

REGISTRATION REPORT

Part B

Section 10

Assessment of the relevance of metabolites in groundwater

Detailed summary of the risk assessment

Product code: RNB 072 A

Product name(s): **MATLAM**

Chemical active substance(s):

Florasulam, 50 g/l

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(authorization)

Applicant: XXXX

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Version history

When	What
June 2024	Version submitted by the applicant
February 2025	Version evaluated by zRMS PL

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10 Relevance of metabolites in groundwater

10.1 General information

The metabolites ASTCA and TSA are predicted to occur in groundwater at concentrations above 0.1 µg/L (see chapter 8.8.2.2, dRR Part B8). Assessment of the relevance of these metabolites according to the stepwise procedure of the EC guidance document SANCO/221/2000 –rev.11 is therefore required.

The metabolites 5-OH Florasulam and DFP-ASTCA are predicted to occur in groundwater at concentrations below 0.1 µg/L (see chapter 8.8, dRR Part B8). Assessment of the relevance of these metabolites according to the stepwise procedure of the EC guidance document SANCO/221/2000 –rev.11 is therefore not required.

General information on the metabolites are provided in Table 10.1-1. The impact of the relevance assessment on whether a particular GAP use leads to acceptable risk or not is presented in the summary of the GAP evaluation in chapter 8.8 of the dRR Part B, Section 8 (Environmental fate and behaviour).

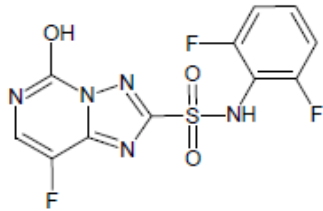
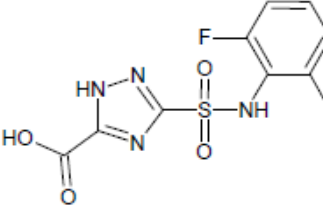
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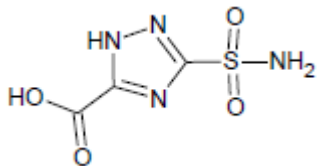
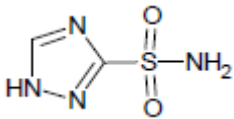
For florasulam and its relevant metabolites PEC_{GW} calculations were performed with models: FOCUS PEARL 5.5.5, FOCUS PELMO 6.6.4 and FOCUS MACRO 5.5.4.

The PEC_{GW} of florasulam, 5-OH florasulam and DFP-ASTCA (80th percentile) at 1 m depth following uses on cereals, are less than 0.1 µg/L in all scenarios of three models. The potential for the metabolites ASTCA and TSA to leach to groundwater has been identified. The PEC_{GW} for those metabolites are above the trigger value of 0.1 µg/L, but below the trigger value of 0.75 µg/L.

For ASTCA the maximum PEC_{GW} is 0.336 µg/L for Hamburg FOCUS PEARL scenario and for TSA the maximum PEC_{GW} is 0.320 µg/L for Hamburg FOCUS PEARL scenario.

Table 10.1-1: General information on the metabolite(s)

Name of active substance	Metabolite name and code	Structural/molecular formula	Trigger for relevance assessment	
Florasulam	5-OH Florasulam		Max PEC_{gw} Based on:	0.017 µg/L Okehampton FOCUS PEARL scenario for winter cereals use.
Florasulam	DFP-ASTCA		Max PEC_{gw} Based on:	0.005 µg/L Okehampton FOCUS PEARL scenario for winter cereals use.

Name of active substance	Metabolite name and code	Structural/molecular formula	Trigger for relevance assessment	
Florasulam	ASTCA		Max PEC _{gw} Based on:	0.336 µg/L Hamburg FOCUS PEARL scenario for winter cereals use.
Florasulam	TSA		Max PEC _{gw} Based on:	0.320 µg/L Hamburg FOCUS PEARL scenario for winter cereals use.

10.2 Relevance assessment of ASTCA

Summary:

The relevance of the groundwater metabolite ASTCA has already been assessed and the assessment agreed at EU level (see RAR, 2013, EFSA Journal 2015; 13(1):3984, but the relevance assessment is not applicable for the GAP and groundwater scenarios considered in this dRR (i.e., the conclusions reached at Step 4 and 5 of the relevance assessment made at the EU-level are not valid with regard to the PEC_{gw} calculated for the GAP and groundwater scenarios considered in this dRR). Therefore, the assessment and conclusions are presented here (see 10.1.4-10.1.5). ASTCA is considered relevant according to the criteria laid down in the EC guidance document SANCO/221/2000 –rev.11. A summary of the relevance assessment is given in Table 10.2-1 and the corresponding studies are listed in the corresponding sections.

Table 10.2-1: Summary of the relevance assessment for ASTCA

	Assessment step		Result of assessment	
	STEP 1		Metabolite of no concern?	No
cation of ground- water contami-	STEP 2		Max PEC _{gw}	0.336 µg/L
			Based on	Hamburg FOCUS PEARL scenario for winter cereals use.
	Hazard assessment	STEP 3	Stage 1	Biological activity comparable to the parent?
Stage 2			Genotoxic properties of metabo- lite	Non-genotoxic
Stage 3			Toxic properties of metabolite;	Not available
			Classification of parent	None
			Classification of metabolite	Not available
Consumer health risk assessment	STEP 4		Estimated consumer exposure via drinking water and other sources; threshold of concern approach	Acceptable (< 0.75 µg/L)
	STEP 5		Refined risk assessment	Not required
			Predicted exposure (% of ADI)	Not required
				ADI based on

* N/A: not applicable

10.2.1 STEP 1: Exclusion of degradation products of no concern

ASTCA does not meet the criteria for products of no concern as defined in step 1 of the guidance and therefore needs further assessment.

10.2.2 STEP 2: Quantification of potential groundwater contamination

PEC_{gw} calculations after leaching from soil for ASTCA were performed (see Part B, Section 8, chapter 8.8). The uses for which concentrations of ASTCA were considered to exceed 0.1 µg/L are listed in Table 10.2-1. Details are given in Part B, Section 8, chapter 8.8.2.2.

10.2.3 STEP 3: Hazard assessment – identification of relevant metabolites

10.2.3.1 STEP 3, Stage 1: screening for biological activity

No data available.

10.2.3.2 STEP 3, Stage 2: screening for genotoxicity

ASTCA was screened for genotoxic activity by the following data package of *in vitro* genotoxicity studies: Ames test, gene mutation test with mammalian cells, and a chromosome aberration test. ASTCA was non-genotoxic as shown by a negative Ames test, negative gene mutation test with mammalian cells, negative chromosome aberration test additional studies and references as required. ASTCA is considered not relevant and is further evaluated in Stage 3. The genotoxicity studies are evaluated in EU Peer Review (EFSA, 2015)

10.2.3.3 STEP 3, Stage 3: screening for toxicity

No data available.

However, according to the EFSA peer Review (EFSA Journal 2015; 13(1):3984), this metabolite was concluded as not toxicological relevant on the basis of the available mammalian toxicological data.

10.2.4 STEP 4: Exposure assessment – threshold of concern approach

ASTCA was not considered relevant in the hazard assessment of Step 3.

The PEC_{gw} for ASTCA was < 0.75 µg/L. There is no consumer exposure via other routes. ASTCA is not considered to exceed the toxicological threshold of concern as defined in EC guidance document SANCO/221/2000 –rev.11.

zRMS:

According to EFSA conclusions (EFSA Journal 2015; 13(1):3984) based on the available data and on the toxicological profile of florasulam, the metabolite ASTCA is not considered toxicologically relevant groundwater metabolite. Since its concentration in the ground water is < 0.75 µg/L in line with guidance Sanco/221/2000 – rev.11/ 21 October 2021 the refined assessment of its potential toxicological significance for consumers is not required.

10.2.5 STEP 5: Refined risk assessment

Not relevant.

10.3 Relevance assessment of TSA

Summary:

The relevance of the groundwater metabolite TSA has already been assessed and the assessment agreed at EU level (see RAR, 2013 and EFSA Journal 2015; 13(1):3984), and the relevance assessment is applicable as well for the GAP and groundwater scenarios considered in this dRR (the conclusions reached at Step 4 of the relevance assessment made at the EU-level are valid also with regard to the PEC_{gw} calculated for the GAP and groundwater scenarios considered in this dRR). TSA is not considered relevant according to the criteria laid down in the EC guidance document SANCO/221/2000 –rev.11. A summary of the relevance assessment is given in Table 10.2-1 and the corresponding studies are listed in the corresponding sections.

Table 10.3-1: Summary of the relevance assessment for TSA

	Assessment step		Result of assessment	
	STEP 1		Metabolite of no concern?	No
cation of ground- water contami-	STEP 2		Max PEC _{gw}	0.320 µg/L
			Based on	Hamburg FOCUS PEARL scenario for winter cereals use.
Hazard assessment	STEP 3	Stage 1	Biological activity comparable to the parent?	Not available
		Stage 2	Genotoxic properties of metabolite	Non-genotoxic
		Stage 3	Toxic properties of metabolite;	Not available
			Classification of parent	None
			Classification of metabolite	Not available
Consumer health risk assessment	STEP 4		Estimated consumer exposure via drinking water and other sources; threshold of concern approach	acceptable (<0.75 µg/L)
	STEP 5		Refined risk assessment	Not required
			Predicted exposure (% of ADI)	Not required
				ADI based on

* N/A: not applicable

10.3.1 STEP 1: Exclusion of degradation products of no concern

TSA does not meet the criteria for products of no concern as defined in step 1 of the guidance and therefore needs further assessment.

10.3.2 STEP 2: Quantification of potential groundwater contamination

PEC_{gw} calculations after leaching from soil for TSA were performed (see Part B, Section 8, chapter 8.8.2). Concentrations of TSA were considered to exceed 0.1 µg/L are listed in Table 10.2-1. Details are given in Part B, Section 8, chapter 8.8.2.2.

10.3.3 STEP 3: Hazard assessment – identification of relevant metabolites

10.3.3.1 STEP 3, Stage 1: screening for biological activity

No data available.

10.3.3.2 STEP 3, Stage 2: screening for genotoxicity

TSA was screened for genotoxic activity by the following data package of *in vitro* genotoxicity studies: Ames test, gene mutation test with mammalian cells, and a chromosome aberration test. TSA was non-genotoxic as shown by a negative Ames test, negative gene mutation test with mammalian cells, negative chromosome aberration test. TSA is considered not relevant. The genotoxicity studies are evaluated in EU Peer Review (EFSA, 2015)

10.3.3.3 STEP 3, Stage 3: screening for toxicity

No data available.

However, according to the EFSA peer review (EFSA Journal 2015; 13(1):3984), this metabolite was concluded as not toxicological relevant on the basis of the available mammalian toxicological data.

10.3.4 STEP 4: Exposure assessment – threshold of concern approach

TSA was not considered relevant in the hazard assessment of Step 3.

The PEC_{gw} for TSA was < 0.75 µg/L. There is no consumer exposure via other routes. TSA is not considered to exceed the toxicological threshold of concern as defined in EC guidance document SANCO/221/2000 –rev.11.

zRMS:

According to EFSA conclusions (EFSA Journal 2015; 13(1):3984) based on the available data and on the toxicological profile of florasulam, the metabolite TSA is not considered toxicologically relevant groundwater metabolite. Since its concentration in the ground water is < 0.75 µg/L in line with guidance SANCO/221/2000 – rev.11/ 21 October 2021 the refined assessment of its potential toxicological significance for consumers is not required.

10.3.5 STEP 5: Refined risk assessment

Not relevant.

Appendix 1 Lists of data considered in support of the evaluation

List of data submitted by the applicant and relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
-	-	-	-	-	-

List of data submitted or referred to by the applicant and relied on, but already evaluated at EU peer review

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
-	-	-	-	-	-

The following tables are to be completed by MS

List of data submitted by the applicant and not relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
-	-	-	-	-	-

List of data relied on not submitted by the applicant but necessary for evaluation

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
-	-	-	-	-	-

Appendix 2 Additional information