List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

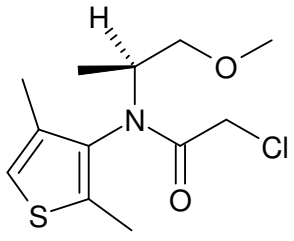
Section 1 Identity, Physical and Chemical Properties, Details of Uses, Further Information, Methods of Analysis

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)	Dimethenamid-P
Function (*e.g.* fungicide)	Herbicide

Rapporteur Member State	Germany
Co-rapporteur Member State	Bulgaria

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

Chemical name (IUPAC)	S-2-Chloro-N-(2,4-dimethyl-3-thienyl)-N-(2-methoxy-1-methylethyl)-acetamide
Chemical name (CA)	2-Chloro-N-(2,4-dimethyl-3-thienyl)-N-[(1S)-2-methoxy-1-methylethyl]-acetamide
CIPAC No	638
CAS No	163515-14-8
EC No (EINECS or ELINCS)	–
FAO Specification (including year of publication)	–
Minimum purity of the active substance as manufactured	930 g/kg
Identity of relevant impurities (of toxicological, ecotoxicological and/or environmental concern) in the active substance as manufactured	1,1,1,2-Tetrachloroethane: < 1.0 g/kg 2,4-Dimethylthiophene-3-ol: ≤ 1.5 g/kg
Molecular formula	$C_{12}H_{18}ClNO_2S$
Molar mass	275.8 g/mol
Structural formula	

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Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

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

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

Melting point (state purity)	Solidification point below –50 °C (99.4 %)
Boiling point (state purity)	No boiling point detected until 280 °C (99.4 %)
Temperature of decomposition (state purity)	101 °C (slow decomposition) (94.0 %)
Appearance (state purity)	colour: clear yellow brown (at room temperature) physical state: liquid odour: faint aromatic (99.4 %)
Vapour pressure (state temperature, state purity)	3.47 x 10^{-3} Pa at 20 °C (98.6 %) 2.51 x 10^{-3} Pa at 25 °C (98.6 %)
Henry's law constant	4.8 x 10^{-4} Pa m^3 mol^{-1} (25 °C)
Solubility in water (state temperature, state purity and pH)	1499 mg/L at 25 °C (pH 6.16) (98.6 %) There is no dissociation in water therefore pH dependence on solubility is not applicable
Solubility in organic solvents (state temperature, state purity)	*n*-Heptane 310 – 330 (all in g/L at 20 °C) *n*-Hexane 310 – 330 (96.4 %) Toluene > 1000 Dichloromethane > 1000 Methanol > 1000 Acetone > 1000 Ethyl acetate > 1000 Acetonitrile > 1000
Surface tension (state concentration and temperature, state purity)	52.0 mN/m (0.1 % (w/w), 20 °C) 50.7 mN/m (0.5 % (w/w), 20 °C) (99.4 %)
Partition coefficient (state temperature, pH and purity)	log P_{OW} = 1.89 at 25 °C (94.45 %) Effect of pH was not investigated since there is no dissociation in water.
Dissociation constant (state purity)	UV spectrophotometric investigation gave no indication of dissociation of dimethenamid taking place between pH of 1 and 11 at 25 °C (98.0 %)
UV/VIS absorption (max.) incl. ε (state purity, pH)	λ_{max} = 236 nm; ε = 7560 L mol^{-1} cm^{-1} (99.4 %)
Flammability (state purity)	Not required. TAS is a liquid and does not evolve highly flammable gases.
Explosive properties (state purity)	The result of the explosive impact test indicated that technical dimethenamid is not an impact explosive sensitive compound. (96.73 %)
Oxidising properties (state purity)	not oxidising

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List of representative uses evaluated - BAS 656 12 H

GAP rev. 3, date: 2015-02-18

PPP (product name/code): **BAS 656 12 H** **Formulation type:** **SE**
Active substance: DMTA-P **Conc. of as 1:** **720 g/L**

Applicant: **BASF** **Professional use:** ☒
Zone(s): **EU** **Non-professional use:** ☐

Verified by MS: **yes**

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** (**crop destination / purpose of crop**)	**F G or I**	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**			**Application rate**			**PHI** (days)	**Remarks:** e.g. safener/synergist per ha; e.g. recommended or mandatory tank mixtures
					Method / Kind	Timing / Growth stage of crop & season	Max. number (min. interval between applications) a) per use b) per crop/ season	kg, L product / ha a) max. rate per appl. b) max. total rate per crop/season	g as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
1	EU	Maize - ZEAMX	F	Annual monocotyledonous and dicotyledonous weeds	Spraying	BBCH 00-09	a) 1 b) 1	a) 1.2 b) 1.2	a) 864 b) 864	100-400	F	Range 0.8-1.2 L/ha possible not safe - risk assessment for non-target terrestrial plants not finalised
2	EU	Maize - ZEAMX	F	Annual monocotyledonous and dicotyledonous weeds	Spraying	BBCH 10-16	a) 1 b) 1	a) 1.2 b) 1.2	a) 864 b) 864	100-400	F	Range 0.8-1.2 L/ha possible not safe - risk to mammals, risk assessment for non-target terrestrial plants not finalised
3	EU	Sugar Maize - ZEAMS	F	Annual monocotyledonous and dicotyledonous weeds	Spraying	BBCH 00-09	a) 1 b) 1	a) 1.2 b) 1.2	a) 864 b) 864	100-400	F	Range 0.8-1.2 L/ha possible not safe - risk assessment for non-target terrestrial plants not finalised
4	EU	Sugar Maize - ZEAMS	F	Annual monocotyledonous and dicotyledonous weeds	Spraying	BBCH 10-16	a) 1 b) 1	a) 1.2 b) 1.2	a) 864 b) 864	100-400	F	Range 0.8-1.2 L/ha possible not safe - risk to mammals, risk assessment for non-target terrestrial plants not finalised

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

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Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**			**Application rate**			**PHI** (days)	**Remarks:** e.g. safener/synergist per ha e.g. recommended or mandatory tank mixtures
					Method / Kind	Timing / Growth stage of crop & season	Max. number (min. interval between applications) a) per use b) per crop/ season	kg, L product / ha a) max. rate per appl. b) max. total rate per crop/season	g as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
5	EU	Soybean - GLXMA	F	Annual monocotyledonous and dicotyledonous weeds	Spraying	BBCH 00-09	a) 1 b) 1	a) 1.2 b) 1.2	a) 864 b) 864	100-400	F	Range 0.8-1.2 L/ha possible not safe - risk assessment for non-target terrestrial plants not finalised
6	EU	Sunflower - HELAN	F	Annual monocotyledonous and dicotyledonous weeds	Spraying	BBCH 00-09	a) 1 b) 1	a) 1.2 b) 1.2	a) 864 b) 864	100-400	F	Range 0.8-1.2 L/ha possible not safe - risk assessment for non-target terrestrial plants not finalised
7	EU	Sugar Beet - BEAVA	F	Annual monocotyledonous and dicotyledonous weeds	Spraying	BBCH 00-09	a) 1 b) 1	a) 1.2 b) 1.2	a) 864 b) 864	100-400	F	Range 0.8-1.2 L/ha possible not safe - risk assessment for non-target terrestrial plants not finalised
8	EU	Sugar Beet - BEAVA	F	Annual monocotyledonous and dicotyledonous weeds	Spraying	BBCH 16-18	a) 1 b) 1	a) 1.0 b) 1.0	a) 720 b) 720	100-400	F	Range 0.9-1.0 L/ha possible not safe - risk assessment for non-target terrestrial plants not finalised
9	EU	Sugar Beet - BEAVA	F	Annual monocotyledonous and dicotyledonous weeds	Spraying	BBCH 12-18	a) 2 (5-10d) b) 2	a1) 0.6 a2) 0.7 b) 1	a1) 432 a2) 504 b) 720	100-400	F	Max rate 1 L product/year Splitting: 2 applications BBCH 12 – BBCH 15: 0.3-0.6 L product/ha From BBCH 16: 0.3-0.7 L product/ha not safe - risk assessment for non-target terrestrial plants not finalised
10	EU	Sugar Beet - BEAVA	F	Annual monocotyledonous and dicotyledonous weeds	Spraying	BBCH 12-18	a) 3 (5-10d) b) 3	a1) 0.4 a2) 0.4 a3) 0.4 b) 1	a1) 288 a2) 288 a3) 288 b) 720	100-400	F	Max rate 1 L product/year Splitting: 3 applications 0.3-0.4 L product/ha not safe - risk assessment for non-target terrestrial plants not finalised

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Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

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

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**			**Application rate**			**PHI** (days)	**Remarks:** e.g. safener/synergist per ha e.g. recommended or mandatory tank mixtures
					Method / Kind	Timing / Growth stage of crop & season	Max. number (min. interval between applications) a) per use b) per crop/ season	kg, L product / ha a) max. rate per appl. b) max. total rate per crop/season	g as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		

Remarks:
(1) Numeration of uses in accordance with the application/as verified by MS
(2) Member State(s) or zone for which use is applied for
(3) For crops, the EU and Codex classifications (both) should be used; where relevant, the use situation should be described (*e.g.* fumigation of a structure)
(4) Outdoor or field use (F), glasshouse application (G) or indoor application (I)
(5) e.g. biting and suckling insects, soil born insects, foliar fungi, weeds, developmental stages
(6) Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench
Kind, e.g. overall, broadcast, aerial spraying, row, individual plant, between the plants - type of equipment used must be indicated
(7) Growth stage of treatment(s) (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including where relevant, information on season at time of application
(8) The maximum number of applications possible under practical conditions of use for each single application and per year (permanent crops) or crop (annual crops) must be provided
(8) Min. interval between applications (days) were relevant
(10) The application rate of the product a) max. rate per appl. and b) max. total rate per crop/season must be given in metric units (e.g. kg or L product / ha)
(11) The application rate of the active substance a) max. rate per appl. and b) max. total rate per crop/season must be given in metric units (e.g. g or kg / ha)
(12) The range (min/max) of water volume under practical conditions of use must be given (L/ha)
(13) PHI - minimum pre-harvest interval
(14) Remarks may include: Extent of use/economic importance/restrictions/minor use etc.

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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

List of representative uses evaluated - BAS 830 01 H

PPP (product name/code): **BAS 830 01 H**
Active substance 1: DMTA-P
Active substance 2: **Quinmerac**
Formulation type: **SE**
Conc. of as 1: **333 g/L**
Conc. of as 2: **167 g/L**

Applicant: **BASF**
Zone(s): **EU**
Professional use: ☒
Non-professional use: ☐

Verified by MS: yes

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**			**Application rate**			**PHI** (days)	**Remarks:**
					Method / Kind	Timing / Growth stage of crop & season	Max. number (min. interval between applications) a) per use b) per crop/ season	kg, L product / ha a) max. rate per appl. b) max. total rate per crop/season	g as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		e.g. safener/synergist per ha e.g. recommended or mandatory tank mixtures
1	EU	Winter Oilseed Rape - BRSNW	F	Annual monocotyledonous and dicotyledonous weeds	Spraying SP	BBCH 00-09	1	a) 1.5 b) 1.5	a) 500 [1] 250 [2] b) 500 [1] 250 [2]	100-400	F	Range 0.8-1.5 L/ha possible
2	EU	Winter Oilseed Rape - BRSNW	F	Annual monocotyledonous and dicotyledonous weeds	Spraying SP	BBCH 10-18	1	a) 1.5 b) 1.5	a) 500 [1] 250 [2] b) 500 [1] 250 [2]	100-400	F	Range 0.8-1.5 L/ha possible

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

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**			**Application rate**			**PHI** (days)	**Remarks:** e.g. safener/synergist per ha e.g. recommended or mandatory tank mixtures
					Method / Kind	Timing / Growth stage of crop & season	Max. number (min. interval between applications) a) per use b) per crop/ season	kg, L product / ha a) max. rate per appl. b) max. total rate per crop/season	g as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		

Remarks:
(1) Numeration of uses in accordance with the application/as verified by MS
(2) Member State(s) or zone for which use is applied for
(3) For crops, the EU and Codex classifications (both) should be used; where relevant, the use situation should be described (*e.g.* fumigation of a structure)
(4) Outdoor or field use (F), glasshouse application (G) or indoor application (I)
(5) e.g. biting and suckling insects, soil born insects, foliar fungi, weeds, developmental stages
(6) Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench
Kind, e.g. overall, broadcast, aerial spraying, row, individual plant, between the plants - type of equipment used must be indicated
(7) Growth stage of treatment(s) (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including where relevant, information on season at time of application
(8) The maximum number of applications possible under practical conditions of use for each single application and per year (permanent crops) or crop (annual crops) must be provided
(8) Min. interval between applications (days) were relevant
(10) The application rate of the product a) max. rate per appl. and b) max. total rate per crop/season must be given in metric units (e.g. kg or L product / ha)
(11) The application rate of the active substance a) max. rate per appl. and b) max. total rate per crop/season must be given in metric units (e.g. g or kg / ha)
(12) The range (min/max) of water volume under practical conditions of use must be given (L/ha)
(13) PHI - minimum pre-harvest interval
(14) Remarks may include: Extent of use/economic importance/restrictions/minor use etc.

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

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

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

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
MRL Application (according to Article 8.1(g) of Regulation (EC) No 1107/2009)															
Tree nuts	DE,AT	Spectrum	F	Annual grasses & Dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 00-55	1	N/A	0.864-0.216	100-400	0.864	F	From 1st year after planting, apply between rows with screen (PRNDA, PRNDU, CSNSS, CYLAV, CYLMA, IUGRE – almonds, chestnut, hazelnut, lambert nut, walnut)
Pome fruit	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 00-76	1	N/A	0.864-0.216	100-400	0.864	F	apply under trees (MABSD, PYUCO, CYDOB, ABOME, EIOJA, MSPGE – Apple, Pear, Quince, Black chokeberry, Loquat, Medlar)
Pome fruit	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 91-97	1	N/A	0.864-0.216	100-400	0.864	F	apply under trees (MABSD, PYUCO, CYDOB, ABOME, EIOJA, MSPGE – Apple, Pear, Quince, Black chokeberry, Loquat, Medlar)

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Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Stone fruit	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 00-76	1	N/A	0.864-0.216	100-400	0.864	F	apply under trees (PRNAR, PRNAV, PRNCE, PRNPS, PRNPN, PRNDD, PRNDI, PRNDS – apricots, peaches, cherries, plums and others)
Stone fruit	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 91-97	1	N/A	0.864-0.216	100-400	0.864	F	apply under trees (PRNAR, PRNAV, PRNCE, PRNPS, PRNPN, PRNDD, PRNDI, PRNDS – apricots, peaches, cherries, plums and others)
Sugar beet, fodder beet, red beet	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 00-09	1	N/A	0.864-0.216	100-400	0.864	F	Range 0.8-1.2 L/ha possible
Sugar beet, fodder beet red beet	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 12-18	3 (5)	N/A	0.720-0.180	100-400	0.720	F	max of 720 g as/ha, season can be applied with max 3 times in split applications
Carrot, horse radish, turnip, swede	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 12-16	1	N/A	0.504-0.126	100-400	0.504	F	
Swedes	DE,PL,BE,N	Spring-	F	Weeds	EC	200 g/L	Spraying	BBCH 00-	1	N/A	0.500-	100-500	0.500	F	Pre emergence,

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

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
and turnip	L	bok		(general)			SP	09			0.100				intended minor use "F" = PHI is covered by the time period remaining between application and harvest
Spring, Welsh onions & similar	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 12-14	1	N/A	0.864-0.216	100-400	0.864	F	1.2 L/ha in pre-EM Or 0.4 L/ha in pre-EM + 2+ 0.4 L/ha in pot-EM
Pumpkin hybr., cucumber, zucchini, patisson, melon (edible and inedible peel)	DE, AT, BE, BG, HR; CZ, FR,	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 12-16	1	N/A	0.850-0.212	100-400	0.864	F	
Oil pumpkin	DE, AT	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	Pre-planting	1	N/A	0.864-0.216	100-400	0.864	F	
Oil pumpkin	DE, AT	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 00-09	1	N/A	0.864-0.216	100-400	0.864	F	
Sweetcorn	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU,	Spectrum	F	Annual monocotyle-donous and dicotyledo-	EC	720 g/L	Spraying SP	BBCH 00-09	1	N/A	0.864-0.216	100-400	0.864	F	Range 0.8-1.2 l/ha possible

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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

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
	NL, PT, RO, SI, ES			nous weeds											
Sweetcorn	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 10-16	1	N/A	0.864-0.216	100-400	0.864	F	Range 0.8-1.2 l/ha possible
Flowering brassica, (Cauliflower, Broccoli) transplanted	DE, AT, BE, CZ, EE, FR, GR, HU, IT, LV, LT, LU, PL, ES, UK	Spring-bok	F	Weeds (general)	EC	200 g/L	Spraying SP	BBCH 10-18	1	N/A	0.500-0.060	100-500	0.300-0.500	F	Post transplanting, not earlier than 5-7 days after transplanting
Flowering brassica	DE, AT, BE, CZ, EE, FR, GR, HU, IT, LV, LT, LU, PL, ES, UK	Spring-bok	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 12-16	1	N/A	0.720-0.180	100-400	0.720	35	seeded crop and planted crop, after taking roots
Brussels sprouts	DE, AT, BE, BG, HR; CZ, FR,	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 12-16	1	N/A	0.720-0.180	100-400	0.720	90	seeded crop and planted crop, after taking roots
Head cabbage (White, Red, Savoy, Spring cabbage) transplanted	DE, AT, BE, CZ, EE, FR, GR, HU, IT, LV, LT, LU, PL, ES, UK	Spring-bok	F	Weeds (general)	EC	200 g/L	Spraying SP	BBCH 10-18	1	N/A	0.500-0.060	100-500	0.300-0.500	F	Post transplanting, not earlier than 5-7 days after transplanting
Head cabbage	DE, AT, BE, CZ, EE, FR,	Spring-bok	F	Weeds (general)	EC	200 g/L	Spraying SP	After BBCH 14	1	N/A	0.300-0.060	100-500	0.300	N/A	Post transplanting, not earlier than 5-7 days

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Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
(White, Red, Savoy, Spring cabbage) transplanted	GR, HU, IT, LV, LT, LU, PL, ES, UK														after transplanting Intended minor use
Head cabbage (White, Red, Savoy, Spring cabbage) (seed plant) direct drilled	DE, AT, BE, CZ, EE, FR, GR, HU, IT, LV, LT, LU, PL, ES, UK	Spring-bok	F	Weeds (general)	EC	200 g/L	Spraying SP	BBCH 10-18	1	N/A	0.300-0.060	100-500	0.300	N/A	Post emergence direct drilled Intended minor use
Head cabbage (white, red, pointed head, savoy)	DE, AT, BE, CZ, EE, FR, GR, HU, IT, LV, LT, LU, PL, ES, UK	Spring-bok	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 12-16	1	N/A	0.850-0.212	100-400	0.720	F	
Leafy brassica transplanted	DE, AT, BE, CZ, EE, FR, GR, HU, IT, LV, LT, LU, PL, ES, UK	Spring-bok	F	Weeds (general)	EC	200 g/L	Spraying SP	BBCH 10-18	1	N/A	0.500-0.060	100-500	0.300-0.500	F	Post transplanting, not earlier than 5-7 days after transplanting
Leafy brassica transplanted	DE, AT, BE, CZ, EE, FR, GR, HU, IT, LV, LT, LU, PL, ES, UK	Spring-bok	F	Weeds (general)	EC	200 g/L	Spraying SP	BBCH 10-18	1	N/A	0.500-0.100	100-500	0.500	F	Post transplanting, not earlier than 5-7 days after transplanting
Leafy	DE, AT, BE,	Spring-	F	Annual	EC	720 g/L	Spraying	BBCH 12-	1	N/A	0.720-	100-400	0.720	60	seeded crop

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					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
brassica	CZ, EE, FR, GR, HU, IT, LV, LT, LU, PL, ES, UK	bok		monocotyle-donous and dicotyledo-nous weeds			SP	16			0.180				
Leafy brassica	DE, AT, BE, CZ, EE, FR, GR, HU, IT, LV, LT, LU, PL, ES, UK	Spring-bok	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 12-16	1	N/A	0.720-0.180	100-400	0.720	60	planted crop, after taking roots
Green beans with pods	DE, AT, BE, BG, CZ, FR, GR, HU, IT, NL, PL, PT, RO, SK, SE, GB	Wing P	F	Annual weeds	EC	212.5 g/L	Spray	BBCH 00-09 (February-April)	1	N/A	0.425-0.213	200-400	0.850	F	
Green beans with pods	DE, AT, BE, BG, CZ, FR, GR, HU, IT, NL, PL, PT, RO, SK, SE, GB	Wing P	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 00-09	1	N/A	0.720-0.180	100-400	0.720	F	
Green beans with pods	DE, AT, BE, BG, CZ, FR, GR, HU, IT, NL, PL, PT, RO, SK, SE, GB	Wing P	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 11-14	1 N/A		0.720-0.180	100-400	0.720	F	
Climbing fresh beans with pods	DE, AT, BE, BG, CZ, FR, GR, HU, IT, NL, PL, PT, RO, SK, SE, GB	Wing P	F	Annual weeds	EC	212.5 g/L	Spray	BBCH 00-09 or BBCH 10-14 (February-May)	1	N/A	0.425-0.213	200-400	0.850	F	
Climbing fresh beans with	DE, AT, BE, BG, CZ, FR, GR, HU, IT,	Wing P	F	Annual monocotyle-donous and	EC	720 g/L	Spraying SP	BBCH 00-09	1	N/A	0.720-0.180	100-400	0.720	F	

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Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
pods	NL, PL, PT, RO, SK, SE, GB			dicotyledo-nous weeds											
Climbing fresh beans with pods)	DE, AT, BE, BG, CZ, FR, GR, HU, IT, NL, PL, PT, RO, SK, SE, GB	Wing P	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 11-14	1	N/A	0.720-0.180	100-400	0.720	F	
Leek transplanted	DE,PL,BE,NL,FR,IT,ES, PT,GR	Spring-bok	F	Weeds (general)	EC	200 g/L	Spraying SP	BBCH 10-18	1	N/A	0.500-0.100	100-500	0.500	F	Post transplanting, not earlier than 5-7 days after transplanting
Leek transplanted	DE,PL,BE,NL,FR,IT,ES, PT,GR	Spring-bok	F	Weeds (general)	EC	200 g/L	Spraying SP	BBCH 10-18	1	N/A	0.500-0.060	100-500	0.300-0.500	F	Post transplanting, not earlier than 5-7 days after transplanting
Leek	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 00-09	1	N/A	0.864-0.216	100-400	0.864	F	1.2 L/ha in pre-EM Or 0.4 L/ha in pre-EM + 2+ 0.4 L/ha in pot-EM
Leek	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 10-18	1	N/A	0.864-0.216	100-400	0.864	F	1.2 L/ha in pre-EM Or 0.4 L/ha in pre-EM + 2+ 0.4 L/ha in pot-EM
Vicia beans (dry)	DE, AT, BE, BG, CZ, FR, GR, HU, IT, NL, PL, PT, RO, SK, SE, GB	Wing P	F	Annual weeds	EC	212.5 g/L	Spray	BBCH 00-09 or BBCH 10-14 (February-May)	1	N/A	0.425-0.213	200-400	0.850	F	
Vicia beans	DE, AT, BE, BG, CZ, FR,	Wing P	F	Annual monocotyle-	EC	720 g/L	Spraying SP	BBCH 00-09	1	N/A	0.720-0.180	100-400	0.720	F	Submitted as minor crop

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Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
(dry)	GR, HU, IT, NL, PL, PT, RO, SK, SE, GB			donous and dicotyledo-nous weeds											
Vicia beans (dry)	DE, AT, BE, BG, CZ, FR, GR, HU, IT, NL, PL, PT, RO, SK, SE, GB	Wing P	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 11-14	1	N/A	0.720-0.180	100-400	0.720	F	Submitted as minor crop
Lupine	DE, AT, BE, BG, CZ, FR, GR, HU, IT, NL, PL, PT, RO, SK, SE, GB	Wing P	F	Annual weeds	EC	212.5 g/L	Spray	BBCH 00-09 (February-March	1	N/A	0.425-0.213	200-400	0.850	F	Minor uses
Sunflower	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 00-09	1	N/A	0.864-0.216	100-400	0.864	F	Range 0.8-1.2 L/ha possible
Winter Oilseed Rape	,DE, AT, FR, UK, CZ, SK, HU, Pl, BG, RO, UA, BY, RU, SE, LT, EE, LV	BAS 830 01	F	Annual broadleaf weeds	SE	333 g/L	Spraying SP	BBCH 10-18	1	N/A	0.500-0.125	100-400	0.500	F	
Winter Oilseed Rape	,DE, AT, FR, UK, CZ, SK, HU, Pl, BG, RO, UA, BY, RU, SE, LT, EE, LV	BAS 830 01	F	Annual broadleaf weeds	SE	333 g/L	Spraying SP	BBCH 00-09	1	N/A	0.500-0.125	100-400	0.500	F	

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					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Oilseed rape	DE, AT, BG, HR; CZ, EE, FR, HU, LV, LT, NL, PL, RO, SI, SK, SE, GB	Spring-bok	F	Weeds (general)	EC	200 g/L	Spraying SP	BBCH 00-09	1	N/A	0.500-0.100	100-500	0.500	F	Post emergence "f" = PHI is covered by the time remaining between application and harvest
Oilseed rape	DE, AT, BG, HR; CZ, EE, FR, HU, LV, LT, NL, PL, RO, SI, SK, SE, GB	Spring-bok	F	Weeds (general)	EC	200 g/L	Spraying SP	BBCH 10-18	1	N/A	0.500-0.100	100-500	0.500	F	Post emergence "f" = PHI is covered by the time remaining between application and harvest
Soybean	CZ, HU, RO, HR, BG, DE, AT	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 00-09	1	N/A	0.864-0.216	100-400	0.864	F	Range 0.8-1.2 L/ha possible
Maize	FR, NL, CZ, HU, RO, BE, BG, DE, AT, GR, IT, PT, ES, SI, HR , SK	Wing P	F	Annual weeds	EC	212.5 g/L	Spray	BBCH 00-09 or BBCH 10-16 (April-May)	1	N/A	0.425-0.213	200-400	0.850	F	
Maize	FR, NL, CZ, HU, RO, BE, BG, DE, AT, GR, IT, PT, ES, SI, HR , SK	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 10-16	1	N/A	0.864-0.216	100-400	0.864	F	Range 0.8-1.2 L/ha possible
Maize	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO,	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 10-16	1	N/A	0.864-0.216	100-400	0.864	F	Range 0.8-1.2 L/ha possible

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Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
	SI, ES														
Millet	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 13-16	1	N/A	0.864-0.216	100-400	0.864	F	
Sorghum	DE, AT, BE, BG, HR; CZ, FR, GR, HU, IT, LU, NL, PT, RO, SI, ES	Spectrum	F	Annual monocotyle-donous and dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 13-16	1	N/A	0.864-0.216	100-400	0.864	F	
Witloof, Chicory root	FR	Spectrum	F	Annual grasses & Dicotyledo-nous weeds	EC	720 g/L	Spraying SP	BBCH 12-18	3 (5-10)	N/A	0.33-1.0	100-400	0.720	90	Split Application 3x0.33 L/ha

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

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Further information, Efficacy

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

Effectiveness of dimethenamid-P is considered sufficient using the max. recommended field rates as outlined in the GAP-tables.

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

Dimethenamid-P is selective in all tested maize, sunflower, soybean, sugarbeet varieties. Based on the long term experiences the risk of phytotoxicity is considered as acceptable.

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

Highly sensitive plants such as lettuce may be affected in pre-emergence applications up to a maximum distance of 5 m from the treated field, if no drift reducing application technique is used. However, dimethenamid-P can be considered as sufficiently safe for adjacent crops.

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

Activity against target organism	M656 PH 023	M656 PH 030	M656 PH 031	M656 PH 032	M656 PH 043	M656 PH 045
	Not final-ised	*Not final-ised*	*Not final-ised*	*Not final-ised*	*Not final-ised*	*Not final-ised*

Activity against target organism	M656 PH 047	M656 PH 054	M656 H 055	M656 PH 027 Na salt	M656 PH 062 ethyl-ester	
	Not final-ised	*Not final-ised*	*Not final-ised*	*Not final-ised*	*Not final-ised*	

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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 a.s. (analytical technique)	HPLC-UV
Impurities in technical a.s. (analytical technique)	GC-FID
Plant protection product (analytical technique)	HPLC-UV

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

Residue definitions for monitoring purposes

Food of plant origin		Residue definition: Sum of stereoisomers of dimethenamid + metabolite M30, expressed as dimethenamid-P
Food of animal origin		Not required for representative uses
Soil		Sum of stereoisomers of dimethenamid
Sediment		Not required
Water	surface	Sum of stereoisomers of dimethenamid
	drinking/ground	Sum of stereoisomers of dimethenamid
Air		Sum of stereoisomers of dimethenamid
Body fluids and tissues		Sum of stereoisomers of dimethenamid

Monitoring/Enforcement methods

Food/feed of plant origin (analytical technique and LOQ for methods for monitoring purposes)	LC-MS/MS, LOQ = 0.01 mg/kg per analyte for dimethenamid-P + M30 (maize whole plant, maize seed, sugar beet leaves, sugar beet roots, rape seed, strawberries, onions, dried beans), confirmatory method and ILV (strawberries, dried beans, rape seed, maize forage, maize seed) are available. LC-MS/MS (QuEChERS), LOQ = 0.01 mg/kg per analyte for dimethenamid-P + M30 (grape, lettuce, barley grain), confirmatory method is available, ILV is not required.

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Food/feed of animal origin (analytical technique and LOQ for methods for monitoring purposes)	LC-MS/MS, LOQ = 0.01 mg/kg for M30 (muscle, kidney, liver, fat, milk, egg), confirmatory method is available. An independent laboratory validation for metabolite M30 is missing. However, at this point no residues of metabolite M30 are expected in animal matrices. Thus, the ILV not required until potential future uses relevant for animal feed further trigger the dietary burden.
Soil (analytical technique and LOQ)	LC-MS/MS, LOQ = 0.005 mg/kg for dimethenamid-P, confirmatory method is available.
Water (analytical technique and LOQ)	LC-MS/MS, LOQ = 0.03 µg/L for dimethenamid-P in drinking water and surface water, confirmatory method is available, ILV for drinking water is available.
Air (analytical technique and LOQ)	LC-MS/MS, LOQ = 1.5 µg/m^3 for dimethenamid-P, confirmatory method is available.
Body fluids and tissues (analytical technique and LOQ)	Tissues: LC-MS/MS, LOQ = 0.01 mg/kg for dimethenamid-P Body fluids: Missing

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

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

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

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

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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	94 % (based on urinary (%) and biliary (%) excretion within 72 h; single dose 10 mg/kg bw)* *considered appropriate for the derivation of the AOEL* or 85 % (based on urinary (%) and biliary (%) excretion within 72 h; single dose 250 mg/kg bw)*
Toxicokinetics	No toxicokinetic parameters (C_{max}, T_{max}, Plasma T1/2) for parent and metabolites are available*
Distribution	Widely (highest residues in rat erythrocytes due to species specific binding to haemoglobin)**
Potential for bioaccumulation	No evidence for accumulation potential* (binding to rat haemoglobin but not to human haemoglobin**)
Rate and extent of excretion	Rapid, 40.9-54.9 % in urine, 46.4-32.2 % in faeces and 2-2.4 % in cage wash (high dose 250 mg/kg bw; male and female, respectively); about 90 % excreted within 168 h* 79.6 % in bile (10 mg/kg bw; male) and 50.3 % (250 mg/kg bw; female) within 72 h*
Metabolism in animals	Extensively metabolised (>40 metabolites; <2 % excreted as parent in faeces), primarily via glutathione conjugation; Main metabolite M656PH025 (iso); main biotransformation steps are glutathione conjugation, enzymatic cleavage of the tripeptide intermediate and subsequent metabolic reactions on the resulting cysteine conjugate (N-acetylation of the cysteine moiety, hydrolysis of S-conjugates to the mercaptan (followed by S-methylation), oxidation of the sulphur atom to form sulphoxides and sulphones; o-demethylation; hydroxylation, conjugation with glucuronic acid, replacement of the chlorine atom by hydrogen (reduction) or by a hydroxyl group (hydrolysis), dimerisation of a mercaptan)*
In vitro metabolism	Metabolism of the racemate and dimethenamid-P in rat liver slices is qualitatively and quantitatively comparable. ^{14}C-dimethenamid-P is extensively metabolised by hepatocytes from dogs, rats and humans. All metabolites detected after incubation with human hepatocytes were also present in animal hepatocyte samples, except for the metabolite M656PH007. M656PH007 was found in the *in-vivo* rat study.
Toxicologically relevant compounds (animals and plants)	dimethenamid-P and metabolites
Toxicologically relevant compounds	dimethenamid-P and metabolites

(environment)	

* Based on data of dimethenamid-P
** Based on data with dimethenamid racemate

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

Rat LD_{50} oral	429 mg/kg bw*	**H302 Acute Tox Cat.4**
Rat LD_{50} dermal	>2000 mg/kg bw*	
Rat LC_{50} inhalation	>5.16 mg/L (4-h, head/nose-only)*	
Skin irritation	Non-irritant*	
Eye irritation	Non-irritant*	
Skin sensitisation	Sensitising (Buehler-test*; Magnusson and Kligman**)	**H317 Skin Sens. 1**
Phototoxicity	Non-phototoxic *	

* Based on data of dimethenamid-P
** Based on data with dimethenamid racemate

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

Target organ / critical effect	Liver (weight increases, biochemical and histopathological changes) and decreased body weight gain in rats, dogs and mice	
Relevant oral NOAEL	90-day, rat: 34 mg/kg bw/d (150 ppm))** 90-day, rat: 37 mg/kg bw/d (150 ppm)* 90-day, dog: 4.3 mg/kg bw/d (100 ppm)** 1-year, dog: 2 mg/kg bw/d (50 ppm)** overall 90 day & 1 year dog: 4 mg/kg bw/d	
Relevant dermal NOAEL	21-day, rabbit: 1190 mg/kg bw/d (systemic toxicity)** <1190 mg/kg bw/d (local effects)**	
Relevant inhalation NOAEL	No data - not required	

* Based on data of dimethenamid-P
** Based on data with dimethenamid racemate

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

In vitro studies	Ames test: overall negative* V79/HGPRT: negative* Forward mutations in L5178Y mouse	

	lymphoma cells (TK +/- locus assay): negative* UDS, rat primary hepatocytes: negative*	
In vivo studies	Mouse Micronucleus test: negative* UDS, rat primary hepatocytes: negative**	
Photomutagenicity	Not submitted	
Potential for genotoxicity	dimethenamid-P is unlikely to be genotoxic	

* Based on data of dimethenamid-P
** Based on data with dimethenamid racemate

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

Long-term effects (target organ/critical effect)	Liver (weight increases, biochemical and histopathological changes), decreased body weight gain in mice only	
Relevant long-term NOAEL	2-year, rat: 5 mg/kg bw per day (100 ppm)** 18-month, mouse: 40 mg/kg bw per day (300 ppm)**	
Carcinogenicity (target organ, tumour type)	Rat: no evidence of carcinogenicity Mouse: no evidence of carcinogenicity dimethenamid-P is unlikely to pose a hazard to humans	
Relevant NOAEL for carcinogenicity	2-year, rat: 109 mg/kg bw per day; 18-month, mouse: 431 mg/kg bw per day	

* Based on data of dimethenamid-P
** Based on data with dimethenamid racemate

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

Reproduction toxicity

Reproduction target / critical effect	Adult: F0 females liver wt ↑ Reproductive and fertility: no evidence for impairment of fertility and reproduction Offspring: bw (gain) ↓ during lactation	
Relevant parental NOAEL	7.5 mg/kg bw/d (100 ppm)**	
Relevant reproductive NOAEL	150 mg/kg bw per day (2000 ppm)**	
Relevant offspring NOAEL	75 mg/kg bw per day (500 ppm)**	

* Based on data of dimethenamid-P
** Based on data with dimethenamid racemate

Developmental toxicity

Developmental target / critical effect	Maternal: Rat: food intake & bw gain ↓*	

	Rabbit: food intake & bw gain ↓, clinical signs** Developmental: Rat: delayed ossification* Rabbit: embryolethality**	
Relevant maternal NOAEL	Rat: <25 mg/kg bw/d* Rabbit: 37.5 mg/kg bw/d**	
Relevant developmental NOAEL	Rat: 25 mg/kg bw/d* Rabbit: 75 mg/kg bw/d**	

* Based on data of dimethenamid-P
** Based on data with dimethenamid racemate

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

Acute neurotoxicity	No findings indicative of neurotoxic potential reported $NOAEL_{neurotoxicity}$: 600 mg/kg bw/d* $NOAEL_{systemic}$: 200 mg/kg bw/d*	
Repeated neurotoxicity	No findings indicative of neurotoxic potential reported $NOAEL_{neurotoxicity}$: 323 mg/kg bw/d* $NOAEL_{systemic}$: 63 mg/kg bw/d*	
Additional studies (e.g. delayed neurotoxicity, developmental neurotoxicity)	No data submitted for delayed neurotoxicity or developmental neurotoxicity	

* Based on data of dimethenamid-P
** Based on data with dimethenamid racemate

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

Supplementary studies on the active substance	Binding of dimethenamid to haemoglobin, production of methaemoglobin**: - no effect on methaemoglobin in rat blood - binding of dimethenamid to rat haemoglobin primarily to globin, but practically no binding to human haemoglobin Liver enzyme induction of dimethenamid: Induction of P-450 dependent liver enzymes in rats; 4-day, rat: NOAEL = 25 mg/kg bw/d** Immunotoxicity of dimethenamid-P: No evidence for immunotoxicity*
Endocrine disrupting properties	No endocrine effects on the estrogen, androgen or thyroid hormone system*
Studies performed on metabolites or impurities	Toxicity studies of metabolites: **M31-group**: M656PH026 (plant & animal & groundwater):

Structural alerts: positive chromosomal aberration in vitro; covered by the toxicological testing of M656PH030, M656PH031 and M656PH032

M656PH030 (plant & animal):
Bacterial mutagenicity, gene mutation assay: negative; micronucleus *in vitro* test: positive; micronucleus *in vivo* test: negative

M656PH031 (plant & groundwater):
Bacterial mutagenicity, gene mutation assay, chromosomal aberration *in vitro* test: negative;
28-day, rat: no adverse signs of toxicity, NOAEL: 12000 ppm (1068 mg/kg bw/d).

M656PH032 (hen & groundwater):
Structural alerts: positive chromosomal aberration *in vitro*; bacterial mutagenicity: negative;
covered by the toxicological testing of M656PH030 and M656PH031.

M656PH051 (plant & groundwater):
Structural alerts: positive chromosomal aberration *in vitro*;
covered by the toxicological testing of M656PH030 and M656PH031;

Metabolites of the M31-group: No toxicological relevance in the groundwater and in plants according to the grouping approach.

M11-group:

M656PH043 (groundwater):
Bacterial mutagenicity, gene mutation assay: negative; micronucleus *in vitro* test: positive, micronucleus *in vivo* test: negative
No toxicological relevance in groundwater.

M19-group:

M656PH054 (groundwater):
Structural alerts: positive chromosomal aberration *in vitro*;
Bacterial mutagenicity, gene mutation assay: negative; micronucleus *in vitro* test: positive; micronucleus *in vivo* test: negative;
28-day, rat: food consumption in males ↓, bw development in male and female ↓, NOAEL 4000 ppm (346 mg/kg bw/d; corrected for 86.5 % purity).

M656H055 (groundwater):
Structural alerts: positive chromosomal aberration *in vitro* for presumed degradates;
Bacterial mutagenicity, gene mutation assay, micronucleus *in vivo* test: negative;

Metabolites of the M19-group: No toxicological relevance in the groundwater according to the grouping approach.

M62-group:

M656PH062 (groundwater):

Structural alerts: no;
Bacterial mutagenicity, gene mutation assay: negative;*
micronucleus *in vitro* test: positive micronucleus *in vivo* test: negative;*
28-day, rat: NOAEL: 4000 ppm (323 mg/kg bw/d);*

No toxicological relevance in the groundwater.

* The ethyl ester derivative of M656PH062 was tested.

M23-group:

M656PH023 (plant & groundwater):
Structural alerts: positive chromosomal aberration *in vitro*;
LD_{50} oral, rat: 5000 mg/kg bw;
Bacterial mutagenicity, gene mutation assay, micronucleus *in vivo* test: negative;

28-day, rat: no adverse effects, NOEAL: 12000 ppm (1057 mg/kg/bw/d).

M656PH045 (groundwater):
Structural alerts: no;
Bacterial mutagenicity, gene mutation assay, micronucleus *in vitro* test: negative;
28-day, rat: No adverse signs of toxicity, NOAEL: 12000 ppm (1174 mg/kg bw/d).

M656PH049 (groundwater):
Structural alerts: positive chromosomal aberration *in vitro*
Covered by the toxicological testing of dimethenamid-P, M656PH023 and M656PH054.

M656PH050 (plant & groundwater):
Structural alerts: no;
covered by the toxicological testing of M656PH023 and M656PH054;

Metabolites of the M23-group: No toxicological relevance in the groundwater according to the grouping approach.

M27-group:

M656PH027 (plant, animal & groundwater):
Structural alerts: positive chromosomal aberration *in vitro*;
Bacterial mutagenicity, gene mutation assay, micronucleus *in vivo* test: negative;
28-day, rat: No adverse signs of toxicity, NOAEL: 12000 ppm (1064 mg/kg bw/d).

M656PH047 (groundwater):
Structural alerts: no
Bacterial mutagenicity, gene mutation assay, micronucleus *in vivo* test: negative;
28-day, rat: No adverse signs of toxicity, NOAEL: 13200 ppm (967 mg/kg bw/d; corrected for 90.7 % purity).

M656PH052 (groundwater):
Structural alerts: positive chromosomal aberration *in*

vitro; Covered by the toxicological testing conducted with M656PH027, M656H031 and M656PH054. <u>M656PH053 (groundwater)</u>: Structural alerts: no Covered by the toxicological testing conducted with M656PH027 and M656PH047. <u>M656PH059 (groundwater)</u>: Structural alerts: no Covered by the toxicological testing conducted M656PH027 and M656PH047; Metabolites of the M27-group: No toxicological relevance in the groundwater according to the grouping approach.

*based on studies performed with racemic dimethenamid

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

No adverse health effects during research, production and use of dimethenamid-P and its formulations.

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

	Value (mg/kg bw (per day))	Study	Uncertainty factor
Acceptable Daily Intake (ADI)	0.04**	Overall 90 day & 1 year dog	100
Acute Reference Dose (ARfD)	0.25**	4-day mechanistic study, rat	100
Acceptable Operator Exposure Level (AOEL)	0.04**	Overall 90 day & 1 year dog	100***
Acute Acceptable Operator Exposure Level (AAOEL)	Not required		

** Based on studies performed with racemic dimethenamid
*** Correction for limited oral absorption/bioavailability not necessary.

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

Representative formulations	<u>BAS 830 01 H:</u> 2 % for the concentrate (333 g/L) and 43 % for the dilution (1.25 g/L) based on *in vitro* human skin* <u>BAS 656 12 H:</u> 0.4 % for the concentrate (720 g/L), 39 % for the dilution (3.6 g/L) and 31 % for the dilution (0.72 g/L) based on *in vitro* human skin*

[3] If available include also reference values for metabolites

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

Section 2 Mammalian Toxicology

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

Operators	BAS 656 12 H Use: maize, soybean, sunflower, sugar beet; tractor mounted equipment, application rate: 0.864 kg a.s./ha Exposure estimates (model): % of AOEL UK POEM Without PPE: 4695 PPE (gloves m/l + appl.): 745 German model Without PPE: 498 PPE (gloves m/l + appl., coverall appl.): 36 AOEM Without PPE (with workwear): 189 PPE (gloves m/l + gloves appl.): 11
	BAS 830 01 H Use: winter oilseed rape, tractor mounted equipment, application rate: 0.5 kg a.s./ha Exposure estimates (model): % of AOEL UK POEM Without PPE: 3842 PPE (gloves m/l + appl.): 595 German model: Without PPE: 331 PPE (gloves m/l, coverall appl.): 81 AOEM Without PPE (with workwear): 184 PPE (gloves m/l): 71
Workers	BAS 656 12 H Krebs et al. (2000) % of AOEL Without PPE: 70
	BAS 830 01 H Krebs et al. (2000) % of AOEL Without PPE: 27
Bystanders and residents	BAS 656 12 H Martin et al.(2008) % of AOEL Bystander (adult): 39 Bystander (child): 30 Resident (adult): 3 Resident (child): 5

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

Section 2 Mammalian Toxicology

BAS 830 01 H	
Martin et al.(2008)	% of AOEL
Bystander (adult):	25
Bystander (child):	19
Resident (adult):	2
Resident (child):	3

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

Substance:	dimethenamid-P
Harmonised classification according to Regulation (EC) No 1272/2008 and its Adaptations to Technical Process [Table 3.1 of Annex VI of Regulation (EC) No 1272/2008 as amended][4] :	Substance not listed (checked up to Regulation (EC) No 605/2014)
ECHA/RAC (CLH-O-0000003037-80-03/F, 4 June 2013):	Warning, Acute Tox. 4, H302: Harmful if swallowed Warning, Skin Sens. 1, H317: May cause an allergic skin reaction
Peer review proposal [5] for harmonised classification according to Regulation (EC) No 1272/2008:	Warning, Acute Tox. 4, H302: Harmful if swallowed Warning, Skin Sens. 1, H317: May cause an allergic skin reaction

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

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

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

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)

Primary crops (Plant groups covered) **OECD Guideline 501**	**Crop groups**	**Crop(s)**	**Application(s)**	**DAT** (days)
	Fruit crops			
	Root crops	Sugar beet	Early post emergence, 3 x 0.45 kg as/ha, 3-^{14}C-thienyl labelled racemic dimethenamid	Roots & leaves with tops: 126 DAT
	Leafy crops			
	Cereals/grass crops	Maize	Early post emergence, 1 x 1.3 kg as/ha, 3-^{14}C-thienyl labelled racemic dimethenamid and 1 x 0.72 kg as/ha 3-^{14}C-thienyl labelled dimethenamid-P	Forage: 30 DAT Forage/husks and grain/cobs: 81 DAT Mature plants: 120 DAT
	Pulses/Oilseeds	Soybean seed	Soil application, pre-emergence, 1 kg/ha, 2-^{14}C-thienyl labelled dimethenamid-P	Mature plants: 119 DAT
	Miscellaneous			
	Residues for parent dimethenamid-P and its metabolites in edible parts of the plants are all below 0.01 mg/kg. Only metabolites M26, M30 (maize forage, DAT 30) and M26 (soybean leaves) contribute to more than 10 % TRR. No parent was detected all crops investigated. The main route of metabolism was similar in all crops investigated. It involves rapid glutathione conjugation of dimethenamid-P, enzymatic cleavage of the tripeptide and subsequent metabolic reactions on the resulting cysteine conjugate resulting in various sulphur-containing secondary metabolism products.			

Rotational crops (metabolic pattern) **OECD Guideline 502**	**Crop groups**	**Crop(s)**	**PBI** (days)	**Comments**
	Root/tuber crops	Radish Carrot	30, 120, 365 200	
	Leafy crops	Spinach Lettuce	30, 120, 365 200	
	Cereal (small grain)	Wheat Wheat	30, 120, 365 11, 190	
	Other			
Rotational crop and primary crop metabolism similar?	Yes			

Processed commodities (standard hydrolysis	**Conditions**	**Recovery of ^{14}C-M30 (%)**			
		Average	Range	RSD	

study) **OECD Guideline 507**	20 min, 90 °C, pH 4	96.3	90.8-102	5.8	
	60 min, 100 °C, pH 5	98.0	95.4-102	3.7	
	20 min, 120 °C, pH 6	95.1	94.4-96.3	1.1	
Residue pattern in processed commodities similar to residue pattern in raw commodities?	Dimethenamid-P metabolite M30 is hydrolytically stable under the representative processing conditions. The formation of any hydrolysis products was negligible.				

Plant residue definition for monitoring (RD-Mo) **OECD Guidance, series on pesticides No 31**	Sum of stereoisomers of dimethenamid + metabolite M30, expressed as dimethenamid-P
Plant residue definition for risk assessment (RD-RA)	Sum of dimethenamid-P + metabolite M26 and M30, expressed as dimethenamid-P
Conversion factor (monitoring to risk assessment)	Not necessary

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	10	4	
	Goat (parent)	8.9	4	
	Goat (M30)	0.57	10	
	Pig	No metabolism study in pigs was performed, since the metabolite patterns in rodents (rats) and ruminants (goat) did not differ significantly.		
	Fish	Not required as no residues of parent dimethenamid-P or its metabolites were detected in commodities with a potential use as fish feed and the log P_{OW} is 1.98.		
	Excretion of radioactivity via urine and faeces was fast. Radioactive residues in animal tissues, milk and eggs consisted of various metabolites, which were not considered relevant for human consumption. Unchanged parent was found in fat tissue of laying hens only (26.2 % of the TRR, 0.075 mg/kg at 167 ppm dosing level). Metabolite M30 was mostly excreted via faeces and urine. Radioactive TRR found in milk, liver and kidney was equal to 0.018 mg eq/kg, 0.219 mg eq/kg and 0.243 mg eq/kg, respectively.			

Time needed to reach a plateau concentration in milk and eggs (days)	3 days
Animal residue definition for monitoring (RD-Mo) **OECD Guidance, series on pesticides No 31**	Sum of stereoisomers of metabolite M30, expressed as dimethenamid-P (provisional)
Animal residue definition for risk assessment (RD-RA)	Sum of metabolites M26 and M30, expressed as dimethenamid-P (provisional)

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

Section 3 Residues

Conversion factor (monitoring to risk assessment)	Not applicable, as not residues have been detected yet.
Metabolism in rat and ruminant similar (Yes/No)	Yes
Fat soluble residues (Yes/No) **(FAO, 2009)**	Not applicable until a residue definition is set

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

Confined rotational crop study (Quantitative aspect) **OECD Guideline 502**	Radioactive residues were taken up via the roots. TRR levels amounted to 0.93 mg/kg in non-edible parts of the plants (wheat hay, PBI 30 days). TRRs in edible crop parts at normal harvest were up to 0.2 mg/kg at PBI 30 days and up to 0.076 mg/kg at PBI ~120 days (both wheat grain). No residues >0.01 mg/kg were detected at PBI 365 days. All identified components accounted for less than 0.03 mg/kg each (except M81 in radish tops at 0.1 mg/kg under the situation of crop failure.
Field rotational crop study **OECD Guideline 504**	No field rotational crop study was available.

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

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)				
			Dimethen-amid-P	M23	M26	M27	M30
High water content	Maize whole plant	-20	24	24	3	24	24
High oil content	Oilseed rape soybean seed sunflower	-20	3 3 3	3 3 3	3 3 3	3 3 3	3 3 3
High protein content	Dry bean	-20	24	24	24	24	24
High starch content	Maize seed	-20	24	24	24	-	24
High acid content	Strawberry	-20	24	24	12	24	18

No storage stability could be set for M27 in high starch content matrices.

During the initial EU peer review another storage stability study was evaluated where residues of dimethenamid-P and its oxalamide metabolite (M23) were to be stable in maize matrices (forage, silage, straw, grain) during storage at -20 °C for at least 21 and 12 month, respectively. However, due to analytical variability this study is considered supplementary only.

Animal	Animal commodity	T (°C)	Stability (Month/Year)				
	Muscle						
	Liver						
	Kidney						
	Milk						
	Egg						

No study regarding the storage stability of dimethenamid-P in animal commodities was submitted.

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

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)
		RD-Mo (Sum of stereoisomers of dimethenamid + metabolite M30, expressed as dimethenamid-P)	RD-RA (Sum of dimethenamid-P + metabolite M26 and M30, expressed as dimethenamid-P)				
Representative uses							
Maize	NEU	7 x<0.02	7 x<0.03		0.02*	0.03	0.03
	SEU	8 x<0.02	8 x<0.03				
Soya bean seed	NEU	8 x<0.02	8 x<0.03		0.02*	0.03	0.03
	SEU	8 x<0.02	8 x<0.03				
Sunflower seed	NEU	12 x<0.02	12 x<0.03		0.02*	0.03	0.03
	SEU	11 x<0.02	11 x<0.03				
Sugar beet root	NEU	8 x<0.02	8 x<0.03		0.02*	0.03	0.03
	SEU	4 x<0.02	4 x<0.03				
Oilseed rape seed	NEU	8 x<0.02	8 x<0.03		0.02*	0.03	0.03
	SEU	3 x<0.02	3 x<0.03				

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

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)
		RD-Mo (Sum of stereoisomers of dimethenamid + metabolite M30, expressed as dimethenamid-P)	RD-RA (Sum of dimethenamid-P + metabolite M26 and M30, expressed as dimethenamid-P)				
MRL application							
Tree nuts, pome fruit, stone fruit	N+SEU/ outdoor	-	-	No trials provided. Based on the intended use, residues exceeding the LOQ are not expected	0.02*	0.03	0.03
Sugar beet, fodder beet red beet	NEU	8 x <0.02	8 x <0.03		0.02*	0.025	0.025
	SEU	4 x <0.02	4 x <0.03				
Swedes, Turnips, horseradish	NEU	8 x <0.02	8 x <0.03	Extrapolation from sugar beet	0.02*	0.025	0.025
	SEU	4 x <0.02	4 x <0.03				
Carrots	-	-	-	No trials were provided. This is considered a data gap.	-	-	-
Spring, Welsh onions & similar	NEU	2x <0.02, 0.02, 0.04	2 x <0.03, 0.03, 0.04	MRL calculated with OECD MRL calculator. According to the GAP uses in SEU Member States are intended as well, but no trials were provided. However, extrapolation from leeks is possible	0.07	0.04	0.03
Leek	SEU	4x <0.02	4 x <0.03	According to the GAP uses in NEU Member States are intended as well, but no trials were provided. However, extrapolation from spring onions is possible and triggers the MRL proposal	0.07	0.03	0.03

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

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)
		RD-Mo (Sum of stereoisomers of dimethenamid + metabolite M30, expressed as dimethenamid-P)	RD-RA (Sum of dimethenamid-P + metabolite M26 and M30, expressed as dimethenamid-P)				
Cucumber	NEU	4x <0.02	4 x <0.03	Residue data address identical GAPs; the data sets may therefore be combined to cover the entire group of cucurbits with edible peel. According to the GAP, uses in SEU Member States are intended as well, but no trials were provided.	0.02*	0.03	0.03
Zucchini	NEU	4x <0.02	4 x <0.03				
Melon	NEU	4x <0.02	4 x <0.03	Residue data address identical GAPs; the data sets may therefore be combined to cover the entire group of cucurbits with inedible peel. According to the GAP uses in SEU Member States are intended as well, but no trials were provided.	0.02*	0.03	0.03
Pumpkin	NEU	4x <0.02	4 x <0.03		0.02*	0.03	0.03
Sweet corn	NEU	4x <0.02	4 x <0.03	Maize cob with husks at silage stage was used from maize trials.	0.02*	0.03	0.03
	SEU	4x <0.02	4 x <0.03				
Flowering brassicas	NEU	2x <0.02	2 x <0.03	Trials underdosed. Only acceptable in support of a fall-back GAP with an application rate of 500 g/ha.	0.02*	0.03	0.03
	SEU	4x <0.02	4 x <0.03				
Brussels sprout	NEU	4x <0.02	4 x <0.03	According to the GAP uses in SEU Member States are intended as well, but no trials were provided.	0.02*	0.03	0.03
Head cabbage	NEU	2x <0.02	2 x <0.03		0.02*	0.03	0.03
	SEU	3x <0.02	3 x <0.03				
Leafy brassicas	NEU	3x <0.02, 0.02	3 x <0.03, 0.03	Trials underdosed. Only acceptable in support of a fall-back GAP with an application rate of 500 g/ha.	0.09	0.06	0.03
	SEU	<0.02, 2x 0.03, 0.06	<0.03, 0.03, 0.04, 0.06				

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

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)
		RD-Mo (Sum of stereoisomers of dimethenamid + metabolite M30, expressed as dimethenamid-P)	RD-RA (Sum of dimethenamid-P + metabolite M26 and M30, expressed as dimethenamid-P)				
Green beans	NEU	8x <0.02	8 x <0.03	According to the GAP uses in SEU Member States are intended as well, but no trials were provided.	0.02*	0.03	0.03
Vicia beans (dry)	NEU	8x <0.02	8 x <0.03	According to the GAP uses in SEU Member States are intended as well, but no trials were provided.	0.02*	0.03	0.03
Lupine	NEU	8x <0.02	8 x <0.03	Extrapolation form dry beans. According to the GAP uses in SEU Member States are intended as well, but no trials were provided.	0.02*	0.03	0.03
Millet, sorghum	NEU	7 x <0.02	7 x <0.03	Extrapolation from maize	0.02*	0.03	0.03
	SEU	8 x <0.02	8 x <0.03				
Witloof	-	-	-	Based on the intended use, residues exceeding the LOQ are not expected.	0.02*	0.03	0.03
Chicory root	-	-	-	Based on the intended use, residues exceeding the LOQ are not expected.	0.02*	0.03	0.03

Summary of the data on formulation equivalence OECD Guideline 509

Crop	Region	Residue data (mg/kg)	Recommendations/comments			

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

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

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)
		RD-Mo (Sum of stereoisomers of dimethenamid + metabolite M30, expressed as dimethenamid-P)	RD-RA (Sum of dimethenamid-P + metabolite M26 and M30, expressed as dimethenamid-P)				
Product(s)	**Region**	**Residue data** (mg/kg)		**Recommendations/comments**			

(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.* 3 x<0.01, 0.01, 6 x 0.02, 0.04, 0.08, 3 x 0.10, 2 x 0.15, 0.17). When residue definition for monitoring and risk assessment differs, use **Mo/RA** to differentiate data expressed according to the residue definition for **Mo**nitoring and **R**isk **A**ssessment.

(c): **HR**: Highest residue. When residue definition for monitoring and risk assessment differs, HR according to residue definition for monitoring reported in brackets (HR_{Mo}).

(d): **STMR:** Supervised Trials Median Residue. When residue definition for monitoring and risk assessment differs, STMR according to definition for monitoring reported in brackets ($STMR_{Mo}$).

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

Section 3 Residues

Inputs for animal burden calculations

Feed commodity	Median dietary burden		Maximum dietary burden	
	(mg/kg)	**Comment**	(mg/kg)	**Comment**
Representative uses				
Sugar beet tops	0.01	STMR	0.01	HR
Maize forage	0.02	STMR	1.1	HR
Rape forage	0.01	STMR	0.09	HR
Soybean forage	0.01	STMR	0.01	HR
Maize grain	0.01	STMR	N/A	
Soybean seed	0.01	STMR	N/A	
Canola (meal)	0.01	STMR	0.01	STMR
Sunflower (meal)	0.01	STMR	0.01	STMR
MRL application				
Bean vines	0.01	STMR	0.01	HR
Cabbage	0.01	STMR	0.01	HR
Kale leaves	0.01	STMR	0.013	HR
Turnip tops	0.01	STMR, extrapolated from sugar beet tops	0.01	HR, extrapolated from sugar beet tops
Turnip roots	0.01	STMR, extrapolated from sugar beet root	0.01	HR, extrapolated from sugar beet root
Swede roots	0.01	STMR, extrapolated from beet root	0.01	HR, extrapolated from beet root
Bean seed	0.01	STMR	N/A	
Lupin seed	0.01	STMR, extrapolated from dry beans	N/A	
Millet grain	0.01	STMR, extrapolated from maize grain	N/A	
Sorghum grain	0.01	STMR, extrapolated from maize grain	N/A	

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

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)

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	0.053	Ram/Ewe	0.005	Breeding	0.014	Broiler	0.001	Carp	
	Dairy cattle	0.064	Lamb	0.006	Finishing	0.001	Layer	0.020	Trout	
							Turkey	0.001	Fish intake >0.1 mg/kg DM	
Intake >0.004 mg/kg bw	Yes		Yes		Yes (Breeding)		Yes (Layer)		Yes/No	
Feeding study submitted	No		No		No		No		No	
Representative feeding level (mg/kg bw/d, mg/kg DM for fish) and **N rates**	Level	Beef: N Dairy: N	Level	Lamb: N Ewe: N	Level	N rate Breed/Finish	Level	B or T: N Layer: N	Level	N rate Carp/Trout
	Estimated HR[a] at 1N	**MRL** proposals	Estimated HR[a] at 1N	**MRL** proposals	Estimated HR[a] at 1N	**MRL** proposals	Estimated HR[a] at 1N	**MRL** proposals	Estimated HR[a] at 1N	**MRL** proposals
Muscle										
Fat										
Meat[b]										
Liver										
Kidney										
Milk[a]										
Eggs										
Method of calculation[c]										

[a]: Estimated HR calculated at 1N level (**estimated mean level for milk**).

[b]: HR in meat calculated for mammalian on the basis of 20 % fat + 80 % muscle and 10 % fat + 90 % muscle for poultry

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

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

Section 3 Residues

STMR calculations	**Ruminant**				**Pig/Swine**		**Poultry**		**Fish**	
Median expected intake (mg/kg bw/d) (mg/kg DM for fish)	Beef cattle		Ram/Ewe		Breeding		Broiler		Carp	
	Dairy cattle		Lamb		Finishing		Layer		Trout	
							Turkey			
Representative feeding level (mg/kg bw/d, mg/kg DM for fish) and **N rates**	Level	Beef: N Dairy: N	Level	Lamb : N Ewe: N	Level	N rate Breed/Finish	Level	B or T: N Layer: N	Level	N rate Carp/Trout
	Mean level in feeding level	Estimated **STMR**[(b)] at 1N	Mean level in feeding level	Estimated **STMR**[(b)] at 1N	Mean level in feeding level	Estimated **STMR**[(b)] at 1N	Mean level in feeding level	Estimated **STMR**[(b)] at 1N	Mean level in feeding level	Estimated **STMR**[(b)] at 1N
Muscle										
Fat										
Meat[(a)]										
Liver										
Kidney										
Milk										
Eggs										
Method of calculation[(c)]										

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

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

Section 3 Residues

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)								

Plant products

Mean Conversion Factors (CF) calculated at the different PHIs in the supervised residues trials[a] **OECD Guidance, series on Pesticides No 66**								
PHI[b] (days)	**59**	**71**	**78**	**87**	**92**	**101**	**143**	**Comments**
Representative uses								
Maize (rest of plant)	1.3		1.2		1.4			
Oilseed rape (plant)		1.2	1.2	1.5		1.3	1.4	
Due to the limited data set of trials with residues >LOQ (maize, rest of plant n=6; oil seed rape, plant n=5), the derived conversion factors are considered as not robust.								

[a]: CF calculated at the supported PHI are underlined.
[b]: 0-/0+ for samples collected just before/after the last application

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
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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[a]	Processing Factor (PF)		Conversion Factor (CF_P) for RA[b]
		Individual values	Median PF	
Representative uses (row to be deleted if not relevant)				
MRL application (row to be deleted if not relevant)				

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

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

Including all uses (intended uses + MRLs according to Regulation (EC) No 396/2005).

ADI	0.04 mg/kg bw per day
TMDI according to EFSA PRIMo	Highest TMDI: 2.9 % ADI (UK, toddler)
NTMDI, according to (to be specified)	Highest NTMDI: 2.4 % ADI (DE children, 2-4 years)
IEDI (% ADI), according to EFSA PRIMo	Not necessary
NEDI (% ADI), according to (to be specified)	Not necessary
Factors included in the calculations	None
ARfD	0.25 mg/kg bw
IESTI (% ARfD), according to EFSA PRIMo	Highest IESTI: 1.8 % ARfD (BE children, melon)
NESTI (% ARfD), according to (to be specified)	Highest NESTI: <1.1 % ARfD (DE children, 2-4 years, apples/pears)
Factors included in IESTI and NESTI	None

Consumer risk assessment limited to the representative uses

TMDI (% ADI), according to EFSA PRIMo	Highest TMDI: 1.4 % ADI (UK, toddler)
NTMDI (% ADI), according to (to be specified)	Highest NTMDI: <1 % ADI (DE general population, 14-80 years)
IEDI (% ADI), according to EFSA PRIMo	Not necessary
NEDI (% ADI), according to (to be specified)	Not necessary
Factors included in the calculations	None
IESTI (% ARfD, according to EFSA PRIMo)	Highest IESTI: <1 % ARfD (UK children, 4-6 years, sugar beet)

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
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Section 3 Residues

NESTI (% ARfD, according to (to be specified)	Highest NESTI: <1 % ARfD (DE children, 2-4 years, sugar beet)
Factors included in IESTI and NESTI	None

Additional contribution to the consumer intakes through drinking water resulting from groundwater metabolite(s) expected to be present above 0.75 µg/L To be deleted if not relevant

Metabolite(s)	
ADI (mg/kg bw per day)	
Intake of groundwater metabolites (% ADI)	Adult (60 kg bw, 2 L): XX % ADI
WHO Guideline (WHO, 2009)	Child (10 kg bw, 1 L): XX % ADI
	Infant (5 kg bw, 0.75 L): XX % ADI

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

Code[a]	Commodity/Group	MRL/Import tolerance[b] (mg/kg) and Comments	
Plant commodities			
Representative uses			
401050	Sunflower	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT
401060	Oilseed rape	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT
401070	Soybean	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT
500030	Maize	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT
900010	Sugar beet	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT
MRL application			
0100000	Tree nuts	0.02*	N+SEU. Based on the intended use, residues exceeding the LOQ are not expected
0130000	Pome fruits	0.02*	N+SEU. Based on the intended use, residues exceeding the LOQ are not expected
0140000	Stone fruits	0.02*	N+SEU. Based on the intended use, residues exceeding the LOQ are not expected
0213010	Beet root	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT extrapolated from sugar beet
0213020	Carrots	-	No trials were provided by the applicant. 8 trials required for both NEU and SEU.
0213040	Horseradish	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT extrapolated from sugar beet
0213100	Swedes	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT extrapolated from sugar beet

List of end points

Rapporteur Member State	Month and year	Active Substance (Name)
Germany	**August 2016**	**Dimethenamid-P**

Section 3 Residues

Code[(a)]	Commodity/Group	MRL/Import tolerance[(b)] (mg/kg) and Comments	
0213110	Turnips	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT extrapolated from sugar beet
0220040	Spring onions/green onions and Welsh onions	0.07	The cGAP of NEU is supported by a sufficient number of CFT. The GAP of SEU is covered by extrapolation from leeks.
0232000	Cucurbits with edible peel	0.02*	The cGAP of NEU is supported by a sufficient number of CFT. No trials were available for SEU.
0233000	Cucurbits with inedible peel	0.02*	The cGAP of NEU is supported by a sufficient number of CFT. No trials were available for SEU.
0234000	Sweet corn	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT
0241000	Flowering brassica	0.02*	Trials are underdosed. Only the fall-back GAP of both NEU and SEU is supported by a sufficient number of CFT
0242000	Head brassica	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT (except for Brussels sprouts trials in SEU).
0243000	Leafy brassica	0.09	Trials are underdosed. Only the fall-back GAP of both NEU and SEU is supported by a sufficient number of CFT.
0255000	Witloof	0.02*	Based on the intended use, residues exceeding the LOQ are not expected
0260010	Beans (with pods)	0.02*	The cGAP of NEU is supported by a sufficient number of CFT. No trials were available for SEU.
0270060	Leeks	0.07	The cGAP of SEU is supported by a sufficient number of CFT, for NEU extrapolation from spring onions is made
0300010	Beans	0.02*	The cGAP of NEU is supported by a sufficient number of CFT. No trials were available for SEU.
0300040	Lupine	0.02*	The cGAP of NEU is supported by a sufficient number of CFT, extrapolated from dry beans. No trials were available for SEU.
0500040	Millet	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT, extrapolated from maize
0500080	Sorghum	0.02*	The cGAP of both NEU and SEU are supported by a sufficient number of CFT, extrapolated from maize
0900030	Chicory root	0.02*	Based on the intended use, residues exceeding the LOQ are not expected
Animal commodities			
no MRLs proposed for the time being			

(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
Germany	**August 2016**	**Dimethenamid-P**

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	29.5 – 35.8 % after 120 d, [^{14}C-thienyl]-dimethenamid (n[6]= 2) 17.5 – 28.5 % after 119 - 120 d, [^{14}C-thienyl]-dimethenamid–P (n= 3)
Non-extractable residues after 100 days	39.5 – 43.5 % after 119 - 120 d, [^{14}C-thienyl]-dimethenamid (n = 4) 39.9 – 43.0 % after 119 - 120 d, [^{14}C-thienyl]-dimethenamid–P (n= 3)
Metabolites requiring further consideration - name and/or code, % of applied (range and maximum)	<u>Laboratory studies:</u> Met M656PH023 – 3.56 – 12.2 % after 14-69 d, max. after 28 d (n= 6), [^{14}C-thienyl]- dimethenamid & -dimethenamid-P Met M656PH027 – 3.8 – 13.32 % at 14 - 120 d, max. after 32 d (n= 6), [^{14}C-thienyl]- dimethenamid & -dimethenamid-P Met M656PH031- 2.2 – 10.34 % at 28 – 89 d, max. after 28 d (n= 6), [^{14}C-thienyl]- dimethenamid & -dimethenamid-P
	<u>Field dissipation studies:</u> Met M656PH023 - <1.25 % – 13.44 % at 0 – 122 d (n= 9), max. after 28 d, dimethenamid Met M656PH027 - <1.25 %– 7.99 % at 7 – 93 d (n= 9), max. after 7 d, dimethenamid Met M656PH031 – not determined <u>Field degradation studies:</u> Met M656PH023 - <LOQ % – 4.20 % at 16 – 62 d (n= 6), max. after 28 - 31 d, dimethenamid-P Met M656PH027 - <LOQ % – 7.37 % at 28 – 185 d (n= 6), max. after 182 - 185 d , dimethenamid-P Met M656PH031 - <LOQ % – 8.56 % at 17 – 31 d (n= 6), max. after 28 d, dimethenamid-P

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

Mineralisation after 100 days	No data
Non-extractable residues after 100 days	No data

[6] n corresponds to the number of soils.

List of end points

Rapporteur Member State	Month and year	Active substance
Germany	**August 2016**	**Dimethenamid-P**

Section 4 Environmental fate and behaviour

Metabolites that may require further consideration for risk assessment - name and/or code, % of applied (range and maximum)	No data

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)	Light: Met M656PH009 – 5.8 % max. after 6 d (n= 1) - [^{14}C-thienyl]- dimethenamid Met M656PH011 – 6.1 % max. after 6 d (n= 1) - [^{14}C-thienyl]- dimethenamid Unknown metabolite (region 5): 5.5% after 23 d (n= 1) - [^{14}C-thienyl]- dimethenamid-P Dark control: All < 2%
Mineralisation at study end	Light: 5.8 & 12.3 % after 9 & 23 d, [^{14}C-thienyl] - dimethenamid (n= 2) 10.1 % after 23 d, [^{14}C-thienyl]- dimethenamid-P (n= 1) Dark control: nd & 0.3 % after 9 & 23 d, [^{14}C-thienyl] - dimethenamid (n= 2) 0.4 % after 23 d, [^{14}C-thienyl]- dimethenamid-P (n= 1)
Non-extractable residues at study end	Light: 27.3 & 8.4 % after 9 & 23 d, [^{14}C-thienyl] - dimethenamid (n= 2) 8.4 % after 23 d, [^{14}C-thienyl]- dimethenamid-P (n= 1) Dark control: 6.6 & 2.7 % after 9 & 23 d, [^{14}C-thienyl] - dimethenamid (n= 2) 2.3 % after 23 d, [^{14}C-thienyl]- dimethenamid-P (n= 1)

List of end points

Rapporteur Member State	Month and year	Active substance
Germany	**August 2016**	**Dimethenamid-P**

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)

Dark aerobic conditions										
Dimethenamid-P (modelling and persistence endpoints)										
Soil	Soil type	pH	T. (°C)	Moisture	Compound	DT_{50} (d)	DT_{90} (d)	DT_{50} (d) 20 °C pF2	Kinetic	Ref.
BBA 2.2	Loamy Sand	5.8 ($CaCl_2$)	20	40 % MWHC	DMTA	12.8	42.55	9.8	SFO	Koenig, 1995/ Platz, 2008
BBA 2.3	Sandy Loam	6.6 ($CaCl_2$)	20	40 % MWHC	DMTA	13.3	44.1	9.0	SFO	
Flaach	Sandy Clay loam	7.95 (n.a.)	20	40 % MWHC	DMTA	7.69	25.56	4.8	SFO	Koenig, 1996/ Platz, 2008
Elliot	Clay loam	6.9 (n.a.)	23	75 % of FC	DMTA-P	9.32	30.97	11.4	SFO	Wendt (1997)/ Bronner (2010)
					DMTA	9.4	31.23	(11.4)	SFO	
Borstel	Sand	5.9 ($CaCl_2$)	20	50 % MWHC	DMTA-P	31.49	104.6	30.6	SFO	Stauden-maier, 2009 & 2014
			20	40 % MWHC	S-enant.	31.6	104.9	-	SFO	Stauden-maier, 2013
					R.-enant.	30.9	102.8	-	SFO	
Calke	Sandy loam	4.6 ($CaCl_2$)	20	pF2	DMTA-P	21.93	72.84	21.93	SFO	Unsworth, 2014
Geometric mean (n = 6)								12.2		
pH dependent					No					

n.a. information on buffer solution not available
(…) not included in geometric mean
DMTA: dimethenamid, DMTA-P: dimethenamid-P
S-enant. : S-enantiomer of dimethenamid-P, R-enant. : S-enantiomer of dimethenamid-P

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)

Dark aerobic conditions										
Metabolite M656PH023 (modelling and persistence endpoints)										
Soil	Soil type	pH	T. (°C)	Moisture	DT_{50} (d)	DT_{90} (d)	f.f.+	DT_{50} (d) 20 °C pF2	Kinetic	Ref.
BBA 2.2	Loamy Sand	5.8 ($CaCl_2$)	20	40 % MWHC	41	136	0.1435	31.5	SFO	Koenig, 1995/ Platz, 2008
BBA 2.3	Sandy Loam	6.6 ($CaCl_2$)	20	40 % MWHC	23.8	79.1	0.1891	16.0	SFO	
Flaach	Sandy	7.95	20	40 %	24.1	80.18	0.1282	15.0	SFO	Koenig,

	Clay loam	(n.a.)		MWHC						1996/ Platz, 2008
Elliot	Clay loam	6.9 (n.a.)	23	75 % of FC	26.24§	87.17§	0.117§	37.0	SFO	Wendt (1997)/ Bronner (2010)
					30.07*	99.89*	(0.131)*	(32.2)*	SFO	
Calke	Sandy loam	4.6 ($CaCl_2$)	20	pF2	63.94	212.4	0.1121	63.94	SFO	Unsworth, 2014
DT_{50} values				Geometric mean (n= 5)				28.2		
pH dependent				No						
Formation fraction from active substance to metabolite				Arithmetic mean (n = 5)			0.1380+			

n.a. information on buffer solution not available
\+ formation fraction from active substance to metabolite
(…) not included in geometric mean and arithmetic mean
§ soil incubation with DMTA-P, * soil incubation with DMTA

Dark aerobic conditions										
Metabolite M656PH031 (modelling and persistence endpoints)										
Soil	Soil type	pH	T. (°C)	Moisture	DT_{50} (d)	DT_{90} (d)	f.f.+	DT_{50} (d) 20 °C pF2	Kinetic	Ref.
BBA 2.2	Loamy Sand	5.8 ($CaCl_2$)	20	40 % MWHC	61.3	203.5	0.1007	47.1	SFO	Koenig, 1995/ Platz, 2008
BBA 2.3	Sandy Loam	6.6 ($CaCl_2$)	20	40 % MWHC	39.4	130.8	0.0572	26.5	SFO	
Flaach	Sandy Clay loam	7.95 (n.a.)	20	40 % MWHC	37.7	125.1	0.0425	23.5	SFO	Koenig, 1996/ Platz, 2008
Elliot	Clay loam	6.9 (n.a.)	23	75 % of FC	55.9§	185.8§	0.120§	78.1§	SFO	Wendt (1997)/ Bronner (2010)
					63.63*	211.4*	(0.100)*	(68.6)*	SFO	
Borstel	Sand	5.9 ($CaCl_2$)	20	50 % MWHC	85.2	283	0.0918	82.7	SFO	Stauden-maier (2009 & 2014)
Calke	Sandy loam	4.6 ($CaCl_2$)	20	pF2	103.3	343.1	0.0385	103.3	SFO	Unsworth, 2014
DT_{50} values				Geometric mean (n= 6)				51.9		
pH dependent				No						
Formation fraction from active substance to metabolite				Arithmetic mean (n = 6)			0.0751+			

n.a. information on buffer solution not available
\+ formation fraction from active substance to metabolite
(…) not included in geometric mean and arithmetic mean
§ soil incubation with DMTA-P, * soil incubation with DMTA

List of end points

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Dark aerobic conditions										
Metabolite M656PH027 (modelling and persistence endpoints)										
Soil	Soil type	pH	T. (°C)	Moisture	DT_{50} (d)	DT_{90} (d)	f.f.$^{+}$	DT_{50} (d) 20 °C pF2	Kinetic	Ref.
BBA 2.2	Loamy Sand	5.8 ($CaCl_2$)	20	40 % MWHC	60.6	201.3	0.1251	46.3	SFO	Koenig, 1995/ Platz, 2008
BBA 2.3	Sandy Loam	6.6 ($CaCl_2$)	20	40 % MWHC	43.5	144.4	0.1710	29.3	SFO	
Flaach	Sandy Clay loam	7.95 (n.a.)	20	40 % MWHC	33.1	109.9	0.1331	20.6	SFO	Koenig, 1996/ Platz, 2008
Elliot	Clay loam	6.9 (n.a.)	23	75 % of FC	45.6§	151.4§	0.110§	60.7§	SFO	Wendt (1997)/ Bronner (2010)
					49.35	164.0	(0.109)*	(56.0)*	SFO	
Borstel	Sand	5.9 ($CaCl_2$)	20	50 % MWHC	87.2	289.6	0.0588	82.2	SFO	Stauden-maier (2009 & 2014)
Calke	Sandy loam	4.6 ($CaCl_2$)	20	pF2	149.2	495.6	0.0390	149.2	SFO	Unsworth, 2014
DT_{50} values				Geometric mean (n= 6)				52.4		
pH dependent				No						
Formation fraction from active substance to M656PH027				Arithmetic mean (n = 6)			0.1062			
Formation fraction from M656PH031 to M656PH027				Default			1.0			

n.a. information on buffer solution not available
+ formation fraction from active substance to metabolite
(…) not included in geometric mean and arithmetic mean
§ soil incubation with DMTA-P, * soil incubation with DMTA

Dark aerobic conditions										
Metabolite M656PH054 (persistence endpoints)										
Soil	Soil type	pH	T. (°C)	Moisture	DT_{50} (d)	DT_{90} (d)	f.f.$^{+}$	DT_{50} (d) 20 °C pF2	Kinetic	Ref.
Li10	Loamy Sand	6.9 (H_2O)	20	40 % MWHC	37	122	-	-	SFO	Class & Heinz, 2014
LUFA 5M	Loamy Sand	7.9 (H_2O)	20	40 % MWHC	22	73	-	-	SFO	
LUFA 2.2	Loamy Sand	5.9 (H_2O)	20	40 % MWHC	40	334	-	-	FOMC	

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Dark aerobic conditions										
Metabolite M656PH047 (persistence endpoints)										
Soil	Soil type	pH	T. (°C)	Moisture	DT_{50} (d)	DT_{90} (d)	f.f.$^{+}$	DT_{50} (d) 20 °C pF2	Kinetic	Ref.
Li10	Loamy Sand	6.9 (H_2O)	20	40 % MWHC	95	314	-	-	SFO	Class & Heinz, 2014
LUFA 5M	Loamy Sand	7.9 (H_2O)	20	40 % MWHC	43	142	-	-	SFO	
LUFA 2.2	Loamy Sand	5.9 (H_2O)	20	40 % MWHC	87	289	-	-	SFO	

Dark aerobic conditions										
Metabolite M656PH043 (persistence endpoints)										
Soil	Soil type	pH	T. (°C)	Moisture	DT_{50} (d)	DT_{90} (d)	f.f.$^{+}$	DT_{50} (d) 20 °C pF2	Kinetic	Ref.
Li10	Loamy Sand	6.9 (H_2O)	20	40 % MWHC	21	154	-	-	DFOP	Class & Heinz, 2014
LUFA 5M	Loamy Sand	7.9 (H_2O)	20	40 % MWHC	10	34	-	-	SFO	
LUFA 2.2	Loamy Sand	5.9 (H_2O)	20	40 % MWHC	30	364	-	-	FOMC	

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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)

Field dissipation studies								
Dimethenamid (persistence endpoints)								
Trial no	Location	Soil type	pH (n.a.)	Depth (cm)	DT_{50} not.norm. (d)	DT_{90} not.norm. (d)	Kinetic	Ref.
R10283	Niederaula, Germany	Loamy sand	6.5	40	- [1)]	- [1)]	- [1)]	Fricker & Hertl, 1995a
R10284	Goslar, Germany	Silty loam	7.6	40	- [1)]	- [1)]	- [1)]	
R10242	Brevelay, France	Sandy silty loam	5.9	50	1.93	21.80	FOMC, α: 0.841, β: 1.057	Fricker & Hertl, 1995b
R10243	Degre, France	Loam	6.0	50	35.12	116.69	SFO	
R10244	Vergoignan, France	Sand	0.5	30	16.47	54.72	SFO	Carrier & Blanz, 1997
R10245	Cestas, France	Sandy loam	1.2	30	16.22*	53.87*	SFO	
R10246	Budrio, Italy	Sandy loam	0.7	50	10.08	33.50	SFO	Carrier, 1997
R10247	Mezzolara, Italy	Sandy loam	0.4	50	9.06	30.08	SFO	
R10248	Argenta, Italy	Loam	0.9	50	15.31	50.84	SFO	

n.a.: not available
* residue value at day 2 removed as outlier
1) no statistically reliable fit could be obtained

Field degradation studies								
Dimethenamid-P (persistence endpoints)								
Trial no	Location	Soil type	pH ($CaCl_2$)	Depth (cm)	DT_{50} not.norm. (d)	DT_{90} not.norm. (d)	Kinetic; Parameter	Ref.
L110061	Goch-Nierswalde, Germany	Silt loam	5.85	90	20.4	67.7	SFO	Bayer & Marwitz (2014a)/ Wiede-mann (2014a)
L110062	Stotzheim, France (North)	Silt loam	7.11	90	17.6	58.6	SFO	
L110063	Meauzac, France (South)	Sandy loam	6.93	90	14.5	48.1	SFO	
L110064	Utrera, Spain	Sand	7.55	90	16.5	54.7	SFO	
L110481	Wilson, United Kingdom	Silt loam	6.84	90	17.6	167	FOMC α: 0.955 β: 16.5	Bayer & Marwitz (2014c) / Wiede-mann (2014b)
L110482	Lentzke, Germany	Sandy loam	5.73	90	10.2	68.2	FOMC, α: 1.36 β: 15.4	

List of end points

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Field degradation studies								
Metabolite M656PH027 (persistence endpoints)								
Trial no	Location	Soil type	pH ($CaCl_2$)	Depth (cm)	DT_{50} not.norm. (d)	DT_{90} not.norm. (d)	Kinetic; Parameter	Ref.
L110330	Goch-Nierswalde, Germany	Silt loam	6.36	90	31.4	104	SFO	Bayer & Marwitz (2014b)/ Wiede-mann (2014a)
L110331	Stotzheim, France (North)	Silt loam	5.47	90	12	40	SFO	
L110332	Meauzac, France (South)	Sandy loam	7.49	90	19.4	64.3	SFO	
L110333	Utrera, Spain	Sand	6.66	90	23.7	78.6	SFO	

Field degradation studies							
Dimethenamid-P (modelling endpoints)							
Trial no	Location	Soil type	pH ($CaCl_2$)	Depth (cm)	DT_{50} 20 °C, pF2 (d)	Kinetic 20 °C, pF2	Ref.
L110061	Goch-Nierswalde, Germany	Silt loam	5.85	90	12.6	SFO	Bayer & Marwitz (2014a)/ Wiede-mann (2014b)
L110062	Stotzheim, France (North)	Silt loam	7.11	90	10.4	SFO	
L110063	Meauzac, France (South)	Sandy loam	6.93	90	10.9	SFO	
L110064	Utrera, Spain	Sand	7.55	90	9.7	SFO	
L110481	Wilson, United Kingdom	Silt loam	6.84	90	13.8	SFO	Bayer & Marwitz (2014c) / Wiede-mann (2014b)
L110482	Lentzke, Germany	Sandy loam	5.73	90	6.9	SFO	
Geometric mean (n = 6)					10.5		
pH dependent			No				

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Field degradation studies							
Metabolite M656PH027 (persistence endpoints)							
Trial no	Location	Soil type	pH ($CaCl_2$)	Depth (cm)	DT_{50} 20 °C, pF2 (d)	Kinetic 20 °C, pF2	Ref.
L110330	Goch-Nierswalde, Germany	Silt loam	6.36	90	14.6	SFO	Bayer & Marwitz (2014b)/ Wiede-mann (2014b)
L110331	Stotzheim, France (North)	Silt loam	5.47	90	8.8	SFO	
L110332	Meauzac, France (South)	Sandy loam	7.49	90	12.7	SFO	
L110333	Utrera, Spain	Sand	6.66	90	25.9	SFO	
Geometric mean (n = 4)					14.3		
pH dependent			No				
Formation fraction (a.s. → M656PH027)			1.0 (default)				

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

	Dimethenamid-P		
Rate of degradation in soil active substance, normalised geometric mean (if not pH dependent)	DT_{50} (d)	11.3	Geometric mean, n=12, laboratory and field data

	Metabolite M656H027
Rate of degradation in soil transformation products, normalised geometric mean (if not pH dependent)	Laboratory and field data are not from the same population and should therefore be used separately
Kinetic formation fraction (f. f. k_f / k_{dp}) of transformation products, arithmetic mean	Laboratory and field data are not from the same population and should therefore be used separately

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	No data, not required

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)

No data

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)

No data

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

Soil photolysis						
Parent dimethenamid and dimethenamid-P						
soil	Soil type	compound	conditions	DT_{50} (d) experi-mental	Kinetic	Ref.
Elliot	Clay loam	Dimethenamid	light	27.21	SFO	Nietschmann & Yu, 1997
		Dimethenamid-P		34.84	SFO	
		Dimethenamid & Dimethenamid-P	Dark control	-[3)]	-[3)]	

3) concentration of active substance remained >90 % until end of study

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 dimethenamid-P							
Soil	Soil Type	OC %	Soil pH ($CaCl_2$)	K_F (mL/g)	K_{Foc} (mL/g)	1/n	Ref.
Eu-1	Sandy clay loam	1.4	5.6	6.61	474	0.92	Tong & Su, 1997 & Addendum Paulick, 2007
Eu-2	Clay loam	2.03	8.0	2.51	123	0.96	
Eu-3	Sandy loam	2.38	5.5	2.14	90	1.00	
Eu-4	Silt loam	1.22	6.6	1.23	101	1.07	
Eu-5	Sand	3.43	3.9	13.49	393	0.94	
US-1	Clay	0.99	8.0	2.09	211	1.05	
US-2	Clay loam	2.3	6.4	2.51	105	0.97	
US-3	Loam	1.22	7.3	3.02	247	1.03	
US-4	Sandy loam	0.35	7.0	0.72	205.71	1.04	
US-5	Silt loam	1.51	6.7	1.95	129	0.96	
Geometric mean (n= 10)				2.58	177		
Median (n=10)					167.4		
Arithmetic mean (n=10)					207.9	0.994	
pH dependence				No			

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)

Metabolite M656PH023							
Soil	Soil Type	OC %	Soil pH (CaCl2)	K_F (mL/g)	K_{Foc} (mL/g)	1/n	Ref.
Nierswalder Wildacker	Silt Loam	1.85	5.7	0.14	7.62	0.68	Sacchi, 2013
Li10	Loamy Sand	0.93	6.0	0.10	10.53	0.76	
LUFA 2.1	Sand	0.60	5.6	0.13	22.39	0.87	

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LUFA 2.3	Sandy Loam	0.99	6.7	0.12	12.46	0.70	
LUFA 5M	Sandy Loam	1.07	7.4	0.07	6.29	0.60	
Geometric mean (n= 5)				0.109	10.71		
Arithmetic mean (n=5)					11.9	0.722	
pH dependence				No			

Metabolite M656PH031							
Soil	Soil Type	OC %	Soil pH ($CaCl_2$)	K_F (mL/g)	K_{Foc} (mL/g)	1/n	Ref.
Nierswalder Wildacker	Silt loam	1.85	5.7	< 0.1*	< 5	-*	Sacchi, 2013
Li10	Loamy sand	0.93	6.0	< 0.1*	< 11	-*	
LUFA 2.1	Sand	0.60	5.6	< 0.1*	< 17	-*	
LUFA 2.3	Sandy loam	0.99	6.7	< 0.1*	< 10	-*	
LUFA 5M	Sandy loam	1.07	7.4	< 0.1*	< 9	-*	
LUFA 2.1	Sand	0.52	5.2	< 0.1*	< 19	-*	Class, 2011
Li 10	Loamy sand	0.88	5.9	< 0.1*	< 11	-*	
Nierswalder Wildacker	Silt loam	1.63	6.5	< 0.1*	< 6	-*	
LUFA 2.3	Sandy loam	1.09	6.9	< 0.1*	< 9	-*	
La Gironda	Silty clay loam	3.84	7.5	< 0.1*	< 3	-*	

* adsorption too poor to determine reliable Freundlich coefficients or exponents

Metabolite M656PH027							
Soil	Soil Type	OC %	Soil pH ($CaCl_2$)	K_F (mL/g)	K_{Foc} (mL/g)	1/n	Ref.
Nierswalder Wildacker	Silt loam	1.85	5.7	0.16	8.55	1.14	Sacchi, 2013
Li10	Loamy sand	0.93	6.0	0.09	9.89	0.97	
LUFA 2.1	Sand	0.60	5.6	0.05	7.73	1.00	
LUFA 2.3	Sandy loam	0.99	6.7	0.11	10.96	0.98	
LUFA 5M	Sandy loam	1.07	7.4	0.14	13.54	0.94	
Sora	Silt loam	1.9	6.4	0.076	4.0	0.992	Class & Dorn, 2004
LUFA 3A	Loam	2.44	7.2	0.12	4.92	0.940	
Birnbaum	Loamy sand	2.72	7.3	0.036	1.32	0.937	
Bruch West	Sandy loam	0.8	6.1	0.030	3.75	0.910	
Geometric mean (n= 9)				0.078	5.96		
Arithmetic mean (n=9)					7.0	0.979	
pH dependence				No			

Metabolite M656PH043							
Soil	Soil Type	OC %	Soil pH ($CaCl_2$)	K_d (mL/g)	K_{oc} (mL/g)	1/n	Ref.
Schifferstadt	Sand	0.75	4.1	0.229	30.5	-*	Class & Walter, 2014a
LUFA 5M	Loamy sand	2.03	7.2	< 0.1*	< 5	-*	
LUFA 2.2	Sandy loam	1.47	5.4	< 0.1*	< 7	-*	
Li 10	Loamy sand	0.84	6.4	< 0.1*	< 12	-*	
La Gironda (Arahal)	Sandy clay loam	1.22	7.4	< 0.1*	< 8	-*	

* adsorption too poor to determine reliable Freundlich coefficients or exponents

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Metabolite M656PH047							
Soil	Soil Type	OC %	Soil pH ($CaCl_2$)	K_d (mL/g)	K_{oc} (mL/g)	1/n	Ref.
Schifferstadt	Sand	0.75	4.1	< 0.1*	< 13	-*	Class & Walter, 2014a
LUFA 5M	Loamy sand	2.03	7.2	< 0.1*	< 5	-*	
LUFA 2.2	Sandy loam	1.47	5.4	< 0.1*	< 7	-*	
Li 10	Loamy sand	0.84	6.4	< 0.1*	< 12	-*	
La Gironda (Arahal)	Sandy clay loam	1.22	7.4	< 0.1*	< 8	-*	

* adsorption too poor to determine reliable Freundlich coefficients or exponents

Metabolite M656PH054							
Soil	Soil Type	OC %	Soil pH ($CaCl_2$)	K_d (mL/g)	K_{oc} (mL/g)	1/n	Ref.
Schifferstadt	Sand	0.75	4.1	0.217	28.9	-*	Class & Walter, 2014a
LUFA 5M	Loamy sand	2.03	7.2	< 0.1*	< 5	-*	
LUFA 2.2	Sandy loam	1.47	5.4	< 0.1*	< 7	-*	
Li 10	Loamy sand	0.84	6.4	< 0.1*	< 12	-*	
La Gironda (Arahal)	Sandy clay loam	1.22	7.4	< 0.1*	< 8	-*	

* adsorption too poor to determine reliable Freundlich coefficients or exponents

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	Elution (mm): 200 mm deionised water Time period (d): 2 d soils: BBA 2.1 (Sand, 0.2 % oc, pH 7.6) BBA 2.2 (Sandy loam, 1.5 % oc, pH 7.0) BBA 2.3 (loamy sand, 0.7 % oc, pH 7.9) Möhlin (silt loam, 0.9 % oc, pH 7.0 Flaach (Sandy clay loam, 0.8 % oc, pH 8.3)
	Leachate: 3.3 – 40.2 % total radioactivity in leachate n.d. – 33.4 % dimethenamid 1.4 – 0.5 % M656PH023 0.5 – 1.4 % M656PH027 0.1 – 2.5 % M656PH031

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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)

Aged resiudes leaching

Ageing: 31 and 22 days at 20 °C and 40 % MWHC Elution (mm): 200 mm deionised water Time period (d): 2 d soils: BBA 2.1 (Sand, 0.5 % oc, pH 6.3) BBA 2.2 (Sandy loam, 2.3 % oc, pH 7.0)
Leachate: 22.7 & 23.8 % total radioactivity in leachate 0.2 & 2.1 % dimethenamid 10.9 & 16.7 % M656PH023 0.7 & 2.4 % M656PH027 1.0 & 2.3 % M656PH031

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 study Burgener, 1996

Duration	3 years (Mai 1992 - Mai 1995)
location	Itingen, Switzerland
Number of lysimeter	2 lysimeter,
Dimensions of lysimeter	depth: 1.2 m, area: 1.0 m^2
Crop cultivation	Pre-emergence application one day after sowing of corn in May 1992 After harvest of corn, sowing of winter rye (first year) and winter whear (second year) in October 1992 and 1993 After harvest sowing of winter rape in August 1994
Application rate (g/ha)	1 x 1440 g/ha on lysimeter 1 2 x 1440 g/ha on lysimeter 2
Application date	First application on the 21st May 1992 Second application on the 14th May 1993
Soil properties of upper soil horizon (0-30 cm depth)	Borstel sandy soil: 83.5 % sand 10.9 % silt 5.6 % clay 1.05 % oc pH 6.1
Total precipitation (mm)	3140
Total amount of leachate (L)	Lysimeter 1: 1178 Lysimeter 2: 1332
Compound	Maximum estimated annual concentrations in the lysimeter leachate over the three years study duration [µg/L]
Dimethenamid-P	< 0.05
M656PH003	0.1
M656PH010	0.07
M656PH023	1
M656PH027	4

(rotamer 1+2)	
M656PH032	1.5
M656PH043 (rotamer 1+2)	1.2
M656PH045 (rotamer 1+2)	2
M656PH047 (rotamer 1+2)	1.2
M656PH049	1
M656PH050	0.5
M656PH051	1.1
M656PH052	0.9
M656PH053 (isomer 1)	1.6
M656PH053 (isomer 2)	2
M656PH054 (rotamer 1+2)	3.3
M656H055	0.7
M656PH059 (isomer 1)	0.8
M656PH059 (isomer 2)	0.4
M656PH059 (isomer 3)	1.6
M656PH062	2

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

Hydrolytic degradation of the active substance and metabolites > 10 %	pH 5: stable at 25 °C
	pH 7: stable at 25 °C
	pH 9: stable at 25 °C

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 %	Experimental: DT_{50} : 15.56 d [^{14}C-thienyl]- dimethenamid-P, light intensity: 1.1 x 10^3 W/m^2 DT_{50} : 17.29 d [^{14}C-thienyl]- dimethenamid, light intensity: 8.55 x 10^2 W/m^2 No metabolites < 5 % , [^{14}C-thienyl]- dimethenamid-P & - dimethenamid Calculation: Estimated DT_{50}: 0.3 – 0.2 d (April – May, Central European conditions)
Quantum yield of direct phototransformation in water at Σ > 290 nm	0.007402 mol Einstein $^{-1}$

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Germany	**August 2016**	**Dimethenamid-P**

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

Readily biodegradable (yes/no)	No data submitted, substance considered not readily biodegradable

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 dimethenamid-P									
System identifier (indicate fresh, estuarine or marine)	pH water	pH sed.	T. [b] (°C)	DT_{50}	DT_{90}	Kinetic model	DT_{50}	DT_{90}	Kinetic model
				whole system (suspended sediment test [a])			Water (pelagic test)		
Pond, Biederthal	7.86	-[a]	20	97.8 % (low dose) & 94.8 % (high dose) of dimethenamid-P remained in the water at the end of the incubation; no significant degradation of dimethenamid-P took place, thus no degradation rates were calculated					

[a] No suspended sediment was added to the system
[b] Temperature of incubation = temperature of the environmental media collected or std temperature of 20 °C

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

Parent dimethenamid-P					
Water/ Sediment System	T. (°C)	Whole system			Reference
		$DegT_{50}$ (d)	$DegT_{90}$ (d)	Kinetic model	
River Rhine, DMTA	20	19.8	65.8	SFO	Wyss-Benz, 1994/ Bastiansen, 2011
Pond Anwil, DMTA	20	35.1	116.5	SFO	
River Rhine, DMTA-P	20	28	93.1	SFO	Voelkel, 2014
Geometric Mean (n=3)		26.9			

DMTA dimethenamid, DMTA-P: dimethenamid-P

Parent dimethenamid-P								
Distribution		18.15 – 22.8 % maximum in the sediment at day 7 – 14 with subsequent decline to 2 – 4.6 % at the end of the studies						
Water/ Sediment System	T. (°C)	Water			Sediment			Reference
		$DisT_{50}$ (d)	$DisT_{90}$ (d)	Kinetic model	$DisT_{50}$ (d)	$DisT_{90}$ (d)	Kinetic model	
River Rhine, DMTA	20	11.1	57.7	FOMC	28.5	94.7	SFO	Wyss-Benz, 1994/ Bastiansen, 2011
Pond Anwil, DMTA	20	21.4	86.2	DFOP	38.2	126.9	SFO	
River Rhine, DMTA-P	20	15.36	74.99	DFOP	38	126	SFO	Voelkel, 2014

DMTA dimethenamid, DMTA-P: dimethenamid-P

List of end points

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Metabolites	Water phase: Met M656PH023 – max. 9.6 % on d 100 (end of study) Met M656PH027- max. 6.3 % on d 100 (end of study) Met M656PH003 – max. 9.1 % on d 105 (end of study)
	Sediment phase: Met M656PH003 – max. 5.3 % on d 105 (end of study)

Mineralisation and non extractable residues (from parent dosed experiments)						
Water / sediment system	Mineralisation at end of study		Max. non-extractable residues in sed.		Non-extractable residues at end of study	
	x% AR	after d	x% AR	after d	x% AR	after d
River Rhine, DMTA	2.7	105	53.5	105	53.5	105
Pond Anwil, DMTA	2.1	105	49.3	105	49.3	105
River Rhine, DMTA-P	6.6	100	36.2	77	35.6	100

DMTA dimethenamid, DMTA-P: dimethenamid-P

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

Direct photolysis in air	Not studied - no data requested
Photochemical oxidative degradation in air	DT_{50} of 0.2 d derived by the Atkinson model (version 1.92 for a 12 h day and a OH concentration of 1.5 10^6 OH/cm³
Volatilisation	Dimethenamid-P vapour pressure: 3.47 x 10^{-3} Pa (20 °C), thus substance is semivolatile (volatilisation from plant surfaces and soil expected)
	from plant surfaces (BBA guideline): 26.1 % after 24 hours
	from soil surfaces (BBA guideline): no data
Metabolites	No data

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

Environmental occurring residues requiring further assessment by other disciplines (toxicology and ecotoxicology) and or requiring consideration for groundwater exposure	Soil: Dimethenamid-P, M656PH023, M656PH027 and M656PH031 Surface water: Dimethenamid-P, M656PH003, M656PH023, M656PH027 and M656PH031 Sediment: Dimethenamid-P and M656PH003 Groundwater: Dimethenamid-P, M656PH003, M656PH010, M656PH023, M656PH027 and M656PH031, M656PH032, M656PH043, M656PH045, M656PH047, M656PH049, M656PH050, M656PH051, M656PH052, M656PH053 (isomer 1 und 2),

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	M656PH054, M656P055, M656PH059 (isomer 1, 2 und 3) and M656PH062
Air:	Dimethenamid-P

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

See section 5, Ecotoxicology

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

Soil:	No data

Groundwater:	<u>Groundwater monitoring in Germany:</u>
	- 20 groundwater wells with shallow groundwater (1 to 10 m distance of groundwater to soils surface) in four maize growing regions in Germany: Southern Upper Rhine Valley (4 wells), Lower Bavarian Hilly Country (5 wells), Altmark/ Prignitz region (3 wells), Northwest German Lowlands (8 wells)
	- Free provision of the plant protection products Clio® Super or Clio® Top Pack containing dimethenamid-P to farmers within a distance of approx. 1 km up-gradient from the monitoring wells in 2007, 2008 and 2009, recording of size and location of fields treated with dimethenamid-P
	- Application rates of Clio® Super or Clio® Top Pack equivalent to 968.4 g/ha dimethenamid-P in 2007 & 2008 and 807 g/ha dimethenamid-P in 2009 to maize, growth stage 12-16
	- Groundwater sampling bimonthly interval between May 2007 and March 2010 and on a quarterly interval between June 2010 and March 2013. Modelling of response time showed that at 11 of the monitored wells all concentration peaks of the sponsored applications seasons should have reached the wells during sampling time, at 5 additional wells two of the three application peaks reached the well during the sampling time.
	- Results:
	  - M656PH003, M656PH010, M656PH031, M656PH032 and M656PH043: no detections <LOQ
	  - M656PH054: detection at 1 well, maximum concentration of 0.047 µg/L
	  - M656PH045: detection at 2 wells, maximum concentration of 0.045 µg/L
	  - M656PH023: detection at 3 wells, maximum concentration of 0.379 µg/L
	  - M656PH047: detection at 4 wells, maximum concentration of 0.149 µg/L
	  - M656PH027: detection at 5 wells, maximum concentration of 1.680 µg/L

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	Groundwater monitoring in the Netherlands:
	- 80 groundwater wells with shallow groundwater (depth of groundwater not provided) corn producing areas of the province North Brabant, The Netherlands
	- No information provided on the amount of use and the duration of use of dimethenamid-P containing products in the catchment of the wells, the distance of the wells to areas treated with dimethenamid-P and the amount of areas treated with dimethenamid-P upstream of the wells
	- no information provided on the hydrogeology, pedology or climate of the agricultural area or on the catchment of the wells or their response time
	- Groundwater sampling once in the period from 08 January to 16 April 2013
	- Results:
	  - M656PH003, M656PH032 and M656PH043: no detections <LOQ
	  - M656PH010 and M656PH031: detection at 1 well, maximum concentration of 0.033 and 0.042 µg/L, respectively
	  - M656PH047: detection at 3 wells, maximum concentration of 0.459 µg/L
	  - M656PH054: detection at 5 wells, maximum concentration of 0.076 µg/L
	  - M656PH045: detection at 13 wells, maximum concentration of 0.213 µg/L
	  - M656PH023: detection at 23 wells, maximum concentration of 0.810 µg/L
	  - M656PH027: detection at 30 wells, maximum concentration of 1.209 µg/L
	Groundwater monitoring in Germany (open literature study):
	- Measurements of M656PH027 and M656PH023 from 2006 to 2008 at 228 and 232 monitoring points located in three federal states of Germany
	- No information provided on the amount of use or the duration of use of dimethenamid-P containing products in the catchment of the wells, the distance of the wells to areas treated with dimethenamid-P and the amount of areas treated with dimethenamid-P upstream of the wells
	- no information provided on the hydrogeology, pedology or climatic conditions of the areas upstream of the wells or the depth of the groundwater level tapped by the wells; no information provided on the catchment of the wells or their response time
	- M656PH027 and M656PH023 were not detected in concentrations >1 µg/L in any of the groundwater samples

Surface water	Surface water monitoring in five European rivers: - Measurements of dimethenamid-P and the metabolites M656H003, M656H027, M656H023, and M656H031 in the five European rivers, the Rott river (eastern Bavaria, Germany), the Adda and Oglio rivers (northern tributaries of the Po river, Italy) and the Sió and Danube river (central-western part of Hungary) since they all drain areas with relatively intensive cultivation of corn - No information provided on the catchments and on the area of the catchments that was used for cultivation with crops and the area that were treated with dimethenamid-P was provided. Information on the amount of dimethenamid-P used in the catchments also missing - Surface water samples were taken in 2009, biweekly during the application season and weekly thereafter for five months (April to beginning of September in Italy, May to end of September in Hungary) or weekly from May to November (Germany) - Results: - Dimethenamid-P reached maximum concentration 0.46 µg/L (Germany, Rott) to 0.51 µg/L (Hungray, Sió), while lower peak concentrations were measured in the

	other 3 rivers (<LOQ to 0.02 µg/L) - M656PH003 was detected once in the river Rott with a concentration of 0.02 µg/L - M656PH023 was detected with a maximum concentrations of 0.11 µg/L at river Rott and lower concentrations at the other 4 rivers (n.d. – 0.01 µg/L) - M656PH027 was detected with a maximum concentrations of 0.13 µg/L at river Rott and lower concentrations at the other 4 rivers (<LOQ – 0.02 µg/L) - M656PH031 was detected with a maximum concentrations of 0.12 µg/L at river Rott and lower concentrations at the other 4 rivers (<LOQ – 0.01 µg/L) <u>Surface water monitoring in the Lake Geneva (open literature study):</u> - Water samples from the Lake Geneva were collected at 9 different depths on April 26, 2004, April 26, 2005 and September 6, 2004 from a site in the middle of the lake - No information provided on the catchment of the Lake Geneva and on the area of the catchment that is used for agriculture and that was treated with dimethenamid-P or on the amount of dimethenamid-P used in the catchment in the Lake - Dimethenamid was detected only at one sampling date at both depth ranges with an average concentration of 0.001 µg L^{-1} <u>Surface water monitoring in a small area of the catchment of the Lake Greifensee, Switzerland (open literature study):</u> - surface water measurements in a small area of the catchment of the Lake Greifensee, 25 km southeast of Zurich, Switzerland, which drains into the river Aa Mönchaltorf - dimethenamid was investigated over a period of 67 days after a controlled application of 0.75 kg ha^{-1} on 13 cornfields on May 8, 2000 - first 9 days after application remained very dry with only 3 mm of rain. During the two following weeks, three rain events resulted in a total of 51 mm precipitation. However, only the 6^{th} rainfall event (46 mm, ~ 20-30 days after application) caused the first substantial hydrolytic response from the catchment as well as major loss of herbicides - total mass losses of dimethenamid from the fields of the catchment accounted for 0.27 % of its total amount applied - dissipation of dimethenamid from soil was described by first-order kinetics with a field DT_{50} of 13 days as median value from 11 fields
Air	<u>Air monitoring in Central France (open literature study):</u> - dimethenamid-P was measured on three rural sites (Saint Martin d'Auxigny, Oysonville and Saint Aignan) and two urban sites (Tour and Orléans) in 3 sampling campaigns in 2006, 2007 and 2008 - The rural sampling site at Saint Martin d'Auxigny was surrounded by orchards, the agricultural area of the sampling site Saint Aignan was dominated by vineyards and the agricultural area of the sampling site Oysonville was dominated by arable crops such as maize, wheat, soybean, barley and sunflowers - no information provided, if dimethenamid-P was really applied in any of the areas close to the sampling site during the sampling campaigns, the size and distance of any treated areas or the amount of dimethenamid-P used on any areas in vicinity of the sampling site - Dimethenamid was detected at a low frequency of 2 % at concentrations ranging from 0.16 to 0.74 ng m^{-3} in the 262 air samples

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Germany	**August 2016**	**Dimethenamid-P**

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

Parent **dimethenamid-P** Method of calculation	DT_{50} (d): 35.1 days Kinetics: SFO Field data: longest, non-normalized DT_{50} value
Application data	<u>Product BAS 656 12 H with 720 g/L dimethenamid-P:</u> Crop: maize Depth of soil layer: 5cm Soil bulk density: 1.5 g/cm^3 % plant interception: 0 % (Pre-emergence) Number of applications: 1 Application rate(s): 864 g a.s./ha <u>Product BAS 830 01 H with 333 g/L dimethenamid-P & 167 g/L quinmerac:</u> Crop: winter oilseed rape Depth of soil layer: 5 cm Soil bulk density: 1.5 g/cm^3 % plant interception: 0 % (Pre-emergence) Application rate(s): 500 g dimethenamid-P /ha (+ 250 g quinmerac/ha)

Active substance	**dimethenamid-P**			
Crop/ Application scenario	864 g a.s./ha pre-emergence application to maize			
$PEC_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	1.152		1.152	
Plateau concentration	<0.001 mg/kg after 10 yr			
Crop/ Application scenario	500 g a.s./ha pre-emergence application to winter oilseed rape			
$PEC_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.667		0.667	
Plateau concentration	<0.001 mg/kg after 10 yr			

Metabolite **M656PH023** Method of calculation	Molecular weight relative to the parent: 0.983 DT_{50} (d): 63.9 days

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Germany	**August 2016**	**Dimethenamid-P**

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	Kinetics: SFO Lab: longest, non-normalized DT_{50} value
Application data	<u>Product BAS 656 12 H with 720 g/L dimethenamid-P:</u> Application rate assumed: 114.4 g/ha (assumed M656PH023 is formed at a maximum of 13.44 % of the applied dose of 864 g a.s./ha) <u>Product BAS 830 01 H with 333 g/L dimethenamid-P & 167 g/L quinmerac:</u> Application rate assumed: 66.0 g/ha (assumed M656PH023 is formed at a maximum of 13.44 % of the applied dose of 500 g a.s./ha)

Metabolite	**M656PH023**			
Crop/ Application scenario	864 g a.s./ha pre-emergence application to maize			
$PEC_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.1525		0.1533	
Plateau concentration	0.0007 mg/kg after 10 yr			
Crop/ Application scenario	500 g a.s./ha pre-emergence application to winter oilseed rape			
$PEC_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.0880		0.0884	
Plateau concentration	0.0004 mg/kg after 10 yr			

Metabolite **M656PH027** Method of calculation	Molecular weight relative to the parent: 1.165 DT_{50} (d): 31.3 days Kinetics: SFO Field: longest, non-normalized DT_{50} from field studies.
Application data	<u>Product BAS 656 12 H with 720 g/L dimethenamid-P:</u> Application rate assumed: 134.1 g/ha (assumed M656PH027 is formed at a maximum of 13.32 % of the applied dose of 864 g a.s./ha) <u>Product BAS 830 01 H with 333 g/L dimethenamid-P & 167 g/L quinmerac:</u> Application rate assumed: 77.6 g/ha (assumed M656PH023 is formed at a maximum of 13.32 % of the

	applied dose of 500 g a.s./ha)

Metabolite	**M656PH027**			
Crop/ Application scenario	864 g a.s./ha pre-emergence application to maize			
PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.179		0.179	
Plateau concentration	< 0.001 mg/kg after 10 yr			
Crop/ Application scenario	500 g a.s./ha pre-emergence application to winter oilseed rape			
PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.104		0.104	
Plateau concentration	< 0.001 mg/kg after 10 yr			

Metabolite **M656PH031** Method of calculation	Molecular weight relative to the parent: 1.258 DT_{50} (d): 103.3 days Kinetics: SFO Lab: longest, non-normalized DT_{50} value
Application data	<u>Product BAS 656 12 H with 720 g/L dimethenamid-P:</u> Application rate assumed: 112.4 g/ha (assumed M656PH031 is formed at a maximum of 10.34 % of the applied dose of 864 g a.s./ha) <u>Product BAS 830 01 H with 333 g/L dimethenamid-P & 167 g/L quinmerac:</u> Application rate assumed: 65.0 g/ha (assumed M656PH023 is formed at a maximum of 10.34 % of the applied dose of 500 g a.s./ha)

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Germany	**August 2016**	**Dimethenamid-P**

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Metabolite	**M656PH031**			
Crop/ Application scenario	864 g a.s./ha pre-emergence application to Maize			
PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.150		0.1534	
Plateau concentration	0.0035 mg/kg after 10 yr			
Crop/ Application scenario	500 g a.s./ha pre-emergence application to winter oilseed rape			
PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.0867		0.0902	
Plateau concentration	0.0035 mg/kg after 10 yr			

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Germany	**August 2016**	**Dimethenamid-P**

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

FOCUS groundwater modelling according to FOCUS guidance (tier 1)	Version control no. of FOCUS software: FOCUS PELMO 5.5.3
Parent **dimethenamid-P**	Molecular weight (g/mol): 275.8 K_{OC} (mL/g): 167.4 (Median, n = 10) Freundlich exponent 1/n: 0.994 (arithmetic mean, n=10) DT_{50} (d): 11.3 (geometric mean of normalised laboratory and field DT_{50} values, n = 12) Crop uptake factor: 0.5
Metabolite **M656PH023**	Molecular weight (g/mol): 271 K_{OC} (mL/g): 11.9 (arithmetic mean, n = 50) Freundlich exponent 1/n: 0.722 (arithmetic mean, n=5) DT_{50} (d): 28.2 (geometric mean of normalised laboratory DT_{50} values, n = 5) Formation fraction from dimethenamid-P to M656H023: 0.138 (arithmetic mean of laboratory data, n = 5) Crop uptake factor: 0
Metabolite **M656PH031**	Molecular weight (g/mol): 347 K_{OC} (mL/g): 1 (default) Freundlich exponent 1/n: 0.9 (default) DT_{50} (d): 51.94 (geometric mean of normalised laboratory DT_{50} values, n = 6) Formation fraction from dimethenamid-P to M656H023: 0.0751 (arithmetic mean of laboratory data, n = 6) Crop uptake factor: 0
Metabolite **M656PH027**	Molecular weight (g/mol): 3421.4 K_{OC} (mL/g): 7.0 (arithmetic mean, n=5) Freundlich exponent 1/n: 0.979 (arithmetic mean, n=5) DT_{50} (d): 14.3 (geometric mean of normalised field DT_{50} values, n =4) Formation fraction from dimethenamid-P to M656H027: 1.0 (default) Formation fraction from M656H031 to M656H027: 1.0 (default) Crop uptake factor: 0
Metabolites **M656PH003 (=M3), M656PH010 (=M10), M656PH032 (=M32), M656PH043 (=M43), M656PH045 (=M45), M656PH047 (=M47), M656PH049 (=M49), M656PH050 (=M50), M656PH051 (=M51), M656PH052 (M52), M656PH053 (M53), M656PH054 (=M54), M656H055 (=M55), M656PH059 (=M59)and M656PH062 (=M62)** only found in the lysimeter leachate	Estimated using transfer factors derived from the ratio of the modelled groundwater concentration of M656H027 (=calc) and the M656H027 concentrations measured in the lysimeter (=meas): (1) Transfer factor = $M656H027_{calc}$/ $M656H027_{meas}$ (2) Metabolite X_{calc}= Transfer factor * Metabolite X_{meas} Metabolite X= Metabolite in question only found in the lysimeter leachate but not in soil studies

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Germany	**August 2016**	**Dimethenamid-P**

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Application rate	<u>Product BAS 656 12 H with 720 g/L dimethenamid-P:</u> Crop: maize BBCH: 00-09 (pre-mergence) & 10-16 (post-emergence) Application rate (g a.s./ha): 1 x 864 Canopy interception (%): 0 (pre-mergence) & 25 (post-emergence) Soil relevant application rate (g a.s./ha): 864 (pre-mergence) & 648 (post-emergence) Time of application: 7 days before and after pre-defined crop emergence of the respective FOCUS locations Crop: soybeans & sunflowers BBCH: 00-09 (pre-mergence) Application rate (g a.s./ha): 1 x 864 Canopy interception (%): 0 (pre-mergence) Soil relevant application rate (g a.s./ha): 864 (pre-mergence) Time of application: 7 days before pre-defined crop emergence of the respective FOCUS locations Crop: sugar beet BBCH: 00-09 (pre-mergence) Application rate (g a.s./ha): 1 x 864 Canopy interception (%): 0 (pre-mergence) Soil relevant application rate (g a.s./ha): 864 (pre-mergence) Time of application: 7 days before pre-defined crop emergence of the respective FOCUS locations Crop: sugar beet BBCH: 12-18 (pre-mergence) Application rate (g a.s./ha): 1 x 720 Canopy interception (%): 20 (post-mergence) Soil relevant application rate (g a.s./ha): 576 (pre-mergence) Time of application: 7 days after the pre-defined crop emergence of the respective FOCUS locations
	<u>Product BAS 830 01 H with 333 g/L dimethenamid-P & 167 g/L quinmerac:</u> Crop: winter oilseed rape BBCH: 00-09 (pre-mergence) &12-18 (pre-mergence) Application rate (g a.s./ha): 1 x 500 Canopy interception (%):0 (pre-mergence) & 40 (post-emergence) Soil relevant application rate (g a.s./ha): 500 (pre-mergence) & 300 (post-emergence) Time of application: 7 days before and after the pre-

	defined crop emergence of the respective FOCUS locations

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

Maize, pre-emergence, 864 g a.s. ha^{-1}				
Scenario	Parent (µg/L)	Metabolite (µg/L)		
		M656PH023	M656PH027	M656PH031
Chateaudun	<0.001	0.407	2.894	8.594
Hamburg	0.001	1.292	5.016	14.336
Kremsmunster	0.001	1.007	3.903	10.453
Okehampton	0.002	1.419	3.361	8.527
Piacenza	0.001	0.671	2.407	6.448
Porto	<0.001	0.182	1.294	4.170
Sevilla	<0.001	0.002	0.730	2.419
Thiva	<0.001	0.142	1.881	5.956

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Maize, pre-emergence, 864 g ha^{-1}									
Scenario	M3	M10	M32	M43 (rota 1+2)	M45 (rota 1+2)	M47 (rota 1+2)	M49	M50	M51
Châteaudun	0.07	0.05	1.1	0.9	1.4	0.9	0.7	0.4	0.8
Hamburg	0.1	0.09	1.9	1.5	2.5	1.5	1.3	0.6	1.4
Kremsmünster	0.1	0.07	1.5	1.2	2.0	1.2	1.0	0.5	1.1
Okehampton	0.08	0.06	1.3	1.0	1.7	1.0	0.8	0.4	0.9
Piacenza	0.06	0.04	0.9	0.7	1.2	0.7	0.6	0.3	0.7
Porto	0.03	0.02	0.5	0.4	0.6	0.4	0.3	0.2	0.3
Sevilla	0.02	0.01	0.3	0.2	0.4	0.2	0.2	0.1	0.2
Thiva	0.05	0.03	0.7	0.6	0.9	0.6	0.5	0.2	0.5
Scenario	M52	M53 iso 1	M53 iso 2	M54 (rota 1+2)	M55	M59 iso 1	M59 iso 2	M59 iso 3	M62
Châteaudun	0.6	1.1	1.4	2.4	0.5	0.6	0.3	1.1	1.4
Hamburg	1.1	2.0	2.5	4.2	0.9	1.0	0.5	2.0	2.5
Kremsmünster	0.9	1.6	2.0	3.2	0.7	0.8	0.4	1.6	2.0
Okehampton	0.8	1.3	1.7	2.8	0.6	0.7	0.3	1.3	1.7
Piacenza	0.5	1.0	1.2	2.0	0.4	0.5	0.2	1.0	1.2
Porto	0.3	0.5	0.6	1.0	0.2	0.2	0.1	0.5	0.6
Sevilla	0.2	0.3	0.4	0.6	0.1	0.1	0.1	0.3	0.4
Thiva	0.4	0.8	0.9	1.6	0.3	0.4	0.2	0.8	0.9

iso= isomer, rota= rotamer

Maize, post-emergence, 864 g a.s. ha^{-1}				
Scenario	Parent (µg/L)	Metabolite (µg/L)		
		M656PH023	M656PH027	M656PH031
Chateaudun	<0.001	0.255	2.232	6.758
Hamburg	0.001	0.834	3.972	11.292
Kremsmunster	<0.001	0.660	2.921	8.017
Okehampton	0.002	0.984	2.637	6.778
Piacenza	0.001	0.469	1.941	5.067
Porto	<0.001	0.125	0.952	3.143
Sevilla	<0.001	0.001	0.563	1.870
Thiva	<0.001	0.093	1.558	4.749

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Maize, post-emergence, 864 g ha-1									
Scenario	M3	M10	M32	M43 (rota 1+2)	M45 (rota 1+2)	M47 (rota 1+2)	M49	M50	M51
Châteaudun	0.06	0.04	0.8	0.7	1.1	0.7	0.6	0.3	0.6
Hamburg	0.1	0.07	1.5	1.2	2.0	1.2	1.0	0.5	1.1
Kremsmünster	0.07	0.05	1.1	0.9	1.5	0.9	0.7	0.4	0.8
Okehampton	0.07	0.05	1.0	0.8	1.3	0.8	0.7	0.3	0.7
Piacenza	0.05	0.03	0.7	0.6	1.0	0.6	0.5	0.2	0.5
Porto	0.02	0.02	0.4	0.3	0.5	0.3	0.2	0.1	0.3
Sevilla	0.01	0.01	0.2	0.2	0.3	0.2	0.1	0.1	0.2
Thiva	0.04	0.03	0.6	0.5	0.8	0.5	0.4	0.2	0.4
Scenario	M52	M53 iso 1	M53 iso 2	M54 (rota 1+2)	M55	M59 iso 1	M59 iso 2	M59 iso 3	M62
Châteaudun	0.5	0.9	1.1	1.8	0.4	0.4	0.2	0.9	1.1
Hamburg	0.9	1.6	2.0	3.3	0.7	0.8	0.4	1.6	2.0
Kremsmünster	0.7	1.2	1.5	2.4	0.5	0.6	0.3	1.2	1.5
Okehampton	0.6	1.1	1.3	2.2	0.5	0.5	0.3	1.1	1.3
Piacenza	0.4	0.8	1.0	1.6	0.3	0.4	0.2	0.8	1.0
Porto	0.2	0.4	0.5	0.8	0.2	0.2	0.1	0.4	0.5
Sevilla	0.1	0.2	0.3	0.5	0.1	0.1	0.1	0.2	0.3
Thiva	0.4	0.6	0.8	1.3	0.3	0.3	0.2	0.6	0.8

iso= isomer, rota= rotamer

Soybeans, pre-emergence, 864 g a.s. ha^{-1}				
Scenario	Parent (µg/L)	Metabolite (µg/L)		
		M656PH023	M656PH027	M656PH031
Piacenza	0.001	0.404	1.701	4.980

Soybeans, pre-emergence, 864 g ha-1									
Scenario	M3	M10	M32	M43 (rota 1+2)	M45 (rota 1+2)	M47 (rota 1+2)	M49	M50	M51
Piacenza	0.04	0.03	0.6	0.5	0.9	0.5	0.4	0.2	0.5
Scenario	M52	M53 iso 1	M53 iso 2	M54 (rota 1+2)	M55	M59 iso 1	M59 iso 2	M59 iso 3	M62
Piacenza	0.4	0.7	0.9	1.4	0.3	0.3	0.2	0.7	0.9

iso= isomer, rota= rotamer

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Sunflowers, pre-emergence, 864 g a.s. ha-1				
Scenario	Parent (µg/L)	Metabolite (µg/L)		
		M656PH023	M656PH027	M656PH031
Piacenza	0.002	0.951	3.038	7.751
Sevilla	<0.001	0.010	1.142	3.728

Sunflowers, pre-emergence, 864 g ha-1									
Scenario	M3	M10	M32	M43 (rota 1+2)	M45 (rota 1+2)	M47 (rota 1+2)	M49	M50	M51
Piacenza	0.08	0.05	1.1	0.9	1.5	0.9	0.8	0.4	0.8
Sevilla	0.03	0.02	0.4	0.3	0.6	0.3	0.3	0.1	0.3
Scenario	M52	M53 iso 1	M53 iso 2	M54 (rota 1+2)	M55	M59 iso 1	M59 iso 2	M59 iso 3	M62
Piacenza	0.7	1.2	1.5	2.5	0.5	0.6	0.3	1.2	1.5
Sevilla	0.3	0.5	0.6	0.9	0.2	0.2	0.1	0.5	0.6

iso= isomer, rota= rotamer

Sugar beet, pre-emergence, 864 g a.s. ha^{-1}				
Scenario	Parent (µg/L)	Metabolite (µg/L)		
		M656PH023	M656PH027	M656PH031
Chateaudun	<0.001	1.002	4.465	12.217
Hamburg	0.001	1.150	4.597	13.300
Jokioinen	<0.001	0.733	7.353	24.996
Kremsmunster	<0.001	0.893	3.723	9.924
Okehampton	0.001	1.202	3.146	7.862
Piacenza	0.001	0.752	3.177	9.031
Porto	0.001	0.612	2.872	7.650
Sevilla	<0.001	0.569	4.936	10.244
Thiva	<0.001	0.171	2.266	7.104

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Sugar beet, pre-emergence, 864 g ha-1									
Scenario	M3	M10	M32	M43 (rota 1+2)	M45 (rota 1+2)	M47 (rota 1+2)	M49	M50	M51
Châteaudun	0.1	0.08	1.7	1.3	2.2	1.3	1.1	0.6	1.2
Hamburg	0.1	0.08	1.7	1.4	2.3	1.4	1.2	0.6	1.3
Jokoinen	0.2	0.1	2.8	2.2	3.7	2.2	1.8	0.9	2.0
Kremsmünster	0.09	0.07	1.4	1.1	1.9	1.1	0.9	0.5	1.0
Okehampton	0.08	0.06	1.2	0.9	1.6	0.9	0.8	0.4	0.9
Piacenza	0.08	0.06	1.2	1.0	1.6	1.0	0.8	0.4	0.9
Porto	0.07	0.05	1.1	0.9	1.4	0.9	0.7	0.4	0.8
Sevilla	0.1	0.09	1.8	1.5	2.5	1.5	1.2	0.6	1.4
Thiva	0.06	0.04	0.9	0.7	1.1	0.7	0.6	0.3	0.6
Scenario	M52	M53 iso 1	M53 iso 2	M54 (rota 1+2)	M55	M59 iso 1	M59 iso 2	M59 iso 3	M62
Châteaudun	1.0	1.8	2.2	3.7	0.8	0.9	0.4	1.8	2.2
Hamburg	1.0	1.8	2.3	3.8	0.8	0.9	0.5	1.8	2.3
Jokoinen	1.7	2.9	3.7	6.1	1.3	1.5	0.7	2.9	3.7
Kremsmünster	0.8	1.5	1.9	3.1	0.7	0.7	0.4	1.5	1.9
Okehampton	0.7	1.3	1.6	2.6	0.6	0.6	0.3	1.3	1.6
Piacenza	0.7	1.3	1.6	2.6	0.6	0.6	0.3	1.3	1.6
Porto	0.6	1.1	1.4	2.4	0.5	0.6	0.3	1.1	1.4
Sevilla	1.1	2.0	2.5	4.1	0.9	1.0	0.5	2.0	2.5
Thiva	0.5	0.9	1.1	1.9	0.4	0.5	0.2	0.9	1.1

iso= isomer, rota= rotamer

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Sugar beet, post-emergence, 720 g a.s. ha^{-1}				
Scenario	Parent (µg/L)	Metabolite (µg/L)		
		M656PH023	M656PH027	M656PH031
Chateaudun	<0.001	0.537	3.096	8.454
Hamburg	0.001	0.607	3.197	9.075
Jokioinen	<0.001	0.304	5.108	17.208
Kremsmunster	<0.001	0.446	2.516	6.772
Okehampton	0.001	0.678	2.092	5.412
Piacenza	0.001	0.414	2.095	5.987
Porto	0.001	0.330	1.854	5.008
Sevilla	0.001	0.158	2.808	6.289
Thiva	<0.001	0.078	4.961	1.607

Sugar beet, post-emergence, 720 g a.s. ha^{-1}									
Scenario	M3	M10	M32	M43 (rota 1+2)	M45 (rota 1+2)	M47 (rota 1+2)	M49	M50	M51
Châteaudun	0.08	0.05	1.2	0.9	1.5	0.9	0.8	0.4	0.9
Hamburg	0.08	0.06	1.2	1.0	1.6	1.0	0.8	0.4	0.9
Jokoinen	0.1	0.09	1.9	1.5	2.6	1.5	1.3	0.6	1.4
Kremsmünster	0.06	0.04	0.9	0.8	1.3	0.8	0.6	0.3	0.7
Okehampton	0.05	0.04	0.8	0.6	1.0	0.6	0.5	0.3	0.6
Piacenza	0.05	0.04	0.8	0.6	1.0	0.6	0.5	0.3	0.6
Porto	0.05	0.03	0.7	0.6	0.9	0.6	0.5	0.2	0.5
Sevilla	0.07	0.05	1.0	0.8	1.4	0.8	0.7	0.3	0.8
Thiva	0.1	0.09	1.9	1.5	2.5	1.5	1.2	0.6	1.4
Scenario	M52	M53 iso 1	M53 iso 2	M54 (rota 1+2)	M55	M59 iso 1	M59 iso 2	M59 iso 3	M62
Châteaudun	0.7	1.2	1.5	2.6	0.5	0.6	0.3	1.2	1.5
Hamburg	0.7	1.3	1.6	2.6	0.6	0.6	0.3	1.3	1.6
Jokoinen	1.2	2.0	2.6	4.2	0.9	1.0	0.5	2.0	2.6
Kremsmünster	0.6	1.0	1.3	2.1	0.4	0.5	0.3	1.0	1.3
Okehampton	0.5	0.8	1.0	1.7	0.4	0.4	0.2	0.8	1.0
Piacenza	0.5	0.8	1.0	1.7	0.4	0.4	0.2	0.8	1.0
Porto	0.4	0.7	0.9	1.5	0.3	0.4	0.2	0.7	0.9
Sevilla	0.6	1.1	1.4	2.3	0.5	0.6	0.3	1.1	1.4
Thiva	1.1	2.0	2.5	4.1	0.9	1.0	0.5	2.0	2.5

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iso= isomer, rota= rotamer

Winter oilseed rape, pre-emergence, 500 g a.s. ha^{-1}				
Scenario	Parent (µg/L)	Metabolite (µg/L)		
		M656PH023	M656PH027	M656PH031
Chateaudun	<0.001	0.249	3.272	9.327
Hamburg	0.003	1.608	6.347	12.285
Kremsmunster	0.002	0.788	3.255	7.561
Okehampton	0.003	1.287	3.277	7.133
Piacenza	0.008	1.285	4.180	8.250
Porto	0.005	1.285	3.193	7.428

Winter oilseed rape, pre-emergence, 500 g ha-1									
	PECgw [µg L-1]								
Scenario	M3	M10	M32	M43 (rota 1+2)	M45 (rota 1+2)	M47 (rota 1+2)	M49	M50	M51
Châteaudun	0.08	0.06	1.2	1.0	1.6	1.0	0.8	0.4	0.9
Hamburg	0.2	0.1	2.4	1.9	3.2	1.9	1.6	0.8	1.7
Kremsmünster	0.08	0.06	1.2	1.0	1.6	1.0	0.8	0.4	0.9
Okehampton	0.08	0.06	1.2	1.0	1.6	1.0	0.8	0.4	0.9
Piacenza	0.1	0.07	1.6	1.2	2.1	1.2	1.0	0.5	1.1
Porto	0.08	0.06	1.2	1.0	1.6	1.0	0.8	0.4	0.9
Scenario	M52	M53 iso 1	M53 iso 2	M54 (rota 1+2)	M55	M59 iso 1	M59 iso 2	M59 iso 3	M62
Châteaudun	0.7	1.3	1.6	2.7	0.6	0.7	0.3	1.3	1.6
Hamburg	1.4	2.5	3.2	5.2	1.1	1.3	0.6	2.5	3.2
Kremsmünster	0.7	1.3	1.6	2.7	0.6	0.7	0.3	1.3	1.6
Okehampton	0.7	1.3	1.6	2.7	0.6	0.7	0.3	1.3	1.6
Piacenza	0.9	1.7	2.1	3.4	0.7	0.8	0.4	1.7	2.1
Porto	0.7	1.3	1.6	2.6	0.6	0.6	0.3	1.3	1.6

iso= isomer, rota= rotamer

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Winter oilseed rape, post-emergence, 500 g a.s. ha^{-1}				
Scenario	Parent (µg/L)	Metabolite (µg/L)		
		M656PH023	M656PH027	M656PH031
Chateaudun	<0.001	0.087	1.967	5.488
Hamburg	0.002	0.738	3.937	7.548
Kremsmunster	0.001	0.344	2.147	4.741
Okehampton	0.003	0.664	2.272	4.593
Piacenza	0.003	0.384	2.333	4.342
Porto	0.005	0.684	2.304	4.632

Winter oilseed rape, post-emergence, 500 g ha-1									
	PECgw [µg L-1]								
Scenario	M3	M10	M32	M43 (rota 1+2)	M45 (rota 1+2)	M47 (rota 1+2)	M49	M50	M51
Châteaudun	0.05	0.03	0.7	0.6	1.0	0.6	0.5	0.2	0.5
Hamburg	0.10	0.07	1.5	1.2	2.0	1.2	1.0	0.5	1.1
Kremsmünster	0.05	0.04	0.8	0.6	1.1	0.6	0.5	0.3	0.6
Okehampton	0.06	0.04	0.9	0.7	1.1	0.7	0.6	0.3	0.6
Piacenza	0.06	0.04	0.9	0.7	1.2	0.7	0.6	0.3	0.6
Porto	0.06	0.04	0.9	0.7	1.2	0.7	0.6	0.3	0.6
Scenario	M52	M53 iso 1	M53 iso 2	M54 (rota 1+2)	M55	M59 iso 1	M59 iso 2	M59 iso 3	M62
Châteaudun	0.4	0.8	1.0	1.6	0.3	0.4	0.2	0.8	1.0
Hamburg	0.9	1.6	2.0	3.2	0.7	0.8	0.4	1.6	2.0
Kremsmünster	0.5	0.9	1.1	1.8	0.4	0.4	0.2	0.9	1.1
Okehampton	0.5	0.9	1.1	1.9	0.4	0.5	0.2	0.9	1.1
Piacenza	0.5	0.9	1.2	1.9	0.4	0.5	0.2	0.9	1.2
Porto	0.5	0.9	1.2	1.9	0.4	0.5	0.2	0.9	1.2

iso= isomer, rota= rotamer

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

Parent **dimethenamid-P** Parameters used in FOCUSsw step 1 and 2	Version control no. of FOCUS calculator: Step 1-2, version 2.1
	Molecular weight (g/mol): 275.8 Water solubility at 25 °C (mg/L): 1449 K_{OC} (mL/g): 167.4 (median, n=10) DT_{50} soil (d):11.3 d (geometric mean of normalised laboratory and field DT_{50} values (n = 12) DT_{50} water/sediment system (d): 26.9 d (geometric mean, laboratory data, n=3) DT_{50} water (d): 26.9 d (geometric mean of total system, laboratory data, n=3) DT_{50} sediment (d): 1000 d (default)
Application rates used in FOCUSsw step 1 and 2	Product BAS 656 12 H with 720 g/L dimethenamid-P: Crop: Maize Application rate (g a.s./ha): 1 x 864 Crop interception (%): no interception & minimal crop cover season of application: March- May Crop: soy beans, sunflowers and sugar beets Application rate (g/ha): 1 x 864 Crop interception (%): no interception season of application: March- May Crop: sugar beets Application rate (g/ha): 1 x 720 Crop interception (%):minimal crop cover season of application: March- May & Jun-Sep
	Product BAS 830 01 H with 333 g/L dimethenamid-P & 167 g/L quinmerac: Crop: winter oilseed rape Application rate (g/ha): 500 g/ha dimethenamid-P (+ 250 g/ha quinmerac) Crop interception (%):no interception & minimal crop cover season of application: Jun-Sept & Oct-Feb
Parameters used in FOCUSsw step 3 & 4	Version control no.'s of FOCUS software: SWASH version 3.1 with PRZM 3.1.1, MACRO 4.4.2 & TOXSWA 3.3.1 for Step 3 SWAN 2.0.0 for Step 4 (for 864 g/ha DMA-P to sugarbeet: SWAN 3.0.0)

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	Molecular weight (g/mol): 575.8 Water solubility at 25 °C (mg/L): 1449 Vapour pressure (Pa) at 25 °C: 2.51 x 10^{-3} K_{oc} (mL/g): 167.4, Median (n = 10) 1/n: 0.99 (median/ arithmetic mean, n=10) DT_{50} soil (d):11.3 d (geometric mean of normalised laboratory and field DT_{50} values (n = 12) DT_{50} water (d): 26.9 (geometric mean of total system, laboratory data, n=3) DT_{50} sediment (d): 1000 (default) DT_{50} crop (d): 10 Crop uptake factor: 0.5 Wash off coefficient: PRZM (cm^{-1}): 0.5 MACRO (mm^{-1}): 0.05
Application rates used in FOCUSsw step 3 & 4	<u>Product BAS 656 12 H with 720 g/L dimethenamid-P:</u> Crop: Maize BBCH: 00-09 (pre-mergence) & 10-16 (post-emergence) Application rate (g a.s./ha): 1 x 864 Application window: 30 d before emergence (pre-emergence) & 30 d after emergence (post-emergence) Crop: Soy beans BBCH: 00-09 (pre-mergence) Application rate (g a.s./ha): 1 x 864 Application window: 30 d before emergence (pre-emergence) Crop: sunflowers BBCH: 00-09 (pre-mergence) Application rate (g a.s./ha): 1 x 864 Application window: 30 d before emergence (pre-emergence) Crop: sugar beets BBCH: 00-09 (pre-mergence) Application rate (g a.s./ha): 1 x 864 Application window: 30 d before emergence (pre-emergence) Crop: sugar beets BBCH: 12-18 (post-mergence) Application rate (g a.s./ha): 1 x 720 Application window: 30 d after emergence (post-emergence)
	<u>Product BAS 830 01 H with 333 g/L dimethenamid-P & 167 g/L quinmerac:</u>

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	Crop: winter oilseed rape BBCH: 00-09 (pre-mergence) & 10-16 (post-emergence) Application rate (g a.s./ha): 1 x 500 g/ha dimethenamid-P (+ 250 g/ha quinmerac) Application window: 30 d before emergence (pre-emergence) & 30 d after emergence (post-emergence)

Application scenario	FOCUS model	$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Maize, soybeans, sunflowers, sugar beets 1 x 864 g/ha, pre-emergence	FOCUS Step 1	243.394	394.711
	FOCUS Step 2		
	North Europe	43.142	71.564
	South Europe	79.986	133.198

Application scenario	FOCUS model	$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Maize, 1 x 864 g/ha, post-emergence	FOCUS Step 1	243.394	394.711
	FOCUS Step 2		
	North Europe	33.931	56.156
	South Europe	61.564	102.381

Application scenario	FOCUS model	$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Sugar beets, 1 x 720 g/ha, post-emergence	FOCUS Step 1	243.394	328.926
	FOCUS Step 2		
	North Europe, Mar- May	29.811	49.364
	South Europe, Mar- May	54.374	90.454

Application scenario	FOCUS model	$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Winter oilseed rape 1 x 500 g/ha, pre-emergence	FOCUS Step 1	140.853	228.421
	FOCUS Step 2		
	North Europe, Oct -Feb	56.949	94.916
	South Europe, Oct -Feb	46.288	77.082

Application scenario	FOCUS model	$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Winter oilseed rape 1 x 500 g/ha, post-emergence	FOCUS Step 1	140.853	228.421
	FOCUS Step 2		
	North Europe, June -Sept	16.438	27.147

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Germany	**August 2016**	**Dimethenamid-P**

Section 4 Environmental fate and behaviour

	North Europe, Oct -Feb	35.628	59.248
	South Europe, June -Sept	22.835	37.848
	South Europe, Oct -Feb	29.231	48.548

Application scenario	FOCUS STEP 3 Scenario	Water body	PEC_{SW}, Global max (µg/L)	PEC_{SED}, Global max (µg/kg)
Maize, 1 x 864 g/ha, pre-emergence	D3	ditch	4.524	0.990
	D4	pond	0.212	0.293
		stream	3.721	0.135
	D5	pond	0.215	0.285
		stream	4.025	0.153
	D6	ditch	4.578	1.204
	R1	pond	0.330	0.514
		stream	10.478	1.853
	R2	stream	7.504	1.490
	R3	stream	16.982	4.430
	R4	stream	46.070	5.991

Application scenario	FOCUS STEP 3 Scenario	Water body	PEC_{SW}, Global max (µg/L)	PEC_{SED}, Global max (µg/kg)
Maize, 1 x 864 g/ha, post-emergence	D3	ditch	4.528	1.037
	D4	pond	0.226	0.275
		stream	3.954	0.227
	D5	pond	0.240	0.328
		stream	3.636	0.113
	D6	ditch	4.532	0.882
	R1	pond	0.655	0.910
		stream	11.503	2.337
	R2	stream	9.647	2.282
	R3	stream	25.173	4.753
	R4	stream	28.803	7.053

Application scenario	FOCUS STEP 3 Scenario	Water body	PEC_{SW}, Global max (µg/L)	PEC_{SED}, Global max (µg/kg)
Soy beans, 1 x 864 g/ha, pre-emergence	R3	stream	23.084	13.736
	R4	stream	13.805	3.169

List of end points

Rapporteur Member State	Month and year	Active substance
Germany	**August 2016**	**Dimethenamid-P**

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Application scenario	FOCUS STEP 3 Scenario	Water body	PEC_{SW}, Global max (µg/L)	PEC_{SED}, Global max (µg/kg)
sunflowers, 1 x 864 g/ha, pre-emergence	D5	pond	0.215	0.292
		stream	3.745	0.097
	R1	pond	0.355	0.544
		stream	9.407	1.654
	R3	stream	43.354	6.514
	R4	stream	37.897	4.974

Application scenario	FOCUS STEP 3 Scenario	Water body	PEC_{SW}, Global max (µg/L)	PEC_{SED}, Global max (µg/kg)
Sugar beets, 1 x 864 g/ha, pre-emergence	D3	ditch	4.524	0.998
	D4	pond	0.219	0.314
		stream	3.727	0.154
	R1	pond	1.972	2.920
		stream	20.477	3.859
	R3	stream	38.356	7.615

Application scenario	FOCUS STEP 3 Scenario	Water body	PEC_{SW}, Global max (µg/L)	PEC_{SED}, Global max (µg/kg)
Sugar beets, 1 x 720 g/ha, post-emergence	D3	ditch	3.772	0.870
	D4	pond	0.192	0.253
		stream	3.160	0.145
	R1	pond	0.279	0.408
		stream	3.597	0.661
	R3	stream	5.700	1.406

Application scenario	FOCUS STEP 3 Scenario	Water body	PEC_{SW}, Global max (µg/L)	PEC_{SED}, Global max (µg/kg)
Winter oilseed rape, 1 x 500 g/ha, pre-emergence	D2	ditch	8.318	6.796
		stream	5.206	3.882
	D3	ditch	3.191	1.339
	D4	pond	0.427	0.964
		stream	2.743	0.463
	D5	pond	0.207	0.523
		stream	2.959	0.525
	R1	pond	0.122	0.138
		stream	2.096	0.203

	R3	stream	6.044	1.270

Application scenario	FOCUS STEP 3 Scenario	Water body	PEC_{SW}, Global max (µg/L)	PEC_{SED}, Global max (µg/kg)
Winter oilseed rape, 1 x 500 g/ha, post-emergence	D2	ditch	20.377	15.351
		stream	12.707	8.999
	D3	ditch	3.181	0.936
	D4	pond	0.787	1.728
		stream	2.747	0.860
	D5	pond	0.306	0.764
		stream	2.960	0.521
	R1	pond	0.136	0.181
		stream	2.096	0.203
	R3	stream	11.180	2.728

Application scenario	FOCUS STEP 3 & 4 Scenario	Water body	FOCUS Step 4 mitigation measures				
			5 m D	10 m D	20 m D	10 m D + R	20 m D + R
			PEC_{sw}, Global max [µg L^{-1}]				
Maize, 1 x 864 g/ha, pre-emergence	D3	ditch	1.483	0.786	0.409	0.786	0.409
	D4	pond	0.187	0.137	0.090	0.137	0.090
		stream	1.577	0.842	0.440	0.842	0.440
	D5	pond	0.190	0.139	0.093	0.139	0.093
		stream	1.706	0.911	0.476	0.911	0.476
	D6	ditch	1.535	0.838	0.460	0.838	0.460
	R1	pond	0.314	0.282	0.253	0.164	0.095
		stream	10.478	10.478	10.478	4.442	2.266
	R2	stream	7.504	7.504	7.504	3.362	1.750
	R3	stream	16.982	16.982	16.981	6.946	3.498
	R4	stream	46.070	46.070	46.070	20.860	10.909

D Drift mitigation using no-spray buffer zones
R Runoff mitigation using vegetated filter strips

Application scenario	FOCUS STEP 3 & 4 Scenario	Water body	FOCUS Step 4 mitigation measures				
			5 m D	10 m D	20 m D	10 m D + R	20 m D + R
			PEC_{sw}, Global max [µg L^{-1}]				
Maize, 1 x 864 g/ha, post-emergence	D3	ditch	1.484	0.792	0.416	0.792	0.416
	D4	pond	0.198	0.145	0.095	0.145	0.095
		stream	1.683	0.901	0.471	0.901	0.471
	D5	pond	0.211	0.158	0.109	0.158	0.109

		stream	1.542	0.825	0.433	0.825	0.433
	D6	ditch	1.506	0.813	0.437	0.813	0.437
	R1	pond	0.596	0.553	0.514	0.291	0.163
		stream	10.616	10.616	10.616	4.806	2.514
	R2	stream	9.258	9.258	9.258	4.076	2.111
	R3	stream	21.610	21.610	21.610	9.771	5.106
	R4	stream	27.993	27.993	27.993	12.725	6.670

D Drift mitigation using no-spray buffer zones
R Runoff mitigation using vegetated filter strips

Application scenario	FOCUS STEP 3 & 4 Scenario	Water body	FOCUS Step 4 mitigation measures				
			5 m D	10 m D	20 m D	10 m D + R	20 m D + R
			$PEC_{sw,}$ Global max [µg L^{-1}]				
Sugar beet, 1 x 864 g/ha, pre-emergence	D3	ditch	1.483	0.787	0.409	0.787	0.409
	D4	pond	0.189	0.144	0.0978	0.144	0.0978
		stream	1.578	0.847	0.445	0.847	0.445
	R1	pond	1.948	1.912	1.875	0.836	0.436
		stream	20.477	20.477	20.477	9.340	4.898
	R3	stream	38.356	38.356	38.356	17.504	9.188

D Drift mitigation using no-spray buffer zones
R Runoff mitigation using vegetated filter strips

Application scenario	FOCUS STEP 3 & 4 Scenario	Water body	FOCUS Step 4 mitigation measures				
			5 m D	10 m D	20 m D	10 m D + R	20 m D + R
			$PEC_{sw,}$ Global max [µg L^{-1}]				
Sugar beet, 1 x 720 g/ha, post-emergence	D3	ditch	1.237	0.657	0.345	0.657	0.345
	D4	pond	0.169	0.125	0.084	0.125	0.084
		stream	1.346	0.723	0.380	0.723	0.380
	R1	pond	0.249	0.221	0.195	0.133	0.078
		stream	3.240	3.240	3.240	1.470	0.769
	R3	stream	5.200	5.200	5.200	2.375	1.246

D Drift mitigation using no-spray buffer zones
R Runoff mitigation using vegetated filter strips

Application scenario	FOCUS STEP 3 & 4 Scenario	Water body	FOCUS Step 4 mitigation measures				
			5 m D	10 m D	20 m D	10 m D + R	20 m D + R
			$PEC_{sw,}$ Global max [µg L^{-1}]				
Winter oilseed rape, 1 x 500 g/ha, pre-	D2	ditch	8.318	8.318	8.318	8.318	8.318
		stream	5.206	5.206	5.206	5.206	5.206
	D3	ditch	0.870	0.472	0.249	0.472	0.249
	D4	pond	0.425	0.420	0.416	0.420	0.416

emergence		stream	1.005	0.710	0.710	0.710	0.710
	D5	pond	0.207	0.207	0.207	0.207	0.207
		stream	1.082	0.574	0.300	0.574	0.300
	R1	pond	0.104	0.075	0.050	0.075	0.050
		stream	0.766	0.406	0.211	0.406	0.211
	R3	stream	6.044	6.044	6.044	2.754	1.445

D Drift mitigation using no-spray buffer zones
R Runoff mitigation using vegetated filter strips

Application scenario	FOCUS STEP 3 & 4 Scenario	Water body	FOCUS Step 4 mitigation measures				
			5 m D	10 m D	20 m D	10 m D + R	20 m D + R
			$PEC_{sw,}$ Global max [µg L^{-1}]				
Winter oilseed rape, 1 x 500 g/ha, post-emergence	D2	ditch	20.377	20.377	20.377	20.377	20.377
		stream	12.707	12.707	12.707	12.707	12.707
	D3	ditch	0.876	0.485	0.258	0.485	0.258
	D4	pond	0.783	0.776	0.770	0.776	0.770
		stream	1.342	1.342	1.342	1.342	1.342
	D5	pond	0.306	0.306	0.306	0.306	0.306
		stream	1.089	0.584	0.342	0.584	0.342
	R1	pond	0.116	0.084	0.055	0.084	0.055
		stream	0.877	0.877	0.877	0.406	0.211
	R3	stream	11.180	11.180	11.180	5.095	2.671

D Drift mitigation using no-spray buffer zones
R Runoff mitigation using vegetated filter strips

Metabolite **M656PH003**	Version control no. of FOCUS calculator: Step 1-2, version 2.1
Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 241.4 Water solubility at 25 °C (mg/L): 1449 (Water solubility of parent (at 25 °C)) Koc (mL/g): 0 / 10000 (worst case default values for water and sediment) DT_{50} soil (d): 1000 (default) DT_{50} water/sediment system (d): 1000 (default) DT_{50} water (d): 1000 (default) DT_{50} sediment (d): 1000 (default) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 14.4 % Soil: no formation
Application rates used in FOCUSsw step 1 and 2	Product BAS 656 12 H with 720 g/L dimethenamid-P:

Crop: Maize
Application rate (g a.s./ha): 1 x 864
Crop interception (%): no interception & minimal crop cover
season of application: March- May

Crop: soy beans, sunflowers and sugar beets
Application rate (g/ha): 1 x 864
Crop interception (%): no interception
season of application: March- May

Crop: sugar beets
Application rate (g/ha): 1 x 720
Crop interception (%):no interception & minimal crop cover
season of application: March- May

<u>Product BAS 830 01 H with 333 g/L dimethenamid-P & 167 g/L quinmerac:</u>

Crop: winter oilseed rape
Application rate (g/ha): 500 g/ha dimethenamid-P (+ 250 g/ha quinmerac)
Crop interception (%):no interception & minimal crop cover
season of application: Oct-Feb

Application scenario	FOCUS model	Metabolite M656PH003	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Maize, soybeans, sunflowers, sugar beets 1 x 864 g a.s./ha,, pre-emergence	FOCUS Step 1	1.0015	6.983
	FOCUS Step 2		
	North Europe	1.0015	6.983
	South Europe	1.0015	6.983

Application scenario	FOCUS model	Metabolite M656PH003	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Maize 1 x 864 g a.s./ha, post-emergence	FOCUS Step 1	1.0015	6.963
	FOCUS Step 2		
	North Europe	1.0015	6.963
	South Europe	1.0015	6.963

List of end points

Rapporteur Member State	Month and year	Active substance
Germany	**August 2016**	**Dimethenamid-P**

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Application scenario	FOCUS model	Metabolite M656PH003	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Sugar beet 1 x 720 g a.s./ha, post-emergence	FOCUS Step 1	0.8346	5.819
	FOCUS Step 2		
	North Europe,	0.8346	5.803
	South Europe	0.8346	5.803

Application scenario	FOCUS model	Metabolite M656PH003	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Winter oilseed rape 1 x 500 g a.s./ha, pre-emergence	FOCUS Step 1	0.580	2.482
	FOCUS Step 2		
	North Europe	0.580	2.475
	South Europe	0.580	2.475

Application scenario	FOCUS model	Metabolite M656PH003	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Winter oilseed rape 1 x 500 g a.s./ha, post-emergence	FOCUS Step 1	0.580	2.482
	FOCUS Step 2		
	North Europe	0.580	2.475
	South Europe	0.580	2.475

Metabolite **M656PH023**	Version control no. of FOCUS calculator: Step 1-2, version 2.1
Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 271 Water solubility at 25°C (mg/L): 1449 (Water solubility of parent (at 25 °C)) Koc (mL/g): 11.9 (arithmetic mean, n=5) DT_{50} soil (d): 28.2 (Geometric mean of normalized (pF 2, 20 °C) laboratory DT_{50}, n = 5) DT_{50} water/sediment system (d): 1000 (default) DT_{50} water (d): 1000 (default) DT_{50} sediment (d): 1000 (default) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 11.4 % Soil: 13.4 %
Application rates used in FOCUSsw step 1 and 2	Product BAS 656 12 H with 720 g/L dimethenamid-P:

List of end points

Rapporteur Member State	Month and year	Active substance
Germany	**August 2016**	**Dimethenamid-P**

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Crop: Maize
Application rate (g a.s./ha): 1 x 864
Crop interception (%): no interception & minimal crop cover
season of application: March- May

Crop: soy beans, sunflowers and sugar beets
Application rate (g/ha): 1 x 864
Crop interception (%): no interception
season of application: March- May

Crop: sugar beets
Application rate (g/ha): 1 x 720
Crop interception (%):no interception & minimal crop cover
season of application: March- May

<u>Product BAS 830 01 H with 333 g/L dimethenamid-P & 167 g/L quinmerac:</u>

Crop: winter oilseed rape
Application rate (g/ha): 500 g/ha dimethenamid-P (+ 250 g/ha quinmerac)
Crop interception (%):no interception & minimal crop cover
season of application: Oct-Feb

Application scenario	FOCUS model	Metabolite M656PH023	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Maize, soybeans, sunflowers, sugar beets 1 x 864 g/ha, pre-emergence	FOCUS Step 1	38.220	4.442
	FOCUS Step 2		
	North Europe	7.654	0.909
	South Europe	14.411	1.712

Application scenario	FOCUS model	Metabolite M656PH023	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Maize 1 x 864 g/ha, post-emergence	FOCUS Step 1	37.218	4.442
	FOCUS Step 2		
	North Europe	5.953	0.707
	South Europe	11.028	1.311

List of end points

Rapporteur Member State	Month and year	Active substance
Germany	**August 2016**	**Dimethenamid-P**

Section 4 Environmental fate and behaviour

Application scenario	FOCUS model	Metabolite M656PH023	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Sugar beet 1 x 720 g/ha, post-emergence	FOCUS Step 1	31.849	3.702
	FOCUS Step 2		
	North Europe	5.343	0.623
	South Europe	9.754	1.160

Application scenario	FOCUS model	Metabolite M656PH023	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Winter oilseed rape 1 x 500 g/ha, pre-emergence	FOCUS Step 1	22.117	2.571
	FOCUS Step 2		
	North Europe	10.298	1.224
	South Europe	8.340	0.991

Application scenario	FOCUS model	Metabolite M656PH023	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Winter oilseed rape 1 x 500 g/ha, post-emergence	FOCUS Step 1	22.117	2.571
	FOCUS Step 2		
	North Europe	6.382	0.759
	South Europe	5.207	0.619

Metabolite **M656PH027**	Version control no. of FOCUS calculator: Step 1-2, version 2.1
Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 321.4 Water solubility at 25 °C (mg/L):): 1449 (Water solubility of parent (at 25 °C)) Koc (mL/g): 7.0 (arithmetic mean, n=6) DT_{50} soil (d): 14.3 (geometric mean, lab data at 20 °C, pF2, n=4) DT_{50} water/sediment system (d): 1000 (default) DT_{50} water (d): 1000 (default) DT_{50} sediment (d): 1000 (default) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 6.3 % Soil: 13.3 %
Application rates used in FOCUSsw step 1 and 2	Product BAS 656 12 H with 720 g/L dimethenamid-P:

	Crop: Maize Application rate (g a.s./ha): 1 x 864 Crop interception (%): no interception & minimal crop cover season of application: March- May Crop: soy beans, sunflowers and sugar beets Application rate (g/ha): 1 x 864 Crop interception (%): no interception season of application: March- May Crop: sugar beets Application rate (g/ha): 1 x 720 Crop interception (%):no interception & minimal crop cover season of application: March- May <u>Product BAS 830 01 H with 333 g/L dimethenamid-P & 167 g/L quinmerac:</u> Crop: winter oilseed rape Application rate (g/ha): 500 g/ha dimethenamid-P (+ 250 g/ha quinmerac) Crop interception (%):no interception & minimal crop cover season of application: Oct-Feb

Application scenario	FOCUS model	Metabolite M656PH027	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Maize, soybeans, sunflowers, sugar beets 1 x 864 g/ha, pre-emergence	FOCUS Step 1	44.525	5.229
	FOCUS Step 2		
	North Europe	7.815	0.929
	South Europe	15.054	1.790

Application scenario	FOCUS model	Metabolite M656PH027	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Maize 1 x 864 g/ha, post-emergence	FOCUS Step 1	44.525	5.229
	FOCUS Step 2		
	North Europe	6.005	0.714
	South Europe	1.359	1.359

List of end points

Rapporteur Member State	Month and year	Active substance
Germany	**August 2016**	**Dimethenamid-P**

Section 4 Environmental fate and behaviour

Application scenario	FOCUS model	Metabolite M656PH027	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Sugar beet 1 x 720 g/ha, post-emergence	FOCUS Step 1	37.104	4.358
	FOCUS Step 2		
	North Europe	5.306	0.631
	South Europe	10.132	1.205

Application scenario	FOCUS model	Metabolite M656PH027	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Winter oilseed rape 1 x 500 g/ha, pre-emergence	FOCUS Step 1	25.767	3.026
	FOCUS Step 2		
	North Europe	10.807	1.285
	South Europe	8.712	1.036

Application scenario	FOCUS model	Metabolite M656PH027	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Winter oilseed rape 1 x 500 g/ha, post-emergence	FOCUS Step 1	25.767	3.026
	FOCUS Step 2		
	North Europe	6.617	0.787
	South Europe	5.361	0.637

Metabolite **M656PH031**	Version control no. of FOCUS calculator: Step 1-2, version 2.1
Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 347 Water solubility at 25 °C (mg/L): 1000 (default) Koc (mL/g): 1 (worst case) DT_{50} soil (d): 51.9 (geometric mean, lab data at 20 °C, pF2, n=5) DT_{50} water/sediment system (d): 1000 (default) DT_{50} water (d): 1000 (default) DT_{50} sediment (d): 1000 (default) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: not formed Soil: 10.34 %
Application rates used in FOCUSsw step 1 and 2	Product BAS 656 12 H with 720 g/L dimethenamid-P:

Crop: Maize
Application rate (g a.s./ha): 1 x 864
Crop interception (%): no interception & minimal crop cover
season of application: March- May

Crop: soy beans, sunflowers and sugar beets
Application rate (g/ha): 1 x 864
Crop interception (%): no interception
season of application: March- May

Crop: sugar beets
Application rate (g/ha): 1 x 720
Crop interception (%):no interception & minimal crop cover
season of application: March- May

<u>Product BAS 830 01 H with 333 g/L dimethenamid-P & 167 g/L quinmerac:</u>

Crop: winter oilseed rape
Application rate (g/ha): 500 g/ha dimethenamid-P (+ 250 g/ha quinmerac)
Crop interception (%):no interception & minimal crop cover
season of application: Jun-Sep and Oct-Feb

Application scenario	FOCUS model	Metabolite M656PH031	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Maize, soybeans, sunflowers, sugar beets 1 x 864 g/ha, pre-emergence	FOCUS Step 1	37.418	0.374
	FOCUS Step 2		
	North Europe	7.094	0.071
	South Europe	14.189	0.142

Application scenario	FOCUS model	Metabolite M656PH031	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Maize 1 x 864 g/ha, post-emergence	FOCUS Step 1	37.418	0.374
	FOCUS Step 2		
	North Europe	5.321	0.053
	South Europe	10.642	0.106

List of end points

Rapporteur Member State	Month and year	Active substance
Germany	**August 2016**	**Dimethenamid-P**

Section 4 Environmental fate and behaviour

Application scenario	FOCUS model	Metabolite M656PH031	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Sugar beet 1 x 720 g/ha, post-emergence	FOCUS Step 1	31.182	0.312
	FOCUS Step 2		
	North Europe	4.730	0.047
	South Europe	9.459	0.095

Application scenario	FOCUS model	Metabolite M656PH031	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Winter oilseed rape 1 x 500 g/ha, pre-emergence	FOCUS Step 1	21.654	0.217
	FOCUS Step 2		
	North Europe	10.264	0.103
	South Europe	8.211	0.082

Application scenario	FOCUS model	Metabolite M656PH031	
		$PEC_{SW, max}$ (µg/L)	$PEC_{SED, max}$ (µg/kg)
Winter oilseed rape 1 x 500 g/ha, post-emergence	FOCUS Step 1	21.654	0.217
	FOCUS Step 2		
	North Europe	6.158	0.062
	South Europe	4.926	0.049

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

Method of calculation	Not performed

PEC

Maximum concentration	Not performed

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (**Name**)
Germany	**August 2016**	**Dimethenamid-P**

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				
Colinus virginianus	Dimethenamid-P	Acute	LD_{50}	1068
Colinus virginianus	Dimethenamid-P	Long-term	LD_{50}/10	106.8
Colinus virginianus	Dimethenamid (racemic mixture)	Long-term	NOAEL	114
Mammals				
Rat	Dimethenamid-P	Acute	LD_{50}	466 (sexes combined)
Rat	Dimethenamid (racemic mixture)	Acute	LD_{50}	397
Rat	Preparation BAS 656 08 H	Acute	LD_{50}	>500 <2000
Rat	Dimethenamid (racemic mixture)	Long-term [*for screening step*]	NOAEL	33.3
Endocrine disrupting properties (Annex Part A, points 8.1.5) No indication on the potential for endocrine disrupting properties.				
Additional higher tier studies (Annex Part A, points 10.1.1.2): No data adequate for risk assessment submitted.				
Terrestrial vertebrate wildlife (birds, mammals, reptile and amphibians) (Annex Part A, points 8.1.4, 10.1.3): No data submitted.				

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

BAS 656 12 H in maize, sugar maize, soybean, sunflower, and beets at 1 x 864 g a.s./ha [includes splitting in 2 or 3 applications 5- 10 day interval in sugar beet]

Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Birds)					
Bare soil BBCH 00-09	Small granivorous bird	Acute	21.3	50	10
Maize/Sugar maize BBCH 10-16	Small omnivorous bird	Acute	137.2	**7.8**	10

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Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Sugar beet BBCH 12-18[1)]	Small omnivorous bird	Acute	114.3	**9.3**	10
Bare soil BBCH 00-09	Small granivorous bird	Long-term	5.22	20.1	5
Maize/Sugar maize BBCH 10-16	Small omnivorous bird	Long-term	29.67	**3.6**	5
Sugar beet BBCH 12-18[1)]	Small omnivorous bird	Long-term	24.73	**4.3**	5
Tier 1 (Birds)					
Maize/Sugar maize BBCH 10-29	Medium granivorous bird 100 % seed	Acute	5.702	187	10
Maize/Sugar maize BBCH 10-19 Leaf development	Small insectivorous bird 100 % soil dwelling arthropods	Acute	9.072	118	10
Maize/Sugar Maize BBCH 10-29	Small omnivorous bird 25 % crop leaves 25 % weed seeds 50 % ground arthropods	Acute	20.736	52	10
Maize/Sugar Maize BBCH 10-29	Medium herbivorous/granivorous bird 100 % leaves	Acute	48.038	22	10
Maize/Sugar maize BBCH 10-19	Small insectivorous bird 50 % ground arthropods 50 % foliar arthropods	Acute	23.155	46	10
Sugar beet BBCH 10-19[1)]	Small insectivorous bird 100 % soil dwelling arthropods	Acute	10.9	6.9	10
Sugar beet BBCH 10-19[1)] (spring)	Small omnivorous bird 25 % crop leaves 25 % weed seeds 50 % ground arthropods	Acute	24.0	17.28	10
Maize/Sugar maize BBCH 10-29	Medium granivorous bird 100 % seed	Long-term	1.374	78	5
Maize/Sugar maize BBCH 10-19	Small insectivorous bird 100 % soil dwelling arthropods	Long-term	2.610	41	5
Maize/Sugar maize BBCH 10-29	Small omnivorous bird 25 % crop leaves 25 % weed seeds 50 % ground arthropods	Long-term	4.991	21	5
Maize/Sugar maize BBCH 10-29	Medium herbivorous/granivorous bird 100 % leaves	Long-term	10.395	10	5

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Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Maize/Sugar maize BBCH 10-19	Small insectivorous bird 50 % ground arthropods 50 % foliar arthropods	Long-term	5.174	21	5
Sugar beet BBCH 10-19[1)]	Small insectivorous bird 100 % soil dwelling arthropods	Long-term	2.25	47.4	5
Sugar beet BBCH 10-19[1)] (spring)	Small omnivorous bird 25 % crop leaves 25 % weed seeds 50 % ground arthropods	Long-term	4.15	25.7	5
Higher tier (birds):					
Not required					
Screening Step (Mammals)					
Bare soil BBCH 00-10	Small granivorous mammal	Acute	12.442	37.5	10
Maize/Sugar maize BBCH 10-16	Small herbivorous mammal	Acute	117.85	**4.0**	10
Sugar beet BBCH 12-18[1)]	Small herbivorous mammal	Acute	85.25	**5.5**	10
Bare soil BBCH 00-10	Small granivorous mammal	Long-term	3.022	11.1	5
Maize/Sugar maize BBCH 10-16	Small herbivorous mammal	Long-term	53.1	**1.0**	5
Sugar beet BBCH 12-18[1)]	Small herbivorous mammal	Long-term	16.6	**2.0**	5
Tier 1 (Mammals)					
Maize/Sugar maize BBCH 10-19	Small insectivorous mammal 100 % ground arthropods	Acute	10.306	>48.5	5
Maize/Sugar maize BBCH 10-29	Small herbivorous mammal All maize shoots + later grass	Acute	184.96	**>2.7**	5
Maize/Sugar maize BBCH 10-29	Small omnivorous mammal 25 % weeds 50 % weed seeds 25 % ground arthropods	Acute	23.323	>21.4	5
Sugar beet BBCH 10-19[1)]	Small insectivorous mammal 100 % ground arthropods	Acute	8.588	>58.2	5
Sugar beet BBCH 10-39[1)]	Large herbivorous mammal 100 % crop leaves	Acute	39.663	>12.6	5
Sugar beet BBCH 10-39[1)]	Small omnivorous mammal 25 % weeds 50 % weed seeds 25 % ground arthropods	Acute	19.436	>25.7	5
Maize/Sugar maize BBCH 10-19	Small insectivorous mammal 100 % ground arthropods	Long-term	1.923	17.3	10

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Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Maize/Sugar maize BBCH 10-29	Small herbivorous mammal All maize shoots + later grass	Long-term	33.11	**1.0**	10
Maize/Sugar maize BBCH 10-29	Small omnivorous mammal 25 % weeds 50 % weed seeds 25 % ground arthropods	Long-term	3.57	9.3	10
Sugar beet BBCH 10-19[1)]	Small insectivorous mammal 100 % ground arthropods	Long-term	1.6	20.8	10
Sugar beet BBCH 10-39[1)]	Large herbivorous mammal 100 % crop leaves	Long-term	5.46	6.1	10
Sugar beet BBCH 10-39[1)]	Small omnivorous mammal 25 % weeds 50 % weed seeds 25 % ground arthropods	Long-term	2.98	11.2	10
Higher tier (Mammals): *Based on the data submitted no higher tier refinement can be conducted.*					

Risk from bioaccumulation and food chain behaviour not relevant Log kow ≤ 3

Risk from consumption of contaminated water

Scenarios	Indicator or focal species	Time scale	PEC_{dw}xDWR	TER	Trigger
Puddle scenario, Screening step					
1) Birds: Application rate (in g a.s./ha) /EP: 864 / 106.8 = 8.1; 50 < koc < 500 L/kg), TER calculation not needed					
2) Mammals: Application rate (in g a.s./ha)/ EP: 864/ 33.3 = 26; 50 <koc < 500 L/kg), TER calculation not needed					

[1)] Includes splitting.

BAS 830 01 H (contains 333 g/L dimethenamid-P and 67 g/L quinmerac) in winter oilseed rape at 1 x 1.5 L preparation/ha, corresponding to 500 g dimethenamid-P/ha

Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Tier 1 (Birds)					
Bare soil BBCH 00-09	Small granivorous bird “finch”	Acute	a) 12.35 b)	a) 86.5 b) 68.3	10
Bare soil BBCH 00-09	Small omnivorous bird “lark”	Acute	a) 8.7 b)	a) 123 b) 96.9	10
Bare soil BBCH 00-09	Small insectivorous bird “wagtail”	Acute	a) 5.45 b)	a) 196 b) 155	10

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Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Oilseed rape BBCH 10-18 (shoots)	Large herbivorous bird "goose"	Acute	a) 19.5 b)	a) 54.8 b) 43.2	10
Oilseed rape BBCH 10-18	Small omnivorous bird “lark”	Acute	a) 12 b)	a) 89.0 b) 70.3	10
Oilseed rape BBCH 10-18	Medium herbivorous/granivorous bird "pigeon"	Acute	a) 27.8 b)	a) 38.4 b) 30.3	10
Oilseed rape BBCH 10-18	Small insectivorous bird “wagtail”	Acute	a) 5.45 b)	a) 196 b) 154.7	10
Bare soil BBCH 00-09	Small granivorous bird “finch”	Long-term	a) 3.02 b)	a) 35.4 b) 27.1	5
Bare soil BBCH 00-09	Small insectivorous bird “wagtail”	Long-term	a) 1.56 b)	a) 68.5 b) 52.3	5
Bare soil BBCH 00-09	Small omnivorous bird “lark”	Long-term	a) 2.17 b)	a) 49.2 b) 37.6	5
Oilseed rape BBCH 10-18 (shoots)	Large herbivorous bird "goose"	Long-term	a) 4.21 b)	a) 25.4 b) 19.4	5
Oilseed rape BBCH 10-18	Small omnivorous bird “lark”	Long-term	a) 2.89 b)	a) 37.0 b) 28.3	5
Oilseed rape BBCH 10-18	Medium herbivorous/granivorous bird "pigeon"	Long-term	a) 6.02 b)	a) 17.7 b) 13.5	5
Oilseed rape BBCH 10-18	Small insectivorous bird “wagtail”	Long-term	a) 1.56 b)	a) 68.5 b) 52.3	5
Higher tier (birds):					
Not required					
Tier 1 (Mammals)					
Bare soil BBCH 00-10	Small omnivorous mammal “mouse”	Acute	7.15	65	10
Oilseed rape BBCH 10-19	Small insectivorous mammal “shrew”	Acute	3.8	122	10
Oilseed rape (all season)	Large herbivorous mammal "largomorph"	Acute	17.6	26.6	10

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Growth stage	Indicator or focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Oilseed rape BBCH 10-29	Small omnivorous mammal "mouse"	Acute	8.6	54.2	5
Bare soil BBCH 00-10	Small omnivorous mammal "mouse"	Long-term	a) 1.56 b)	a) 22 b) 18.9	5
Oilseed rape BBCH 10-19	Small insectivorous mammal "shrew"	Long-term	a) 1.11 b)	a) 29.9 b) 25.6	5
Oilseed rape (all season)	Large herbivorous mammal "largomorph"	Long-term	a) 3.79 b)	a) 8.79 b) 7.54	5
Oilseed rape BBCH 10-29	Small omnivorous mammal "mouse"	Long-term	a) 2.07 b)	a) 16.1 b) 13.4	5
Higher tier (Mammals):					
Not required					

Risk from bioaccumulation and food chain behaviour not relevant Log kow ≤ 3

Risk from consumption of contaminated water

Scenarios	**Indicator or focal species**	**Time scale**	**PEC_{dw}xDWR**	**TER**	**Trigger**
Puddle scenario, Screening step 1) Birds: Application rate (in g a.s./ha) /EP = 500 / 106.8 = 4.6; 50 < koc < 500 L/kg), TER calculation not needed 2) Mammals: Application rate (in g a.s./ha) /EP = 500/ 33.3 = 15; 50 < koc < 500 L/kg), TER calculation not needed					

a) Active substance dimethenamid-P

b) Representative formulation BAS 830 01 H: TER values for birds are calculated via LD_{50} (mix) = $[\sum(X\ (as_i)/\ LD_{50}(as_i)]^{-1}$ = 1265 for acute assessment and via TER (mix) for long-term assessment, respectively.

Note that dimethenamid-P is driving the acute risk and no additional mixture toxicity assessment is necessary to adress the acute risk for mammals.

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

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Laboratory tests				

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Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Fish				
Oncorhynchus mykiss	a.s. (racemic mixture)	Acute 96 h (static)	Mortality, LC_{50}	2.6 mg a.s./$L_{(mm)}$
Oncorhynchus mykiss	BAS 656 12 H	Acute 96 h (static)	Mortality, LC_{50}	7.94 mg prep./$L_{(nom)}$
Oncorhynchus mykiss	BAS 830 01 H	Acute 96 h (static)	Mortality, LC_{50}	19.8 mg prep./$L_{(nom)}$
Oncorhynchus mykiss	M3	Acute 96 h (static)	Mortality, LC_{50}	60.8 mg metabolite/$L_{(mm)}$
Oncorhynchus mykiss	M23	Acute 96 h (static)	Mortality, LC_{50}	> 87 mg metabolite/$L_{(mm)}$
Oncorhynchus mykiss	M27	Acute 96 h (static)	Mortality, LC_{50}	> 100 mg metabolite/$L_{(mm)}$
Oncorhynchus mykiss	Reg.No. 364 801 (intermediate)	Acute 96 h (semi-static)	Mortality, LC_{50}	9.0 mg intermediate/$L_{(nom)}$
Oncorhynchus mykiss	a.s. (racemic mixture)	Chronic (flow-through)	Growth, NOEC	0.12 mg a.s./$L_{(mm)}$
Aquatic invertebrates				
Americamysis bahia) (former name: *Mysidopsis bahia*)	a.s. racemic mixture	48 h 96 h (flow-through)	Mortality, LC_{50}	> 9.2 mg a.s./$L_{(mm)}$ 3.2 mg a.s./$L_{(mm)}$
Daphnia magna	BAS 656 12 H	48 h (static)	Mortality, EC_{50}	17.1 mg prep./$L_{(nom)}$
Daphnia magna	BAS 830 01 H	48 h (static)	Mortality, EC_{50}	58.7 mg prep./$L_{(nom)}$
Daphnia magna	M3	48 h (static)	Mortality, EC_{50}	> 101.6 mg metabolite/$L_{(mm)}$
Daphnia magna	M23	48 h (static)	Mortality, EC_{50}	> 95 mg metabolite/$L_{(mm)}$
Daphnia magna	M27	48 h (static)	Mortality, EC_{50}	> 100 mg metabolite/$L_{(mm)}$
Daphnia magna	M31	48 h (static)	Mortality, EC_{50}	> 100 mg metabolite/ $L_{(nom)}$
Daphnia magna	Reg.No. 364 801 (intermediate)	48 h (semi-static)	Mortality, EC_{50}	4.87 mg intermediate/$L_{(nom)}$

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Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Daphnia magna	a.s. racemic mixture	21 d (semi-static)	Reproduction, NOEC	0.68 mg a.s./$L_{(mm)}$
Algae				
Pseudokirchneriella subcapitata (syn. Selenastrum capricornutum)	a.s.	72 h 72 h 72 h 96 h 96 h 96 h 120 h 120 h 120 h 120 h (static)	Growth rate: E_rC_{50} Yield: E_yC_{50} Biomass: E_bC_{50} Growth rate: E_rC_{50} Yield: E_yC_{50} Biomass: E_bC_{50} Growth rate: E_rC_{50} Yield: E_yC_{50} Biomass: E_bC_{50} NOEC	0.0303 0.0185 0.0191 0.0339 0.0168 **0.0140** 0.0378 0.0188 0.0143 0.0030 mg a.s./$L_{(nom)}$
		72 h 72 h 72 h (static)	Growth rate: E_rC_{50} Yield: E_yC_{50} Biomass: E_bC_{50}	0.0663 0.0138 **0.0138** mg a.s./$L_{(nom)}$
		geometric mean 72 h	E_bC_{50}	**0.0139** mg a.s./$L_{(nom)}$
Desmodesmus subspicatus	a.s.	72 h 72 h (static)	Growth rate: E_rC_{50} Yield: E_yC_{50}	> 0.0509 **0.0183** mg a.s./$L_{(mm)}$
Navicula pelliculosa	a.s.	72 h 72 h 96 h 96 h 120 h 120 h 120 h (static)	Growth rate: E_rC_{50} Biomass: EbC_{50} Growth rate: E_rC_{50} Biomass: EbC_{50} Growth rate: E_rC_{50} Biomass: EbC_{50} NOEC	0.287 **0.154** 4.048 0.596 1.717 0.352 0.056 mg a.s./$L_{(mm)}$
Ankistrodesmus bibraianu	a.s.	72 h 72 h (static)	Growth rate: E_rC_{50} Yield: E_yC_{50}	0.0370 **0.0097** mg a.s./$L_{(mm)}$
Chlamydomonas reinhardtii	a.s.	72 h 72 h (static)	Growth rate: E_rC_{50} Yield: E_yC_{50}	0.2245 **0.0854**mg a.s./$L_{(nom)}$
Monoraphidium griffithii	a.s.	72 h 72 h (static)	Growth rate: E_rC_{50} Yield: E_yC_{50}	0.0250 **0.0066** mg a.s./$L_{(nom)}$

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Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Neochloris aquatica	a.s.	72 h 72 h (static)	Growth rate: E_rC_{50} Yield: E_yC_{50}	> 1.000 **0.3680** mg a.s./L(nom)
Planktosphaeria botryoides	a.s.	72 h 72 h (static)	Growth rate: E_rC_{50} Yield: E_yC_{50}	0.9120 **0.1110** mg a.s./$L_{(nom)}$
Schroederia setigera	a.s.	72 h 72 h (static)	Growth rate: E_rC_{50} Yield: E_yC_{50}	> 0.4055 **0.1267** mg a.s./$L_{(mm)}$
Desmodesmus subspicatus (*syn. Scenedesmus subspicatus*)	BAS 656 12 H	72 h (static)	E_rC_{50} E_yC_{50}	**0.1327** 0.0492 mg prep./$L_{(nom)}$
Pseudokirchneriella subcapitata	BAS 830 01 H	72 h (static)	E_rC_{50} E_yC_{50}	0.166 0.0656 mg prep./$L_{(nom)}$
Desmodesmus subspicatus (*syn. Scenedesmus subspicatus*)	M3	72 h (static)	E_rC_{50} E_yC_{50}	97.4 68.5 mg metabolite/$L_{(mm)}$
Pseudokirchneriella subcapitata (syn. Selenastrum capricornutum)	M23	72 h (static)	E_rC_{50} E_yC_{50}	> 100 > 94 mg metabolite/$L_{(mm)}$
Pseudokirchneriella subcapitata (syn. Selenastrum capricornutum)	M27	72 h (static)	E_rC_{50}/E_yC_{50}	> 208 mg metabolite/$L_{(mm)}$
Pseudokirchneriella subcapitata	M31	72 h (static)	E_rC_{50}/E_yC_{50}	> 100 mg metabolite/ $L_{(nom)}$
Pseudokirchneriella subcapitata	Reg.No. 364 801 (intermediate)	72 h (static)	E_rC_{50} E_yC_{50}	22.6 mg intermediate/$L_{(nom)}$ 17.6 mg intermediate/$L_{(mm)}$
Pseudokirchneriella subcapitata	Reg.No. 364 802 (intermediate)	72 h (static)	E_rC_{50} E_yC_{50}	97.0 58.9 mg intermediate/$L_{(nom)}$
Pseudokirchneriella subcapitata	Reg.No. 395 233 (intermediate)	72 h (static)	E_rC_{50} E_yC_{50}	19.2 6.32 mg intermediate/$L_{(nom)}$

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Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Higher plant				
Lemna gibba	a.s.	14 d (semi-static)	Fronds number, E_rC_{50} Frond dry weight, E_yC_{50} NOEC (dry weight, phytotoxicity)	0.01314 **0.00599** mg a.s./$L_{(mm)}$ 0.000424 mg a.s./$L_{(mm)}$
Lemna gibba	a.s.	7 d (static)	Fronds number, E_rC_{50} Frond dry weight, E_rC_{50} Fronds number, E_yC_{50} Frond dry weight, E_yC_{50}	0.0568 0.0434 **0.0168** 0.0190 mg a.s./$L_{(mm)}$
Lemna gibba (with sediment)	a.s.	7 d (static)	Fronds number, E_rC_{50} Frond dry weight, E_rC_{50} Fronds number, E_yC_{50} Frond dry weight, E_yC_{50}	0.0763 > 0.1242 **0.0255** 0.0380 mg a.s./$L_{(mm)}$
Glyceria maxima	a.s.	14 d (static)	Dry weight, E_rC_{50} Total length, E_rC_{50} Fresh/wet weight, E_rC_{50} Dry weight, E_yC_{50} Total length, E_yC_{50} Fresh/wet weight, E_yC_{50} # of leaves, E_yC_{50}	> 1.0 0.184 0.402 0.934 **0.109** 0.221 0.318 mg a.s./$L_{(nom)}$
Acorus calamus	a.s.	13 d (static)	Total length, Fresh/wet weight, Root formation E_yC_{50}	> 1.314 mg a.s./$L_{(nom)}$
Iris pseudacorus	a.s.	13 d (static)	Total length, root formation, E_yC_{50} Fresh/wet weight, E_yC_{50}	> 0.754 **0.154** mg a.s./$L_{(nom)}$
Ludwigia palustris	a.s.	13 d (static)	Total length, E_yC_{50} Fresh/wet weight, E_yC_{50}	**0.033** 0.043mg a.s./$L_{(nom)}$

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Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Mentha aquatica	a.s.	13 d (static)	Total length, E_yC_{50} Fresh/wet weight, E_yC_{50}	**0.206** > 1.088 mg a.s./L ()nom)
Sparganium erectum	a.s.	13 d (static)	Total length, Root formation, E_yC_{50} Fresh/wet weight, E_yC_{50}	> 0.451 **0.373** mg a.s./$L_{(nom)}$
Veronica beccabunga	a.s.	13 d (static)	Total length, E_yC_{50} Fresh/wet weight, E_yC_{50}	**0.104** 0.323 mg a.s./$L_{(nom)}$
Ceratophyllum demersum	a.s.	9 d E_yC_{50} (static)	Total length, E_yC_{50} Fresh/wet weight, E_yC_{50}	**0.0133** 0.0276 mg a.s./L (mm)
Crassula recurva	a.s.	12 d E_yC_{50} (static)	Total length, E_yC_{50} Fresh/wet weight, E_yC_{50}	**0.0865** > 0.340 mg a.s./L (mm)
Elodea densa	a.s.	12 d E_yC_{50} (static)	Total length, E_yC_{50} Fresh/wet weight, E_yC_{50}	**0.208** > 0.239 mg a.s./L (mm)
Myriophyllum spicatum	a.s.	9 d E_yC_{50} (static)	Total length, E_yC_{50} Fresh/wet weight, E_yC_{50}	**0.088** > 0.3065 mg a.s./L (mm)
Potamogeton crispus	a.s.	9 d E_yC_{50} (static)	Total length, E_yC_{50} Fresh/wet weight, E_yC_{50}	**0.174** > 0.214 mg a.s./L (mm)
Vallisneria spiralis	a.s.	12 d E_yC_{50} (static)	Total length, Fresh/wet weight, E_yC_{50}	> 0.261 mg a.s./L (mm)
Monoraphidium griffithii (TTE study)	a.s.	6 h exposure period 24 h exposure period Each + 72 h growth phase (static)	E_rC_{50} / E_yC_{50} E_rC_{50} / E_yC_{50}	> 2.4 > 1.2 mg a.s./$L_{(nom)}$
Pseudokirchneriella subcapitata (TTE study)	a.s.	6 h exposure period 24 h exposure period Each + 72 h growth phase (static)	E_rC_{50} / E_yC_{50} E_rC_{50} E_yC_{50}	> 2.4 mg a.s./$L_{(nom)}$ **> 1.2** (extrapolated**:** 2.485) 0.388 mg a.s./$L_{(nom)}$

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Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Lemna gibba (TTE study)	a.s.	<u>Scenario A:</u> 12 h exposure period: 24 h exposure period: 36 h exposure period: Each + 7 d growth phase (static)	Frond number, dry weight, E_rC_{50} / E_yC_{50} Frond number, dry weight, E_rC_{50} Dry weight, E_yC_{50} Dry weight, E_rC_{50} E_yC_{50}	> 0.500 > 0.500 **0.288** 0.458 0.253 mg a.s./L(nom)
		<u>Scenario B:</u> "0.250 mg/L max. peak": "0.500 mg max. peak": Double peak exposure + 7 d growth phase (static)	Frond number, dry weight, E_rC_{50} / E_yC_{50} Frond number, dry weight, E_rC_{50} / E_yC_{50}	> 0.250 peak > 0.500 peak mg a.s./$L_{(nom)}$
Lemna gibba (non-GLP TTE)	a.s.	2 x 24 h peaks separated by non-exposure periods varying between 1 and 7 d + 6 d growth phase (static)	Frond number, E_rC_{50} / E_yC_{50}	> 0.250 mg a.s./$L_{(nom)}$
Ceratophyllum demersum (TTE study)	a.s.	24 h exposure period: 48 h exposure period: Each + 7 d growth phase (static)	Dry weight, Total length, Fresh/wet weight, E_rC_{50} / E_yC_{50} Dry weight, Total length, Fresh/wet weight, E_rC_{50} / E_yC_{50}	> 3.0 > 3.0 mg a.s./$L_{(nom)}$
Lemna gibba	BAS 656 12 H	7 d (static)	Frond number, E_rC_{50} Frond number, E_yC_{50}	**0.054** 0.0085 mg prep./$L_{(nom)}$
Lemna gibba	BAS 830 01 H	7 d (static)	Frond number, E_rC_{50} Dry weight, E_rC_{50} Frond number, E_yC_{50} Dry weight, E_yC_{50}	0.573 > 0.810 0.0863 0.1302 mg prep./$L_{(nom)}$

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (**Name**)
Germany	**August 2016**	**Dimethenamid-P**

Section 5 Ecotoxicology

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Lemna gibba	M31	7 d (static)	Frond number, Dry weight, E_rC_{50}/E_yC_{50}	> 100 mg metabolite/ $L_{(nom)}$
Lemna gibba	M62	7 d (semi-static)	Frond number, Dry weight, E_rC_{50} Frond number, E_yC_{50} Dry weight, E_yC_{50}	> 100 54.57 72.87 mg metabolite/ $L_{(nom)}$
Lemna gibba	M43	7 d (static)	Frond number, Dry weight, E_rC_{50}/E_yC_{50}	> 100 mg metabolite/ $L_{(nom)}$
Lemna gibba	M55	7 d (static)	Frond number, Dry weight, E_rC_{50}/E_yC_{50}	> 143 mg metabolite/ $L_{(nom)}$
Further testing on aquatic organisms				
SSD, 9 species (algae)	a.s.	-	HC_5	0.00405 mg a.s./L
	The SSD analysis was performed with the software ETX 2.0. The following species data were included in the calculation with the above listed endpoints indicated in bold: *Monoraphidium griffithii, Ankistrodesmus bibraianus, Pseudokirchneriella subcapitata* (geometric mean, n=2), *Desmodesmus subspicatus, Chlamydomonas reinhardtii, Planktosphaeria botryoides, Schroederia setigera, Navicula pelliculosa, Neochloris aquatica* The assessment factor is set at 3. Therefore the corresponding RAC is 1.35 µg a.s./L.			
SSD, 13 species (higher aquatic plants)	a.s.	-	HC_5	0.01543 mg a.s./L
	The SSD analysis was performed with the software ETX 2.0. The following species data were included in the calculation with the above listed endpoints indicated in bold: *Ceratophyllum demersum, Lemna gibba* (with sediment)*, Ludwigia palustris, Crassula recurva, Myriophyllum spicatum, Veronica beccabunga, Glyceria maxima, Iris pseudoacorus, Potamogeton crispus, Mentha aquatic, Elodea densa, Sparganium erectum, Acorus calamus* The assessment factor is set at 3. Therefore the corresponding RAC is 5.14 µg a.s./L.			
Potential endocrine disrupting properties (Annex Part A, point 8.2.3) No indication of endocrine disrupting properties of DMTA-P				

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

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (**Name**)
Germany	**August 2016**	**Dimethenamid-P**

Section 5 Ecotoxicology

Bioconcentration in fish (Annex Part A, point 8.2.2.3)

	Active substance	Metabolite1	Metabolite2	Metabolite3
$logP_{O/W}$	1.89			
Steady-state bioconcentration factor (BCF) (total wet weight/normalised to 5% lipid content)	Not required			
Uptake/depuration kinetics BCF (total wet weight/normalised to 5% lipid content)	Not required			
Annex VI Trigger for the bioconcentration factor	Not required			
Clearance time (days) (CT_{50})	Not required			
(CT_{90})				
Level and nature of residues (%) in organisms after the 14 day depuration phase	Not required			
Higher tier study				
Not required				

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

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

BAS 656 12 H

FOCUS$_{sw}$ step 1-2 - TERs for dimethenamid-P – BAS 656 12 H in maize, soybeans and sunflowers and FOCUS$_{sw}$ step 3 in maize at 1 x 864 g a.s./ha

Scenario	**PEC global max (µg L)**	**fish acute**	**fish chronic**	**Aquatic invertebrates**	**Aquatic invertebrates prolonged**	**Algae**	**Higher plant**
		Oncorhynchus mykiss	*Oncorhynchus mykiss*	*Americamysis bahia*	*Daphnia magna*	*Monoraphidium griffithii*	*Lemna gibba*
		LC_{50}	NOEC	EC_{50}	NOEC	EC_{50}	EC_{50}
		2600 µg/L	120 µg/L	3200 µg/L	680 µg/L	6.60 µg/L	5.99 µg/L
FOCUS Step 1							
	243.39	**10.68**	**0.49**	**13.15**	**2.79**	**0.03**	**0.02**
FOCUS Step 2*							
North Europe	43.14	**60.27**	**2.78**	**74.17**	15.76	**0.15**	**0.14**
South Europe	79.99	**32.51**	**1.50**	**40.01**	**8.50**	**0.08**	**0.07**
FOCUS Step 2+							
North Europe	33.93	**76.63**	**3.54**	**94.31**	20.04	**0.19**	**0.18**
South Europe	61.56	**42.23**	**1.95**	**51.98**	11.05	**0.11**	**0.10**
FOCUS Step 3# pre-emergence in maize							
D3/ditch	4.524	574.71	26.53	707.34	150.31	**1.46**	**1.32**
D4/pond	0.212	12264.15	566.04	15094.34	3207.55	31.13	28.25
D4/stream	3.721	698.74	32.25	859.98	182.75	**1.77**	**1.61**
D5/pond	0.215	12093.02	558.14	14883.72	3162.79	30.70	27.86
D5/stream	4.025	645.96	29.81	795.03	168.94	**1.64**	**1.49**
D6/ditch	4.578	567.93	26.21	699.00	148.54	**1.44**	**1.31**
R1/pond	0.33	7878.79	363.64	9696.97	2060.61	20.00	18.15
R1/stream	10.478	248.14	11.45	305.40	64.90	**0.63**	**0.57**
R2/stream	7.504	346.48	15.99	426.44	90.62	**0.88**	**0.80**
R3/stream	16.982	153.10	**7.07**	188.43	40.04	**0.39**	**0.35**
R4/stream	46.07	**56.44**	**2.60**	**69.46**	14.76	**0.14**	**0.13**

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (Name)
Germany	**August 2016**	**Dimethenamid-P**

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FOCUS Step 3# post-emergence in maize							
D3/ditch	4.528	574.20	26.50	706.71	150.18	**1.46**	**1.32**
D4/pond	0.226	11504.42	530.97	14159.29	3008.85	29.20	26.50
D4/stream	3.954	657.56	30.35	809.31	171.98	**1.67**	**1.51**
D5/pond	0.24	10833.33	500.00	13333.33	2833.33	27.50	24.96
D5/stream	3.636	715.07	33.00	880.09	187.02	**1.82**	**1.65**
D6/ditch	4.532	573.70	26.48	706.09	150.04	**1.46**	**1.32**
R1/pond	0.655	3969.47	183.21	4885.50	1038.17	**10.08**	**9.15**
R1/stream	11.503	226.03	10.43	278.19	59.12	**0.57**	**0.52**
R2/stream	9.647	269.51	12.44	331.71	70.49	**0.68**	**0.62**
R3/stream	25.173	103.29	**4.77**	127.12	27.01	**0.26**	**0.24**
R4/stream	28.803	**90.27**	**4.17**	111.10	23.61	**0.23**	**0.21**
Trigger**		100	10	100	10	10	10

* based on a single application in pre-emergence maize/soybeans/sunflowers
+ based on a single application in post-emergence maize
#[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.]
TERs shown in **bold** fall below the relevant trigger

FOCUSsw step 1-3 - TERs for dimethenamid-P — BAS 656 12 H in sugar beets at 1 x 864 g a.s./ha (pre-emergence) and 1 x 720 g a.s./ha (post-emergence), respectively, and FOCUSsw step 3 - TERs for dimethenamid-P — BAS 656 12 H in soybeans and sunflowers at 1 x 864 g/ha

Scenario	PEC global max (µg L)	fish acute	fish chronic	Aquatic invertebrates	Aquatic invertebrates prolonged	Algae	Higher plant
		Oncorhynchus mykiss	*Oncorhynchus mykiss*	*Americamysis bahia*	*Daphnia magna*	*Monoraphidium griffithii*	*Lemna gibba*
		LC_{50}	NOEC	EC_{50}	NOEC	EC_{50}	EC_{50}
		2600 µg/L	120 µg/L	3200 µg/L	680 µg/L	6.60 µg/L	5.99 µg/L
FOCUS Step 1 Sugar beets							
	202.83	**12.82**	**0.59**	**15.78**	**3.35**	**0.03**	**0.03**

List of end points

Rapporteur Member State	**Month and year**	Active substance and Plant Protection Product **(Name)**
Germany	**August 2016**	**Dimethenamid-P**

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FOCUS Step 2* Sugar beets							
North Europe	29.81	**87.22**	**4.03**	107.34	22.81	**0.22**	**0.20**
South Europe	54.37	**47.82**	**2.21**	**58.85**	12.51	**0.12**	**0.11**
FOCUS Step 2+							
North Europe	29.81	**87.22**	**4.03**	107.34	22.81	**0.22**	**0.20**
South Europe	42.09	**61.77**	**2.85**	**76.02**	16.15	**0.16**	**0.14**
FOCUS Step 3# Sugar beets, 864 g/ha, pre-emergence							
D3/ditch	4.524	574.71	26.53	707.34	150.31	**1.46**	**1.32**
D4/pond	0.219	11872.15	547.95	14611.87	3105.02	30.14	27.35
D4/stream	3.727	697.61	32.20	858.60	182.45	**1.77**	**1.61**
R1/pond	1.972	1318.46	60.85	1622.72	344.83	**3.35**	**3.04**
R1/stream	20.477	126.97	5.86	156.27	33.21	**0.32**	**0.29**
R3/stream	38.356	**67.79**	**3.13**	**83.43**	17.73	**0.17**	**0.16**
FOCUS Step 3# Sugar beets, 720 g/ha, post-emergence							
D3/ditch	3.772	689.29	31.81	848.36	180.28	**1.75**	**1.59**
D4/pond	0.192	13541.67	625.00	16666.67	3541.67	34.38	31.20
D4/stream	3.16	822.78	37.97	1012.66	215.19	**2.09**	**1.90**
R1/pond	0.279	9319.00	430.11	11469.53	2437.28	23.66	21.47
R1/stream	3.597	722.82	33.36	889.63	189.05	**1.83**	**1.67**
R3/stream	5.7	456.14	21.05	561.40	119.30	**1.16**	**1.05**
FOCUS Step 3# Soybeans, 864 g/ha, pre-emergence							
R3/stream	23.084	112.63	**5.20**	138.62	29.46	**0.29**	**0.26**
R4/stream	13.805	188.34	**8.69**	231.80	49.26	**0.48**	**0.43**
FOCUS Step 3# Sunflowers, 864 g/ha, pre-emergence							
D5/pond	0.215	12093.02	558.14	14883.72	3162.79	30.70	27.86
D5/stream	3.745	694.26	32.04	854.47	181.58	**1.76**	**1.60**
R1/pond	0.355	7323.94	338.03	9014.08	1915.49	18.59	16.87
R1/stream	9.407	276.39	12.76	340.17	72.29	**0.70**	**0.64**
R3/stream	43.354	**59.97**	**2.77**	**73.81**	15.68	**0.15**	**0.14**
R4/stream	37.897	**68.61**	**3.17**	**84.44**	17.94	**0.17**	**0.16**
Trigger**		100	10	100	10	10	10

* based on a single pre-emergence application in sugar beet
\+ based on a single post-emergence application in sugar beet

#[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.]
TERs shown in **bold** fall below the relevant trigger

FOCUS$_{sw}$ step 4 - TERs dimethenamid-P – BAS 656 12 H in maize at 1 x 864 g a.s./ha in pre-emergence and post-emergence

FOCUS Scenarios	**Algae SSD-RAC [µg a.s./L]**	**FOCUS Step 4 – maize (pre-emergence)**		**FOCUS Step 4 – maize (post-emergence)**	
		PEC$_{sw.\ max}$ [µg/L]	**TER (RAC/PEC)**	**PEC$_{sw.\ max}$ [µg/L]**	**TER (RAC/PEC)**
5 m Drift mitigation					
D3/ditch	1.35	1.483	**0.91**	1.484	**0.91**
D4/pond		0.187	7.22	0.198	6.82
D4/stream		1.577	**0.86**	1.683	**0.80**
D5/pond		0.19	7.11	0.212	6.37
D5/stream		1.706	**0.79**	1.542	0.88
D6/ditch		0.535	2.52	1.506	**0.90**
R1/pond		0.314	4.30	0.632	2.14
R1/stream		10.478	**0.13**	11.503	**0.12**
R2/stream		7.504	**0.18**	9.647	**0.14**
R3/stream		16.982	**0.08**	25.173	**0.05**
R4/stream		46.07	**0.03**	28.803	**0.05**
10 m Drift mitigation					
D3/ditch	1.35	0.786	1.72	0.792	1.70
D4/pond		0.137	9.85	0.145	9.31
D4/stream		0.842	1.60	0.902	1.50
D5/pond		0.139	9.71	0.159	8.49

D5/stream		0.911	1.48	0.825	1.64
D6/ditch		0.838	1.61	0.813	1.66
R1/pond		0.282	4.79	0.589	2.29
R1/stream		10.478	**0.13**	11.503	**0.12**
R2/stream		7.504	**0.18**	9.647	**0.14**
R3/stream		16.982	**0.08**	25.173	**0.05**
R4/stream		46.07	**0.03**	28.803	**0.05**
20 m Drift mitigation					
D3/ditch		0.409	3.30	0.416	3.25
D4/pond		0.09	15.00	0.095	14.21
D4/stream		0.44	3.07	0.471	2.87
D5/pond		0.093	14.52	0.109	12.39
D5/stream		0.476	2.84	0.434	3.11
D6/ditch	1.35	0.46	2.93	0.437	3.09
R1/pond		0.253	5.34	0.55	2.45
R1/stream		10.478	**0.13**	11.503	**0.12**
R2/stream		7.504	**0.18**	9.647	**0.14**
R3/stream		16.981	**0.08**	25.173	**0.05**
R4/stream		46.07	**0.03**	28.803	**0.05**
10 m Drift + runoff mitigation					
D3/ditch		0.786	1.72	0.792	1.70
D4/pond		0.137	9.85	0.145	9.31
D4/stream		0.842	1.60	0.902	1.50
D5/pond		0.139	9.71	0.159	8.49
D5/stream		0.911	1.48	0.825	1.64
D6/ditch	1.35	0.838	1.61	0.813	1.66
R1/pond		0.164	8.23	0.305	4.43
R1/stream		4.442	**0.30**	5.208	**0.26**
R2/stream		3.362	**0.40**	4.247	**0.32**
R3/stream		6.946	**0.19**	11.382	**0.12**
R4/stream		20.86	**0.06**	13.093	**0.10**
20 m Drift + runoff mitigation					
D3/ditch	1.35	0.409	3.30	0.416	3.25

D4/pond		0.09	15.00	0.095	14.21
D4/stream		0.44	3.07	0.471	2.87
D5/pond		0.093	14.52	0.109	12.39
D5/stream		0.476	2.84	0.434	3.11
D6/ditch		0.46	2.93	0.437	3.09
R1/pond		0.095	14.21	0.17	7.94
R1/stream		2.266	**0.60**	2.723	**0.50**
R2/stream		1.75	**0.77**	2.2	**0.61**
R3/stream		3.498	**0.39**	5.948	**0.23**
R4/stream		10.909	**0.12**	6.863	**0.20**

TERs shown in bold indicate high risk (PEC > SSD-RAC)

*[Only scenarios where the trigger is not met at FOCUSsw step 3 should be included in step 4].

FOCUS$_{sw}$ step 4 - TERs dimethenamid-P – BAS 656 12 H in soybeans at 1 x 864 g a.s./ha pre-emergence

FOCUS Scenarios	**Algae SSD-RAC [µg a.s./L]**	**FOCUS Step 4 – pre-emergence soybeans**	
		PEC$_{sw.\ max}$ [µg/L]	**TER (RAC/PEC)**
5 m Drift mitigation			
R3/stream	1.35	23.084	**0.06**
R4/stream		13.805	**0.10**
10 m Drift mitigation			
R3/stream	1.35	23.084	**0.06**
R4/stream		13.805	**0.10**
20 m Drift mitigation			
R3/stream	1.35	23.084	**0.06**
R4/stream		13.805	**0.10**
10 m Drift + runoff mitigation			
R3/stream	1.35	10.548	**0.13**

R4/stream		6.285	**0.21**
20 m Drift + runoff mitigation			
R3/stream	1.35	5.539	**0.24**
R4/stream		3.295	**0.41**

FOCUSsw step 4 - TERs dimethenamid-P – BAS 656 12 H in pre-emergence sunflower at 1 x 864 g a.s./ha

FOCUS Scenarios	**Algae SSD-RAC [µg a.s./L]**	**FOCUS Step 4 – pre-emergence sunflower**	
		$PEC_{sw.\ max}$ [µg/L]	**TER (RAC/PEC)**
5 m Drift mitigation			
D5/pond	1.35	0.190	7.11
D5/stream		1.584	**0.85**
R1/pond		0.339	3.98
R1/stream		9.407	**0.14**
R3/stream		43.354	**0.03**
R4/stream		37.897	**0.04**
10 m Drift mitigation			
D5/pond	1.35	0.140	9.64
D5/stream		0.845	1.60
R1/pond		0.308	4.38
R1/stream		9.407	**0.14**
R3/stream		43.354	**0.03**
R4/stream		37.897	**0.04**
20 m Drift mitigation			
D5/pond	1.35	0.094	14.36
D5/stream		0.441	3.06
R1/pond		0.279	4.84
R1/stream		9.407	**0.14**
R3/stream		43.354	**0.03**
R4/stream		37.897	**0.04**
10 m Drift + runoff mitigation			
D5/pond	1.35	0.140	9.64
D5/stream		0.845	1.60
R1/pond		0.174	7.76
R1/stream		3.958	**0.34**
R3/stream		19.801	**0.07**

R4/stream		16.627	**0.08**
20 m Drift + runoff mitigation			
D5/pond	1.35	0.094	14.36
D5/stream		0.441	3.06
R1/pond		0.100	13.50
R1/stream		2.014	**0.67**
R3/stream		10.394	**0.13**
R4/stream		8.594	**0.16**

TERs shown in **bold** indicate high risk (PEC > SSD-RAC)

FOCUSsw step 4 - TER (FOCUS step 4) calculations considering the algae SSD-RAC in the refined risk assessment for dimethenamid-P following one application [1 x 864 g a.s./ham pre-emergence] in sugar beets or [1 x 720 g a.s./ha, post-emergence] respectively, in sugar beets

FOCUS Scenarios	**Algae SSD-RAC [µg a.s./L]**	**FOCUS Step 4 – pre-emergence sugar beet**		**FOCUS Step 4 – post-emergence sugar beet**	
		PECsw. max [µg/L]	**TER (RAC/PEC)**	**PECsw. max [µg/L]**	**TER (RAC/PEC)**
5 m Drift mitigation					
D3/ditch	1.35	1.483	**0.91**	1.237	1.09
D4/pond		0.189	7.14	0.169	7.99
D4/stream		1.578	**0.86**	1.346	1.00
R1/pond		1.948	**0.69**	0.265	5.09
R1/stream		20.477	**0.07**	3.597	**0.38**
R3/stream		38.356	**0.04**	5.7	**0.24**
10 m Drift mitigation					
D3/ditch	1.35	0.787	1.72	0.657	2.05
D4/pond		0.144	9.38	0.125	10.80
D4/stream		0.847	1.59	0.723	1.87
R1/pond		1.912	0.71	0.237	5.70
R1/stream		20.477	0.07	3.597	**0.38**

R3/stream		38.356	0.04	5.7	**0.24**
20 m Drift mitigation					
D3/ditch	1.35	0.409	3.30	0.345	3.91
D4/pond		0.0978	13.80	0.084	16.07
D4/stream		0.445	3.03	0.38	3.55
R1/pond		1.875	**0.72**	0.211	6.40
R1/stream		20.477	**0.07**	3.597	**0.38**
R3/stream		38.356	**0.04**	5.7	**0.24**
10 m Drift + runoff mitigation					
D3/ditch	1.35	0.787	1.72	0.657	2.05
D4/pond		0.144	9.38	0.125	10.80
D4/stream		0.847	1.59	0.723	1.87
R1/pond		0.836	1.61	0.14	9.64
R1/stream		9.34	**0.14**	1.631	**0.83**
R3/stream		17.504	**0.08**	2.603	**0.52**
20 m Drift + runoff mitigation					
D3/ditch	1.35	0.409	3.30	0.345	3.91
D4/pond		0.0978	13.80	0.084	16.07
D4/stream		0.445	3.03	0.38	3.55
R1/pond		0.436	3.10	0.081	16.67
R1/stream		4.898	**0.28**	0.854	1.58
R3/stream		9.188	**0.15**	1.366	**0.99**

TERs shown in **bold** indicate high risk (PEC > SSD-RAC)

BAS 830 01 H

FOCUS$_{sw}$ step 1-3 - TERs for dimethenamid-P – BAS 830 01 H in winter oilseed rape at 1 x 500 g a.s./ha

Scenario	**PEC global max (µg L)**	**fish acute**	**fish chronic**	**Aquatic invertebrates**	**Aquatic invertebrates**	**Algae**	**Higher plant**

List of end points

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Germany	**August 2016**	**Dimethenamid-P**

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					prolonged		
		Oncorhynchus mykiss	*Oncorhynchus mykiss*	*Americamysis bahia*	*Daphnia magna*	*Monoraphidium griffithii*	*Lemna gibba*
		LC_{50}	NOEC	EC_{50}	NOEC	EC_{50}	EC_{50}
		2600 µg/L	120 µg/L	3200 µg/L	680 µg/L	6.60 µg/L	5.99 µg/L
FOCUS Step 1							
	140.85	18.46	0.85	22.72	4.83	**0.05**	**0.04**
FOCUS Step 2*							
North Europe	56.95	45.65	2.11	56.19	11.94	**0.12**	**0.11**
South Europe	46.29	56.17	2.59	69.13	14.69	**0.14**	**0.13**
FOCUS Step 2+							
North Europe	35.63	72.97	3.37	89.81	19.09	**0.19**	**0.17**
South Europe	29.23	88.95	4.11	109.48	23.26	**0.23**	**0.20**
FOCUS Step 3# pre-emergence							
D2/ditch	8.318	312.58	14.43	384.71	81.75	**0.79**	**0.72**
D2/stream	5.206	499.42	23.05	614.68	130.62	**1.27**	**1.15**
D3/ditch	3.191	814.79	37.61	1002.82	213.10	**2.07**	**1.88**
D4/pond	0.427	6088.99	281.03	7494.15	1592.51	15.46	14.03
D4/stream	2.743	947.87	43.75	1166.61	247.90	**2.41**	**2.18**
D5/pond	0.207	12560.39	579.71	15458.94	3285.02	31.88	28.94
D5/stream	2.959	878.68	40.55	1081.45	229.81	**2.23**	**2.02**
R1/pond	0.122	21311.48	983.61	26229.51	5573.77	54.10	49.10
R1/stream	2.096	1240.46	57.25	1526.72	324.43	**3.15**	**2.86**
R3/stream	6.044	430.18	19.85	529.45	112.51	**1.09**	**0.99**
FOCUS Step 3# post-emergence							
D2/ditch	20.377	127.59	**5.89**	157.04	33.37	**0.32**	**0.29**
D2/stream	12.707	204.61	**9.44**	251.83	53.51	**0.52**	**0.47**
D3/ditch	3.181	817.35	37.72	1005.97	213.77	**2.07**	**1.88**
D4/pond	0.787	3303.68	152.48	4066.07	864.04	**8.39**	**7.61**
D4/stream	2.747	946.49	43.68	1164.91	247.54	**2.40**	**2.18**
D5/pond	0.306	8496.73	392.16	10457.52	2222.22	21.57	19.58
D5/stream	2.96	878.38	40.54	1081.08	229.73	**2.23**	**2.02**

R1/pond	0.136	19117.65	882.35	23529.41	5000.00	48.53	44.04
R1/stream	2.096	1240.46	57.25	1526.72	324.43	**3.15**	**2.86**
R3/stream	11.18	232.56	10.73	286.23	60.82	**0.59**	**0.54**
Trigger**		100	10	100	10	10	10

* based on a single application in pre-emergence winter oilseed rape (worst case application during Oct-Feb)
+ based on a single application in post-emergence winter oilseed rape (worst case application during Oct-Feb)
#[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.]
TERs shown in **bold** fall below the relevant trigger

FOCUSsw step 4 - TER (FOCUS step 4) calculations considering the algae SSD-RAC in the refined risk assessment for dimethenamid-P following one application [1 x 500 g a.s./ha] in pre-emergence and post-emergence winter oilseed rape

FOCUS Scenarios	**Algae SSD-RAC [µg a.s./L]**	**FOCUS Step 4 – Oil seed rape (pre-emergence)**		**FOCUS Step 4 – Oil seed rape (post-emergence)**	
		$PEC_{sw.\ max}$ [µg/L]	**TER (RAC/PEC)**	**$PEC_{sw.\ max}$ [µg/L]**	**TER (RAC/PEC)**
5 m Drift mitigation					
D2/ditch	1.35	8.32	**0.16**	20.377	**0.07**
D2/stream		5.21	**0.26**	12.707	**0.11**
D3/ditch		0.87	1.55	0.876	1.54
D4/pond		0.43	3.14	0.783	1.72
D4/stream		1.01	1.34	1.342	1.01
D5/pond		0.21	6.43	0.306	4.41
D5/stream		1.08	1.25	1.089	1.24
R1/pond		0.1	13.50	0.116	11.64
R1/stream		0.77	1.75	0.877	1.54
R3/stream		6.04	**0.22**	11.18	**0.12**
10 m Drift mitigation					
D2/ditch	1.35	8.32	**0.16**	20.377	**0.07**
D2/stream		5.21	**0.26**	12.707	**0.11**
D3/ditch		0.47	2.87	0.876	1.54

D4/pond		0.42	3.21	0.783	1.72
D4/stream		0.71	1.90	1.342	1.01
D5/pond		0.21	6.43	0.306	4.41
D5/stream		0.57	2.37	1.089	1.24
R1/pond		0.08	16.88	0.116	11.64
R1/stream		0.41	3.29	0.877	1.54
R3/stream		6.04	**0.22**	11.18	**0.12**
20 m Drift mitigation					
D2/ditch	1.35	8.32	**0.16**	20.377	**0.07**
D2/stream		5.21	**0.26**	12.707	**0.11**
D3/ditch		0.25	5.40	0.258	5.23
D4/pond		0.42	3.21	0.77	1.75
D4/stream		0.71	1.90	1.342	1.01
D5/pond		0.21	6.43	0.306	4.41
D5/stream		0.3	4.50	0.342	3.95
R1/pond		0.05	27.00	0.055	24.55
R1/stream		0.21	6.43	0.877	1.54
R3/stream		6.04	**0.22**	11.18	**0.12**
10 m Drift + runoff mitigation					
D2/ditch	1.35	8.32	**0.16**	20.377	**0.07**
D2/stream		5.21	**0.26**	12.707	**0.11**
D3/ditch		0.47	2.87	0.485	2.78
D4/pond		0.42	3.21	0.776	1.74
D4/stream		0.71	1.90	1.342	1.01
D5/pond		0.21	6.43	0.306	4.41
D5/stream		0.57	2.37	0.584	2.31
R1/pond		0.08	16.88	0.084	16.07
R1/stream		0.41	3.29	0.406	3.33
R3/stream		2.75	**0.49**	5.095	**0.26**
20 m Drift + runoff mitigation					
D2/ditch	1.35	8.32	**0.16**	20.377	**0.07**
D2/stream		5.21	**0.26**	12.707	**0.11**
D3/ditch		0.25	5.40	0.258	5.23

D4/pond		0.42	3.21	0.77	1.75
D4/stream		0.71	1.90	1.342	1.01
D5/pond		0.21	6.43	0.306	4.41
D5/stream		0.3	4.50	0.342	3.95
R1/pond		0.05	27.00	0.055	24.55
R1/stream		0.21	6.43	0.211	6.40
R3/stream		1.45	**0.93**	2.671	**0.51**

TERs shown in bold indicate high risk (PEC > SSD-RAC).

List of end points

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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 PART REFLECTS THE NEW EFSA GD ON BEES WHICH HAS NOT YET BEEN TAKEN NOTE BY EC. THIS WAS BECAUSE OF DIFFERENCES BETWEEN THE DATA REQUIREMENTS AND THE MORE DETAILED APPROCHES PROPOSED BY THE NEW EFSA GD ON BEES.

Species	Test substance	Time scale/type of endpoint	End point	toxicity
Honeybee	Dimethenamid-P (BAS 656 H)	Acute	24h oral toxicity (LD_{50}) 48h oral toxicity (LD_{50})	> 1000 µg as/bee 118.8 µg as/bee
Honeybee	BAS 830 01 H	Acute	48h oral toxicity (LD_{50})	233.9 µg product/bee (103.0 µg as/bee)
Honeybee	Dimethenamid-P (BAS 656 H)	Acute	24h oral toxicity (LD_{50}) 48h oral toxicity (LD_{50})	94 µg as/bee 93.8 µg as/bee
Honeybee	BAS 830 01 H	Acute	48h contact toxicity (LD_{50})	> 454.0 µg product/bee (>200.0 µg as/bee)
Bumblebee	Dimethenamid-P (BAS 656 H)	Acute	48h oral toxicity (LD_{50})	> 158 µg as/bee
Bumblebee	Dimethenamid-P (BAS 656 H)	Acute	48h contact toxicity (LD_{50})	> 200 µg as/bee
Honeybee	-	Chronic	10 d-LC_{50}	No data
Honeybee larvae	Dimethenamid-P (BAS 656 H)	Bee brood development	NOEC larvae (96 h)	1.464 g as/kg food
Honeybee	-	Sub-lethal effects (behavioural and reproductive)	NOEC hypopharyngeal glands	No data
Species	Test substance	Time scale/type of endpoint	End point	toxicity
Indicate species	a.s.,	Acute	Oral toxicity (LD_{50})	µg/bee

Potential for accumulative toxicity: No data
Semi-field test (Cage and tunnel test) As BAS 656 H and BAS 830 01 H does not pose an unacceptable risk to honeybees, further tests are not necessary.
Field tests As BAS 656 H and BAS 830 01 H does not pose an unacceptable risk to honeybees, further tests are not

necessary.

Risk assessment for – [representative use] at [application rate] g a.s./ha [x number of applications]

The recommended use pattern for BAS 830 01 H includes application in winter oilseed rape at a maximum application rate of up to 1702.5 g product/ha (500 g dimethenamid-P/ha).

Species	Test substance	Risk quotient	HQ/ETR	Trigger
Honeybee	BAS 830 01 H (1702.5 g product/ha)	HQ oral	7.3	50
Honeybee	BAS 830 01 H (1702.5 g product/ha)	HQ contact	< 3.8	50
Honeybee	-	ETR acute adult oral	-	-
Honeybee	-	ETR chronic adult oral	-	-
Honeybee	-	ETR larvae	-	-
Honeybee	-	ETR hpg	-	-

The recommended use pattern for BAS 656 12 H includes application in maize, sugar beets, soybeans at a maximum application rate of up to 864 g dimethenamid-P/ha.

Species	Test substance	Risk quotient	HQ/ETR	Trigger
Honeybee	BAS 656 12 H* (864 g dimethenamid-P/ha)	HQ oral	7.3	50
Honeybee	BAS 656 12 H* (864 g dimethenamid-P/ha)	HQ contact	9.2	50
Honeybee	-	ETR acute adult oral	-	-
Honeybee	-	ETR chronic adult oral	-	-
Honeybee	-	ETR larvae	-	-
Honeybee	-	ETR hpg	-	-

* tested as technical dimethenamid-P

Bumble bees: Regarding the risk assessment of bumblebees no risk assessments currently exists. However, the endpoints obtained for acute oral and acute contact exposure to dimethenamid-P indicate a huge margin of safety and it can be concluded that low risk is expected from the use of dimethenamid-P as contained in BAS 830 01 H and BAS 656 12 H according the proposed uses.

List of end points

Rapporteur Member State	Month and year	Active substance and Plant Protection Product (**Name**)
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Effects on other arthropod species (Regulation (EU) N° 283/2013, Annex Part A, point 8.3.2 and Regulation (EU) N° 284/2013 Annex Part A, point 10.3.2)

Laboratory tests with standard sensitive species

Species	Test Substance	End point	Toxicity
Typhlodromus pyri	BAS 656 07 H [1)]	Mortality, LR_{50} Reproduction, ER_{50}	> 1.400 L/ha > 1.400 L/ha
Aphidius rhopalosiphi	BAS 656 08 H [2)]	Mortality, LR_{50}	0.0663 L/ha
Additional species			
Aleochara bilineata	BAS 656 07 H [1)]	Mortality, LR_{50} Reproduction, ER_{50}	> 1.400 L/ha > 1.400 L/ha
Chrysoperla carnea	BAS 656 07 H [1)]	Mortality, LR_{50} Reproduction, ER_{50}	> 1.400 L/ha > 1.400 L/ha
Poecilus cupreus	BAS 656 07 H [1)]	Mortality, LR_{50} Reproduction, ER_{50}	> 1.400 L/ha > 1.400 L/ha
Pardosa sp.	BAS 656 07 H [1)]	Mortality, LR_{50} Reproduction, ER_{50}	> 1.400 L/ha > 1.400 L/ha

[1)] Study was carried out with BAS 656 07 H (a similar formulation to BAS 656 12 H).
[2)] Study was carried out with BAS 656 08 H (a similar formulation to BAS 656 12 H).

First tier risk assessment for BAS 656 12 H in maize, sugar maize, soybean, sunflower, and beets at 1.2 L prep./ha (equivalent to 864 g a.s./ha) [1x, includes splitting in 2 or 3 applications 5- 10 day interval in sugar beet]

Test substance	Species	Effect (LR_{50} L/ha)	HQ in-field	HQ off-field[1]	Trigger
BAS 656 07 H [1)]	*Typhlodromus pyri*	>1.400	0.86	0.237 (1 m: 2.77 %)	2
BAS 656 08 H [2)]	*Aphidius rhopalosiphi*	0.0663	**18**	0.2 (1 m: 2.77 %)	2

[1]indicate distance assumed to calculate the drift rate

First tier risk assessment for – BAS 830 01 H at 1.5 L prep. /ha (500 g dimethenamid-p/ha + 250 g Quinmerac/ha [1x, includes splitting in 2 or 3 applications 5- 10 day interval in sugar beett]

Test substance	Species	Effect (LR_{50} L/ha)	HQ in-field	HQ off-field[1]	Trigger
BAS 830 01 H	*Typhlodromus pyri*	> 3 000	0.5	0.01385 (1 m: 2.77 %)	2
BAS 830 01 H	*Aphidius rhopalosiphi*	33.6	44.6	1.2366 (1 m: 2.77 %)	2

[1]indicate distance assumed to calculate the drift rate

List of end points

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Extended laboratory tests, aged residue tests

Species	Life stage	Test substance, substrate	Time scale	Dose (L/ha)	End point	% effect	ER_{50}
Aphidius rhopalosiphi	adults	BAS 656 12 H[1], barley seedlings, 3D	2 d	$0.14_{(ini)}$ 1.4 $_{(ini)}$	Mortality, reproduction	0 %; 23 % 0 %; 46 %	>1.400 L prep./ha
Aphidius rhopalosiphi	adults	BAS 830 01 H barley seedlings, 3D	2 d	0.1875 – 3 $_{(ini)}$	Mortality, reproduction	max. 6.7 %; max. 3.8 %	> 3 L prep./ha
Aleochara bilineata	adults	BAS 830 01 H Sandy soil, 2D	28 d	1.5 $_{(ini)}$ 3.0 $_{(ini)}$	Reproduction	8.3 % 23.3 %	> 3 L prep./ha

[1] Study was carried out with BAS 656 07 H (a similar formulation to BAS 656 12 H).

Risk assessment for – for BAS 656 12 H in maize, sugar maize, soybean, sunflower, and beets at 1.2 L prep. /ha (equivalent to 864 g a.s./ha) [1x, 1x; includes splitting in 2 or 3 applications 5- 10 day interval in sugar beet]

Species	ER_{50} (mL/ha)	In-field rate (mL/ha)	Off-field rate (mL/ha)
Aphidius rhopalosiphi	1 400 [1)]	1 200	33 (1 m: 2.77 %)

[1]indicate distance assumed to calculate the drift rate and if 3D or 2D.

Risk assessment for – BAS 830 01 H in winter oilseed rape at 1.5 L prep. /ha (500 g dimethenamid-p/ha + 250 g Quinmerac/ha [1x]

Species	ER_{50} (mL/ha)	In-field rate	Off-field rate[1]
Aphidius rhopalosiphi	3 000	1 500	415.5 (1 m: 2.77 %)
Aleochara bilineata	3 000	1 500	41.55 (1 m: 2.77 %)

[1]indicate distance assumed to calculate the drift rate and if 3D or 2D.

Semi-field tests
Not required
Field studies
Not required
Additional specific test
Not required

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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[1]	Time scale	End point	Toxicity
Earthworms					
Eisenia fetida	Dimethenamid-P	Incorporated/ 5 %	Chronic, 56 d	Growth, reproduction, mortality	NOEC = 25.4 mg a.s./kg d.w.soil
Eisenia fetida	M 23	Incorporated/ 5 % peat	Chronic, 56 d	Growth, reproduction, mortality	NOEC = 8.32 mg a.s./kg d.w.soil[2]
Eisenia fetida	M 27	Incorporated/ 5 % peat	Chronic, 56 d	Growth, reproduction, mortality	NOEC = 10.56 mg a.s./kg d.w.soil[5]
Eisenia fetida	M 31	Incorporated/ 5 % peat	Chronic, 56 d	Growth, reproduction, mortality	NOEC = 100 mg a.s./kg d.w.soil[2]
Eisenia fetida	BAS 656 12 H	Incorporated/ 5 %	Chronic, 56 d	Growth, reproduction, mortality	NOEC = 40 mg a.s./kg d.w.soil; NOEC = **20** mg a.s./kg d.w.soil; NOEC = 80 mg a.s./kg d.w.soil
Eisenia fetida	BAS 830 01 H	Incorporated/ 5 %	Chronic, 56 d	Growth, reproduction, mortality	NOEC = 89 mg prep./kg dw soil
Other soil macroorganisms					
Folsomia candida	Dimethenamid-P	Incorporated/ 5 % peat	Chronic	Mortality Reproduction	NOEC = 12.5 mg a.s./kg d.w.soil NOEC = 25 mg a.s./kg d.w.soil
Folsomia candida	BAS 656 12 H	Incorporated/ 5 % peat	Chronic, 28 d	Reproduction	NOEC = 18.75 mg prep./kg d.w.soil
Folsomia candida	BAS 830 01 H	Incorporated/ 5 % peat	Chronic, 28 d	Reproduction	NOEC = 75 mg prep./kg d.w.soil
Folsomia candida	M 23	Incorporated/ 5 % peat	Chronic, 28 d	Growth, reproduction, behaviour	NOEC = 200 mg a.s./kg d.w.soil[2]

List of end points

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Test organism	Test substance	Application method of test a.s./ OM[1]	Time scale	End point	Toxicity
Folsomia candida	M 27	Incorporated/ 5 % peat	Chronic, 28 d	Mortality, reproduction	NOEC = 200 mg a.s./kg d.w.soil[2]
Folsomia candida	M 31	Incorporated/ 5 % peat	Chronic, 28 d	Mortality, reproduction	NOEC = 200 mg a.s./kg d.w.soil[2]
Hypoaspis aculeifer	Dimethenamid-P	Incorporated/ 5 % peat	Chronic, 14 d	Reproduction	NOEC = 500 mg a.s./kg d.w.soil
Hypoaspis aculeifer	BAS 830 01 H	Incorporated/ 5 % peat	Chronic, 28 d	Reproduction	NOEC = 1000 mg prep./kg d.w.soil[2]
Hypoaspis aculeifer	M 23	Incorporated/ 5 % peat	Chronic, 14 d	Reproduction	NOEC = 100 mg a.s./kg d.w.soil
Hypoaspis aculeifer	M 27	Incorporated/ 5 % peat	Chronic, 14 d	Growth, reproduction, behaviour	NOEC = 200 mg a.s./kg d.w.soil[2]
Hypoaspis aculeifer	M 31	Incorporated/ 5 % peat	Chronic, 14 d	Growth, reproduction, behaviour	NOEC = 500 mg a.s./kg d.w.soil[2]

[1]To indicate whether the test substance was oversprayed/to indicate the organic content of the test soil (e.g. 5 % or 10 %).
[2] Highest concentration tested.

Higher tier testing (e.g. modelling or field studies) Not required

Nitrogen transformation	M 23 (metabolite of Dimethenamid-P)	28 d aerob	< 25 % effect at day 28 at 1.0 mg a.s./kg d.w.soil
Nitrogen transformation	M 27 (metabolite of Dimethenamid-P)	28 d aerob	< 25 % effect at day 28 at 1.0 mg a.s./kg d.w.soil
Nitrogen transformation	M 31 (metabolite of Dimethenamid-P)	28 d aerob	< 25 % effect at day 28 at 1.0 mg a.s./kg d.w.soil
Nitrogen transformation	BAS 656 07 H	28 d	< 25 % effect at day 28 at 7.0 L prep./ha (equivalent to 4.93 kg a.s./ha)

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Nitrogen transformation	BAS 830 01 H	28 d Aerob	< 25 % difference from the control at 22.7 mg prep./kg dry soil, equivalent to 15.0 L prep./ha.
Carbon transformation	M 23 (metabolite of Dimethenamid-P)	28 d aerob	< 25 % effect at day 28 at 1.0 mg a.s./kg d.w.soil
Carbon transformation	M 27 (metabolite of Dimethenamid-P)	28 d aerob	< 25 % effect at day 28 at 1.0 mg a.s./kg d.w.soil
Carbon transformation	M 31 (metabolite of Dimethenamid-P)	28 d aerob	< 25 % effect at day 28 at 1.0 mg a.s./kg d.w.soil
Carbon transformation	BAS 656 07 H	28 d aerob; loamy sand DAR: loamy soil	< 25 % effect at day 28 at 7.0 L prep./ha (equivalent to 4.93 kg a.s./ha)

Toxicity/exposure ratios for soil organisms

BAS 656 12 H at 1.2 L prep. /ha (equivalent to 864 g a.s./ha) g a.s./ha [1x; includes splitting in 2 or 3 applications 5 - 10 day interval in sugar beet]

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Earthworms					
Eisenia fetida	Dimethenamid-P	Chronic	1.152	22	5
Eisenia fetida	BAS 656 012 H	Chronic	1.152	17	5
Eisenia fetida	M 23	Chronic	0.1533*	54	5
Eisenia fetida	M 27	Chronic	0.179	59	5
Eisenia fetida	M 31	Chronic	0.1534*	652	5
Other soil macroorganisms					
Folsomia candida	Dimethenamid-P	Chronic	1.152	11	5
Hypoaspis aculeifer	Dimethenamid-P	Chronic	1.152	434	5
Folsomia candida	M 23	Chronic	0.1533*	1304	5
Hypoaspis aculeifer	M 23	Chronic	0.1533*	652	5
Folsomia candida	M 27	Chronic	0.179	1117	5
Hypoaspis aculeifer	M 27	Chronic	0.179	1117	5
Folsomia candida	M 31	Chronic	0.1534*	1303	5
Hypoaspis aculeifer	M 31	Chronic	0.1534*	3259	5

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Germany	**August 2016**	**Dimethenamid-P**

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Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Folsomia candida	BAS 656 12 H	Chronic	1.2 L/ha (corresponding to 1.152 mg as/kg dw)	11	5

* PECsoil accu

BAS 830 01 H in winter oilseed rape at 1.5 L prep. /ha (500 g dimethenamid-P/ha + 250 g Quinmerac/ha [1x]

Test organism	Test substance	Time scale	Soil PEC	TER	Trigger
Earthworms					
Eisenia fetida	Dimethenamid-P	Chronic	0.667	38	5
Eisenia fetida	BAS 830 01 H	Chronic	1.5 L prep./ha (corresponding to 2.27 mg prep./kg dw)	39	5
Eisenia fetida	M 23	Chronic	0.0884 *	94	5
Eisenia fetida	M 27	Chronic	0.104	102	5
Eisenia fetida	M 31	Chronic	0.0902 *	1109	5
Other soil macroorganisms					
Folsomia candida	Dimethenamid-P	Chronic	0.667	19	5
Hypoaspis aculeifer	Dimethenamid-P	Chronic	0.667	750	5
Folsomia candida	M 23	Chronic	0.0884 *	2262	5
Hypoaspis aculeifer	M 23	Chronic	0.0884 *	1131	5
Folsomia candida	M 27	Chronic	0.104	1923	5
Hypoaspis aculeifer	M 27	Chronic	0.104	1923	5
Folsomia candida	M 31	Chronic	0.0902 *	2271	5
Hypoaspis aculeifer	M 31	Chronic	0.0902 *	5543	5
Folsomia candida	BAS 830 01 H	Chronic	1.5 L prep./ha (corresponding to 2.27 mg prep./kg dw)	33	5
Hypoaspis aculeifer	BAS 830 01 H	Chronic	1.5 L prep./ha (corresponding to 2.27 mg prep./kg dw)	440	5

* PECsoil accu

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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 as ER_{50} tests should be provided.

Screening for herbicidal efficacy :
M 23 and M 27 pre-and post emergence: no herbicidal effects up to 1000 g metabolite/ha (visual observation)

M 31 pre emergence: no herbicidal effects up to 1000 g metabolite/ha (visual observation)

Groundwater metabolites: study not available

Laboratory dose response tests

Species	Test substance	ER_{50} (mL prep./ha)[2] vegetative vigour	ER_{50} (g/ha)[2] emergence	Exposure[1] (mL prep./ha)[2]	TER	Trigger
	BAS 656 12 H	No adequate data available	No adequate data available	33.24 (1 m) 6.84 (5 m) 3.32 (1 m + 90 % drift reduction)	No risk assessment could be performed.	5
Lolium multiflorum	BAS 830 01 H	527	> 94	41.55 (1 m) 8.55 (5 m) 4.155 (1 m + 75 % drift reduction)	**2.3** 11 9	5
Extended laboratory studies : Not required Semi-field and field test: Not required						

[1] based on Ganzelmeier drift data
[2] for preparations indicate whether dose is expressed in units of a.s. or preparation

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	400 mg a.s./L

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

Available monitoring data concerning adverse effect of the a.s.

No data submitted.

Available monitoring data concerning effect of the PPP.

No data submitted.

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

Compartment	
soil	Parent (dimethenamid-P)
water	Parent (dimethenamid-P)
sediment	Parent (dimethenamid-P)
groundwater	Parent (dimethenamid-P)

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

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Section 5 Ecotoxicology

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

Substance	dimethenamid-P
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][7]:	<u>Directive 67/548/EEC</u> Classification: R50/53 Symbol: N <u>Regulation (EC) No 1272/2008, amended by Commission Regulation (EU) No 286/2011</u> Category: Aquatic Acute 1, H400; Aquatic Chronic 1, H410 (Very toxic to aquatic life with long lasting effects) M-factor: acute: 10; chronic: 10 Symbol: GHS09 based on the E_rC_{50} (14 d) of 0.014 mg/L and NOErC (14 d) of 0.0037 mg/L for *Lemna gibba*;
Peer review proposal[8] for harmonised classification according to Regulation (EC) No 1272/2008:	

Substance	BAS 656 12 H
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][9]:	<u>Directive 67/548/EEC</u> Classification: R50/53 Symbol: N based on SCL, considering a content of 720 g/L dimethenamid-P <u>Regulation (EC) No 1272/2008, amended by Commission Regulation (EU) No 286/2011</u> Category: Aquatic Acute 1, H400; Aquatic Chronic 1, H410 (Very toxic to aquatic life with long lasting effects) M-factor: acute: 10; chronic: 10 Symbol: GHS09 based on the E_rC_{50} (7 d) of 0.054 mg/L and NOErC (7 d) of 0.003 mg/L for *Lemna gibba*

[7] 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.

[8] 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.

[9] 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.

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Peer review proposal[10] for harmonised classification according to Regulation (EC) No 1272/2008:	
Substance	BAS 830 01 H
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][11]:	Directive 67/548/EEC Classification: R50/53 Symbol: N based on SCL, considering a content of 333 g/L dimethenamid-P and 167 g/L quinmerac Regulation (EC) No 1272/2008, amended by Commission Regulation (EU) No 286/2011 Category: Aquatic Acute 1, H400; Aquatic Chronic 1, H410 (Very toxic to aquatic life with long lasting effects) M-factor: acute: 1; chronic: 10 Symbol: GHS09 based on the E_rC_{50} (7 d) of 0.573 mg/L (based on frond number) and E_rC_{10} (7 d) of 0.0032 mg/L (based on dry weight) for *Lemna gibba*
Peer review proposal[12] for harmonised classification according to Regulation (EC) No 1272/2008:	

[10] 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.

[11] 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.

[12] 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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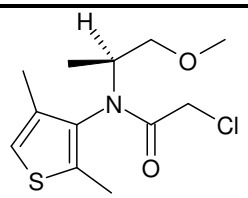
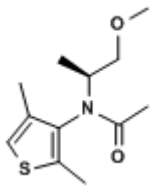
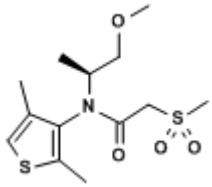
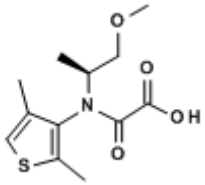
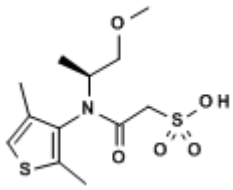
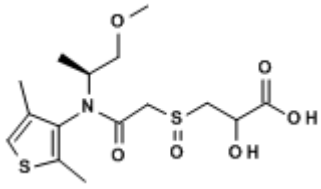
Appendix

Used compounds code(s)

Code/Trivial name*	IUPAC name/SMILES notation	Structural formula
Dimethenamid-P	N-(2,4-dimethyl-3-thienyl)-N-(2-hydroxy-1-methyl-ethyl)-2-methylsulfanyl-acetamide	
M656PH003 **M3**	N-(2,4-dimethylthiophen-3-yl)-N-[(2S)-1-methoxypropan-2-yl]acetamide	
M656PH010 **M10**	N-(2,4-dimethyl-3-thienyl)-N-[(1S)-2-methoxy-1-methyl-ethyl]-2-methylsulfonyl-acetamide	
M656PH023 **M23**	2-[(2,4-dimethyl-3-thienyl)-[(1S)-2-methoxy-1-methyl-ethyl]amino]-2-oxo-acetic acid	
M656PH027 **M27**	2-[(2,4-dimethyl-3-thienyl)-[(1S)-2-methoxy-1-methyl-ethyl]amino]-2-oxo-ethanesulfonic acid	
M656PH030 **M30**	3-[(2-{(2,4-dimethyl-3-thienyl)[(1S)-2-methoxy-1-methylethyl]amino}-2-oxoethyl)sulfinyl]-2-hydroxypropanoic acid	

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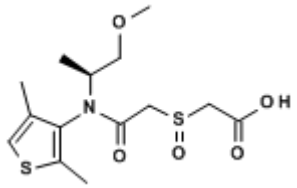
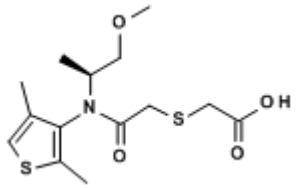
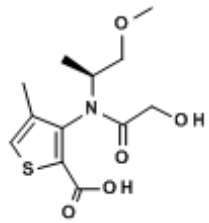
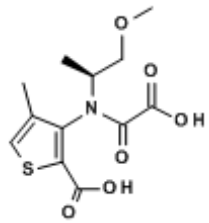
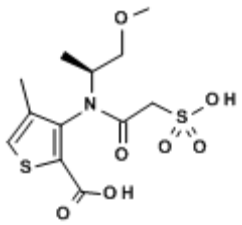
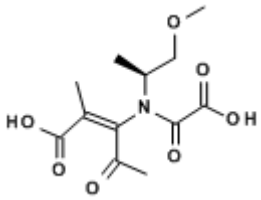
M656PH031 **M31**	2-[2-[(2,4-dimethyl-3-thienyl)-[(1S)-2-methoxy-1-methyl-ethyl]amino]-2-oxo-ethyl]sulfinylacetic acid	
M656PH032 **M32**	2-[2-[(2,4-dimethyl-3-thienyl)-[(1S)-2-methoxy-1-methyl-ethyl]amino]-2-oxo-ethyl]sulfanylacetic acid	
M656PH043 **M43**	3-{(hydroxyacetyl)[(2S)-1-methoxypropan-2-yl]amino}-4-methylthiophene-2-carboxylic acid	
M656PH045 **M45**	3-[((1S)-2-methoxy-1-methyl-ethyl)-oxalo-amino]-4-methyl-thiophene-2-carboxylic acid	
M656PH047 **M47**	3-{[(2S)-1-methoxypropan-2-yl](sulfoacetyl)amino}-4-methylthiophene-2-carboxylic acid	
M656PH049 **M49**	(E)-3-[[(1S)-2-methoxy-1-methyl-ethyl]-oxalo-amino]-2-methyl-4-oxo-pent-2-enoic acid	

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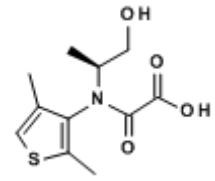
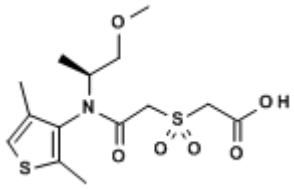
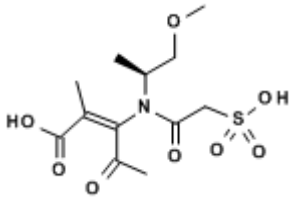
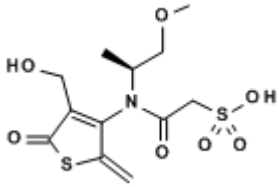
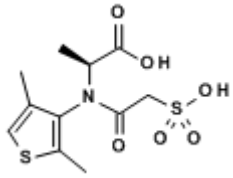
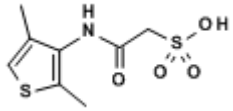
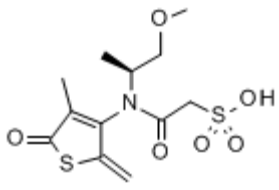
M656PH050 **M50**	2-[(2,4-dimethyl-3-thienyl)-[(1S)-2-hydroxy-1-methyl-ethyl]amino]-2-oxo-acetic acid	
M656PH051 **M51**	2-[2-[(2,4-dimethyl-3-thienyl)-[(1S)-2-methoxy-1-methyl-ethyl]amino]-2-oxo-ethyl]sulfonylacetic acid	
M656PH052 **M52**	(E)-3-[[(1S)-2-methoxy-1-methyl-ethyl]-(2-sulfoacetyl)amino]-2-methyl-4-oxo-pent-2-enoic acid	
M656PH053 **M53**	2-[[4-(hydroxymethyl)-2-methylene-5-oxo-3-thienyl]-[(1S)-2-methoxy-1-methyl-ethyl]amino]-2-oxo-ethanesulfonic acid	
M656PH054 **M54**	(2S)-2-[(2,4-dimethyl-3-thienyl)-(2-sulfoacetyl)amino]propanoic acid	
M656H055 **M55**	2-[(2,4-dimethyl-3-thienyl)amino]-2-oxo-ethanesulfonic acid	
M656PH059 **M59**	2-[[(1S)-2-methoxy-1-methyl-ethyl]-(4-methyl-2-methylene-5-oxo-3-thienyl)amino]-2-oxo-ethanesulfonic acid	

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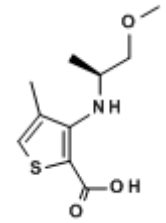
M656PH062 **M62**	3-[[(1S)-2-methoxy-1-methyl-ethyl]amino]-4-methyl-thiophene-2-carboxylic acid	

* The compound code / trivial name in bold is the name used in the list of endpoints.