170.1  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 42.10 (geomean)  
DT<sub>50</sub> soil (d): 1.95 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 84.3 %  
Soil: 5.9%

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 11-13;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 160 g a.s./ha  
Application window:  
*Steps 1-2: March – May*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	1.952	----	0.577	----
1	1.920	1.936	0.808	0.693
2	1.918	1.927	0.808	0.750
4	1.916	1.922	0.807	0.779
7	1.912	1.919	0.805	0.790
14	1.903	1.913	0.801	0.797
21	1.893	1.908	0.797	0.797
28	1.884	1.903	0.793	0.797
42	1.866	1.894	0.786	0.794
50	1.856	1.889	0.781	0.793
100	1.792	1.856	0.755	0.780

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.624	----	0.259	----	0.691	----	0.286	----
1	0.614	0.619	0.258	0.258	0.680	0.685	0.286	0.286
2	0.614	0.617	0.258	0.258	0.680	0.683	0.286	0.286
4	0.613	0.615	0.258	0.258	0.679	0.681	0.286	0.286
7	0.612	0.614	0.257	0.258	0.677	0.680	0.285	0.286
14	0.609	0.612	0.256	0.257	0.674	0.678	0.284	0.285
21	0.606	0.610	0.255	0.257	0.671	0.676	0.282	0.284
28	0.603	0.609	0.254	0.256	0.668	0.674	0.281	0.284
42	0.597	0.606	0.251	0.255	0.661	0.671	0.278	0.282
50	0.594	0.604	0.250	0.254	0.658	0.669	0.277	0.282
100	0.573	0.594	0.241	0.250	0.635	0.658	0.267	0.277

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE 5043-Trifluoroethanesulfonic acid*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: <i>"FOCUS STEPS 1-2"</i> ver. 2.1 Molecular weight: 164.1 Soil or water metabolite: <i>soil metabolite</i> Koc (mL/g): 0.0001 (default) DT <sub>50</sub> soil (d): 6.41 days (normalised lab geomean) DT <sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default) DT <sub>50</sub> water (d): 1000 d (FOCUS Default) DT <sub>50</sub> sediment (d): 1000 d (FOCUS Default) Crop interception (%): 0 % (no crop canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 0.0001 % Soil: 6.0
Calculations not performed
Crop and growth stage: <i>Winter cereals, BBCH 11-13;</i> Number of applications: 1 Interval (d): <i>not applicable – single application</i> Application rate(s): 160 g a.s./ha Application window: <i>Steps 1-2: March – May</i>
As defined by the modelling tool

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	1.445	----	0.000	----
1	1.444	1.445	0.000	0.000
2	1.443	1.444	0.000	0.000
4	1.441	1.443	0.000	0.000
7	1.438	1.442	0.000	0.000
14	1.431	1.438	0.000	0.000
21	1.424	1.435	0.000	0.000
28	1.418	1.431	0.000	0.000
42	1.404	1.424	0.000	0.000
50	1.396	1.421	0.000	0.000
100	1.486	1.396	0.000	0.000

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.188	----	0.000	----	0.375	----	0.000	----
1	0.187	0.188	0.000	0.000	0.375	0.375	0.000	0.000
2	0.187	0.187	0.000	0.000	0.375	0.375	0.000	0.000
4	0.187	0.187	0.000	0.000	0.374	0.375	0.000	0.000
7	0.187	0.187	0.000	0.000	0.373	0.374	0.000	0.000
14	0.186	0.187	0.000	0.000	0.372	0.373	0.000	0.000
21	0.185	0.186	0.000	0.000	0.370	0.372	0.000	0.000
28	0.184	0.186	0.000	0.000	0.368	0.372	0.000	0.000
42	0.182	0.185	0.000	0.000	0.364	0.370	0.000	0.000
50	0.181	0.184	0.000	0.000	0.362	0.369	0.000	0.000
100	0.175	0.181	0.000	0.000	0.350	0.362	0.000	0.000

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite: *Trifluoroacetic acid (TFA)*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1  
Molecular weight: 114.0  
Soil or water metabolite: *soil metabolite*  
Koc (mL/g): 0.0001 (default)  
DT<sub>50</sub> soil (d): 1000 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 0.0001 %  
Soil: 81.5

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 11-13;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 160 g a.s./ha  
Application window:  
*Steps 1-2: March – May*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	13.638	----	0.000	----
1	13.629	13.633	0.000	0.000
2	13.619	13.629	0.000	0.000
4	13.600	13.619	0.000	0.000
7	13.572	13.605	0.000	0.000
14	13.506	13.572	0.000	0.000
21	13.441	13.539	0.000	0.000
28	13.376	13.506	0.000	0.000
42	13.247	13.441	0.000	0.000
50	13.173	13.404	0.000	0.000
100	12.725	13.176	0.000	0.000

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.720	----	0.000	----	5.438	----	0.000	----
1	2.718	2.719	0.000	0.000	5.436	5.438	0.000	0.000
2	2.716	2.718	0.000	0.000	5.433	5.436	0.000	0.000
4	2.713	2.716	0.000	0.000	5.425	5.433	0.000	0.000
7	2.707	2.713	0.000	0.000	5.414	5.427	0.000	0.000
14	2.694	2.707	0.000	0.000	5.388	5.414	0.000	0.000
21	2.681	2.700	0.000	0.000	5.361	5.401	0.000	0.000
28	2.668	2.694	0.000	0.000	5.336	5.388	0.000	0.000
42	2.642	2.681	0.000	0.000	5.284	5.362	0.000	0.000
50	2.627	2.673	0.000	0.000	5.255	5.347	0.000	0.000
100	2.538	2.628	0.000	0.000	5.076	5.256	0.000	0.000

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

#### 5) Use: Winter cereals, post-emergence, BBCH 00-22, spring, application rate 120 g Flufenacet/ha

Parent Parameters used in FOCUSsw step 1 and 2	Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1 Molecular weight (g/mol): 363.3 K <sub>oc</sub> (mL/g): 245.9 DT <sub>50</sub> soil (d): 17.87 days (geomean SFO lab value normalised to T = 20°C and pF2) DT <sub>50</sub> water/sediment system (d): 49.6 d (geomean from sediment water studies) DT <sub>50</sub> water (d): 1000 days DT <sub>50</sub> sediment (d): 49.6 days Crop interception (%): 0 % (no crop canopy)
Parameters used in FOCUSsw step 3	Version control no.'s of FOCUS software: FOCUS SWASH 3.1 Water solubility (mg/L): 56 Vapour pressure: 0.00009 Pa at 20°C K <sub>oc</sub> (mL/g): 245.9 (geomean, general) 1/n: 0.916 (arithmetic mean, general) Q10=2.58, Walker equation coefficient 0.7 Crop uptake factor: 0.744 (TSCF calculated value)
Application rate	Crop and growth stage: Winter cereals 11 -13, "CAM 1" for R-scenarios; Number of applications: 1 Interval (d): not applicable – single application Application rate(s): 120 g a.s./ha Application window: Steps 1-2: March-May Step 3: the estimated day of the beginning of growth period 1 day after emergence as a starting day for 30-days application window: -for D1 ditch/stream scenario: 25/03 (JD 84); - for D2 ditch/stream scenario: 04/04 (JD 94); - for D3 ditch scenario: 16/04 (JD 106); - for D4 pond/stream scenario: 18/03 (JD 77); - for D5 pond/stream scenario: 15/03 (JD 74); - for D6 ditch scenario: 16/02 (JD 47); - for R1 pond/stream scenario: 01/04 (JD 91); - for R2 stream scenario: crop not defined; - for R3 stream scenario: 15/03 (JD 74); - for R4 stream scenario: 15/03 (JD 74); CAM 1 for R scenarios
Parameters used in FOCUSsw step 4	Version control no.'s of FOCUS software: FOCUS TOXSWA 3.3.1; SWAN 3.0.0. Substance specific input parameters and application window as at Step 3 Mitigation measures applied: a) for buffer zone 10 metres: 10-metres wide no-spray zone for all scenarios (Spray drift reduction); reduction factors for run-off (R scenarios): 0.6 for run-off volume and flux, 0.85 for erosion mass and flux (FOCUS values) b) for buffer zone 20 metres: 20-metres wide no-spray zone for all scenarios (Spray drift reduction); reduction factors for run-off (R scenarios): 0.8 for run-off volume and flux, 0.95 for erosion mass and flux (FOCUS values); c) for buffer zone 10 metres in VFS-mod : 10-metres wide no-spray zone for all scenarios (Spray drift reduction); 10-metres wide Vegetated Filter Stripe (reduction calculated by the tool for run-off (R scenarios):

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	31.227	----	74.074	----
1	30.525	30.876	75.061	74.567
2	30.101	30.594	74.019	74.553
4	29.272	30.140	71.979	73.774
7	28.070	29.508	69.024	72.367
14	25.454	28.125	62.592	69.061
21	23.082	26.833	56.759	65.917
28	20.931	25.622	51.469	62.955
42	17.212	23.418	42.323	57.553
50	15.391	22.277	37.487	54.751
100	7.653	16.676	18.818	40.992

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	6.057	----	14.503	----	11.217	----	27.015	----
1	5.977	6.017	14.446	14.474	11.133	11.175	26.908	26.961
2	5.953	5.991	14.389	14.446	11.089	11.143	26.802	26.908
4	5.906	5.960	14.275	14.389	11.002	11.094	26.591	26.802
7	5.837	5.922	14.107	14.304	10.872	11.027	26.277	26.644
14	5.677	5.839	13.722	14.109	10.575	10.875	25.559	26.280
21	5.522	5.759	13.347	13.917	10.286	10.726	24.861	25.923
28	5.371	5.681	12.982	13.729	10.005	10.581	24.182	25.572
42	5.082	5.529	12.283	13.262	9.466	10.298	22.879	24.890
50	4.924	5.445	11.900	13.159	9.171	10.142	22.166	24.511
100	4.040	4.956	9.764	11.978	7.525	9.231	18.188	22.311

Data on application pattern at STEP 3.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	25. 03 – 24. 04	29. 03. 1982/9:00	29. 03. 1982/9:00	Spray drift
D1 – stream	25. 03 – 24. 04	29. 03. 1982/ 9:00	29. 03. 1982/9:00	Spray drift
D2 – ditch	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/7:00	Drainage
D2 – stream	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/6:00	Drainage
D3 – ditch	16. 04 – 16. 05	20. 04. 1992/9:00	20. 04. 1992/9:00	Spray drift
D4 – pond	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D4 – stream	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D5 – pond	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D5 – stream	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D6 – ditch	16. 02 – 18. 03	27. 02. 1986/ 9:00	27. 02. 1986/9:00	Spray drift
R1 – pond	01. 04 – 01. 05	26. 04. 1984/9:00	30. 05. 1984/12:00	Run-off
R1 – stream	01. 04 – 01. 05	26. 04. 1984/9:00	20. 05. 1984/2:00	Run-off
R2 – stream		Crop not defined in this scenario		
R3 – stream	15. 03 – 14. 04	28. 03. 1980/9:00	20. 04. 1980/1:59	Run-off
R4 – stream	15. 03 – 14. 04	21. 03. 1984/9:00	21. 03. 1984/9:00	Spray drift

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Results of the calculations obtained at Step 3 for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.846 <sup>1)</sup> 0.846 <sup>2)</sup>	----	0.665	----	0.629 <sup>1)</sup> 0.628 <sup>2)</sup>	----	0.421	----
1	0.579	0.723	0.619	0.659	0.0506	0.107	0.230	0.235
2	0.245	0.561	0.568	0.642	0.0498	0.106	0.228	0.232
4	0.0970	0.353	0.514	0.604	0.0483	0.104	0.227	0.232
7	0.0810	0.239	0.481	0.564	0.0460	0.103	0.226	0.232
14	0.0794	0.166	0.456	0.517	0.0489	0.0915	0.230	0.231
21	0.0736	0.145	0.443	0.495	0.0442	0.0837	0.232	0.229
28	0.0680	0.135	0.433	0.481	0.0335	0.0775	0.226	0.229
42	0.0659	0.122	0.411	0.461	0.0330	0.0665	0.197	0.226
50	0.0530	0.119	0.394	0.452	3.16 E-4	0.0616	0.157	0.223
100	0.0122	0.0934	0.231	0.404	4.3 E-5	0.0443	0.0770	0.195
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.702 <sup>1)</sup> 1.701 <sup>2)</sup>	----	0.786	----	1.111 <sup>1)</sup> 1.110 <sup>2)</sup>	----	0.379	----
1	0.369	0.809	0.786	0.786	0.184	0.386	0.379	0.379
2	0.254	0.674	0.785	0.786	0.112	0.255	0.379	0.379
4	0.190	0.479	0.784	0.786	0.0826	0.204	0.378	0.379
7	0.163	0.431	0.782	0.785	0.0558	0.185	0.375	0.379
14	0.140	0.306	0.772	0.784	0.0540	0.131	0.363	0.378
21	0.122	0.257	0.758	0.782	0.0500	0.125	0.368	0.376
28	0.108	0.250	0.741	0.779	0.0443	0.123	0.360	0.373
42	0.0886	0.229	0.683	0.771	0.0321	0.115	0.339	0.370
50	0.0801	0.218	0.643	0.763	0.0260	0.109	0.321	0.368
100	0.306	0.156	0.438	0.700	0.137	0.0811	0.225	0.341
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.760 <sup>1)</sup> 0.760 <sup>2)</sup>	----	0.254	----	0.0267 <sup>1)</sup> 0.0267 <sup>2)</sup>	----	0.0733	----
1	0.363	0.590	0.195	0.243	0.0260	0.0263	0.0731	0.0732
2	0.0513	0.383	0.144	0.220	0.0256	0.0261	0.0730	0.0732
4	0.00259	0.199	0.102	0.179	0.0249	0.0257	0.0728	0.0732
7	7.21 E-4	0.114	0.0775	0.144	0.0240	0.0251	0.0724	0.0731
14	2.16 E-4	0.0572	0.0532	0.105	0.0220	0.0241	0.0715	0.0730
21	1.02 E-4	0.0382	0.0414	0.0864	0.0205	0.0231	0.0706	0.0729
28	6.7 E-5	0.0287	0.0340	0.0744	0.0193	0.0223	0.0696	0.0727
42	3.9 E-5	0.0191	0.0246	0.0595	0.0175	0.0210	0.0661	0.0723
50	2.9 E-5	0.0161	0.0208	0.0536	0.0166	0.0204	0.0640	0.0720
100	7 E-6	0.00804	0.00838	0.0337	0.0125	0.0173	0.0538	0.0694

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Results of the calculations obtained at Step 3 for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.572 <sup>1)</sup>	----	0.0189	----	0.0289 <sup>1)</sup>	----	0.0852	----
	0.572 <sup>2)</sup>				0.0288 <sup>2)</sup>			
1	2.10 E-4	0.0265	0.00912	0.0143	0.0282	0.0285	0.0852	0.0852
2	1.93 E-4	0.0133	0.00672	0.0143	0.0278	0.0282	0.0852	0.0852
4	1.93 E-4	0.00853	0.00511	0.0142	0.0272	0.0278	0.0852	0.0852
7	1.96 E-4	0.00797	0.00420	0.0141	0.0264	0.0274	0.0851	0.0852
14	3.31 E-4	0.00700	0.00352	0.0139	0.0252	0.0266	0.0843	0.0852
21	2.45 E-4	0.00607	0.00319	0.0135	0.0241	0.0259	0.0829	0.0851
28	1.70 E-4	0.00516	0.00292	0.0130	0.0232	0.0254	0.0815	0.0850
42	5.6 E-5	0.00379	0.00235	0.0120	0.0216	0.0244	0.0786	0.0847
50	7.6 E-5	0.00330	0.00214	0.0115	0.0208	0.0239	0.0771	0.0844
100	<1.0 E-6	0.00178	0.00108	0.00906	0.0165	0.0212	0.0676	0.0817
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.614 <sup>1)</sup>	----	0.0238	----	0.756 <sup>1)</sup>	----	0.161	----
	0.613 <sup>2)</sup>				0.756 <sup>2)</sup>			
1	0.00105	0.0276	0.0139	0.0180	0.0218	0.306	0.0997	0.140
2	0.00104	0.0143	0.0114	0.0153	0.00785	0.159	0.0772	0.118
4	9.84 E-4	0.00769	0.00981	0.0129	0.00720	0.0830	0.0616	0.0948
7	9.43 E-4	0.0486	0.00886	0.0114	0.00717	0.0505	0.0527	0.0789
14	8.29 E-4	0.00300	0.00787	0.00984	0.00646	0.0287	0.0447	0.0638
21	7.40 E-4	0.00237	0.00734	0.00909	0.00598	0.0212	0.0410	0.0568
28	4.95 E-4	0.00206	0.00667	0.00858	0.00403	0.0174	0.0371	0.0525
42	3.0 E-5	0.00177	0.00514	0.00782	0.00497	0.0132	0.0345	0.0467
50	2 E-6	0.00168	0.00435	0.00755	0.00121	0.0121	0.0285	0.0444
100	<1.0 E-6	0.00152	0.00197	0.00658	4.0 E-5	0.00824	0.00981	0.0320
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0687 <sup>1)</sup>	----	0.193	----	0.764 <sup>1)</sup>	----	0.251	----
	0.0687 <sup>2)</sup>				0.764 <sup>2)</sup>			
1	0.0679	0.0683	0.193	0.193	0.00173	0.407	0.145	0.208
2	0.0672	0.0679	0.193	0.193	4.52 E-4	0.204	0.114	0.174
4	0.0659	0.0673	0.193	0.193	3.70 E-4	0.102	0.0907	0.140
7	0.0641	0.0663	0.193	0.193	5.33 E-4	0.0826	0.106	0.124
14	0.0601	0.0643	0.191	0.193	0.00242	0.0529	0.0889	0.112
21	0.0564	0.0625	0.188	0.193	3.0 E-5	0.0417	0.0621	0.0990
28	0.0557	0.0613	0.183	0.192	1.6 E-5	0.0358	0.0506	0.0885
42	0.0493	0.0597	0.173	0.191	1.1 E-5	0.0261	0.0396	0.0766
50	0.0460	0.0585	0.166	0.189	7 E-6	0.0220	0.0329	0.0711
100	0.0296	0.0496	0.142	0.179	1 E-6	0.0114	0.0132	0.0493

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 3 for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.080 <sup>1)</sup>	----	0.457	----	0.501 <sup>1)</sup>	----	0.155	----
	1.080 <sup>2)</sup>				0.501 <sup>2)</sup>			
1	0.224	0.917	0.289	0.398	2.18 E-4	0.310	0.0830	0.128
2	0.00449	0.489	0.220	0.340	6.6 E-5	0.156	0.0616	0.113
4	0.00100	0.245	0.168	0.272	1.9 E-5	0.116	0.114	0.0988
7	3.92 E-4	0.141	0.134	0.222	8 E-6	0.0785	0.0679	0.0956
14	1.11 E-4	0.0704	0.0980	0.170	1.6 E-5	0.0414	0.0470	0.0776
21	6.0 E-5	0.0469	0.0789	0.143	6 E-6	0.0276	0.0352	0.0655
28	2.44 E-4	0.0423	0.0892	0.131	3 E-6	0.0207	0.0280	0.0571
42	4.2 E-5	0.0285	0.0627	0.113	1 E-6	0.0138	0.0194	0.0460
50	2.8 E-5	0.0271	0.0511	0.104	1 E-6	0.0122	0.0159	0.0415
100	4 E-6	0.0140	0.0181	0.0682	4 E-6	0.00737	0.00502	0.0258

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 10 metres buffer zone:

Data on application pattern at STEP 4, 10 –metres buffer zone.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	25. 03 – 24. 04	29. 03. 1982/9:00	29. 03. 1982/9:00	Spray drift
D1 – stream	25. 03 – 24. 04	29. 03. 1982/ 9:00	29. 03. 1982/9:00	Spray drift
D2 – ditch	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/7:00	Drainage
D2 – stream	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/6:00	Drainage
D3 – ditch	16. 04 – 16. 05	20. 04. 1992/9:00	20. 04. 1992/9:00	Spray drift
D4 – pond	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D4 – stream	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D5 – pond	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D5 – stream	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D6 – ditch	16. 02 – 18. 03	27. 02. 1986/ 9:00	27. 02. 1986/9:00	Spray drift
R1 – pond	01. 04 – 01. 05	26. 04. 1984/9:00	30. 05. 1984/12:00	Run-off
R1 – stream	01. 04 – 01. 05	26. 04. 1984/9:00	20. 05. 1984/2:00	Run-off
R2 – stream	Crop not defined in this scenario			
R3 – stream	15. 03 – 14. 04	28. 03. 1980/9:00	20. 04. 1980/1:59	Run-off
R4 – stream	15. 03 – 14. 04	21. 03. 1984/9:00	15. 05. 1984/12:59	Run-off



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.194 <sup>1)</sup> 0.194 <sup>2)</sup>	----	0.420	----	0.163 <sup>1)</sup> 0.163 <sup>2)</sup>	----	0.231	----
1	0.154	0.175	0.414	0.419	0.0506	0.107	0.231	0.231
2	0.105	0.168	0.406	0.417	0.0498	0.106	0.231	0.231
4	0.0826	0.166	0.399	0.412	0.0483	0.104	0.230	0.231
7	0.0780	0.160	0.394	0.406	0.0460	0.103	0.227	0.231
14	0.0793	0.144	0.395	0.399	0.0489	0.0915	0.186	0.230
21	0.0734	0.133	0.395	0.398	0.0442	0.0837	0.196	0.228
28	0.0676	0.124	0.392	0.397	0.0335	0.0775	0.163	0.227
42	0.0657	0.106	0.379	0.392	0.0330	0.0665	0.128	0.225
50	0.0526	0.101	0.365	0.390	3.16 E-4	0.0616	0.114	0.222
100	0.0118	0.0837	0.215	0.367	4.3 E-5	0.0442	0.0568	0.195
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.702 <sup>1)</sup> 1.701 <sup>2)</sup>	----	0.777	----	1.111 <sup>1)</sup> 1.110 <sup>2)</sup>	----	0.379	----
1	0.369	0.809	0.777	0.777	0.184	0.386	0.379	0.379
2	0.254	0.560	0.776	0.777	0.112	0.255	0.379	0.379
4	0.190	0.479	0.775	0.777	0.0826	0.204	0.377	0.379
7	0.163	0.431	0.773	0.776	0.0558	0.185	0.374	0.379
14	0.139	0.306	0.763	0.775	0.0540	0.131	0.362	0.377
21	0.122	0.257	0.750	0.773	0.0500	0.125	0.368	0.375
28	0.108	0.250	0.732	0.770	0.0443	0.123	0.360	0.373
42	0.0877	0.229	0.675	0.762	0.0320	0.115	0.338	0.370
50	0.0792	0.218	0.636	0.755	0.0260	0.109	0.320	0.367
100	0.306	0.156	0.433	0.692	0.137	0.0811	0.225	0.341
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.109 <sup>1)</sup> 0.109 <sup>2)</sup>	----	0.0389	----	0.0169 <sup>1)</sup> 0.0169 <sup>2)</sup>	----	0.0520	----
1	0.0518	0.0846	0.0299	0.0373	0.0164	0.0166	0.0520	0.0520
2	0.00738	0.0548	0.0222	0.0338	0.0161	0.0164	0.0520	0.0520
4	4.04 E-4	0.0285	0.0159	0.0276	0.0157	0.0162	0.0520	0.0520
7	1.12 E-4	0.0164	0.0120	0.0222	0.0152	0.0159	0.0520	0.0520
14	3.4 E-5	0.00821	0.00824	0.0163	0.0139	0.0152	0.0519	0.0520
21	1.6 E-5	0.00548	0.00641	0.0134	0.0130	0.0146	0.0517	0.0520
28	1.0 E-5	0.00411	0.00526	0.0115	0.0122	0.0141	0.0514	0.0520
42	6 E-6	0.00274	0.00382	0.00921	0.0111	0.0133	0.0508 <sup>3)</sup>	0.0519
50	4 E-6	0.00231	0.00324	0.00831	0.0105	0.0129	0.0504	0.0518
100	1 E-6	0.00115	0.00130	0.00523	0.00788	0.0110	n. c. <sup>3)</sup>	0.0511

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Results of the calculations obtained at Step 4, 10-metres buffer zone, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.111 <sup>1)</sup> 0.111 <sup>2)</sup>	----	0.0142	----	0.0190 <sup>1)</sup> 0.0190 <sup>2)</sup>	----	0.0583	----
1	1.99 E-4	0.00930	0.0142	0.0142	0.0186	0.0187	0.0583	0.0583
2	1.89 E-4	0.00882	0.0141	0.0142	0.0183	0.0186	0.0583	0.0583
4	1.92 E-4	0.00853	0.0138	0.0142	0.0179	0.0183	0.0582	0.0583
7	1.96 E-4	0.00797	0.0133	0.0141	0.0175	0.0181	0.0582	0.0583
14	3.31 E-4	0.00700	0.0117	0.0138	0.0166	0.0175	0.0579	0.0582
21	2.44 E-4	0.00607	0.0102	0.0134	0.0160	0.0171	0.0570	0.0582
28	1.70 E-4	0.00516	0.00913	0.0129	0.0154	0.0168	0.0559	0.0581
42	5.6 E-5	0.00379	0.00816	0.0119	0.0143	0.0161	0.0539	0.0579
50	7.6 E-5	0.00330	0.00737	0.0114	0.0138	0.0158	0.0528	0.0577
100	<1.0 E-6	0.00178	0.00449	0.00900	0.0109	0.0140	0.0462	0.0558
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.120 <sup>1)</sup> 0.120 <sup>2)</sup>	----	0.00969	----	0.114 <sup>1)</sup> 0.114 <sup>2)</sup>	----	0.0410	----
1	0.00104	0.00619	0.00781	0.00861	0.00855	0.0492	0.0326	0.0382
2	0.00103	0.00362	0.00731	0.00808	0.00674	0.0282	0.0294	0.0351
4	9.83 E-4	0.00235	0.00696	0.00760	0.00686	0.0175	0.0277	0.0319
7	9.43 E-4	0.00181	0.00674	0.00727	0.00696	0.0130	0.0273	0.0313
14	8.29 E-4	0.00156	0.00642	0.00692	0.00633	0.00987	0.0273	0.0312
21	7.40 E-4	0.00154	0.00619	0.00672	0.00590	0.00862	0.0272	0.0310
28	4.95 E-4	0.00145	0.00572	0.00660	0.00394	0.00793	0.0256	0.0308
42	3.0 E-5	0.00138	0.00444	0.00645	0.00493	0.00688	0.0260	0.0302
50	2 E-6	0.00136	0.00374	0.00637	0.00115	0.00681	0.0212	0.0298
100	<1.0 E-6	0.00130	0.00170	0.00590	3.0 E-5	0.00573	0.00692	0.0273
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0318 <sup>1)</sup> 0.0318 <sup>2)</sup>	----	0.0945	----	0.347 <sup>1)</sup> 0.347 <sup>2)</sup>	----	0.111	----
1	0.0314	0.0316	0.0945	0.0945	7.94 E-4	0.186	0.0629	0.0917
2	0.0311	0.0315	0.0945	0.0945	2.12 E-4	0.0931	0.0485	0.0762
4	0.0305	0.0312	0.0944	0.0945	1.56 E-4	0.0466	0.0377	0.0605
7	0.0297	0.0307	0.0942	0.0945	2.42 E-4	0.0366	0.0452	0.0529
14	0.0278	0.0298	0.0932	0.0944	8.28 E-4	0.0231	0.0374	0.0476
21	0.0261	0.0291	0.0918	0.0941	1.3 E-5	0.0182	0.0257	0.0420
28	0.0259	0.0286	0.0899	0.0938	7 E-6	0.0157	0.0208	0.0374
42	0.0229	0.0278	0.0847	0.0930	5 E-6	0.0109	0.0163	0.0322
50	0.0214	0.0272	0.0815	0.0923	3 E-6	0.00918	0.0135	0.0298
100	0.0139	0.0231	0.0698	0.0871	<1.0 E-6	0.00476	0.00539	0.0205

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.493 <sup>1)</sup> 0.493 <sup>2)</sup>	----	0.197	----	0.217 <sup>1)</sup> 0.217 <sup>2)</sup>	----	0.0707	----
1	0.113	0.422	0.124	0.173	4.13 E-4	0.140	0.0380	0.0584
2	0.00213	0.226	0.0906	0.146	1.38 E-4	0.0703	0.0279	0.0521
4	4.61 E-4	0.114	0.0664	0.115	0.0378	0.0527	0.0523	0.0454
7	1.74 E-4	0.0650	0.0513	0.0920	6.7 E-5	0.0357	0.0309	0.0438
14	4.6 E-5	0.0326	0.0363	0.0681	1.8 E-5	0.0188	0.0212	0.0354
21	2.4 E-5	0.0217	0.0288	0.0564	7 E-6	0.0125	0.0158	0.0298
28	1.11 E-4	0.0190	0.0346	0.0517	4 E-6	0.00940	0.0125	0.0259
42	1.8 E-5	0.0131	0.0238	0.0443	2 E-6	0.00627	0.00862	0.0208
50	1.1 E-5	0.0114	0.0192	0.0407	1 E-6	0.00547	0.00703	0.0187
100	2 E-6	0.00591	0.00669	0.0263	1.3 E-5	0.00307	0.00221	0.0114

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 20 metres buffer zone:

Data on application pattern at STEP 4, 20-metres buffer zone.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	25. 03 – 24. 04	29. 03. 1982/9:00	20. 11. 1982/2:00	Drainage
D1 – stream	25. 03 – 24. 04	29. 03. 1982/ 9:00	26. 10. 1982/15:15	Drainage
D2 – ditch	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/7:00	Drainage
D2 – stream	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/6:00	Drainage
D3 – ditch	16. 04 – 16. 05	20. 04. 1992/9:00	20. 04. 1992/9:00	Spray drift
D4 – pond	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D4 – stream	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D5 – pond	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D5 – stream	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D6 – ditch	16. 02 – 18. 03	27. 02. 1986/ 9:00	27. 02. 1986/9:00	Spray drift
R1 – pond	01. 04 – 01. 05	26. 04. 1984/9:00	30. 05. 1984/12:00	Run-off
R1 – stream	01. 04 – 01. 05	26. 04. 1984/9:00	20. 05. 1984/2:00	Run-off
R2 – stream	Crop not defined in this scenario			
R3 – stream	15. 03 – 14. 04	28. 03. 1980/9:00	20. 04. 1980/1:59	Run-off
R4 – stream	15. 03 – 14. 04	21. 03. 1984/9:00	15. 05. 1984/12:59	Run-off

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.169 <sup>1)</sup> 0.169 <sup>2)</sup>	----	0.400	----	0.121 <sup>1)</sup> 0.121 <sup>2)</sup>	----	0.231	----
1	0.167	0.169	0.397	0.400	0.0464	0.107	0.231	0.231
2	0.165	0.168	0.393	0.399	0.00347	0.106	0.230	0.231
4	0.155	0.166	0.389	0.396	3.23 E-4	0.104	0.230	0.231
7	0.131	0.160	0.387	0.393	1.13 E-4	0.103	0.227	0.230
14	0.107	0.144	0.391	0.391	3.8 E-5	0.0915	0.186	0.230
21	0.0824	0.133	0.391	0.390	0.104	0.0837	0.196	0.228
28	0.0746	0.124	0.388	0.390	0.0965	0.0775	0.163	0.227
42	0.0560	0.106	0.377	0.377	0.0598	0.0665	0.128	0.225
50	0.0516	0.0992	0.363	0.385	0.0475	0.0616	0.114	0.221
100	0.0335	0.0829	0.214	0.364	0.0255	0.0442	0.0567	0.195
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.702 <sup>1)</sup> 1.701 <sup>2)</sup>	----	0.776	----	1.111 <sup>1)</sup> 1.110 <sup>2)</sup>	----	0.379	----
1	0.369	0.809	0.776	0.776	0.184	0.386	0.379	0.370
2	0.254	0.560	0.776	0.776	0.112	0.255	0.378	0.379
4	0.190	0.479	0.775	0.776	0.0826	0.204	0.377	0.379
7	0.163	0.431	0.772	0.776	0.0558	0.185	0.374	0.378
14	0.139	0.306	0.762	0.776	0.0540	0.131	0.362	0.377
21	0.121	0.257	0.749	0.774	0.0500	0.125	0.367	0.375
28	0.108	0.250	0.732	0.769	0.0443	0.123	0.360	0.373
42	0.0877	0.229	0.674	0.761	0.0320	0.115	0.338	0.370
50	0.0792	0.218	0.635	0.754	0.0260	0.109	0.320	0.367
100	0.306	0.156	0.432	0.692	0.137	0.0811	0.225	0.341
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0569 <sup>1)</sup> 0.0568 <sup>2)</sup>	----	0.0207	----	0.0114 <sup>1)</sup> 0.0114 <sup>2)</sup>	----	0.0450	----
1	0.0270	0.0440	0.0160	0.0198	0.0111	0.0112	0.0450	0.0450
2	0.00384	0.0286	0.0119	0.0180	0.0109	0.0111	0.0450	0.0450
4	2.17 E-4	0.0148	0.00849	0.0147	0.0102	0.0109	0.0450	0.0450
7	6.0 E-5	0.00852	0.00643	0.0119	0.00942	0.0107	0.0450	0.0450
14	1.8 E-5	0.00428	0.00441	0.00871	0.00878	0.0103	0.0449	0.0450
21	9 E-6	0.00285	0.00343	0.00715	0.00827	0.00987	0.0447	0.0450
28	5 E-6	0.00214	0.00281	0.00616	0.00751	0.00953	0.0445	0.0450
42	3 E-6	0.00143	0.00205	0.00492	0.00712	0.00898	0.0439 <sup>3)</sup>	0.0449
50	2 E-6	0.00120	0.00173	0.00444	0.00535	0.00871	0.0434	0.0449
100	1 E-6	6.01 E-4	6.95 E-4	0.00280	0.613	0.00758	n. c. <sup>3)</sup>	0.0443

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0577 <sup>1)</sup> 0.0577 <sup>2)</sup>	----	0.0142	----	0.0135 <sup>1)</sup> 0.0135 <sup>2)</sup>	----	0.0431	----
1	1.98 E-4	0.00930	0.0142	0.0142	0.0132	0.0133	0.0431	0.0431
2	1.88 E-4	0.00882	0.0141	0.0142	0.0130	0.0132	0.0431	0.0431
4	1.92 E-4	0.00853	0.0138	0.0141	0.0128	0.0131	0.0431	0.0431
7	1.96 E-4	0.00797	0.0133	0.0141	0.0125	0.0129	0.0431	0.0431
14	3.31 E-4	0.00700	0.0117	0.0138	0.0119	0.0125	0.0429	0.0431
21	2.44 E-4	0.00607	0.0102	0.0134	0.0114	0.0122	0.0424	0.0431
28	1.70 E-4	0.00516	0.00912	0.0129	0.0110	0.0120	0.0417	0.0430
42	5.6 E-5	0.00379	0.00815	0.0119	0.0103	0.0115	0.0401	0.0429
50	7.6 E-5	0.00330	0.00736	0.0114	0.00989	0.0113	0.0391	0.0427
100	<1.0 E-6	0.00178	0.00448	0.00899	0.00782	0.0101	0.0341	0.0413
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0626 <sup>1)</sup> 0.0626 <sup>2)</sup>	----	0.00804	----	0.0622 <sup>1)</sup> 0.0622 <sup>2)</sup>	----	0.0314	----
1	0.00104	0.00371	0.00708	0.00749	0.00748	0.0286	0.0314	0.0314
2	0.00103	0.00239	0.00681	0.00722	0.00664	0.0177	0.0313	0.0314
4	9.82 E-4	0.00173	0.00662	0.00696	0.00683	0.0122	0.0309	0.0314
7	9.42 E-4	0.00162	0.00649	0.00679	0.00695	0.00944	0.0296	0.0313
14	8.28 E-4	0.00156	0.00625	0.00658	0.00632	0.00836	0.0250	0.0312
21	7.40 E-4	0.00154	0.00606	0.00647	0.00589	0.00761	0.0213	0.0310
28	4.95 E-4	0.00145	0.00561	0.00640	0.00393	0.00717	n. c. <sup>3)</sup>	0.0308
42	3.0 E-5	0.00138	0.00436	0.00630	0.00493	0.00637	n. c. <sup>3)</sup>	0.0302
50	2 E-6	0.00136	0.00367	0.00624	0.00115	0.00639	n. c. <sup>3)</sup>	0.0298
100	<1.0 E-6	0.00128	0.00167	0.00582	2.9 E-5	0.00573	n. c. <sup>3)</sup>	0.0273
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0178 <sup>1)</sup> 0.0178 <sup>2)</sup>	----	0.0550	----	0.182 <sup>1)</sup> 0.182 <sup>2)</sup>	----	0.0588	----
1	0.0176	0.0177	0.0550	0.0550	4.19 E-4	0.0973	0.0334	0.0486
2	0.0174	0.0176	0.0550	0.0550	1.14 E-4	0.0488	0.0256	0.0404
4	0.0171	0.0174	0.0550	0.0550	8.0 E-5	0.0244	0.0198	0.0320
7	0.0166	0.0172	0.0549	0.0550	1.27 E-4	0.0190	0.0239	0.0279
14	0.0156	0.0167	0.0544	0.0549	4.02 E-4	0.0119	0.0197	0.0251
21	0.0146	0.0164	0.0536	0.0547	7 E-6	0.00942	0.0135	0.0222
28	0.0145	0.0162	0.0526	0.0545	4 E-6	0.00814	0.0109	0.0197
42	0.0128	0.0157	0.0497	0.0540	2 E-6	0.00566	0.00858	0.0169
50	0.0119	0.0153	0.0479	0.0536	2 E-6	0.00475	0.00710	0.0157
100	0.00777	0.0130	0.0407	0.0506	<1.0 E-6	0.00246	0.00283	0.0107

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 20-metres buffer zone, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.259 <sup>1)</sup> 0.259 <sup>2)</sup>	----	0.104	----	0.114 <sup>1)</sup> 0.113 <sup>2)</sup>	----	0.0375	----
1	0.0614	0.222	0.0649	0.0920	2.21 E-4	0.0731	0.0204	0.0311
2	0.00116	0.119	0.0475	0.0778	7.5 E-5	0.0367	0.0150	0.0279
4	2.49 E-4	0.0599	0.0347	0.0610	0.0198	0.0276	0.0281	0.0243
7	9.3 E-5	0.0343	0.0267	0.0486	3.6 E-5	0.0187	0.0166	0.0234
14	2.4 E-5	0.0172	0.0188	0.0358	1.0 E-5	0.00983	0.0113	0.0190
21	1.2 E-5	0.0115	0.0148	0.0296	4 E-6	0.00656	0.00843	0.0160
28	5.9 E-5	0.0100	0.0180	0.0271	2 E-6	0.00492	0.00669	0.0139
42	9 E-6	0.00691	0.0124	0.0232	1 E-6	0.00328	0.00461	0.0111
50	6 E-6	0.00601	0.00997	0.0213	1 E-6	0.00285	0.00376	0.0100
100	1 E-6	0.00311	0.00346	0.0137	7 E-6	0.00160	0.00118	0.00611

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;

#### Step 4 – 10 metres buffer zone VFS-mod:

Data on application pattern at STEP 4, 10 –metres buffer zone VFS.

FOCUS Scenario	Application window	Application date (determined by PAT)	Date of maximum	Identified dominant migration route
D1 – ditch	25. 03 – 24. 04	29. 03. 1982/9:00	29. 03. 1982/9:00	Spray drift
D1 – stream	25. 03 – 24. 04	29. 03. 1982/ 9:00	29. 03. 1982/9:00	Spray drift
D2 – ditch	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/7:00	Drainage
D2 – stream	04. 04 – 04. 05	04. 04. 1986/9:00	19. 05. 1986/6:00	Drainage
D3 – ditch	16. 04 – 16. 05	20. 04. 1992/9:00	20. 04. 1992/9:00	Spray drift
D4 – pond	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D4 – stream	18. 03 – 17. 04	19. 03. 1985/9:00	19. 03. 1985/9:00	Spray drift
D5 – pond	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D5 – stream	15. 03 – 14. 04	08. 04. 1978/9:00	08. 04. 1978/9:00	Spray drift
D6 – ditch	16. 02 – 18. 03	27. 02. 1986/ 9:00	27. 02. 1986/9:00	Spray drift
R1 – pond	01. 04 – 01. 05	26. 04. 1984/9:00	26. 04. 1984/9:00	Spray drift
R1 – stream	01. 04 – 01. 05	26. 04. 1984/9:00	26. 04. 1984/9:00	Spray drift
R2 – stream	Crop not defined in this scenario			
R3 – stream	15. 03 – 14. 04	28. 03. 1980/9:00	20. 04. 1980/1:59	Run-off
R4 – stream	15. 03 – 14. 04	21. 03. 1984/9:00	21. 03. 1984/9:00	Spray drift

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, for scenarios D1-ditch, D1-stream, D2-ditch, D2-stream, D3-ditch and D4- pond.

Time [days]	FOCUS Scenario							
	D1 - ditch				D1 - stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.194 <sup>1)</sup> 0.194 <sup>2)</sup>	----	0.420	----	0.163 <sup>1)</sup> 0.163 <sup>2)</sup>	----	0.231	----
1	0.154	0.175	0.414	0.419	0.0506	0.107	0.231	0.231
2	0.105	0.168	0.406	0.417	0.0498	0.106	0.231	0.231
4	0.0826	0.166	0.399	0.412	0.0483	0.104	0.230	0.231
7	0.0780	0.160	0.394	0.406	0.0460	0.103	0.227	0.231
14	0.0793	0.144	0.395	0.399	0.0489	0.0915	0.186	0.230
21	0.0734	0.133	0.395	0.398	0.0442	0.0837	0.196	0.228
28	0.0676	0.124	0.392	0.397	0.0335	0.0775	0.163	0.227
42	0.0657	0.106	0.379	0.392	0.0330	0.0665	0.128	0.225
50	0.0526	0.101	0.365	0.390	3.16 E-4	0.0616	0.114	0.222
100	0.0118	0.0837	0.215	0.367	4.3 E-5	0.0442	0.0568	0.195
Time [days]	FOCUS Scenario							
	D2 - ditch				D2-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.702 <sup>1)</sup> 1.701 <sup>2)</sup>	----	0.777	----	1.111 <sup>1)</sup> 1.110 <sup>2)</sup>	----	0.379	----
1	0.369	0.809	0.777	0.777	0.184	0.386	0.379	0.379
2	0.254	0.560	0.776	0.777	0.112	0.255	0.379	0.379
4	0.190	0.479	0.775	0.777	0.0826	0.204	0.377	0.379
7	0.163	0.431	0.773	0.776	0.0558	0.185	0.374	0.379
14	0.139	0.306	0.763	0.775	0.0540	0.131	0.362	0.377
21	0.122	0.257	0.750	0.773	0.0500	0.125	0.368	0.375
28	0.108	0.250	0.732	0.770	0.0443	0.123	0.360	0.373
42	0.0877	0.229	0.675	0.762	0.0320	0.115	0.338	0.370
50	0.0792	0.218	0.636	0.755	0.0260	0.109	0.320	0.367
100	0.306	0.156	0.433	0.692	0.137	0.0811	0.225	0.341
Time [days]	FOCUS Scenario							
	D3-ditch				D4-pond			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.109 <sup>1)</sup> 0.109 <sup>2)</sup>	----	0.0389	----	0.0169 <sup>1)</sup> 0.0169 <sup>2)</sup>	----	0.0520	----
1	0.0518	0.0846	0.0299	0.0373	0.0164	0.0166	0.0520	0.0520
2	0.00738	0.0548	0.0222	0.0338	0.0161	0.0164	0.0520	0.0520
4	4.04 E-4	0.0285	0.0159	0.0276	0.0157	0.0162	0.0520	0.0520
7	1.12 E-4	0.0164	0.0120	0.0222	0.0152	0.0159	0.0520	0.0520
14	3.4 E-5	0.00821	0.00824	0.0163	0.0139	0.0152	0.0519	0.0520
21	1.6 E-5	0.00548	0.00641	0.0134	0.0130	0.0146	0.0517	0.0520
28	1.0 E-5	0.00411	0.00526	0.0115	0.0122	0.0141	0.0514	0.0520
42	6 E-6	0.00274	0.00382	0.00921	0.0111	0.0133	0.0508 <sup>3)</sup>	0.0519
50	4 E-6	0.00231	0.00324	0.00831	0.0105	0.0129	0.0504	0.0518
100	1 E-6	0.00115	0.00130	0.00523	0.00788	0.0110	n. c. <sup>3)</sup>	0.0511

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

3) n. c. – not calculated – simulation period too short to calculate the PEC value at this time point;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, for scenarios D4-stream, D5-pond, D5-stream, D6-ditch, R1-pond and R1-stream.

Time [days]	FOCUS Scenario							
	D4-stream				D5-pond			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.111 <sup>1)</sup> 0.111 <sup>2)</sup>	----	0.0142	----	0.0190 <sup>1)</sup> 0.0190 <sup>2)</sup>	----	0.0583	----
1	1.99 E-4	0.00930	0.0142	0.0142	0.0186	0.0187	0.0583	0.0583
2	1.89 E-4	0.00882	0.0141	0.0142	0.0183	0.0186	0.0583	0.0583
4	1.92 E-4	0.00853	0.0138	0.0142	0.0179	0.0183	0.0582	0.0583
7	1.96 E-4	0.00797	0.0133	0.0141	0.0175	0.0181	0.0582	0.0583
14	3.31 E-4	0.00700	0.0117	0.0138	0.0166	0.0175	0.0579	0.0582
21	2.44 E-4	0.00607	0.0102	0.0134	0.0160	0.0171	0.0570	0.0582
28	1.70 E-4	0.00516	0.00913	0.0129	0.0154	0.0168	0.0559	0.0581
42	5.6 E-5	0.00379	0.00816	0.0119	0.0143	0.0161	0.0539	0.0579
50	7.6 E-5	0.00330	0.00737	0.0114	0.0138	0.0158	0.0528	0.0577
100	<1.0 E-6	0.00178	0.00449	0.00900	0.0109	0.0140	0.0462	0.0558
Time [days]	FOCUS Scenario							
	D5-stream				D6-ditch			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.120 <sup>1)</sup> 0.120 <sup>2)</sup>	----	0.00969	----	0.114 <sup>1)</sup> 0.114 <sup>2)</sup>	----	0.0410	----
1	0.00104	0.00619	0.00781	0.00861	0.00855	0.0492	0.0326	0.0382
2	0.00103	0.00362	0.00731	0.00808	0.00674	0.0282	0.0294	0.0351
4	9.83 E-4	0.00235	0.00696	0.00760	0.00686	0.0175	0.0277	0.0319
7	9.43 E-4	0.00181	0.00674	0.00727	0.00696	0.0130	0.0273	0.0313
14	8.29 E-4	0.00156	0.00642	0.00692	0.00633	0.00987	0.0273	0.0312
21	7.40 E-4	0.00154	0.00619	0.00672	0.00590	0.00862	0.0272	0.0310
28	4.95 E-4	0.00145	0.00572	0.00660	0.00394	0.00793	0.0256	0.0308
42	3.0 E-5	0.00138	0.00444	0.00645	0.00493	0.00688	0.0260	0.0302
50	2 E-6	0.00136	0.00374	0.00637	0.00115	0.00681	0.0212	0.0298
100	<1.0 E-6	0.00130	0.00170	0.00590	3.0 E-5	0.00573	0.00692	0.0273
Time [days]	FOCUS Scenario							
	R1-pond				R1-stream			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.0164 <sup>1)</sup> 0.0164 <sup>2)</sup>	----	0.0411	----	0.0971 <sup>1)</sup> 0.0970 <sup>2)</sup>	----	0.0112	----
1	0.0159	0.0161	0.0411	0.0411	4.3 E-5	0.0183	0.00556	0.00851
2	0.0157	0.0160	0.0411	0.0411	1.4 E-5	0.00916	0.00390	0.00671
4	0.0152	0.0157	0.0411	0.0411	4 E-6	0.00458	0.00274	0.00503
7	0.0147	0.0154	0.0410	0.0411	1 E-6	0.00262	0.00206	0.00390
14	0.0137	0.0148	0.0401	0.0411	<1.0 E-6	0.00131	0.00141	0.00280
21	0.0128	0.0143	0.0392	0.0410	<1.0 E-6	8.74 E-4	0.00112	0.00229
28	0.0120	0.0138	0.0381	0.0409	<1.0 E-6	6.56 E-4	9.39 E-4	0.00197
42	0.0106	0.0130	0.0358	0.0406	<1.0 E-6	4.37 E-4	7.01 E-4	0.00159
50	0.00990	0.0125	0.0343	0.0404	<1.0 E-6	3.67 E-4	6.01 E-4	0.00144
100	0.00651	0.0103	0.0278	0.0381	<1.0 E-6	1.91 E-4	2.81 E-4	9.52 E-4

- 1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;  
2) Maximum concentration of the substance dissolved in water;



List of end points

Rapporteur Member State	Month and year	<b>Active substance and Plant Protection Product (Name)</b>
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Results of the calculations obtained at Step 4, 10-metres buffer zone VFS, for scenarios R3-stream and R4-stream.

Time [days]	FOCUS Scenario							
	R3-stream				R4-stream			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.337 <sup>1)</sup> 0.337 <sup>2)</sup>	----	0.143	----	0.0971 <sup>1)</sup> 0.0970 <sup>2)</sup>	----	0.0113	----
1	0.0793	0.289	0.0932	0.127	4.4 E-5	0.0184	0.00558	0.00854
2	0.00150	0.155	0.0697	0.108	1.4 E-5	0.00920	0.00392	0.00674
4	3.30 E-4	0.0779	0.0524	0.0864	4 E-6	0.00461	0.00276	0.00505
7	1.27 E-4	0.0446	0.0414	0.0702	2 E-6	0.00263	0.00208	0.00392
14	3.5 E-5	0.0223	0.0300	0.0531	1 E-6	0.00132	0.00143	0.00282
21	1.8 E-5	0.0149	0.0241	0.0445	<1.0 E-6	8.78 E-4	0.00113	0.00231
28	1.2 E-5	0.0125	0.0202	0.0390	<1.0 E-6	6.59 E-4	9.48 E-4	0.00199
42	6 E-6	0.00837	0.0150	0.0319	<1.0 E-6	4.39 E-4	7.16 E-4	0.00160
50	6 E-6	0.00704	0.0126	0.0290	<1.0 E-6	3.69 E-4	6.21 E-4	0.00145
100	1 E-6	0.00352	0.00466	0.0186	<1.0 E-6	3.23 E-4	7.30 E-4	0.00144

1) Global maximum concentration, including the substance adsorbed to particles suspended in the water phase;

2) Maximum concentration of the substance dissolved in water;

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Oxalate*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 225.2  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 10.60 (geomean)  
DT<sub>50</sub> soil (d): 11.08 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 5.4 %  
Soil: 26.3%

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 00-22;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 120 g a.s./ha  
Application window:  
*Steps 1-2: March – May*

Main routes of entry

*As defined by the modelling tool*

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	6.466	----	0.682	----
1	6.461	6.464	0.685	0.683
2	6.457	6.462	0.684	0.684
4	6.448	6.457	0.684	0.684
7	6.435	6.450	0.682	0.683
14	6.404	6.435	0.679	0.682
21	6.373	6.419	0.676	0.680
28	6.342	6.404	0.672	0.679
42	6.280	6.373	0.666	0.676
50	6.246	6.355	0.662	0.674
100	6.033	6.247	0.640	0.662

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.038	----	0.110	----	2.039	----	0.216	----
1	1.037	1.037	0.110	0.110	2.037	2.038	0.216	0.216
2	1.036	1.037	0.110	0.110	2.036	2.037	0.216	0.216
4	1.035	1.036	0.110	0.110	2.033	2.036	0.215	0.216
7	1.033	1.035	0.109	0.110	2.029	2.034	0.215	0.215
14	1.028	1.033	0.109	0.109	2.019	2.029	0.214	0.215
21	1.023	1.030	0.108	0.109	2.009	2.024	0.213	0.214
28	1.018	1.028	0.108	0.109	2.000	2.019	0.212	0.214
42	1.008	1.023	0.107	0.108	1.980	2.009	0.210	0.213
50	1.002	1.020	0.106	0.108	1.969	2.004	0.209	0.212
100	0.968	1.002	0.103	0.106	1.902	1.970	0.202	0.209

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Sulfonic acid*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 275.3  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 11.10 (*geomean*)  
DT<sub>50</sub> soil (d): 45.11 days (*normalised lab geomean*)  
DT<sub>50</sub> water/sediment system (d): 1000 d (*FOCUS Default*)  
DT<sub>50</sub> water (d): 1000 d (*FOCUS Default*)  
DT<sub>50</sub> sediment (d): 1000 d (*FOCUS Default*)  
Crop interception (%): 0 % (*no crop canopy*)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 3.2 %  
Soil: 26.5%

Parameters used in FOCUSsw step 3 (if performed)

*Calculations not performed*

Application rate

Crop and growth stage: *Winter cereals, BBCH 00-22;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 120 g a.s./ha  
Application window:  
*Steps 1-2: March – May*

Main routes of entry

*As defined by the modelling tool*

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	7.941	----	0.879	----
1	7.935	7.938	0.881	0.880
2	7.930	7.935	0.880	0.880
4	7.919	7.930	0.879	0.880
7	7.902	7.922	0.877	0.879
14	7.864	7.902	0.873	0.877
21	7.826	7.883	0.869	0.875
28	7.788	7.864	0.865	0.873
42	7.713	7.826	0.856	0.869
50	7.670	7.805	0.851	0.866
100	7.409	7.672	0.822	0.852

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	1.515	----	0.168	----	3.004	----	0.333	----
1	1.514	1.514	0.168	0.168	3.001	3.002	0.333	0.333
2	1.513	1.514	0.168	0.168	2.999	3.001	0.333	0.333
4	1.511	1.513	0.168	0.168	2.995	2.999	0.332	0.333
7	1.508	1.511	0.167	0.168	2.989	2.996	0.332	0.332
14	1.500	1.508	0.166	0.167	2.974	2.989	0.330	0.332
21	1.493	1.504	0.166	0.167	2.960	2.982	0.328	0.331
28	1.486	1.500	0.165	0.166	2.946	2.974	0.327	0.330
42	1.471	1.493	0.163	0.166	2.917	2.960	0.324	0.328
50	1.463	1.489	0.162	0.165	2.901	2.952	0.322	0.327
100	1.413	1.464	0.157	0.162	2.802	2.902	0.311	0.322

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Methylsulfone*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 273.3  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 61.03 (geomean)  
DT<sub>50</sub> soil (d): 81.70 days (normalised lab median)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 7.2 %  
Soil: 6.6%

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 00-22;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 120 g a.s./ha  
Application window:  
*Steps 1-2: March – May*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	1.896	----	1.121	----
1	1.890	1.893	1.154	1.137
2	1.889	1.891	1.153	1.145
4	1.886	1.890	1.151	1.149
7	1.883	1.887	1.149	1.149
14	1.873	1.883	1.143	1.148
21	1.864	1.878	1.138	1.145
28	1.855	1.874	1.132	1.143
42	1.837	1.864	1.121	1.137
50	1.827	1.859	1.115	1.134
100	1.765	1.828	1.077	1.115

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.412	----	0.250	----	0.767	----	0.467	----
1	0.410	0.411	0.250	0.250	0.765	0.766	0.466	0.467
2	0.410	0.410	0.250	0.250	0.764	0.765	0.466	0.466
4	0.409	0.410	0.249	0.250	0.763	0.764	0.465	0.466
7	0.408	0.409	0.249	0.250	0.761	0.763	0.464	0.466
14	0.406	0.408	0.248	0.249	0.758	0.762	0.462	0.464
21	0.404	0.407	0.247	0.248	0.754	0.760	0.460	0.463
28	0.402	0.406	0.245	0.248	0.750	0.768	0.458	0.462
42	0.398	0.404	0.243	0.247	0.743	0.754	0.453	0.460
50	0.396	0.403	0.242	0.246	0.739	0.752	0.451	0.459
100	0.383	0.396	0.233	0.242	0.714	0.739	0.435	0.451

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Methylsulfide*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1 Molecular weight: 241.33 Soil or water metabolite: water metabolite Koc (mL/g): 598.0 (QSAR value) DT <sub>50</sub> soil (d): 1000 d (FOCUS Default) DT <sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default) DT <sub>50</sub> water (d): 1000 d (FOCUS Default) DT <sub>50</sub> sediment (d): 1000 d (FOCUS Default) Crop interception (%): 0 % (no crop canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 11.4 % Soil: 0.0001%
Calculations not performed
Crop and growth stage: Winter cereals, BBCH 00-22; Number of applications: 1 Interval (d): not applicable – single application Application rate(s): 120 g a.s./ha Application window: Steps 1-2: March – May
As defined by the modelling tool

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	0.084	----	0.001	----
1	0.047	0.065	0.278	0.139
2	0.046	0.056	0.278	0.208
4	0.046	0.051	0.277	0.243
7	0.046	0.049	0.277	0.258
14	0.046	0.048	0.275	0.267
21	0.046	0.047	0.274	0.270
28	0.046	0.047	0.273	0.271
42	0.045	0.046	0.270	0.271
50	0.045	0.046	0.269	0.271
100	0.043	0.045	0.260	0.267

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.084	----	0.277	----	0.084	----	0.277	----
1	0.059	0.071	0.277	0.277	0.059	0.071	0.277	0.277
2	0.055	0.064	0.277	0.277	0.055	0.064	0.277	0.277
4	0.054	0.059	0.276	0.277	0.054	0.059	0.276	0.277
7	0.046	0.054	0.276	0.276	0.046	0.054	0.276	0.276
14	0.046	0.050	0.274	0.276	0.046	0.050	0.274	0.276
21	0.046	0.049	0.273	0.275	0.046	0.049	0.273	0.275
28	0.046	0.048	0.272	0.274	0.046	0.048	0.272	0.274
42	0.045	0.047	0.269	0.273	0.045	0.047	0.269	0.273
50	0.045	0.047	0.268	0.272	0.045	0.047	0.268	0.272
100	0.043	0.046	0.259	0.268	0.043	0.046	0.259	0.268

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE Thiadone*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2"  
ver. 2.1  
Molecular weight: 170.1  
Soil or water metabolite: *soil and water metabolite*  
Koc (mL/g): 42.10 (geomean)  
DT<sub>50</sub> soil (d): 1.95 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 84.3 %  
Soil: 5.9%

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 00-22*;  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 120 g a.s./ha  
Application window:  
*Steps 1-2: March – May*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	1.464	----	0.433	----
1	1.440	1.452	0.606	0.520
2	1.439	1.446	0.606	0.563
4	1.437	1.442	0.605	0.584
7	1.434	1.439	0.604	0.593
14	1.427	1.435	0.601	0.597
21	1.420	1.431	0.598	0.598
28	1.413	1.427	0.595	0.598
42	1.399	1.420	0.589	0.596
50	1.392	1.416	0.586	0.594
100	1.344	1.392	0.566	0.585

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]		PEC <sub>SW</sub> [µg/L]		PEC <sub>SED</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.468	----	0.194	----	0.518	----	0.215	----
1	0.461	0.464	0.194	0.194	0.510	0.514	0.215	0.215
2	0.460	0.462	0.194	0.194	0.510	0.512	0.215	0.215
4	0.460	0.461	0.193	0.194	0.509	0.511	0.214	0.215
7	0.459	0.460	0.193	0.193	0.508	0.510	0.214	0.214
14	0.456	0.459	0.192	0.193	0.506	0.508	0.213	0.214
21	0.454	0.458	0.191	0.193	0.503	0.507	0.212	0.213
28	0.452	0.457	0.190	0.192	0.501	0.506	0.211	0.213
42	0.448	0.454	0.188	0.191	0.496	0.503	0.209	0.212
50	0.445	0.453	0.187	0.191	0.493	0.502	0.208	0.211
100	0.430	0.445	0.181	0.187	0.476	0.493	0.200	0.208

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite *FOE 5043-Trifluoroethanesulfonic acid*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: <i>"FOCUS STEPS 1-2"</i> ver. 2.1 Molecular weight: 164.1 Soil or water metabolite: <i>soil metabolite</i> Koc (mL/g): 0.0001 (default) DT <sub>50</sub> soil (d): 6.41 days (normalised lab geomean) DT <sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default) DT <sub>50</sub> water (d): 1000 d (FOCUS Default) DT <sub>50</sub> sediment (d): 1000 d (FOCUS Default) Crop interception (%): 0 % (no crop canopy) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 0.0001 % Soil: 6.0
Calculations not performed
Crop and growth stage: <i>Winter cereals, BBCH 00-22;</i> Number of applications: 1 Interval (d): <i>not applicable – single application</i> Application rate(s): 120 g a.s./ha Application window: <i>Steps 1-2: March – May</i>
As defined by the modelling tool

Parameters used in FOCUSsw step 3 (if performed)

Application rate

Main routes of entry

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	1.084	----	0.000	----
1	1.083	1.084	0.000	0.000
2	1.082	1.083	0.000	0.000
4	1.081	1.082	0.000	0.000
7	1.079	1.081	0.000	0.000
14	1.074	1.079	0.000	0.000
21	1.068	1.076	0.000	0.000
28	1.063	1.074	0.000	0.000
42	1.053	1.068	0.000	0.000
50	1.047	1.065	0.000	0.000
100	1.011	1.047	0.000	0.000

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	0.141	----	0.000	----	0.281	----	0.000	----
1	0.141	0.141	0.000	0.000	0.281	0.281	0.000	0.000
2	0.141	0.141	0.000	0.000	0.281	0.281	0.000	0.000
4	0.140	0.141	0.000	0.000	0.281	0.281	0.000	0.000
7	0.140	0.140	0.000	0.000	0.280	0.281	0.000	0.000
14	0.139	0.140	0.000	0.000	0.279	0.280	0.000	0.000
21	0.139	0.140	0.000	0.000	0.277	0.279	0.000	0.000
28	0.138	0.139	0.000	0.000	0.276	0.279	0.000	0.000
42	0.137	0.139	0.000	0.000	0.273	0.277	0.000	0.000
50	0.136	0.138	0.000	0.000	0.272	0.277	0.000	0.000
100	0.131	0.136	0.000	0.000	0.263	0.272	0.000	0.000

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

#### Section 4 Environmental fate and behaviour

Metabolite: *Trifluoroacetic acid (TFA)*  
Parameters used in FOCUSsw step 1 and 2

Version control no. of FOCUS calculator: "FOCUS STEPS 1-2" ver. 2.1  
Molecular weight: 114.0  
Soil or water metabolite: *soil metabolite*  
Koc (mL/g): 0.0001 (default)  
DT<sub>50</sub> soil (d): 1000 days (normalised lab geomean)  
DT<sub>50</sub> water/sediment system (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> water (d): 1000 d (FOCUS Default)  
DT<sub>50</sub> sediment (d): 1000 d (FOCUS Default)  
Crop interception (%): 0 % (no crop canopy)  
Maximum occurrence observed (% molar basis with respect to the parent)  
Total Water and Sediment: 0.0001 %  
Soil: 81.5

Parameters used in FOCUSsw step 3 (if performed)

Calculations not performed

Application rate

Crop and growth stage: *Winter cereals, BBCH 00-22;*  
Number of applications: 1  
Interval (d): *not applicable – single application*  
Application rate(s): 120 g a.s./ha  
Application window:  
*Steps 1-2: March – May*

Main routes of entry

As defined by the modelling tool

Results of the calculations obtained at Step 1.

Time [days]	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA
0	10.228	----	0.000	----
1	10.221	10.225	0.000	0.000
2	10.214	10.221	0.000	0.000
4	10.200	10.214	0.000	0.000
7	10.179	10.204	0.000	0.000
14	10.130	10.179	0.000	0.000
21	10.081	10.154	0.000	0.000
28	10.032	10.130	0.000	0.000
42	9.935	10.081	0.000	0.000
50	9.880	10.053	0.000	0.000
100	9.544	9.882	0.000	0.000

Results of the calculations obtained at Step 2.

Time [days]	STEP2 Scenario:							
	North Europe				South Europe			
	PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]		PEC <sub>sw</sub> [µg/L]		PEC <sub>sed</sub> [µg/kg sediment]	
	Actual	TWA	Actual	TWA	Actual	TWA	Actual	TWA
0	2.040	----	0.000	----	4.080	----	0.000	----
1	2.039	2.039	0.000	0.000	4.077	4.079	0.000	0.000
2	2.037	2.039	0.000	0.000	4.074	4.077	0.000	0.000
4	2.034	2.037	0.000	0.000	4.069	4.074	0.000	0.000
7	2.030	2.035	0.000	0.000	4.060	4.070	0.000	0.000
14	2.020	2.030	0.000	0.000	4.041	4.060	0.000	0.000
21	2.011	2.025	0.000	0.000	4.021	4.051	0.000	0.000
28	2.001	2.020	0.000	0.000	4.002	4.041	0.000	0.000
42	1.982	2.011	0.000	0.000	3.963	4.021	0.000	0.000
50	1.971	2.005	0.000	0.000	3.941	4.010	0.000	0.000
100	1.903	1.971	0.000	0.000	3.807	3.942	0.000	0.000



List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

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

~~Method of calculation~~

~~PEC~~

~~Maximum concentration~~

~~e.g.~~  
~~from dust drift~~  
~~exposure via sewers~~  
~~run-off from hard surfaces~~

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

Method of calculation

Calculations not performed, not required

**PEC**

Maximum concentration

Calculations not performed, not required

Sformatowano: Nagłówek indeksu

Sformatowano: Nagłówek indeksu

Sformatowano: Nagłówek indeksu

Sformatowano: Nagłówek indeksu

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
POLAND		Flufenacet

**Section 4 Environmental fate and behaviour**

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)

## Section 5 Ecotoxicology

### Ecotoxicology

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

Species	Test substance	Time scale	End point	Toxicity (mg/kg bw per day)
Birds				
Bobwhite quail	Flufenacet	Acute	LD <sub>50</sub>	1608 mg a.s.kg bw/d
Mallard duck	Flufenacet	Acute	LD <sub>50</sub>	> 2000 mg a.s.kg bw/d
Canary	Flufenacet	Acute	LD <sub>50</sub>	434 mg a.s.kg bw/d
Bobwhite quail	Flufenacet	Short term	LC <sub>50</sub> /LD <sub>50</sub>	5317 ppm/755 mg a.s.kg bw/d
Mallard duck	Flufenacet	Short term	LC <sub>50</sub> /LD <sub>50</sub>	>4970 ppm/949 mg a.s./kg bw/d
Bobwhite quail	Flufenacet	Long-term	NOEC/NOEL	441 ppm/34 mg a.s./kg b.w./d
Mallard duck	Flufenacet	Long-term	NOEC/NOEL	88 ppm/9.4 mg a.s./kg b.w.
Mammals				
Rat	Flufenacet	Acute	LD <sub>50</sub>	589 mg a.s./kg bw
Rat	DFF+FFA SC 600	Acute	LD <sub>50</sub>	500<LD <sub>50</sub> <2000mg product /kg b.w./d
Rat	TFA	Acute	LD <sub>50</sub>	>2000 mg met./kg b.w./d
Rat	Flufenacet	2 generation study	NOAEL	37.4 mg a. s./kg b.w.
Rat	TFA	90 d- feeding study	NOAEL	98 mg met./kg b.w./d

Endocrine disrupting properties (Annex Part A, points 8.1.5)

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

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

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

##### Winter cereals at BBCH 00-22, 1 x 120 g a.s./ha

Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Birds)					
Bare soil	Small granivorous bird	Acute	2.96	146.62	10
Cereals	Small omnivorous bird	Acute	19.05	22.78	10
Bare soil	Small granivorous bird	Long-term	0.72	13.05	5
Cereals	Small omnivorous bird	Long-term	4.12	<b>2.28</b>	5
Tier 1 (Birds)					
Cereals	Small omnivorous birds "lark"	Long-term	0.70	13.42	5
Cereals	Large herbivorous bird "goose"	Long-term	1.03	9.12	5
Higher tier (birds):					
-					
Screening Step (Mammals)					
Bare soil	Small granivorous mammal	Acute	1.73	340.46	10
Cereals	Small herbivorous mammal	Acute	14.20	41.47	10
Bare soil	Small granivorous mammal	Long-term	0.42	89.04	5
Cereals	Small herbivorous mammal	Long-term	3.07	12.18	5
Tier 1 (Mammals)					
-					
Higher tier (Mammals): [In higher tier refinement provide brief details of any refinements used (e.g., residues, PT, PD or AV)]					
-					
Screening Step (Mammals)					
TFA metabolite					
Bare soil	Small granivorous mammal	Acute	0.54	3703.70	10
Cereals	Small herbivorous mammal	Acute	4.46	448.43	10
Bare soil	Small granivorous mammal	Long-term	0.13	753.84	5
Cereals	Small herbivorous mammal	Long-term	0.96	102.08	5
Tier 1 (Mammals)					
-					

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)

## Section 5 Ecotoxicology

Higher tier (Mammals): [in higher tier refinement provide brief details of any refinements used (e.g., residues, PT, PD or AV)]
-

### Winter cereals at BBCH 11-13, 1 x 160 g a.s./ha

Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Birds)					
Cereals	Small omnivorous bird	Acute	25.40	17.08	10
Cereals	Small omnivorous bird	Long-term	5.49	<b>1.71</b>	5
Tier 1 (Birds)					
Cereals	Small omnivorous birds "lark"	Long-term	0.92	10.21	5
Cereals	Large herbivorous bird "goose"	Long-term	1.37	6.86	5
Higher tier (Birds):					
-					

Screening Step (Mammals)					
Cereals	Small herbivorous mammal	Acute	18.94	31.09	10
Cereals	Small herbivorous mammal	Long-term	4.09	9.14	5
Tier 1 (Mammals)					
-					

Higher tier (Mammals): [in higher tier refinement provide brief details of any refinements used (e.g., residues, PT, PD or AV)]

Screening Step (Mammals)					
TFA					
Cereals	Small herbivorous mammal	Acute	5.94	336.70	10
Cereals	Small herbivorous mammal	Long-term	1.28	76.56	5
Tier 1 (Mammals)					
-					

Higher tier (Mammals): [in higher tier refinement provide brief details of any refinements used (e.g., residues, PT, PD or AV)]

### Winter cereals at BBCH 10-13 1 x 240 g a.s./ha

Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Birds)					
Cereals	Small omnivorous bird	Acute	38.1	11.39	10
Cereals	Small omnivorous bird	Long-term	8.24	<b>1.14</b>	5
Tier 1 (Birds)					
Cereals	Small omnivorous birds "lark"	Long-term	1.39	6.76	5
Cereals	Large herbivorous bird "goose"	Long-term	2.06	<b>4.56*</b>	5
Cereals	Large herbivorous bird "goose"	Long-term	1.28	7.34**	5

\*\*The approach of the refinement of the risk assessment, considering the refined ftwa value of 0.3302, based on the longest DT<sub>50</sub> of 5.101 days value for flufenacet should be decided at MS level.

Screening Step (Mammals)					
Cereals	Small herbivorous mammal	Acute	28.4	20.73	10
Cereals	Small herbivorous mammal	Long-term	6.14	6.09	5

Tier 1 (Mammals)					
-					

Higher tier (Mammals): [in higher tier refinement provide brief details of any refinements used (e.g., residues, PT, PD or AV)]

Screening Step (Mammals)					
TFA metabolite					
Cereals	Small herbivorous mammal	Acute	8.93	223.96	10
Cereals	Small herbivorous mammal	Long-term	1.93	50.77	5

Tier 1 (Mammals)					
-					

Higher tier (birds):					
-					

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)

## Section 5 Ecotoxicology

### Risk from bioaccumulation and food chain behaviour

Flufenacet: Log Kow= 3.5, risk assessment required  
TFA metabolite =-2.6, risk assessment not required

Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
<b>Earthworm-eating birds</b>				
Cereals 1 x 120 g a.s./ha	Long-term	1.32	7.12	5
Cereals 1 x 160 g a.s./ha	Long-term	1.77	5.31	
Cereals 1 x 240 g a.s./ha	Long-term	1.67	5.6*	
<b>Earthworm-eating mammals</b>				
Cereals 1 x 120 g a.s./ha	Long-term	1.61	23.22	5
Cereals 1 x 160 g a.s./ha	Long-term	2.15	17.39	
Cereals 1 x 240 g a.s./ha	Long-term	3.23	11.57	
<b>Fish-eating birds</b>				
Cereals 1 x 120 g a.s./ha	Long-term	0.35	26.85	5
Cereals 1 x 160 g a.s./ha	Long-term	0.47	20.0	
Cereals 1 x 240 g a.s./ha	Long-term	0.71	13.23	
<b>Fish-eating mammals</b>				
Cereals 1 x 120 g a.s./ha	Long-term	0.32	116.87	5
Cereals 1 x 160 g a.s./ha	Long-term	0.42	89.04	
Cereals 1 x 240 g a.s./ha	Long-term	0.63	59.36	

\* TER value was based on the calculation of refined diet for blackbird consisting of 78% earthworms and 22% other invertebrates. (Bird Bible, Butoxon et al. 1998).

\* TER value was based on the calculation of refined diet for blackbird consisting of 78% earthworms and 22% other invertebrates. (Bird Bible, Butoxon et al. 1998).

### Risk from consumption of contaminated water

Scenarios	Indicator or focal species	Time scale	PEC <sub>dw</sub> xDWR	TER	Trigger
Leaf scenario	Birds	acute	Not relevant		5

#### Puddle scenario, Screening step

1)Application rate (g a.s./ha)/relevant endpoint <50 (koc<500 L/kg),

Acute: Birds

Application rate (240 g a.s./ha)/LD<sub>50</sub>=434 mg a.s./kg b.w.\* MAF 1)= 0.55<50 (koc<500 L/kg)

Long term: Birds

Application rate (240 g a.s./ha)/NOEL=9.4 mg a.s./kg b.w.\* MAF 1)= 25.53 <50 (koc<500 L/kg)

#### TER calculation not needed

Acute: Mammals:

Application rate (240 g a.s./ha)/LD<sub>50</sub>= 589 mg a.s./kg b.w.\* MAF 1)= 0.40<50 (koc<500 L/kg)

Long term; Mammals

Application rate (240 g a.s./ha)/LD<sub>50</sub>= 37.4 mg a.s./kg b.w.\* MAF 1)= 6.41 <50 (koc<500 L/kg)

TER calculation not needed

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

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

Group	Test substance	Time-scale (Test type)	End point	Toxicity <sup>1</sup>
Laboratory tests				
Fish				
Oncorhynchus mykiss (Rainbow trout)	Flufenacet	96 h LC <sub>50</sub> (static-renewal)	Mortality	5.84 mm
Lepomis macrochirus (Bluegill sunfish)	Flufenacet	96 h LC <sub>50</sub> (static-renewal)	Mortality	2.13 mm
Cyprinus carpio	Flufenacet	96 h LC <sub>50</sub> (static-renewal)	Mortality	10-12 nom >sat.conc.
Cyprinodon variegatus (Sheepshead Minnow)	Flufenacet	96 h LC <sub>50</sub> (static-renewal)	Mortality	3.31 mm

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)

## Section 5 Ecotoxicology

Group	Test substance	Time-scale (Test type)	End point	Toxicity <sup>1</sup>
Oncorhynchus mykiss (Rainbow trout)	Flufenacet	97-day NOEC (flow-through, ELS study)	Growth	0.334 mm
Cyprinodon variegatus (Sheepshead Minnow)	Flufenacet	35-day NOEC (flow-through, ELS study)	Growth	0.049 mm
Pimephales promelas (Fathead minnow)	Flufenacet	279-day NOEC (flow-through, FFLC study)	Growth	0.138 mm
Oncorhynchus mykiss (Rainbow trout)	FOE sulfonic acid	96 h LC <sub>50</sub> (static-renewal)	Mortality	>86.7 nom
Oncorhynchus mykiss (Rainbow trout)	FOE-Thiadone	96 h LC <sub>50</sub> (static)	Mortality	9.1 mm
Lepomis Macrochirus (Bluegill)	FOE-Thiadone	96 h LC <sub>50</sub> (static)	Mortality	18.6 mm
Sheepshead minnow (Cyprinodon variegatus)	FOE-Thiadone	96 h LC <sub>50</sub> (static)	Mortality	15.3 mm
Brachydanio rerio (Zebra fish)	TFA	96 h LC <sub>50</sub> (static)	Mortality	>1200 nom
<b>Aquatic invertebrates</b>				
Daphnia magna (Waterflea)	Flufenacet	48 h EC <sub>50</sub> (static )	Mortality	30.9 mm
Americamysis bahia Mysid shrimp	Flufenacet	96 h LC <sub>50</sub> (flow-through)	Mortality	5.6 mm
Crassostrea virginica Eastern oyster	Flufenacet	96 h EC <sub>50</sub> (flow-through)	Shell growth	12.6 mm
Hyalella azteca	Flufenacet	96 h LC <sub>50</sub> (acute, static)	Mortality	2.45 mm
Daphnia magna Waterflea	Flufenacet	21-day NOEC (static-renewal)	Reproduction	3.26 mm
Americamysis bahia (Mysid shrimp)	Flufenacet	NOEC 28 d (flow-through)	Reproduction	0.221 mm
Daphnia magna (Waterflea)	FOE sulfonic acid	48 h EC <sub>50</sub> (static)	Mortality	>87.3 nom
Daphnia magna (Waterflea)	FOE-Thiadone	48 h EC <sub>50</sub> (static)	Mortality	31.7 mm
Mysidopsis bahia	FOE-Thiadone	96 h LC <sub>50</sub> (Flow-through)	Mortality	>15.1 mm
Crassostrea virginica Eastern oyster	FOE-Thiadone	96 h EC <sub>50</sub> (Flow-through)	Shell growth	22.0 mm
Daphnia magna (Waterflea)	TFA	48 h LC <sub>50</sub> (static)	Mortality	>1200 nom
<b>Sediment-dwelling organisms</b>				
Chironomus	Flufenacet	28 d (static)	Emergence	5 nom
<b>Algae</b>				
Green algae Pseudokirchneriella subcapitata	Flufenacet	96 h (static)	Growth rate, 96 h NOE:C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	0.00315 im <0.00064 im 0.001783 im 0.00064 im
Green algae Pseudokirchneriella subcapitata	Flufenacet	72 h (static )	Growth rate, E:C <sub>50</sub> NOE:C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	0.0212 geom 0.000138 geom 0.00538 geom 0.000138 geom
Green algae Pseudokirchneriella subcapitata	Flufenacet	72/96 h Geomean	Growth rate, E:C <sub>50</sub>	0.00755*
Pseudokirchneriella subcapitata	Flufenacet	96h (static)	Growth rate, E:C <sub>50</sub> NOE:C	0.00645 nom <0.00225 nom
Green algae Desmodesmus subspicatus	Flufenacet	72 h (static)	Growth rate, E:C <sub>50</sub> NOE:C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	0.675 geom 0.0084 geom 0.07696 geom 0.0084 geom
Chlorella vulgaris Green algae	Flufenacet	72 h (static)	Growth rate, E:C <sub>50</sub> NOE:C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	11.1 nom 0.98 nom 3.71 nom 0.98 nom
Blue algae Synechococcus	Flufenacet	72 h	Growth rate, E:C <sub>50</sub> NOE:C	>10 nom 0.307 nom

List of end points

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Group	Test substance	Time-scale (Test type)	End point	Toxicity <sup>1</sup>
leopoliensis		(static )	E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	>10 nom 0.096 nom
Green algae Chlamydomonas terricola	Flufenacet	216 h (static)	Growth rate, E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	0.657 nom 0.0960 nom 0.0332 nom 0.0960 nom
Blue-green algae Anabaena flos-aquae	Flufenacet	96 h (static)	Growth rate, E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	>53.2 mm 3.77 mm 26.65 mm <1.930 mm
Freshwater diatom Navicula pelliculosa	Flufenacet	96 h (static)	Growth rate, E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	5.044 mm 1.22mm 2.13 mm <1.22 mm
Green algae Pseudokirchneriella subcapitata	DFF+FFA SC 600	72 h (static)	Growth rate E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	0.00663 nom <0.000938 nom 0.00242 nom <0.000938 nom
Green algae Pseudokirchneriella subcapitata	FOE oxalate	72 h (static)	Growth rate, E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	>100 nom >100 nom >100 nom >100 nom
Green algae Desmodesmus subspicatus	FOE 5043-sulfonic acid	72 h (static)	Growth rate, E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	>86.7 nom ≥86.7 nom >86.7 nom ≥86.7 nom
Green algae Pseudokirchneriella subcapitata	FOE methylsulfide	72 h (static )	Growth rate, E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	83.8 nom 10.0 nom 30.5 nom 10.0 nom
Green algae Pseudokirchneriella subcapitata	FOE methylsulfone	72 h (static)	Growth rate E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	>10 nom >10 nom
Green algae Desmodesmus subspicatus	FOE sulfonic acid	72 h (static )	E <sub>7</sub> C <sub>50</sub> E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C NOE <sub>7</sub> C	>86.7 nom >86.7 nom ≥86.7 nom ≥86.7 nom
Green algae Pseudokirchneriella subcapitata	TFA	72 h (static)	Growth rate E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	192.48 nom 0.36 nom 4.19 nom <0.36 nom
Green algae Pseudokirchneriella subcapitata	TFA	72 h (static )	Growth rate E <sub>7</sub> C <sub>50</sub> E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	>1.2 nom >1.2 nom 0.12 nom
Green algae Pseudokirchneriella subcapitata	FOE 5043- (Trifluoroethane sulfonic acid)	96h (static )	Growth rate, E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	>100 nom >100 nom >100 nom >100 nom
Green algae Pseudokirchneriella subcapitata	FOE Thiadone	72 h (static)	7E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C E <sub>7</sub> C <sub>50</sub> NOE <sub>7</sub> C	15.0 nom <sup>2</sup> 2.10 nom 4.10 nom 0.66 nom
Higher plant				
Lemna gibba Duckweed	Flufenacet	7-day (static )	E <sub>7</sub> C <sub>50</sub> (frond no) NOE <sub>7</sub> C(frond no) E <sub>7</sub> C <sub>50</sub> (frond area) NOE <sub>7</sub> C(frond area) E <sub>7</sub> C <sub>50</sub> (frond no) NOE <sub>7</sub> C(frond no) E <sub>7</sub> C <sub>50</sub> (frond area) NOE <sub>7</sub> C(frond area)	0.0161 nom 0.000658 nom 0.0139 nom 0.000658 nom 0.007638 nom 0.000658 nom 0.006824 nom 0.000658 nom
Lemna gibba Duckweed	DFF+FFA 600 SC	7-day (static )	E <sub>7</sub> C <sub>50</sub> (frond no) NOE <sub>7</sub> C(frond no) E <sub>7</sub> C <sub>50</sub> (frond no) NOE <sub>7</sub> C(frond no)	0.307 nom 0.020 nom 0.258 nom 0.040 nom
Lemna gibba Duckweed	Flufenacet	Peak exposure: one or two 24-h-peaks;total test duration 14 d	No inhibition>50% up to 0.126 mg a.s./L peak E <sub>7</sub> C <sub>50</sub> >0.126 mg a.s./L nom <sup>3</sup>	
Lemna gibba Duckweed	FOE oxalate	7 day (static )	E <sub>7</sub> C <sub>50</sub> (frond no.) NOE <sub>7</sub> C(frond no.) E <sub>7</sub> C <sub>50</sub> (frond area) NOE <sub>7</sub> C(frond area)	>100 nom 50 nom >100 nom >100 nom
Lemna gibba	FOE methylsulfide	7 days	E <sub>7</sub> C <sub>50</sub> (frond no)	125.30 nom

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Group	Test substance	Time-scale (Test type)	End point	Toxicity <sup>1</sup>
Duckweed		(static )	NOE <sub>EC</sub> (frond no) E <sub>EC</sub> 50(frond area) NOE <sub>EC</sub> (frond area) E <sub>EC</sub> 50(frond number) NOE <sub>EC</sub> (frond number) E <sub>EC</sub> 50(frond area) NOE <sub>EC</sub> (frond area)	29.60 nom 106.0 nom 13.2 nom 65.02 nom 13.20 nom 61.97 nom 29.60 nom
Lemna gibba Duckweed	FOE methylsulfone	7 day (static)	E <sub>EC</sub> 50(frond no) NOE <sub>EC</sub> (frond no) E <sub>EC</sub> 50(frond area) NOE <sub>EC</sub> (frond area)	>100 nom ≥100 nom >100 nom ≥100 nom
Lemna gibba Duckweed	FOE sulfonic acid	14 d	E <sub>EC</sub> 50 (frond no) NOE <sub>EC</sub> (frond no)	>79.5 mm <sup>2</sup> >79.5 mm
Lemna minor Duckweed	TFA	7 day (static)	E <sub>EC</sub> 50(frond no) NOE <sub>EC</sub> (frond no) E <sub>EC</sub> 50(frond no) NOE <sub>EC</sub> (frond no)	1990 nom 300 nom 768.6 nom 600 nom
Lemna gibba Duckweed	FOE -Thiadone	7 day (static)	E <sub>EC</sub> 50 (frond no) NOE <sub>EC</sub> (frond no) E <sub>EC</sub> 50 (frond area) NOE <sub>EC</sub> (frond area) E <sub>EC</sub> 50(frond no) NOE <sub>EC</sub> (frond no) E <sub>EC</sub> 50 (frond area) NOE <sub>EC</sub> (frond area)	20.80 nom <1.25 nom 18.32 nom 5.0 nom 9.86 nom <1.25 nom 8.68 nom <1.25 nom
Lemna gibba Duckweed	FOE 5043 (Trifluoroethane sulfonic acid)	7 day ( static )	E <sub>EC</sub> 50 (frond no) NOE <sub>EC</sub> (frond no) E <sub>EC</sub> 50 (frond area) NOE <sub>EC</sub> (frond area) E <sub>EC</sub> 50 (frond no, frond area) NOE <sub>EC</sub> (frond no, frond area)	>10 nom >10 nom >10 nom >10 nom >10 nom >10 nom
Xenopus laevis	Flufenacet	48 h acute (static)	LC <sub>50</sub> (mortality)	>10 nom

Further testing on aquatic organisms

Microcosm study for aquatic macrophytes including *Lemna sp* and *Elodea sp* with NOEC<sub>macrophytes</sub> =6 µg a.s./L with AF of 5.

Peak exposure study for *Lemna gibba* with ErC<sub>50</sub>>126 ·g a.s./L as the refinement for R scenarios

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

<sup>1</sup> mm = mean measured concentration, ...nominal concentration, geomean..... geometric mean measured concentration, im....initial measured concentration,

<sup>2</sup> The study is not fully reliable but can be used as supportive information indicating that metabolite is clearly less toxic than active substance

<sup>2</sup> The study is not fully reliable but can be used as supportive information

<sup>3</sup> The study not used in the current risk assessment. The study is valid it may be used in the refined risk assessment for macrophytes only if:

- Further evidence is provided that rooted macrophytes are not more sensitive to flufenacet than *Lemna sp*.
- The peak exposure design of the study covers the peaks observed in the FOCUS scenarios.

\*Geomean E<sub>EC</sub>50 value obtained from the results of three laboratory studies for *P. Pseudokirchneriella subcapitata* ( E<sub>EC</sub>50=3.15 µg a.s./L, E<sub>EC</sub>50=6.45 µg a.s./L and ErC<sub>50</sub>=21.20 µg/L)



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## Section 5 Ecotoxicology

### Bioconcentration in fish (Annex Part A, point 8.2.2.3)

	Active substance	Metabolite	Metabolite	Metabolite	Metabolite	Metabolite	Metabolite	TFA
	Flufenacet	FOE oxalae	FOE sulfonic acid-Na salt	methylosulfone	FOE methylosulfide	FOE trifluoroethane sulfonic acid	FOE Thiadone	
log <sub>P<sub>OW</sub></sub>	3.5	-2.0 (pH 5) -2.2 (pH 7) -2.4 (pH 9)	-2.72	1.7	2.6	-3.0 (pH 5) -2.95 (pH 7) -3.16 (pH 9)	1.92 (pH 4.3) 0.62 (pH 7) -0.90 (pH 9.4)	-2.5 (pH 5) -2.6 (pH 7) -2.8 (pH 9)
Steady-state bioconcentration factor (BCF) (total wet weight/normalised to 5% lipid content)	71.4 ( whole body)	Not required	Not required	Not required	Not required	Not required	Not required	Not required
Uptake/depuration kinetics BCF (total wet weight/normalised to 5% lipid content)	-							
Annex VI Trigger for the bioconcentration factor	>1000							
Clearance time (days) (CT <sub>50</sub> )	0.3 day							
(CT <sub>90</sub> )	0.99 day							
Level and nature of residues (%) in organisms after the 14 day depuration phase	2% (whole body, viscera)							
Higher tier study	5% (fiet)							

\* based on total <sup>14</sup>C

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## Section 5 Ecotoxicology

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

### FOCUS<sub>sw</sub> step 1-3 - TERs for flufenacet – winter cereals, spring use at 1x120 g a.s./ha

Scenario	PEC global max (µg L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	Microcosm
		<i>Lepomis macrochirus</i>	<i>Cyprinodon variegatus</i>	<i>Hyalella azteca</i>	<i>Mysidopsis bahia</i>	<i>Pseudokirchneriella subcapitata</i>	<i>Lemna gibba</i>	<i>Chironomus riparius</i>	Macrophytes ( <i>Lemna sp.</i> and <i>Elodea sp.</i> )
		LC <sub>50</sub>	NOEC	LC <sub>50</sub>	NOEC	EC <sub>50</sub>	EC <sub>50</sub>	NOEC	NOEC
		2130 µg/L	49 µg/L	2450 µg/L	221 µg/L	7.55 µg/L	13.9 µg/L	5000 µg/L	6 µg/L
<b>FOCUS Step 1</b>	31.277	<b>68.21</b>	<b>1.56</b>	<b>78.33</b>	<b>7.06</b>	<b>0.24</b>	<b>0.44</b>	160.11	<b>0.19</b>
<b>FOCUS Step 2</b>									
North Europe	6.057	351.66	<b>8.08</b>	404.49	36.48	<b>1.24</b>	<b>2.30</b>	-	<b>0.99</b>
South Europe	11.217	189.90	<b>4.36</b>	218.41	19.70	<b>0.67</b>	<b>1.23</b>	-	<b>0.53</b>
<b>FOCUS Step 3*</b>									
D1/ ditch			58.00			<b>8.92</b>	16.43		7.09
D1/stream			77.90			<b>12.0</b>	22.10		9.53
D2/ditch			28.80			<b>4.43</b>	<b>8.17</b>		<b>3.52</b>
D2/stream			44.10			<b>6.79</b>	12.51		5.40
D3 / ditch			64.50	-	-	<b>9.93</b>	18.29	-	7.89
D4 / pond			1835.20	-	-	282.77	520.60	-	224.71
D4 / stream			85.70	-	-	13.19	24.30	-	10.48
D5 / pond			1695.50	-	-	261.24	480.97	-	207.61
D5 / stream			79.80	-	-	12.29	22.64	-	9.77
D6 /ditch			64.81	-	-	<b>9.98</b>	18.39	-	7.93
R1/ pond			713.30	-	-	109.89	202.333	-	87.33
R1/ stream			64.40	-	-	<b>9.88</b>	18.19	-	7.85
R3/ stream			45.40	-	-	<b>6.99</b>	12.87	-	5.55
R4/ stream			97.80	-	-	15.06	27.74	-	11.97
Trigger**		100	10	100	10	10	10	10	5

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 1-2 should be included in step 3.]

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## Section 5 Ecotoxicology

### FOCUS<sub>sw</sub> step 4 - TERs – winter cereals spring use at 1x120 g a.s./ha

<b>Organisms</b> <i>Pseudokirchneriella subcapitata</i>					
<b>Toxicity endpoint:</b> EC <sub>50</sub> =7.55 µg/L					
<b>Mitigation options</b>	<b>[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)</b>	<b>[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)</b>	<b>PEC<sub>sw</sub> ( µg/L)</b>	<b>TER</b>	<b>Trigger</b>
<b>FOCUS Step 4*</b>					
D1/ ditch	10	Not applicable – drainage scenario	0.194	38.91	10
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.702	<b>4.43</b>	10
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.111	<b>6.79</b>	10
D3/ ditch	10	Not applicable – drainage	0.109	69.26	10
D6/ ditch	10	Not applicable – drainage	0.114	66.22	10
R1/ stream	10	10	0.347	21.75	10
R3/ stream	10	10	0.493	15.31	10

Bold figures fall below the Regulation (EU) 546/2011trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 3 should be included in step 4].

<b>Organisms</b> <i>Lemna gibba</i>					
<b>Toxicity endpoint:</b> EC <sub>50</sub> =13.9 µg/L					
<b>Mitigation options</b>	<b>[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)</b>	<b>[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)</b>	<b>PEC<sub>sw</sub> ( µg/L)</b>	<b>TER</b>	<b>Trigger</b>
<b>FOCUS Step 4*</b>					
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.702	<b>8.17</b>	10

Bold figures fall below the Regulation (EU) 546/2011trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 3 should be included in step 4].

<b>Organism:</b> Macrophytes (Lemna sp and Elodea sp.)					
<b>Toxicity endpoint:</b> NOEC 6 µg/L					
<b>Mitigation options</b>	<b>[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)</b>	<b>[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)</b>	<b>PEC<sub>sw</sub> ( µg/L)</b>	<b>TER</b>	<b>Trigger</b>
<b>FOCUS Step 4*</b>					
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.702	<b>3.53</b>	5

Bold figures fall below the Regulation (EU) 546/2011trigger value\* [Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 3 should be included in step 4].

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## Section 5 Ecotoxicology

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

#### FOCUSsw step 1-3 - TERs for flufenacet – winter cereals, spring use at 1x160 g a.s./ha

Scenario	PEC global max (µg/L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	Microcosm
		<i>Lepomis macrochirus</i>	<i>Cyprinodon variegatus</i>	<i>Hyalella azteca</i>	<i>Mysidopsis bahia</i>	<i>Pseudokirchneriella subcapitata</i>	<i>Lemna gibba</i>	<i>Chironomus riparius</i>	Macrophytes ( <i>Lemna</i> sp. and <i>Elodea</i> sp.)
		LC <sub>50</sub> 2130 µg/L	NOEC 49 µg/L	EC <sub>50</sub> 2450 µg/L	NOEC 221 µg/L	EC <sub>50</sub> 7.55 µg/L	EC <sub>50</sub> 13.9 µg/L	NOEC 5000 µg/L	NOEC 6 µg/L
<b>FOCUS Step 1</b>	41.636	<b>51.15</b>	<b>1.17</b>	<b>58.84</b>	<b>5.30</b>	<b>0.18</b>	<b>0.333</b>	120	0.144
<b>FOCUS Step 2</b>									
North Europe	8.076	263.75	<b>6.06</b>	303.36	27.36	<b>0.93</b>	<b>1.72</b>	-	<b>0.74</b>
South Europe	14.956	142.41	<b>3.27</b>	163.81	14.77	<b>0.50</b>	<b>0.93</b>	-	<b>0.40</b>
<b>FOCUS Step 3*</b>									
D1/ ditch			43.40			<b>6.68</b>	12.31		5.31
D1/stream			58.50			<b>9.00</b>	16.59		7.15
D2/ditch			20.31			<b>3.13</b>	<b>5.76</b>		2.48
D2/stream			31.13			<b>4.79</b>	<b>8.83</b>		3.81
D3 / ditch	-	-	48.32			<b>7.44</b>	13.71	-	5.91
D4 / pond	-	-	1372.55			211.48	389.36	-	168.06
D4 / stream	-	-	64.22			<b>9.89</b>	18.22	-	7.86
D5 / pond	-	-	1266.15			195.09	359.17	-	155.03
D5 / stream	-	-	59.90			<b>9.22</b>	16.99	-	7.33
D6 /ditch	-	-	48.60			<b>7.48</b>	13.78	-	5.94
R1/ pond	-	-	536.70			82.69	152.25	-	65.71
R1 /stream	-	-	48.0			<b>7.39</b>	13.61	-	5.87
R3 /stream	-	-	33.80			<b>5.20</b>	<b>9.59</b>	-	<b>4.13</b>
R4/ stream	-	-	73.40			11.30	20.81	-	8.98
Trigger**		100	10	100	10	10	10	10	5

Bold figures fall below the Regulation (EU) 546/2011 trigger value

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

\*\*[If the Trigger value has been adjusted during the risk assessment, it should always be clear on what basis the risk assessment has been performed, i.e. what the AF value is and for which organism and endpoint it refers.]

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## Section 5 Ecotoxicology

### FOCUS<sub>sw</sub> step 4 - TERs – winter cereals, spring use at 1x160 g a.s./ha

Organisms <i>Pseudokirchneriella subcapitata</i>					
Toxicity endpoint: EC <sub>50</sub> =7.55 µg/L					
Mitigation options	[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)	[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)	PEC <sub>sw</sub> (µg/L)	TER	Trigger
<b>FOCUS Step 4*</b>					
D1/ ditch	10	Not applicable – drainage scenario	0.259	29.15	10
D1/stream	10	Not applicable – drainage scenario	0.218	34.63	10
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.412	<b>3.13</b>	10
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.574	<b>4.79</b>	10
D3/ditch	10	Not applicable – drainage scenario	0.146	51.71	10
D4 stream	10	Not applicable – drainage scenario	0.148	51.01	10
D5 stream	10	Not applicable – drainage scenario	0.160	47.18	10
D6/ditch	10	Not applicable – drainage scenario	0.153	49.34	10
R1/stream	10	10	0.464	16.27	10
R3/stream	10	10	0.662	11.40	10

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 3 should be included in step 4].

Organisms <i>Lemna sp.</i>					
Toxicity endpoint: EC <sub>50</sub> =13.9 µg/L					
Mitigation options	[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)	[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)	PEC <sub>sw</sub> (µg/L)	TER	Trigger
<b>FOCUS Step 4*</b>					
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.412	<b>5.76</b>	10
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.574	<b>8.83</b>	10
R3 / stream	10	10	0.662	21.00	10

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 3 should be included in step 4].

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<b>Organisms</b> : Macrophytes (Lemna sp and Eloeia sp.)					
<b>Toxicity endpoint:</b> NOEC 6 µg/L					
<b>Mitigation options</b>	<b>[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)</b>	<b>[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)</b>	<b>PEC<sub>sw</sub> (µg/L)</b>	<b>TER</b>	<b>Trigger</b>
<b>FOCUS Step 4*</b>					
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.412	<b>2.48</b>	5
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.574	<b>3.81</b>	5
R3 / stream	10	10	0.662	9.06	5

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 3 should be included in step 4].

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## Section 5 Ecotoxicology

### FOCUS<sub>sw</sub> step 1-3 - TERs for flufenacet – winter cereals, autumn use at 1x 120 g a.s./ha

Scenario	PEC global max (µg L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	Microcosm
		<i>Lepomis macrochirus</i>	<i>Cyprinodon variegatus</i>	<i>Hyalella azteca</i>	<i>Mysidopsis bahia</i>	<i>Pseudokirchneriella subcapitata</i>	<i>Lemna gibba</i>	<i>Chironomus riparius</i>	Macrophytes ( <i>Lemna sp.</i> and <i>Elodea sp.</i> )
		LC <sub>50</sub> 2130 µg/L	NOEC 49 µg/L	EC <sub>50</sub> 2450 µg/L	NOEC 221 µg/L	EC <sub>50</sub> 7.55 µg/L	EC <sub>50</sub> 13.9 µg/L	NOEC 5000 µg/L	NOEC 6 µg/L
<b>FOCUS Step 1</b>	31.227	<b>68.21</b>	<b>1.56</b>	<b>78.45</b>	<b>7.06</b>	<b>0.24</b>	<b>0.44</b>	160.11	<b>0.19</b>
<b>FOCUS Step 2</b>									
North Europe	13.797	154.38	3.55	175.57	16.01	<b>0.54</b>	<b>1.00</b>		<b>0.43</b>
South Europe	11.217	189.89	4.36	218.41	19.70	<b>0.67</b>	<b>1.24</b>		<b>0.53</b>
<b>FOCUS Step 3*</b>									
D1/ ditch			18.28	-	-	<b>2.81</b>	<b>5.19</b>		<b>2.23</b>
D1/stream			29.30			<b>4.51</b>	<b>8.31</b>		<b>3.58</b>
D2/ditch			15.20			<b>2.33</b>	<b>4.31</b>		<b>1.85</b>
D2/stream			24.25			<b>3.73</b>	<b>6.88</b>		<b>2.96</b>
D3 / ditch			64.65	-	-	<b>9.96</b>	18.34	-	7.91
D4 / pond			123.11	-	-	18.96	34.92	-	15.07
D4 / stream			74.50	-	-	11.47	21.12	-	9.11
D5 / pond			87.50	-	-	13.48	24.82	-	10.71
D5 / stream			69.01	-	-	10.63	19.58	-	8.45
D6 / ditch			17.72			<b>2.73</b>	<b>5.03</b>		<b>2.17</b>
R1/ pond			804.6	-	-	123.97	228.24	-	98.55
R1/ stream			17.5	-	-	<b>2.69</b>	<b>4.96</b>	-	<b>2.14</b>
R3/ stream			12.95	-	-	<b>1.99</b>	<b>3.67</b>	-	<b>1.58</b>
R4/ stream			42.00	-	-	<b>6.46</b>	11.91	-	5.14
Trigger**		100	10	100	10	10	10	10	5

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 1-2 should be included in step 3.]

\*\*[If the Trigger value has been adjusted during the risk assessment, it should always be clear on what basis the risk assessment has been performed, i.e. what the AF value is and for which organism and endpoint it refers.]

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### FOCUS<sub>sw</sub> step 4 - TERs – winter cereals autumn use at 1x120 g a.s./ha

<b>Organisms</b> <i>Pseudokirchneriella subcapitata</i>					
<b>Toxicity endpoint:</b> EC <sub>50</sub> =7.55 µg/L					
Mitigation options	[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)	[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)	PEC <sub>sw</sub> (µg/L)	TER	Trigger
<b>FOCUS Step 4*</b>					
D1/ ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.680	<b>2.81</b>	10
D1/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.672	<b>4.51</b>	10
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	3.227	<b>2.33</b>	10
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.021	<b>3.73</b>	10
D3/ditch	10	Not applicable – drainage scenario	0.109	69.26	10
D6 / ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.764	<b>2.73</b>	10
R1/ stream	20	20	0.652	11.57	10
R3/ stream	20	20	0.907	<b>8.32</b>	10
R4/ stream	10	10	0.527	14.32	10

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 3 should be included in step 4].

### FOCUS<sub>sw</sub> step 4 - TERs – winter cereals autumn use at 1x120 g a.s./ha

<b>Organisms</b> <i>Lemna gibba</i>					
<b>Toxicity endpoint:</b> EC <sub>50</sub> =13.9 µg/L					
Mitigation options	[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)	[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)	PEC <sub>sw</sub> (µg/L)	TER	Trigger
<b>FOCUS Step 4*</b>					
D1/ ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.680	<b>5.19</b>	10
D1/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.672	<b>8.31</b>	10
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	3.227	<b>4.31</b>	10
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.021	<b>6.88</b>	10
D6/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.764	<b>5.03</b>	10
R1/stream	10	10	1.354	10.27	10
R3/stream	20	20	0.907	15.33	10



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Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUSsw step 3 should be included in step 4].

#### FOCUS<sub>sw</sub> step 4 - TERs – winter cereals autumn use at 1x120 g a.s./ha

<b>Organisms:</b> Macrophytes (Lemna sp and Eloeia sp.)					
<b>Toxicity endpoint:</b> NOEC=6 µg/L					
<b>Mitigation options</b>	<b>[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)</b>	<b>[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)</b>	<b>PEC<sub>sw</sub> (µg/L)</b>	<b>TER</b>	<b>Trigger</b>
<b>FOCUS Step 4*</b>					
D1/ ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.680	<b>2.23</b>	5
D1/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.672	<b>3.58</b>	5
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	3.227	<b>1.85</b>	5
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.021	<b>2.96</b>	5
D6/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.764	<b>2.17</b>	5
R1/stream	20	20	0.652	9.20	5
R3/stream	20	20	0.907	6.61	5

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUSsw step 3 should be included in step 4].

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

#### FOCUS<sub>sw</sub> step 1-3 - TERs for flufenacet – winter cereals, autumn use at 1x160 g a.s./ha

Scenario	PEC global max (µg/L)	Fish acute	Fish chronic	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	Microcosm
		<i>Lepomis macrochirus</i>	<i>Cyprinodon variegatus</i>		<i>Hyalella azteca</i>	<i>Mysidopsis bahia</i>	<i>Pseudokirchneriella subcapitata</i>	<i>Lemna gibba</i>	<i>Chironomus riparius</i>	Macrophytes ( <i>Lemna</i> sp. and <i>Elodea</i> sp.)
		LC <sub>50</sub> 2130 µg/L	NOEC 49 µg/L <sup>1</sup>	NOEC Geomean 131 µg/L <sup>2</sup>	EC <sub>50</sub> 2450 µg/L	NOEC 221 µg/L	EC <sub>50</sub> 7.55 µg/L	EC <sub>50</sub> 13.9 µg/L	NOEC 5000 µg/L	NOEC 6 µg/L
<b>FOCUS Step 1</b>	41.636	<b>51.15</b>	<b>1.17</b>	<b>3.14</b>	<b>58.84</b>	<b>5.30</b>	<b>0.18</b>	<b>0.33</b>	120	<b>0.14</b>
<b>FOCUS Step 2</b>										
North Europe	18.395	115.79	<b>2.66</b>	<b>7.12</b>	133.18	12.01	<b>0.41</b>	<b>0.76</b>		<b>0.32</b>
South Europe	14.956	142.41	<b>3.27</b>	<b>8.75</b>	163.81	14.77	<b>0.50</b>	<b>0.93</b>	-	<b>0.40</b>
<b>FOCUS Step 3*</b>										
D1/ ditch			11.32	30.26			<b>1.74</b>	<b>3.21</b>		<b>1.38</b>
D1/stream			18.15	48.53			<b>2.79</b>	<b>5.15</b>		<b>2.22</b>
D2/ditch			12.38	33.10			<b>1.90</b>	<b>3.51</b>		<b>1.51</b>
D2/stream			19.75	52.82			<b>3.04</b>	<b>5.60</b>		<b>2.41</b>
D3 / ditch	-	-	48.51	129.70	-		<b>7.47</b>	13.76	-	5.94
D4 / pond	-	-	64.81	173.28	-		<b>9.98</b>	18.39	-	7.93
D4 / stream	-	-	45.32	121.18	-		<b>6.98</b>	12.86	-	5.55
D5 / pond	-	-	63.96	171.01	-		<b>9.85</b>	18.15	-	7.83
D5 / stream	-	-	51.79	138.47	-		<b>7.98</b>	14.69	-	6.34
D6 /ditch	-	-	13.13	35.10	-		<b>2.02</b>	<b>3.72</b>	-	<b>1.60</b>
R1/ pond	-	-	614.80	1643.66	-		94.73	174.40	-	75.28
R1 /stream	-	-	12.92	34.56	-		<b>1.99</b>	<b>3.67</b>	-	<b>1.58</b>
R3 /stream	-	-	<b>9.83</b>	26.30	-		<b>1.51</b>	<b>2.79</b>	-	<b>1.20</b>
R4/ stream	-	-	12.38	33.10	-		<b>1.89</b>	<b>3.51</b>	-	<b>1.51</b>
Trigger**		100	10	10	100	10	10	10	10	5

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 1-2 should be included in step 3.]

<sup>1</sup> the lowest value

<sup>2</sup> the geomean value of four species

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### FOCUS<sub>sw</sub> step 4 - TERs – winter cereals autumn use at 1x160 g a.s./ha

Organisms <i>Cyprinodon variegatus</i>					
Toxicity endpoint: NOEC=49 µg/L					
Mitigation options	[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)	[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)	PEC <sub>sw</sub> (µg/L)	TER	Trigger
FOCUS Step 4*					
R3 /stream	10	10	2.246	21.81	10

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 3 should be included in step 4].

Organisms <i>Pseudokirchneriella subcapitata</i>					
Toxicity endpoint: EC <sub>50</sub> =7.55 µg/L					
Mitigation options	[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)	[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)	PEC <sub>sw</sub> ( µg/L)	TER	Trigger
FOCUS Step 4*					
D1/ ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	4.328	1.74	10
D1/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.699	2.79	10
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	3.957	1.90	10
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	2.480	3.04	10
D3 / ditch	10	Not applicable – drainage scenario	0.145	52.0	10
D4 / stream	Not applicable – drainage is a dominant migration rout	Not applicable – drainage scenario	1.081	6.98	10
D4 / pond	10	Not applicable – drainage scenario	0.750	10.06	10
D5 / stream	Not applicable – drainage is a dominant migration rout	Not applicable – drainage scenario -	0.812	9.29	10
D5 /pond	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	0.758	9.96	10
D6 /ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	3.732	2.02	10
R1 /stream	20	20	0.883	8.55	10
R3 /stream	20	20	1.173	6.43	10
R4/ stream	20	20	0.993	7.60	10

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 3 should be included in step 4].

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<b>Organisms</b> <i>Lemna gibba</i>					
<b>Toxicity endpoint:</b> EC <sub>50</sub> =13.9 µg/L					
<b>Mitigation options</b>	<b>[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)</b>	<b>[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)</b>	<b>PEC<sub>sw</sub> (µg/L)</b>	<b>TER</b>	<b>Trigger</b>
<b>FOCUS Step 4*</b>					
D1/ ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage is a dominant migration route	4.328	<b>3.21</b>	10
D1/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage is a dominant migration route	2.699	<b>5.15</b>	10
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage is a dominant migration route	3.957	<b>3.51</b>	10
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage is a dominant migration route	2.480	<b>5.60</b>	10
D6/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage is a dominant migration route -	3.732	<b>3.72</b>	10
R1/stream	20	20	0.883	15.74	10
R3/stream	20	20	1.173	11.85	10
R4/stream	20	20	0.933	14.90	10

Bold figures fall below the Regulation (EU) 546/2011 trigger value \* [Only scenarios where the trigger is not met at FOCUSsw step 3 should be included in step 4].

<b>Organisms:</b>					
<b>Toxicity endpoint:</b> NOEC=6 µg/L					
<b>Mitigation options</b>	<b>[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)</b>	<b>[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)</b>	<b>PEC<sub>sw</sub> (µg/L)</b>	<b>TER</b>	<b>Trigger</b>
<b>FOCUS Step 4*</b>					
D1/ ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage is a dominant migration route	4.328	<b>1.38</b>	5
D1/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage is a dominant migration route	2.699	<b>2.22</b>	5
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage is a dominant migration route	3.957	<b>1.51</b>	5
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage is a dominant migration route	2.480	<b>2.41</b>	5
D6/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage is a dominant migration route -	3.732	<b>1.60</b>	5
R1/stream	20	20	0.883	6.79	5
R3/stream	20	20	1.173	5.11	5
R4/stream	20	20	0.933	6.43	5

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Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUSsw step 3 should be included in step 4].

### FOCUS<sub>sw</sub> step 1-3 - TERs for flufenacet – winter cereals autumn use at 1x240 g a.s./ha

Scenario	PEC global max (µg/L)	Fish acute	Fish chronic	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	Microcosm
		<i>Lepomis macrochirus</i>	<i>Cyprinodon variegatus</i>		<i>Hyalella azteca</i>	<i>Mysidopsis bahia</i>	<i>Pseudokirchneriella subcapitata</i>	<i>Lemna gibba</i>	<i>Chironomus riparius</i>	<i>Macrophytes (Lemna sp. and Elodea sp.)</i>
		LC <sub>50</sub> 2130 µg/L	NOEC 49 µg/L <sup>1</sup>	Geomean NOEC 131 µg/L <sup>2</sup>	LC <sub>50</sub> 2450 µg/L	NOEC 221 µg/L	EC <sub>50</sub> 7.55 µg/L	ErC <sub>50</sub> 13.9 µg/L	NOEC 5000 µg/L	NOEC 6 µg/L
<b>FOCUS Step 1</b>	62.454	<b>34.10</b>	<b>0.78</b>	<b>2.09</b>	<b>39.22</b>	<b>3.53</b>	<b>0.12</b>	<b>0.22</b>	80.05	<b>0.09</b>
<b>FOCUS Step 2</b>										
North Europe	27.593	<b>77.19</b>	<b>1.77</b>	<b>4.74</b>	<b>88.79</b>	<b>8.00</b>	<b>0.27</b>	<b>0.50</b>		<b>0.21</b>
South Europe	22.433	<b>94.94</b>	<b>2.18</b>	<b>5.83</b>	109.21	<b>9.85</b>	<b>0.33</b>	<b>0.62</b>	-	<b>0.26</b>
<b>FOCUS Step 3*</b>										
D1/ ditch		325.53	<b>7.48</b>	20.02	374.44	33.77	<b>1.15</b>	<b>2.12</b>		<b>0.91</b>
D1/stream		521.80	12.00	32.09	600.19	54.14	<b>1.84</b>	<b>3.41</b>		<b>1.46</b>
D2/ditch		343.60	<b>7.90</b>	21.13	395.22	35.65	<b>1.21</b>	<b>2.24</b>		<b>0.96</b>
D2/stream		548.68	12.62	33.74	631.11	56.92	<b>1.94</b>	<b>3.58</b>		<b>1.54</b>
D3 / ditch		1406.86	32.36	86.52	1618.22	145.97	<b>4.98</b>	<b>9.18</b>	-	<b>3.96</b>
D4 / pond		1823.63	41.95	112.15	2097.60	189.21	<b>6.46</b>	11.90	-	5.13
D4 / stream		1293.26	29.75	79.53	1487.55	134.18	<b>4.58</b>	<b>8.44</b>	-	<b>3.69</b>
D5 / pond		1820.51	41.88	111.96	2094.01	188.88	<b>6.45</b>	11.88	-	5.12
D5 / stream		1500	34.50	92.25	1725.35	155.63	<b>5.31</b>	<b>9.79</b>	-	<b>4.22</b>
D6 /ditch		374.19	<b>8.60</b>	23.01	430.35	38.81	<b>1.32</b>	<b>2.44</b>	-	<b>1.05</b>
R1/ pond		18 362	422.41	22.54	21120.68	1905.17	65.08	119.83	-	51.72
R1 /stream		366.54	<b>8.43</b>	22.54	421.61	38.03	<b>1.29</b>	<b>2.39</b>	-	<b>1.03</b>
R3 /stream		278.75	<b>6.41</b>	17.14	320.63	28.92	<b>0.98</b>	<b>1.82</b>	-	<b>0.78</b>
R4/ stream		356.18	<b>8.19</b>	21.90	409.70	36.95	<b>1.26</b>	<b>2.32</b>	-	<b>1.00</b>
Trigger**		100	10	10	100	10	10	10	10	10

Bold figures fall below the Regulation (EU) 546/2011 trigger value

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

<sup>1</sup> the lowest value

<sup>2</sup> the geomean value NOEC of three species

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### FOCUS<sub>sw</sub> step 4 - TERs – winter cereals autumn use at 1x240 g a.s./ha

Organisms: <i>Cyprinodon variegatus</i>					
Toxicity endpoint: NOEC=49 µg/L <sup>1</sup>					
Mitigation options	[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)	[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)	PEC <sub>sw</sub> (µg/L)	TER	Trigger
FOCUS Step 4*					
D1/ ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	6.543	7.48	10
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	6.199	7.90	10
D6 /ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	5.693	8.60	10
R1	10	10	2.602	18.83	10
R3	10	10	3.446	14.219	10
R4	10	10	2.699	18.154	10

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 3 should be included in step 4].

<sup>1</sup> the lowest value

Organisms <i>Pseudokirchinella subcapitata</i>					
Toxicity endpoint: EC <sub>50</sub> =7.55 µg/L					
Mitigation options	[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)	[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)	PEC <sub>sw</sub> (µg/L)	TER	Trigger
FOCUS Step 4*					
D1/ ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	6.543	1.15	10
D1/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	4.082	1.84	10
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	6.199	1.21	10
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	3.882	1.94	10
D3 / ditch	10	Not applicable – drainage scenario	0.218	34.63	10
D4 / pond	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.154	6.54	10
D4 / stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.674	4.51	10

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	migration route				
D5 / pond	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.159	<b>6.51</b>	10
D5 / stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.249	<b>6.04</b>	10
D6 /ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	5.693	<b>1.32</b>	10
R1 /stream	20	20	1.354	<b>5.57</b>	10
R3 /stream	20	20	1.799	<b>4.19</b>	10
R4/ stream	20	20	1.41	<b>5.35</b>	10

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUSsw step 3 should be included in step 4].

<b>Organisms</b> <i>Lemna gibba</i>					
<b>Toxicity endpoint:</b> EC <sub>50</sub> =13.9 µg/L					
<b>Mitigation options</b>	<b>[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)</b>	<b>[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)</b>	<b>PEC<sub>sw</sub> ( µg/L)</b>	<b>TER</b>	<b>Trigger</b>
<b>FOCUS Step 4*</b>					
D1/ ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	6.543	<b>2.12</b>	10
D1/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	4.082	<b>3.41</b>	10
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	6.199	<b>2.24</b>	10
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	3.882	<b>3.58</b>	10
D3 / ditch	10	Not applicable – drainage scenario	0.218	63.76	10
D4 / stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.674	<b>8.30</b>	10
D5 / stream	10 m– drainage is becoming dominant migration rate	Not applicable – drainage scenario	1.249	11.13	10
D6 /ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	5.693	<b>2.44</b>	10
R1 /stream	20	20	1.354	10.27	10
R3 /stream	20	20	1.799	<b>7.73</b>	10
R4/ stream	20	20	1.410	<b>9.86</b>	10
Trigger*					

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUSsw step 3 should be included in step 4].

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<b>Organisms:</b> Macrophytes (Lemna sp and Elodea sp.)					
<b>Toxicity endpoint:</b> NOEC=6 µg/L					
Mitigation options	[x] m non-spray buffer zone (corresponding to ≤ 95 % drift reduction)	[x] m vegetated buffer strip (corresponding to ≤ 90 % run-off reduction)	PEC <sub>sw</sub> (µg/L)	TER	Trigger
<b>FOCUS Step 4*</b>					
D1/ ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	6.543	<b>0.91</b>	5
D1/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	4.082	<b>1.46</b>	5
D2/ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	6.199	<b>0.96</b>	5
D2/stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	3.882	<b>1.54</b>	5
D3 / ditch	10	Not applicable – drainage scenario	0.218	27.52	5
D4 / stream	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	1.674	<b>3.58</b>	5
D5 / stream	20	20	1.249	<b>4.80</b>	5
D6 /ditch	Not applicable – drainage is a dominant migration route	Not applicable – drainage scenario	5.693	<b>1.05</b>	5
R1 /stream	20	20	1.354	<b>4.43</b>	5
R3 /stream	20	20	1.799	<b>3.33</b>	5
R4/ stream	20	20	1.410	<b>4.25</b>	5
Trigger**					

Bold figures fall below the Regulation (EU) 546/2011 trigger value

\*[Only scenarios where the trigger is not met at FOCUS<sub>sw</sub> step 3 should be included in step 4].



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### FOCUS<sub>sw</sub> step 1 - TERs for metabolite FOE oxalate – winter cereals at 1x120 g a.s./ha (00-22 BBCH), autumn and spring uses

Scenario	PEC global max (µg/L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
						Pseudokirchneriella subcapitata	Lemna gibba		
		LC <sub>50</sub>	NOEC	EC <sub>50</sub>	-	EC <sub>50</sub> > 100 000 µg/L	EC <sub>50</sub> > 100 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	6.466	-	-	-		>15465.51	>15465.51		
<b>Trigger</b>		100	10	100	10	10	10	10	-

Bold figures fall below the Regulation (EU) 546/2011 trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite FOE oxalate– winter cereals at 1x160 g a.s./ha ( 11-13 BBCH), autumn and spring uses

Scenario	PEC global max (µg/L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
						Pseudokirchneriella subcapitata	Lemna gibba		
			NOEC	EC <sub>50</sub>	NOEC	EC <sub>50</sub> > 100 000 µg/L	EC <sub>50</sub> > 100 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	8.622	LC <sub>50</sub>				>11598.23	>11598.23		
<b>Trigger</b>		100	10	100	10	10	10	10	--

Bold figures fall below the Regulation (EU) 546/2011 trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite FOE oxalate– winter cereals autumn use at 1x 240 g a.s./ha (BBCH 10-13 )

Scenario	PEC global max (µg/L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
						Pseudokirchneriella subcapitata	Lemna gibba		
			NOEC	EC <sub>50</sub>	NOEC	EC <sub>50</sub> > 100 000 µg/L	EC <sub>50</sub> > 100 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	12.933	LC <sub>50</sub>				>7732.15	>7732.15		
<b>Trigger</b>		100	10	100	10	10	10	10	-

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### FOCUS<sub>sw</sub> step 1 TERs for metabolite FOE sulfonic acid – winter cereals at 1x120 g a.s./ha, autumn and spring uses

Scenario	PEC global max (µg/ L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		<i>Oncorhynchus mykiss</i>		Daphnia magna					
		LC <sub>50</sub> > 86 700 µg/L	NOEC	EC <sub>50</sub> >87 300 µg/L	-	EC50 >86 700 µg/L		NOEC	
<b>FOCUS Step 1</b>	7.941	>10918.02	-	>10993.57		>10918.02	-		
<b>Trigger</b>		100	10	100	10	10	10	10	-

Bold figures fall below the Regulation (EU) 546/2011trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite sulfonic acid – winter cereals at 1x160 g a.s./ha, autumn and spring uses

Scenario	PEC global max (µg /L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		<i>Oncorhynchus mykiss</i>		Daphnia magna			-		
		LC <sub>50</sub> > 86 700 µg/L	NOEC	EC <sub>50</sub> >87 300 µg/L	NOEC	EC50 >86 700 µg/L	EC50	NOEC	
<b>FOCUS Step 1</b>		>8188.51		>8245.18		>8188.51			
<b>Trigger</b>	10.588	100	10	100	10	10	10	10	--

Bold figures fall below the Regulation (EU) 546/2011trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite sulfonic acid – winter cereals autumn use at 1x 240 g a.s./ha

Scenario	PEC global max (µg/ L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		<i>Oncorhynchus mykiss</i>		Daphnia magna					
		LC <sub>50</sub> > 86 700 µg/L	NOEC	EC <sub>50</sub> >87 300 µg/L	NOEC	EC50 >86 700 µg/L		NOEC	
<b>FOCUS Step 1</b>	15.882	>54590.01		>5496.78		>54590.01			
<b>Trigger</b>		100	10	100	10	10	10	10	—

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### FOCUS<sub>sw</sub> step 1- TERs for metabolite – FOE methylsulfide winter cereals at 1x120 g a.s./ha, autumn and spring uses

Scenario	PEC global max (µg/L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
	0.084	LC <sub>5</sub>	NOEC	EC50	NOEC	Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
		-	-	-	-	EC <sub>50</sub> 83 800 µg/L	EC <sub>50</sub> 106 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	<b>0.084</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>997619.04</b>	<b>1261904.76</b>		
<b>Trigger</b>		<b>100</b>	<b>10</b>	<b>100</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>--</b>

Bold figures fall below the Regulation (EU) 546/2011 trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite– FOE methylsulfide winter cereals use at 1x160 g a.s./ha, autumn and spring uses

Scenario	PEC global max (µg /L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		LC <sub>50</sub>	NOEC	EC <sub>50</sub>	NOEC	Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
		-	-	-	-	EC <sub>50</sub> 83 800 µg/L	EC <sub>50</sub> 106 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	<b>0.111</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>754954.95</b>	<b>954954.95</b>		
<b>Trigger</b>		<b>100</b>	<b>10</b>	<b>100</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>--</b>

Bold figures fall below the Regulation (EU) 546/2011 trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite FOE methylsulfide – winter cereals autumn use at 1x 240 g a.s./ha

Scenario	PEC global max (µg /L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		LC <sub>50</sub>	NOEC	EC50	NOEC	Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
		--	-	-	-	EC <sub>50</sub> 83 800 µg/L	EC <sub>50</sub> 106 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	<b>0.167</b>					<b>501796.40</b>	<b>634730.53</b>		
<b>Trigger</b>		<b>100</b>	<b>10</b>	<b>100</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>-</b>

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### FOCUS<sub>sw</sub> step 1- TERs for metabolite – FOE methylsulfone winter cereals at 1x120 g a.s./ha, autumn and spring uses

Scenario	PEC global max (µg/L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		LC <sub>50</sub>	NOEC	EC <sub>50</sub>	NOEC	Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
		-	-	-	-	EC <sub>50</sub> >10 000 µg/L	EC <sub>50</sub> >100 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	1.896					>5274.26	>52742.61		
<b>Trigger</b>		100	10	100	10	10	10	10	-

Bold figures fall below the Regulation (EU) 546/2011 trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite– FOE methylsulfone winter cereals spring use at 1x160 g a.s./ha, autumn and spring uses

Scenario	PEC global max (µg/L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		LC <sub>50</sub>	NOEC	EC <sub>50</sub>	NOEC	Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
						EC <sub>50</sub> >10 000 µg/L	EC <sub>50</sub> >100 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	2.528					3955.69	39556.69		
<b>Trigger</b>		100	10	100	10	10	10	10	--

Bold figures fall below the Regulation (EU) 546/2011 trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite FOE methylsulfone winter cereals autumn use at 1x 240 g a.s./ha

Scenario	PEC global max (µg/L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		LC <sub>50</sub>	NOEC	EC <sub>50</sub>	NOEC	Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
						EC <sub>50</sub> >10 000 µg/L	EC <sub>50</sub> >100 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	3.792					2637.13	26371.30		

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Trigger	100	10	100	10	10	10	10	--
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Bold figures fall below the Regulation (EU) 546/2011 trigger value

#### FOCUS<sub>sw</sub> step 1- TERs for metabolite –TFA winter cereals at 1x120 g a.s./ha, autumn and spring uses

Scenario	PEC global max (µg/L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		<i>Brachydranio rerio</i>	NOEC	<i>Daphnia magna</i>		Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
		LC <sub>50</sub> > 1200 000 µg/L		LC <sub>50</sub> > 1200 000 µg/L	NOEC	EC <sub>50</sub> > 1200 µg/L	EC <sub>50</sub> 1990 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	10.228	>117325		>117325		>117.32	>194563.94		
<b>Trigger</b>		100	10	100	10	10	10	10	

Bold figures fall below the Regulation (EU) 546/2011 trigger value

#### FOCUS<sub>sw</sub> step 1- TERs for metabolite– TFA winter cereals at 1x160 g a.s./ha, autumn and spring uses

Scenario	PEC global max (µg/L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		<i>Brachydranio rerio</i>		<i>Daphnia magna</i>		Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
		LC <sub>50</sub> > 1200000 µg/L	NOEC	LC <sub>50</sub> > 1200000 µg/L	NOEC	EC <sub>50</sub> > 1200 µg/L	EC <sub>50</sub> 1990 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	13.638	>87989.44		>87989.44		>87.98	>145918.82		
<b>Trigger</b>		100	10	100	10	10	10	10	-

Bold figures fall below the Regulation (EU) 546/2011 trigger value

#### FOCUS<sub>sw</sub> step 1- TERs for metabolite TFA winter cereals autumn use at 1x 240 g a.s./ha

Scenario	PEC global max (µg/L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		<i>Brachydranio rerio</i>		<i>Daphnia magna</i>		Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
		LC <sub>50</sub> > 120 0000 µg/L	NOEC	LC <sub>50</sub> > 120 0000 µg/L	NOEC	EC <sub>50</sub> > 1200 µg/L	EC <sub>50</sub> 1990 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	22.426	>53509.31		>53509.31		>53.50	>88736.28		
<b>Trigger</b>		100	10	100	10	10	10	10	--

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### FOCUS<sub>sw</sub> step 1- TERs for metabolite – FOE-Trifluoroethansulfonic acid winter at 1x120 g a.s./ha, autumn and spring uses

Scenario	PEC global max (µg /L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		LC <sub>50</sub>	NOEC	EC <sub>50</sub>	NOEC	Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
		-	-	-	-	EC <sub>50</sub> >100 000 µg/L	EC <sub>50</sub> >10 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	1.084					>92250.92	>9225.09		
<b>Trigger</b>		100	10	100	10	10	10	10	

Bold figures fall below the Regulation (EU) 546/2011 trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite– FOE-Trifluoroethansulfonic acid winter cereals spring use at 1x160 g a.s./ha autumn and spring uses

Scenario	PEC global max (µg /L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
			NOEC	EC <sub>50</sub>	NOEC	Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
						EC <sub>50</sub> >100 000 µg/L	EC <sub>50</sub> >10 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	1.445	LC <sub>50</sub>				69204.15	6920.41		
<b>Trigger</b>		100	10	100	10	10	10	10	

Bold figures fall below the Regulation (EU) 546/2011 trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite FOE-Trifluoroethansulfonic acid winter cereals autumn use at 1x 240 g a.s./ha

Scenario	PEC global max (µg /L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
						Pseudokirchneriella subcapitata	<i>Lemna gibba</i>		
			NOEC		NOEC	EC <sub>50</sub> >100000 µg/L	EC <sub>50</sub> >10 000 µg/L	NOEC	
<b>FOCUS Step 1</b>	2.168	LC <sub>50</sub>				46125.46	4612.54		
<b>Trigger</b>		100	10	100	10	10	10	10	—

Bold figures fall below the Regulation (EU) 546/2011 trigger value

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### FOCUS<sub>sw</sub> step 1- TERs for metabolite – FOE-Thiadone winter cereals spring use at 1x120 g a.s./ha, autumn and spring uses

Scenario	PEC global max (µg/ L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		<i>Oncorhynchus mykiss</i>		<i>Mysidiopsis bahia</i>			<i>Lemna gibba</i>		
		LC <sub>50</sub> 91000 µg/L	NOEC	EC <sub>50</sub> >15 100 µg/L	NOEC		EC <sub>50</sub> 18 320 µg/L	NOEC	
<b>FOCUS Step 1</b>	1.464	6215.84		>10314.20			12513.66		
<b>Trigger</b>		100	10	100	10	10	10	10	--

Bold figures fall below the Regulation (EU) 546/2011 trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite– FOE-Thiadone winter cereals spring use at 1x160 g a.s./ha, autumn and spring uses

Scenario	PEC global max (µg /L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		<i>Oncorhynchus mykiss</i>		<i>Mysidiopsis bahia</i>			<i>Lemna gibba</i>		
		LC <sub>50</sub> 91000 µg/L	NOEC	EC <sub>50</sub> >15 100 µg/L	NOEC		EC <sub>50</sub> 18 320 µg/L	NOEC	
<b>FOCUS Step 1</b>	1.952.	4661.88		>7735.66			9385.24		
<b>Trigger</b>		100	10	100	10	10	10	10	

Bold figures fall below the Regulation (EU) 546/2011 trigger value

### FOCUS<sub>sw</sub> step 1- TERs for metabolite - FOE-Thiadone winter cereals autumn use at 1x 240 g a.s./ha

Scenario	PEC global max (µg/ L)	Fish acute	Fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant	Sed. dweller prolonged	
		<i>Oncorhynchus mykiss</i>		<i>Mysidiopsis bahia</i>			<i>Lemna gibba</i>		
		LC <sub>50</sub> 91000 µg/L	NOEC	EC <sub>50</sub> >15 100 µg/L	NOEC		EC <sub>50</sub> 18 320 µg/L	NOEC	
<b>FOCUS Step 1</b>	2.928	3107.92		>5157.10					
<b>Trigger</b>		100	10	100	10	10	10	10	

Bold figures fall below the Regulation (EU) 546/2011 trigger value

List of end points

Rapporteur Member State	Month and year	Microbial or Viral Agent (Name)
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**Effects on bees (Regulation (EU) N° 283/2013, Annex Part A, point 8.3.1 and Regulation (EU) N° 284/2013 Annex Part A, point 10.3.1)\***

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

Species	Test substance	Time scale/type of endpoint	End point	toxicity
<i>Apis mellifera</i>	Flufenacet	Acute	Oral toxicity (LD <sub>50</sub> )	>100 µg/bee
<i>Apis mellifera</i>	DFF+FFA SC 600	Acute	Oral toxicity (LD <sub>50</sub> )	>217.8 µg/bee
<i>Apis mellifera</i>	Flufenacet	Acute	Contact toxicity (LD <sub>50</sub> )	> 109.2 µg/bee
<i>Bombus terrestris</i>	Flufenacet	Acute	Contact	>100 µg/bumble bee
<i>Apis mellifera</i>	DFF+FFA SC 600	Acute	Contact toxicity (LD <sub>50</sub> )	>200 µg/bee
<i>Apis mellifera</i>	Flufenacet	Chronic	10 d-LC <sub>50</sub>	>4.42 µg a.s./bee/day

Potential for accumulative toxicity: *yes/no*

Semi-field test (Cage and tunnel test)

The semi-field according to OECD 75 test guideline - available during the Peer Review Commenting Period.

Field tests

**Risk assessment for flufenacet-cereals at 1 x 120 g a.s./ha, BBCH 00-22**

Species	Test substance	Risk quotient	HQ/ETR	Trigger
<i>Apis mellifera</i>	Flufenacet	HQcontact	<1.09	42
<i>Apis mellifera</i>	DFF+FFA SC 600	HQcontact	<3.75	42
<i>Bombus terrestris</i>	Flufenacet	HQcontact	<1.2	42
<i>Apis mellifera</i>	Flufenacet	ETRacute adult oral	<0.009	0.2
<i>Apis mellifera</i>	DFF+FFA SC 600	ETRacute adult oral	<1.72	0.2
<i>Apis mellifera</i>	Flufenacet	ETRchronic adult oral	<b>0.207</b>	0.03

**Risk assessment for flufenacet-cereals at 1 x 160 g a.s./ha, BBCH 11-13.**

Species	Test substance	Risk quotient	HQ/ETR	Trigger
<i>Apis mellifera</i>	Flufenacet	HQcontact	<1.46	42
<i>Apis mellifera</i>	DFF+FFC SC 600	HQcontact	<2.5	42
<i>Bombus terrestris</i>	Flufenacet	HQcontact	<1.6	7
<i>Apis mellifera</i>	Flufenacet	ETRacute adult oral	<0.012	0.2
<i>Apis mellifera</i>	DFF+FFA SC 600	ETRacute adult oral	<0.017	0.2
<i>Apis mellifera</i>	Flufenacet	ETRchronic adult oral	<b>0.276</b>	0.03

**Risk assessment for flufenacet-cereals at 1 x 240 g a.s./ha, BBCH 10-13.**

Species	Test substance	Risk quotient	HQ/ETR	Trigger
<i>Apis mellifera</i>	Flufenacet	HQcontact	<2.2	42
<i>Apis mellifera</i>	DFF+FFA SC 600	HQcontact	<3.75	42
<i>Bombus terrestris</i>	Flufenacet	HQcontact	2.4	7
<i>Apis mellifera</i>	Flufenacet	ETRacute adult oral	0.018	0.2
<i>Apis mellifera</i>	DFF+FFA SC 600	ETRacute adult oral	0.026	0.2
<i>Apis mellifera</i>	Flufenacet	ETRchronic adult oral	<b>0.41</b>	0.03



List of end points

Rapporteur Member State                      Month and year                      Microbial or Viral Agent (Name)

**1<sup>st</sup> tier assessment-chronic risk for honeybee**

Species	Crop	Max application rate kg a.s./ha	Scenario	ETR <sub>chronic adult</sub>	Trigger
<i>Apis mellifera</i>	Bare soil, crop attractive for pollen only	0.120	Treated crop	0.00	0.03
		0.120	weeds	0.01	0.03
		0.120	Field margin	0.00	0.03
		0.120	Adjacent crop	0.00	0.03
		0.120	Next crop	0.00	0.03
		0.120	Treated crop	0.02	0.03
	Cereals BBCH <10	0.120	weeds	<b>0.06</b>	0.03
		0.120	Field margin	0.00	0.03
		0.120	Adjacent crop	0.00	0.03
		0.120	Next crop	0.00	0.03
		0.160	Treated crop	0.024	0.03
		0.160	weeds	<b>0.075</b>	0.03
	Cereals BBCH 10-29	0.160	Field margin	0.0009	0.03
		0.160	Adjacent crop	0.0005	0.03
		0.160	Next crop	0.014	0.03
		0.240	Treated crop	<b>0.036</b>	0.03
		0.240	weeds	<b>0.113</b>	0.03
		0.240	Field margin	0.001	0.03
	Cereals BBCH 10-29	0.240	Adjacent crop	0.00075	0.03
		0.240	Next crop	0.021	0.03

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

**Laboratory tests with standard sensitive species**

Species	Test Substance	End point	Toxicity
<i>Typhlodromus pyri</i> (protonymphs)	DFF+FFA SC 600 Laboratory, Glass plates	Corr.mortality [%]	
		22.5 mL product/ha	1.9
		45 mL product/ha	9.2
		90 mL product/ha	61.1
		180 mL product/ha	92.6
		360 mL product/ha	100
		Mortality, LR <sub>50</sub>	81.8 mL product/ha
		Effect on reproduction [%]	
		22.5 mL product/ha	1.3%
		45 mL product/ha	-12.3% <sup>A</sup>
		90 mL product/ha	n.a
		180 mL product/ha	n.a
		360 mL product/ha	
		Reproduction, ER <sub>50</sub>	45 mL product/ha

List of end points

Rapporteur Member State      Month and year      Microbial or Viral Agent (Name)

<i>Aphidius rhopalosiphi</i> (adults)	DFF+FFA SC 600	Corr.mortality [%]	
	Laboratory, Glass plates	500 mL product/ha	0
		600 mL product/ha	2.0
		700 mL product/ha	2.0
		Mortality, LR <sub>50</sub>	>700 mL product/ha
		Effect on reproduction [%]	
		500 mL/ha	9.0%
		600 mL/ha	14%
		700 mL/ha	3.5%
		Reproduction, ER <sub>50</sub>	>700 mL product/ha

<sup>A</sup> A negative value indicates a higher reproduction rate in the treatment than in the control

**First tier risk assessment for - Cereals at 1 x 240 g a.s./ha (600 mL product/ha), as a worst case covers the application rates of 1 x 160 g s.a./ha (400 mL product/ha) and 1 x 120 g s.a./ha (300 mL product/ha)**

Test substance	Species	Effect (LR <sub>50</sub> mL prod./ha)	HQ in-field	HQ off-field <sup>1</sup>	Trigger
DFF+FFA SC 600	<i>Typhlodromus pyri</i>	81.8	<b>7.30</b>	0.20 (1 m)	2
	<i>Aphidius rhopalosiphi</i>	>700	0.85	0.023 (1m)	2

<sup>1</sup> BBA drift values (1 application, field crops) - 2.77%

**Extended laboratory tests, aged residue tests**

Species	Test substance, substrate	Time scale	Dose (mL product/ha)	Endpoint	% effect	LR <sub>50</sub> /ER <sub>50</sub>
<i>T.pyri</i> (protonymph)	DFF+FFA SC 600 Extended lab. Detached bean leaves (2D)	14 d		Corr. mortality		LR <sub>50</sub> =110.2 mL prod./ha
			9.9 mL prod./ha		0	
			28.7 mL prod./ha		0	
			83.2 mL prod./ha		17.1	
			241.4 mL prod./ha		94.3	
			700 mL prod./ha		100	
				Reproduction		ER <sub>50</sub> >83.2mL prod./ha
			9.9 mL prod./ha		4.4	
			28.7 mL prod./ha		13.3	
			83.2 mL prod./ha		-17.8 <sup>A</sup>	
			241.4 mL prod./ha		n.a.	
			700 mL prod./ha		n.a.	
<i>T.pyri</i> (protonymphs)	DFF+FFA SC 600 Aged residues, spray deposition on maize plants (under semi-field condition), 3D	42 d	1 x 700 mL product/ha	Corr. Mortality		
				0 days fresh residues	98.9	
				Residues aged for 14 days	87.1	
				Residues aged 28 days	9.5	
				Reproduction		
				0 days	n.a.	
				14 days	n.a.	

## List of end points

Rapporteur Member State      Month and year      Microbial or Viral Agent (Name)

				28 days	8.4	
<i>Chrysoperla carnea</i> (larvae)	DFF+FFA SC 600 Extended laboratory, detached maize leaves (2D)	36 d	Control 30 mL prod./ha 63 mL prod./ha 134 mL prod./ha 284 mL prod./ha 600 mL prod./ha	% Mortality <sub>corr</sub> - 7.7 2.6 7.7 20.5 20.5 LR <sub>50</sub> >600 mL/ha, ER <sub>50</sub> > 600 mL prod./ha	Eggs/female/Day 26.4 24.1 23.9 27.5 28.4 27.6	Hatching% 79.9 81.4 80.7 83.4 82.5 82.7
<i>Aleochara bilineata</i> (adults)	DFF+FFA SC 600 Extended laboratory spray deposit on soil (LUFA 2.1) (2D)	65 d	60 mL prod./ha 107 mL prod./ha 190 mL prod./ha 337 mL prod./ha 600 mL prod./ha	Reproduction	4.3 -2.3 <sup>A</sup> 1.7 5.8 7.9	ER <sub>50</sub> >600 mL prod./ha

<sup>A</sup> A negative value indicates a higher reproduction rate in the treatment than in the control

n.a.: not assessed

<sup>1</sup> indicate distance assumed to calculate the drift rate and if 3D or 2D.

## Semi-field tests

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## Field studies

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## Additional specific test

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

Test organism	Test substance	Application method of test a.s./OM <sup>1</sup>	Time scale	End point	Toxicity
Earthworms					
<i>Eisenia fetida</i>	Flufenacet	Onto soil surface/10% peat	Chronic	Growth, reproduction, behaviour	NOEC =2.4 mg a.s./kg d.w.soil (0.605 kg a.s./ha) NOEC <sub>corr</sub> =1.2 mg a.s./kg d.w.soil <sup>a</sup>
<i>Eisenia fetida</i>	DFF+FFA SC 600	Mixed into soil/5%	Chronic	Growth, reproduction, behaviour	NOEC=2.6 mg product/kg sdw NOEC <sub>corr</sub> =1.3mg product/kg sdw <sup>a</sup>
<i>Eisenia fetida</i>	FOE oxalate	Mixed into soil/10%	Chronic	Growth, reproduction, behaviour	NOEC ≥100 mg p.m./kg d.w.soil
<i>Eisenia fetida</i>	FOE sulfonic acid-Na salt	Mixed into soil/5%	Chronic	Growth, reproduction, behaviour	NOEC=500 mg p.m./kg d.w.soil

List of end points

Rapporteur Member State	Month and year	Microbial or Viral Agent (Name)			
<i>Eisenia fetida</i>	FOE methylosulfone	Mixed into soil/5%	Chronic	Growth, reproduction, behaviour	NOEC =125 mg p.m./kg d.w.soil
<i>Eisenia fetida</i>	TFA	Mixed into soil/10%	Chronic	Growth, reproduction, behaviour	NOEC=320 mg p.m./kg d.w.soil
<i>Eisenia fetida</i>	FOE 5043 trifluoroethane sulfonic acid	Mixed into soil/5%	Chronic	Growth, reproduction, behaviour	NOEC=100 mg p.m./kg d.w.soil
<i>Eisenia fetida</i>	FOE-Thiadone	Mixed into soil/5%	Chronic	Growth, reproduction, behaviour	NOEC=3.2 mg p.m./kg d.w.soil
Other soil macroorganisms					
<i>Folsomia candida</i>	Flufenacet	Mixed into soil/5%	Chronic	Mortality, reproduction, behaviour	NOEC =63 mg a.s./kg d.w.soil NOEC <sub>corr</sub> =31.5 mg a.s./kg d.w.soil <sup>a</sup>
<i>Folsomia candida</i>	DFF+FFA SC 600	Mixed into soil/10%	Chronic	Mortality, reproduction, behaviour	EC <sub>10</sub> =261 mg product/kg dws EC <sub>20</sub> =NOEC=309 mg product/kg dws NOEC=178 mg product/kg dws NOEC <sub>corr</sub> =89 product/ha <sup>a</sup>
<i>Folsomia candida</i>	FOE oxalate	Mixed into soil/5%	Chronic	Mortality, reproduction, behaviour	NOEC ≥100 mg p.m./kg dws
<i>Folsomia candida</i>	FOE sulfonic acid-Na salt	Mixed into soil/5%	Chronic	Mortality, reproduction, behaviour	NOEC ≥100 mg p.m./kg dws
<i>Folsomia candida</i>	FOE methylosulfone	Mixed into soil/5%	Chronic	Mortality, reproduction, behaviour	NOEC≥100 mg p.m./kg
<i>Folsomia candida</i>	TFA	Mixed into soil/5%	Chronic	Mortality, reproduction, behaviour	NOEC≥100 mg p.m./kg
<i>Folsomia candida</i>	FOE 5043 trifluoroethane sulfonic acid	Mixed into soil/5%	Chronic	Mortality, reproduction, behaviour	NOEC≥100 mg p.m./kg
<i>Folsomia candida</i>	FOE-Thiadone	Mixed into soil/5%	Chronic	Mortality, reproduction, behaviour	NOEC=1.8 mg p.m./kg dws
<i>Hypoaspis aculeifer</i>	Flufenacet	Mixed into soil/5%	Chronic	Mortality, growth, reproduction, behaviour	EC <sub>10</sub> =751.21 mg a.s./kg dws EC <sub>20</sub> = 905.60 mg a.s./kg dws NOEC=562 mg a.s./kg dws NOEC <sub>corr</sub> =281 <sup>a</sup> mg a.s./kg dws
<i>Hypoaspis aculeifer</i>	DFF+FFA SC 600	Mixed into soil LUFA 2.1.	Chronic	Mortality, growth, reproduction, behaviour	NOEC≥65.3 mg prod./kg dws <sup>b</sup>
<i>Hypoaspis aculeifer</i>	FOE oxalate	Mixed into soil/5%	Chronic	Mortality, growth, reproduction, behaviour	NOEC ≥100 mg p.m./kg dws
<i>Hypoaspis aculeifer</i>	FOE sulfonic acid-Na salt	Mixed into soil/5%	Chronic	Mortality, growth, reproduction, behaviour	NOEC ≥100 mg p.m./kg dws
<i>Hypoaspis aculeifer</i>	FOE-methylosulfone	Mixed into soil/5%	Chronic	Mortality, growth, reproduction, behaviour	NOEC=500 mg p.m./kg dws
<i>Hypoaspis aculeifer</i>	TFA	Mixed into soil/5%	Chronic	Mortality, growth, reproduction, behaviour	NOEC≥100 mg p.m./kg dws
<i>Hypoaspis aculeifer</i>	FOE 5043 trifluoroethane sulfonic acid	Mixed into soil/5%	Chronic	Mortality, growth, reproduction, behaviour	NOEC ≥100 mg p.m./kg dws
<i>Hypoaspis aculeifer</i>	FOE-Thiadone	Mixed into soil/5%	Chronic	Mortality, growth, reproduction, behaviour	EC <sub>10</sub> =28 mg p.m./kg dws EC <sub>20</sub> =30 mg p.m./kg dws NOEC=32 mg p.m./kg dws

<sup>a</sup>To indicate whether the test substance was oversprayed/to indicate the organic content of the test soil (e.g. 5 % or 10 %).

<sup>a</sup> Endpoint corrected by a factor of 2

<sup>b</sup> The factor of 2 for the test of natural soil was not considered relevant as the LUFA soils contains only 2% organic matter, which is considered to be more respective of natural soil condition.

## List of end points

Rapporteur Member State	Month and year	Microbial or Viral Agent (Name)
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### Higher tier testing (e.g. modelling or field studies)

Two field studies conducted for earthworm population. The one of these study investigated the influence of solo formulation of flufenacet (Flufenacet 500 SC, 499 g s.a./L) to population of earthworm, while the second study was carried out with mixture of flufenacet and diflufenican (DFF+FFA 600 SC).	
<b>1. Effects of Flufenacet 500 SC on natural earthworm community in grassland in Germany</b>	
The effect of Flufenacet 500 SC (Flufenacet 499.9 g/l) on earthworm populations was investigated in East Germany under field conditions after one spray application on grassland at rate of 1.2 L formulation/ha. Nine weeks after application of Flufenacet SC 500 at rate 1.2 L/ha, a relative reduction of adult & juvenile earthworms -27 % (number, statistically significant) and -13 % (biomass) was observed respectively. For total juvenile category statistical significant relative reduction was -30 % (number) and not statistical significant relative reduction in biomass was (-18%).	
For total adults category not statistical significant relative reduction in number (-13%) and biomass (-10%) was determined.	
Five months after application of Flufenacet SC 500 at rate 1.2 L/ha a relative reduction in the total number of juvenile and adult earthworms was -3 % and no change in the biomass compared to control plots was observed.	
After 11 months after application of Flufenacet 500 SC at rate 1.2 L/ha changes of a relative abundance of adult & juvenile earthworms relative to control was 0% (number) and +6% (biomass).	
Based on the study results it can be concluded that there was no long term adverse effect from application of 1.2 L Flufenacet 500 SC/ha after 5 and 11 months for population of earthworm.	
NOAER from this study was determined to be 1.2 L Flufenacet 500 SC/ha correspond to 0.438 mg flufenacet/kg soil dw.	
However, the results of this study were not used in the risk assessment because the most sensitive species to flufenacet - <i>Octolasion lacteum</i> , identified as such in another field study, was not tested.	
<b>2. Effects of representative formulation DFF+FFA SC 600 on natural earthworm community in Germany.</b>	
A one-year earthworm field study with the representative formulation DFF+FFA SC 600 was conducted in Southern under field conditions after one autumn application of Diflufenican SC 500A on bare soil at a rate of 243.75 g diflufenican/ha (application 1) on followed by once application of DFF+ FFA SC 200+400 G (diflufenican+flufenacet, application 2): at different rates (0.6 L product/ha, 1.2 L product/ha and 1.8 L product/ha.	
Not statistically significant reduction in numbers and in biomass of total earthworms, total juveniles, total adults and single species at any post treatment samplings: 35, 183 and 364 days, after application of DFF+FFA SC 200+400 G at rates of 0.6, 1.2 and 1.8 L/ha, following the plateau application of diflufenican at a rate of 243.77 g a.s/ha.	
However, it should be noted that biological significant effects (19% reduction in numbers and 33% reduction in biomass) could still be observed on the population <i>Octolasion lacteum</i> after 364 d at rates of 1.2. and 1.8 L/ha.	
At rate of 0.6 L/ha biological significant but transient effects for this species were observed.	
<b>Therefore, NOAER of 0.6 L DFF+FFA SC 200+400 G /ha (leading to 0.203 mg flufenacet/kg soil dw) was determined from the study and was used in the risk assessment.</b>	

Nitrogen transformation	Flufenacet	28 d	no effect >25% at 0.83 mg a.s./kg d.w.soil (0.62 kg a.s./ha) and 4.13 mg a.s./kgdws (3.10 kg a.s./ha)
Nitrogen transformation	DFF+FFA SC 600	28 d	no effect >25% at 0.983 mg product/kg d.w.soil (0.6 L product/ha) and 4.916 mg product/kg d.w.soil (3 L product/ha)
Nitrogen transformation	FOE oxalate	28 d	no effect >25% at 2.48 mg p.m./kg d.w.soil (1.86 kg p.m. /ha)
Nitrogen transformation	FOE sulfonic acid-Na salt	28 d	no effect >25% at 3.27 mg p.m./kg d.w.soil (2.455 kg p.m./ha)
Nitrogen transformation	FOE methylsulfone	28 d	No effect >25% at 0.60 mg p.m./kg d.w.soil (0.451 kg p.m./ha) and at 6.01 mg p.m./kg dws (4.51 kg p.m./ha)
Nitrogen transformation	TFA	28 d	No effect >25% at 0.32 mg p.m./kg d.w.soil (0.24 kg p.m./ha) and at 1.60 mg p.m./kg dws (1.2 kg p.m./ha).
Nitrogen transformation	FOE 5043 Trifluoroethane sulfonic acid	28 d	No effect >25% at 0.164 mg p.m./kg d.w.soil (0.123 kg p.m./ha) and at 0.820 mg p.m./kg dws (0.615 kg p.m./ha)
Nitrogen transformation	FOE-Thiadone	28 d	No effect >25% at 0.149 mg p.m./kg d.w.soil (0.112 kg p.m./ha) and at 0.749 mg p.m./kg dws (0.562 kg p.m./ha)

### Toxicity/exposure ratios for soil organisms

#### Cereals 120 g a.s./ha x 1

Test organism	Test substance	Time scale	Soil PEC <sup>1</sup>	TER	Trigger
Earthworms					
Eisenia fetida	DFF+FFA SC 600	Chronic	0.500	<b>2.60</b>	5
Eisenia fetida	Flufenacet (DFF+FFA SC 600)	One year field study	0.160	1.26	1
Eisenia fetida	FOE oxalate	Chronic	0.0093	10752.68	5
Eisenia fetida	FOE sulfonic acid-Na salt	Chronic	0.0287*	17421.60	5

## List of end points

Rapporteur Member State	Month and year	Microbial or Viral Agent (Name)			
Eisenia fetida	FOE methylosulfone	Chronic	0.0075*	16666.66	5
Eisenia fetida	TFA	Chronic	0.3092*	1034.92	5
Eisenia fetida	FOE 5043 trifluoroethane sulfonic acid	Chronic	0.0080	12500	5
Eisenia fetida	FOE-Thiadone	Chronic	0.0118	271.18	5
Other soil macroorganisms					
Folsomia candida	Flufenacet	Chronic	0.160	196.87	5
Folsomia candida	DFF+FFA SC 600	Chronic	0.500	178.0	5
Folsomia candida	FOE oxalate	Chronic	0.0093	10752.68	5
Folsomia candida	FOE sulfonic acid-Na salt	Chronic	0.0287*	3484.32	5
Folsomia candida	FOE methylosulfone	Chronic	0.0075*	13333.33	5
Folsomia candida	TFA	Chronic	0.3092*	323.41	5
Folsomia candida	FOE 5043 trifluoroethane sulfonic acid	Chronic	0.0080	12500	5
Folsomia candida	FOE-Thiadone	Chronic	0.0118	152.54	5
Hypoaspis aculeifer	Flufenacet	Chronic	0.160	1756.25	5
Hypoaspis aculeifer	DFF+FFA SC 600	Chronic	0.500	130.60	5
Hypoaspis aculeifer	FOE oxalate	Chronic	0.0093	10752.68	5
Hypoaspis aculeifer	FOE sulfonic acid-Na salt	Chronic	0.0287*	3484.32	5
Hypoaspis aculeifer	FOE methylosulfone	Chronic	0.0075*	66666.66	5
Hypoaspis aculeifer	TFA	Chronic	0.3092*	323.41	5
Hypoaspis aculeifer	FOE 5043 trifluoroethane sulfonic acid	Chronic	0.0080	12500	5
Hypoaspis aculeifer	FOE-Thiadone	Chronic	0.0118	237.28	5

\*Indicate which PEC soil was used (e.g. plateau PEC)

\*Accumulated PECsoil

## Cereals 160 g a.s./ha x 1

Test organism	Test substance	Time scale	Soil PEC <sup>1</sup>	TER	Trigger
Earthworms					
Eisenia fetida	DFF+FFA SC 600	Chronic	0.667	1.94	5
Eisenia fetida	Flufenacet (DFF+FFA SC 600)	One year field study	0.2133	0.95	1
Eisenia fetida	FOE oxalate	Chronic	0.0124	8064.51	5
Eisenia fetida	FOE sulfonic acid-Na salt	Chronic	0.0383*	13054.83	5
Eisenia fetida	FOE methylosulfone	Chronic	0.010*	12500	5
Eisenia fetida	TFA	Chronic	0.4122*	776.32	5
Eisenia fetida	FOE 5043 trifluoroethane sulfonic acid	Chronic	0.0107	9345.79	5
Eisenia fetida	FOE-Thiadone	Chronic	0.0157	203.82	5
Other soil macroorganisms					
Folsomia candida	Flufenacet	Chronic	0.2133	147.67	5
Folsomia candida	DFF+FFA SC 600	Chronic	0.667	133.43	5
Folsomia candida	FOE oxalate	Chronic	0.0124	8064.51	5
Folsomia candida	FOE sulfonic acid-Na salt	Chronic	0.0383*	2610.96	5
Folsomia candida	FOE methylosulfone	Chronic	0.010*	10 000	5
Folsomia candida	TFA	Chronic	0.4122*	242.60	5
Folsomia candida	FOE 5043 trifluoroethane sulfonic acid	Chronic	0.0107	9345.79	5
Folsomia candida	FOE-Thiadone	Chronic	0.0157	114.65	5
Hypoaspis aculeifer	Flufenacet	Chronic	0.2133	1317.39	5
Hypoaspis aculeifer	DFF+FFA SC 600	Chronic	0.667	97.90	5
Hypoaspis aculeifer	FOE oxalate	Chronic	0.0124	8064.51	5

# List of end points

Rapporteur Member State	Month and year	Microbial or Viral Agent (Name)
Hypoaspis aculeifer	FOE sulfonic acid-Na salt	Chronic
Hypoaspis aculeifer	FOE methylosulfone	Chronic
Hypoaspis aculeifer	TFA	Chronic
Hypoaspis aculeifer	FOE trifluoroethane sulfonic acid	Chronic
Hypoaspis aculeifer	FOE-Thiadone	Chronic

<sup>1</sup>Indicate which PEC soil was used (e.g. plateau PEC)

\*Accumulated PECsoil

## Cereals 240 g a.s./ha x 1

Test organism	Test substance	Time scale	Soil PEC <sup>1</sup>	TER	Trigger
Earthworms					
Eisenia fetida	DFF+FFA SC 600	Chronic	1.000	1.3	5
Eisenia fetida	Flufenacet (DFF+FFA SC 600)	One year field study	0.320	0.63	1
Eisenia fetida	FOE oxalate	Chronic	0.0186	5376.34	5
Eisenia fetida	FOE sulfonic acid-Na salt	Chronic	0.0574*	8710.80	5
Eisenia fetida	FOE methylosulfone	Chronic	0.0150*	8333.33	5
Eisenia fetida	TFA	Chronic	0.6184*	517.46	5
Eisenia fetida	FOE trifluoroethane sulfonic acid	Chronic	0.0160	6250	5
Eisenia fetida	FOE-Thiadone	Chronic	0.0236	135.59	5
Other soil macroorganisms					
Folsomia candida	Flufenacet	Chronic	0.320	98.43	5
Folsomia candida	DFF+FFA SC 600	Chronic	1.000	89	5
Folsomia candida	FOE oxalate	Chronic	0.0186	5376.34	5
Folsomia candida	FOE sulfonic acid-Na salt	Chronic	0.0574*	1742.16	5
Folsomia candida	FOE methylosulfone	Chronic	0.0150*	6666.66	5
Folsomia candida	TFA	Chronic	0.6184*	161.70	5
Folsomia candida	FOE trifluoroethane sulfonic acid	Chronic	0.0160	6250	5
Folsomia candida	FOE-Thiadone	Chronic	0.0236	76.27	5
Hypoaspis aculeifer	Flufenacet	Chronic	0.320	878.12	5
Hypoaspis aculeifer	DFF+FFA SC 600	Chronic	1.000	65.30	5
Hypoaspis aculeifer	FOE oxalate	Chronic	0.0186	5376.34	5
Hypoaspis aculeifer	FOE sulfonic acid-Na salt	Chronic	0.0574*	1742.16	5
Hypoaspis aculeifer	FOE methylosulfone	Chronic	0.0150*	33333.33	5
Hypoaspis aculeifer	TFA	Chronic	0.6184*	161.70	5
Hypoaspis aculeifer	FOE trifluoroethane sulfonic acid	Chronic	0.0160	6250	5
Hypoaspis aculeifer	FOE-Thiadone	Chronic	0.0236	1186.44	5

<sup>1</sup>Indicate which PEC soil was used (e.g. plateau PEC)

\*Accumulated PECsoil

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

Screening data

Not required for herbicides or plant growth regulators as ER<sub>50</sub> tests should be provided

List of end points

Rapporteur Member State                      Month and year                      Microbial or Viral Agent (Name)

**Laboratory dose response tests, cereals 0.3 L DFF+FFA 600 SC/ha, (180 g of sum active substances)\***

Species	Test substance	ER <sub>50</sub> (g of sum a.s./ha) vegetative vigour	ER <sub>50</sub> (g of a.s./ha) emergence seedling	Exposure <sup>1</sup> (g of total active substance/ha)	TER	Trigger
Cucumis sativa The most sensitive of 6 species tested in vegetative vigour test	DFF+FFA SC 600	27.75	100	4.986 (1m)	5.56	5
Brassica napus The most sensitive of 6 species in seedling emergence test						

Extended laboratory studies :-

Semi-field and field test:-

<sup>1</sup> based on a drift value of 2.77% (1 m)

\*the application rate corresponding to 120 g flufenacet/ha and 60 g diflufenican/ha

Bold value used to TER calculation

**Laboratory dose response tests cereals, 0.4 L DFF+FFA 600 SC /ha (240 g of sum active substances)\***

Species	Test substance	ER <sub>50</sub> (g of sum a.s./ha) vegetative vigour	ER <sub>50</sub> (g of a.s./ha) emergence seedling	Exposure <sup>1</sup> (g of total active substance/ha)	TER	Trigger
Cucumis sativa The most sensitive of 6 species tested in vegetative vigour test	DFF+FFA SC 600	27.75	100	6.648 (1 m)	4.17 20.28	5
Brassica napus The most sensitive of 6 species in seedling emergence test				1.368 (5 m)		

Extended laboratory studies :-

Semi-field and field test:-

<sup>1</sup> Based on a drift value of 2.77% (1 m) and 0.57% (5 m)

\*The application rate corresponding to 160 g flufenacet/ha and 80 g diflufenican/ha

Bold value used to TER calculation

**Laboratory dose response tests cereals, 0.6 L DFF+FFA/ha (360 g of sum active substances)\***

Species	Test substance	ER <sub>50</sub> (g of sum a.s./ha) vegetative vigour	ER <sub>50</sub> (g of a.s./ha) emergence seedling	Exposure <sup>1</sup> (g of total active substance/ha)	TER	Trigger
Cucumis sativa The most sensitive of 6 species tested in vegetative vigour test	DFF+FFA SC 600	27.75	100	9.972 (1 m)	2.78 13.52	5
Brassica napus The most sensitive of 6 species in seedling emergence test				2.052 (5 m)		

Extended laboratory studies :-

Semi-field and field test:-

<sup>1</sup> Based on a drift value of 2.77% (1 m) and 0.57% (5 m)

\*The application rate corresponding to 160 g flufenacet/ha and 80 g diflufenican/ha

Bold value used to TER calculation



List of end points

Rapporteur Member State                      Month and year                      Microbial or Viral Agent (Name)

**Laboratory dose response tests cereals, Flufenacet 500 SC (120 g Flufenacet/ha)**

Species	Test substance	HCS (g a.s./ha) <sup>1</sup> vegetative vigour	HCS (g a.s./ha) <sup>1</sup> (g a.s./ha) emergence seedling	Exposure <sup>1</sup> (g of a.s./ha)	TER	Trigger
Lolium perene The most sensitive of 10 species tested in vegetative vigour test  Sorghum bicolor The most sensitive of 10 species tested in seedling emergence test	Flufenacet 500 SC	19.1	<b>8.34</b>	3.324 (1m)	2.57	1

Extended laboratory studies :

Semi-field and field test:

<sup>1</sup> Based on a drift value of 2.77% (1 m)  
Bold value used to TER calculation

**Laboratory dose response tests cereals, Flufenacet 500 SC, (160 g Flufenacet/ha)**

Species	Test substance	HCS (g a.s./ha) <sup>1</sup> vegetative vigour	HCS (g a.s./ha) <sup>1</sup> (g a.s./ha) emergence seedling	Exposure <sup>1</sup> (g of a.s./ha)	TER	Trigger
Lolium perene The most sensitive of 10 species tested in vegetative vigour test  Sorghum bicolor The most sensitive of 10 species tested in seedling emergence test	Flufenacet 500 SC	19.1	<b>8.34</b>	4.432 (1m)	1.88	1

Extended laboratory studies :

Semi-field and field test:

<sup>1</sup> Based on a drift value of 2.77% (1 m)  
Bold value used to TER calculation

**Laboratory dose response tests, Flufenacet 500 SC, (240 g Flufenacet/ha)**

Species	Test substance	HCS (g a.s./ha) <sup>1</sup> vegetative vigour	HCS (g a.s./ha) <sup>1</sup> (g a.s./ha) emergence seedling	Exposure <sup>1</sup> (g of a.s./ha)	TER	Trigger
Lolium perene The most sensitive of 10 species tested in vegetative vigour test  Sorghum bicolor The most sensitive of 10 species tested in seedling emergence test	Flufenacet* 500 SC	19.1	<b>8.34</b>	6.648 (1m)	1.25	1

Extended laboratory studies :

Semi-field and field test:

<sup>1</sup> Based on a drift value of 2.77% (1 m)  
Bold value used to TER calculation

List of end points

Rapporteur Member State	Month and year	Microbial or Viral Agent (Name)
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**Effects on biological methods for sewage treatment (Regulation (EU) N° 283/2013, Annex Part A, point 8.8)**

Test type/organism	end point
Activated sludge	3 h EC <sub>50</sub> > 10 000 mg a.s./L
<i>Pseudomonas sp</i>	Not required

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

Available monitoring data concerning adverse effect of the a.s.

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Available monitoring data concerning effect of the PPP.

-

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

Compartment	Flufenacet
soil	Flufenacet TFA <sup>a</sup> , FOE-Thiadone <sup>b</sup>
water	Flufenacet
sediment	Flufenacet
groundwater	Flufenacet

<sup>1</sup> metabolites are considered relevant when, based on the risk assessment, they pose a risk comparable or higher than the parent

<sup>a</sup> Based on the risk assessment for Hypoaspis aculeifer (1x240 ga.s./ha)

<sup>b</sup> Based on the risk assessment for Folsomia candida (1 x240 g a.s./ha)

# List of end points

Rapporteur Member State	Month and year	Microbial or Viral Agent (Name)
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## Classification and labelling with regard to ecotoxicological data (Regulation (EU) N° 283/2013, Annex Part A, Section 10)

Substance	Flufenacet
Harmonised classification according to Regulation (EC) No 1272/2008 and its Adaptations to Technical Process [Table 3.1 of Annex VI of Regulation (EC) No 1272/2008 as amended] <sup>6</sup> :	Aquatic Acute 1: H400 Aquatic Chronic 1: H410
Peer review proposal <sup>7</sup> for harmonised classification according to Regulation (EC) No 1272/2008:	Aquatic Acute 1: H400 Aquatic Chronic 1: H410 M-factor Acute: 100 M-factor Chronic: 100  Endpoints: 0.00315 mg/L [E.C <sub>50</sub> , <i>Pseudokirchneriella subcapitata</i> ] 0.000138 mg/L [NOEC, <i>Pseudokirchneriella subcapitata</i> ]

<sup>6</sup> Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. OJ L 353, 31.12.2008, 1-1355.

<sup>7</sup> It should be noted that harmonised classification and labelling is formally proposed and decided in accordance with Regulation (EC) No 1272/2008. Proposals for classification made in the context of the evaluation procedure under Regulation (EC) No 1107/2009 are not formal proposals.