

FINAL REGISTRATION REPORT

Part B

Section 6

Mammalian Toxicology

Detailed summary of the risk assessment

Product code: FF-075

Product name(s): EUSKATEL PRO

Chemical active substance:

Prothioconazole, 200 g/L

Azoxystrobin 150 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(New Product Authorization)

Applicant: Rotam Agrochemical Europe Limited

Submission date: June 2021

MS Finalisation date: February 2022; August 2022

Version history

When	What
1 June 2021	New product application in accordance with Article 33 of Regulation (EC) No. 1107/2009.
February 2022	zRMS evaluation
August 2022	Final version after commenting period

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6 Mammalian Toxicology (KCP 7)

6.1 Summary

Table 6.1-1: Information on FF-75*

Product name and code	EUSKATEL PRO / FF-075
Formulation type	SC
Active substance(s) (incl. content)	Prothioconazole; 200 g/L Azoxystrobin: 150 g/L
Function	fungicide
Product already evaluated as the 'representative formulation' during the approval of the active substance(s)	No
Product previously evaluated in another MS according to Uniform Principles	No

* Information on the detailed composition of FF-075 can be found in the confidential dRR Part C.

Justified proposals for classification and labelling

According to the criteria given in Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008, the following classification and labelling with regard to toxicological data is proposed for the preparation:

Table 6.1-2: Justified proposals for classification and labelling for EUSKATEL PRO according to Regulation (EC) No 1272/2008


Hazard class(es), categories	Acute inhalation 4 Skin Sens. 1
Hazard pictograms or Code(s) for hazard pictogram(s)	
Signal word	Warning
Hazard statement(s)	H332, H317
Precautionary statement(s)	<p><u>WARNING SECTION OF THE LABEL (first page):</u> P261: Avoid breathing spray. P280: Wear protective gloves. P302+P352: IF ON SKIN: Wash with plenty of water. P304+P340</p> <p>Contains 1,2-Benzisothiazolin-3-one and reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)). May produce an allergic reaction.</p> <p><u>Other section of the label:</u> P271 P261: Avoid breathing vapours/ spray. P270: Do not eat, drink or smoke when using this product. P272: Contaminated work clothing should not be allowed out of the workplace P362+P364: Take off contaminated clothing and wash it before reuse. P501: Dispose of contents and/or their container according to the separated collection system used in your municipality.</p> <p>And P280 as follows: <u>Operator:</u> <i>“Stosować rękawice ochronne i odzież roboczą w trakcie przygotowywania cieczy użytkowej oraz w czasie zabiegu.”</i> “Use protective gloves and work wear during mixing and loading and application”</p> <p><u>Section First aid:</u> P302+P352: IF ON SKIN: Wash with plenty of water. P333+P313: If skin irritation or rash occurs: Get medical advice/attention.</p>
Additional labelling phrases	None

Table 6.1-3: Summary of risk assessment for operators, workers, residents and bystanders for EUSKATEL PRO

	Result	PPE / Risk mitigation measures
Operators	Acceptable	Classification: protective gloves. Exposure: None protective gloves
Workers	Acceptable	None
Residents	Acceptable	None
Bystanders	Acceptable	None

No unacceptable risk for operators, workers, residents and bystanders was identified when the product is used as intended. No specific PPE is necessary.

A summary of the critical uses and the overall conclusion regarding exposure for operators, workers and residents/bystanders is presented in the following table.

Table 6.1-4 Critical uses and overall conclusion of exposure assessment

1	2	3	4	5	6	7	8	9	10			
Use- No.*	Crops and situation (e.g. growth stage of crop)	F, Fn, Fpn G, Gn, Gpn or I **	Application		Application rate		PHI (d)	Remarks: (e.g. safen- er/synergist (L/ha)) critical gap for operator, worker, resident or by- stander exposure based on [Expo- sure model]	Acceptability of exposure as- sessment			
			Method / Kind (incl. applica- tion technique ***	Max. number (min. interval between applications) a) per use b) per crop/ season	Max. applica- tion rate kg as/ha a) prothiocona- zole b) azoxystrobin	Water L/ha min / max			Operator	Worker	Residents	Bystander
2, 1-27	Wheat, (winter) and durum, spelt, triticale, rye, oats barley, (spring and winter)	F	Spraying, LCTM	1 ; 2 (14 days)	a) 0.200 b) 0.15	100 - 400	35	Guidance on the assessment of exposure of opera- tors, workers, residents and bystanders in risk assessment for plant protection products; EFSA Journal 2014;12(10):3874				

* Use number(s) in accordance with the list of all intended GAPs in Part B, Section 0 should be given in column 1

** F: professional field use, Fn: non-professional field use, Fpn: professional and non-professional field use, G: professional greenhouse use, Gn: non-professional greenhouse use, Gpn: professional and non-professional greenhouse use, I: indoor application

*** e.g. LC: low crops, HC: high crop, TM: tractor-mounted, HH: hand-held

Explanation for column 10 "Acceptability of exposure assessment"

A	Exposure acceptable without PPE / risk mitigation measures
R	Further refinement and/or risk mitigation measures required
N	Exposure not acceptable/ Evaluation not possible

Data gaps

Data gaps should be listed in the summary to give an overview (especially for cMS).

Noticed data gaps are:


- None

6.2 Toxicological Information on Active Substance(s)

Information regarding classification of the active substances and on EU endpoints and critical areas of concern identified during the EU review are given in Table 6.2-1.

Table 6.2-1: Information on active substance(s)

	Prothioconazole	Prothioconazole-Desthio	Azoxystrobin
Common Name	Prothioconazole	Prothioconazole-Desthio	Azoxystrobin Technical
CAS-No.	178928-70-6	120983-64-4	131860-33-8

	Prothioconazole	Prothioconazole-Desthio	Azoxystrobin
Classification and proposed labelling			
With regard to toxicological endpoints (according to the criteria in Reg. 1272/2008, as amended)	Hazard classes (s), categories: None Code(s) for hazard pictogram(s): None Signal word: None Hazard statement(s): None Precautionary statement(s): None	Hazard classes (s), categories: None Code(s) for hazard pictogram(s): None Signal word: None Hazard statement(s): None Precautionary statement(s): None	Hazard classes (s), categories: Acute Toxicity, category 4 Code(s) for hazard  pictogram(s): Signal word: Warning Hazard statement(s): H332 Harmful if inhaled Precautionary statement(s): None
Additional C&L proposal	N/A	N/A	N/A
Agreed EU endpoints			
AOEL systemic	0.2 mg/kg bw/d	0.01 mg/kg bw/d	0.2 mg/kg bw/d
Reference	EFSA Scientific Report (2007) 106, 1-98. Conclusion on the Peer Review of Prothioconazole	EFSA Scientific Report (2007) 106, 1-98. Conclusion on the Peer Review of Prothioconazole	EFSA journal (2010) 8(4)15421542 [110pp] Conclusion on the Peer Review of Azoxystrobin
Conditions to take into account/critical areas of concern with regard to toxicology			
According to Review Report/EFSA Conclusion for active substance	Use of personal protective equipment required during stiring. 5m spray free buffer zone. The metabolite Prothioconazole-Desthio is more toxic than parent (Prothioconazole) in the rat and rabbit developmental studies.	None	

6.3 Toxicological Evaluation of Plant Protection Product

A summary of the toxicological evaluation for FF-075 is given in the following tables. Full summaries of studies on the product that have not been previously considered within an EU peer review process are described in detail in Appendix 2.

Table 6.3-1: Summary of evaluation of the studies on acute toxicity including irritancy and skin sensitisation for FF-075

Type of test, species, model system (Guideline)	Result	Acceptability	Classification (acc. to the criteria in Reg. 1272/2008)	Reference
LD ₅₀ oral, rat (Calculation method)	> 2000 mg/kg bw	Yes	None	Part C of this submission
LD ₅₀ dermal, rat (Calculation method)	> 2000 mg/kg bw	Yes	None	Part C of this submission
LC ₅₀ inhalation, rat (Calculation method) > 5.0 mg/L	3.9 mg/L air	Yes-No	Category 4 H332 None	Part C of this submission
Skin irritation	Non-irritant	Yes	None	Part C of this

(Calculation method)				submission
Eye irritation (Calculation method)	Non-irritant	Yes	None	Part C of this submission
Skin sensitisation, (Calculation method)	Non-sensitising	No	None Skin Sens 1, H317	Part C of this submission
Supplementary studies for combinations of plant protection products	Not required		N/A	N/A

Table 6.3-2: Additional toxicological information relevant for classification/labelling of FF-075

	Substance (concentration in product, % w/w)	Classification of the substance (acc. to the criteria in Reg. 1272/2008)	Reference	Classification of product (acc. to the criteria in Reg. 1272/2008)
Toxicological properties of active substance(s) (relevant for classification of product)	Prothioconazole (17 % (w/w))	None	MSDS	None
	Azoxystrobin (12.8% (w/w))	Acute Tox. 3, H331	MSDS	H331-None
Toxicological properties of non-active substance(s) (relevant for classification of product)	None CAS No. 55965-84-9 (0.002%)	None Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 2; H310 Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 (C≥0,0015 %)	1272/2008 Harmonised classification	N/A Skin Sens. 1; H317
	CAS No. 2634- 33-5 (0.053%)	Acute Tox. 4 H302; Skin Irrit. 2 H315; Eye Dam.1 H318; Skin Sens. 1, H317 (C ≥ 0.05 %),		
Further toxicological information	not required	N/A	N/A	

* Please use concentration range or concentration limit (e.g. 1-10% or > 1%) as provided in MSDS.

** Material safety data sheet by the applicant

6.4 Toxicological Evaluation of Groundwater Metabolites

All metabolite concentrations are predicted to stay below 0.1 µg/L – no groundwater assessment is required.

Comment of ZRMS	The metabolites of prothioconazole are predicted to occur in groundwater at concentrations below 0.001 µg/L. Thus, the assessment of the relevance of its metabolites according to the stepwise procedure (acc. to SANCO/221/2000 –rev.10) is not required. <u>In case of azoxystrobin:</u> Taking into account all toxicological data, the metabolite R234886 is considered toxicologically non-relevant. The results of the consumer risk calculations indicate that the use of FF-075/EUSKATEL PRO according to the list of
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	intended uses presented in GAP Table, causes no risk for health for the adults, toddlers and infants.
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6.5 Dermal Absorption (KCP 7.3)

A summary of the dermal absorption rates for the active substances in FF-075 are presented in the following table.

Table 6.5-1: Dermal absorption rates for active substances in FF-075

	Prothioconazole		Prothioconazole-desthio		Azoxystrobin	
	Value	Reference	Value	Reference	Value	Reference
Concentrate	10%	Default value	2.2% (1.81 g/L)	New study reported in Appendix 2	10%	Default value
Dilution (dilution factor 400)	50%	Default value	6.0% (0.45 g/L)	New study reported in Appendix 2	50%	Default value

6.5.1 Justification for proposed values - Prothioconazole

No data on dermal absorption for prothioconazole in FF-075 is available. Justifications for default values according to Guidance on Dermal Absorption (EFSA Journal 2012; 10(4):2665) are presented in the following table.

Table 6.5-2: Default dermal absorption rates for Prothioconazole

	Value	Justification for value	Acceptability of justification
Concentrate	10%	Formulation is water-based/dispersed	accepted
Dilution	50%	Formulation is water-based/dispersed	accepted

6.5.2 Justification for proposed values – Prothioconazole-desthio

Proposed dermal absorption rates for prothioconazole-desthio are based on a dermal absorption study performed on FF-075. The study results are summarised in the following table. Full summaries of studies on the dermal absorption of prothioconazole-desthio that have not previously been evaluated within an EU peer review process are described in detail in Appendix 2.

Table 6.5-3: Summary of the results of submitted dermal absorption studies for prothioconazole-desthio

Test	Concentrate Spray dilution (dilution factor 100)	Spray dilution (dilution factor 400)	Formulation in study	Acceptability of study	Justification provided on representativity of study formulation for current product	Acceptability of justification	Reference
In vitro (human)	1.81% 2.2%	0.45% 6.0%	FF-075	yes	Not required	Justification accepted. Endpoint (6%) can be used for current product.	W.J.M Maas 2021

6.5.3 Justification for proposed values - Azoxystrobin

No data on dermal absorption for azoxystrobin in FF-075 is available. Justifications for default values according to Guidance on Dermal Absorption (EFSA Journal 2012; 10(4):2665) are presented in the following table.

Table 6.5-4: Default dermal absorption rates for Azoxystrobin

	Value	Justification for value	Acceptability of justification
Concentrate	10%	Formulation is water-based/dispersed	accepted
Dilution	50%	Formulation is water-based/dispersed	accepted

6.6 Exposure Assessment of Plant Protection Product (KCP 7.2)

Table 6.6-1: Product information and toxicological reference values used for exposure assessment

Product name and code	FF-075 / Eusaktel Pro		
Formulation type	SC		
Category	Fungicide		
Active substance(s) (incl. content)	Prothioconazole 200 g/L	Prothioconazole-desthio 181.4 g/L ¹	Azoxystrobin 150 g/L
AOEL systemic	0.2 mg/kg bw/d	0.01 mg/kg bw/d	0.2 mg/kg bw/d
Inhalation absorption	100%	100%	100%
Oral absorption	100%	100%	100%
Dermal absorption	Concentrate: 10% Dilution: 50% (Default)	Dilution 1: 2.2% (1.81 g/L) Dilution 2: 6.0% (0.45 g/L) (Based on product formulation)	Concentrate: 10% Dilution: 50% (Default)

¹ assuming 100% conversion of prothioconazole to prothioconazole-desthio and applying a conversion factor of 0.907 based on a molecular weight of 344.254 g/mol for prothioconazole and 312.194 g/mol for prothioconazole-

desthio

6.6.1 Selection of critical use(s) and justification

The critical GAP used for the exposure assessment of the plant protection product is shown in Table 6.1-4. A list of all intended uses within the zone is given in Part B, Section 0.

6.6.2 Operator exposure (KCP 7.2.1)

Comment of ZRMS	The approach suggested by Applicant to assess the exposure to metabolite prothioconazole-desthio represents the worst scenario (maximal conversion rate of parent substance). The assumptions used in the calculations are accepted.
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6.6.2.1 Estimation of operator exposure

Comments of zRMS:	The use of AOEM and absorption values for the calculations of operator exposure, as well as the results of the estimations are correct.																																																		
	Conclusions:																																																		
	The results of the estimation indicate that the exposure of an unprotected operator (no PPE, wearing work wear) to prothioconazole (200 g/L), prothioconazole-desthio and azoxystrobin (150 g/L) remains on an acceptable level , i.e. below the value of AOEL for the active substances (and highlighted metabolite).																																																		
	Taking into account the classification of the product (Skin Sens.1, H317), the following sentence is recommended by the evaluator to be placed in the warning section of the label:																																																		
	“Stosować rękawice ochronne i odzież roboczą w trakcie przygotowywania cieczy użytkowej oraz w czasie zabiegu.”																																																		
	“Use protective gloves and work wear during mixing and loading and application”																																																		
	The results of re-calculations (August 2022):																																																		
	Taking into account that prothioconazole may be unstable in the presence of water (e.g. moisture, sweat), leading to a rapid conversion to desthio-metabolite, dermal exposure during mixing and loading of the undiluted product may lead to exposure towards prothioconazole-desthio. Since dermal absorption study did not include the concentrated product (only two types of dilution), the default value of 20% was used in the calculation.																																																		
	The results of new calculations are presented below:																																																		
	<table><tr><th colspan="2">Operator Model</th><th colspan="3">Mixing, loading and application AOEM</th></tr><tr><td rowspan="2">Potential exposure</td><td>Longer term systemic exposure mg/kg bw/day</td><td>0,1483</td><td>% of RVNAS</td><td>1482,88%</td></tr><tr><td>Acute systemic exposure mg/kg bw/day</td><td>0,8106</td><td>% of RVAAS</td><td></td></tr><tr><td>Mixing and Loading</td><td>Gloves = No</td><td>Clothing = Work wear - arms, body and legs covered</td><td>RPE = None</td><td>Soluble bags = No</td></tr><tr><td>Application</td><td>Gloves = No</td><td>Clothing = Work wear - arms, body and legs covered</td><td>RPE = None</td><td>Closed cabin = No</td></tr><tr><td rowspan="2">Exposure (including PPE options above)</td><td>Longer term systemic exposure mg/kg bw/day</td><td>0,0921</td><td>% of RVNAS</td><td>920,97%</td></tr><tr><td>Acute systemic exposure mg/kg bw/day</td><td>0,3556</td><td>% of RVAAS</td><td></td></tr><tr><th colspan="2">Operator Model</th><th colspan="3">Mixing, loading and application AOEM</th></tr><tr><td rowspan="2">Potential exposure</td><td>Longer term systemic exposure mg/kg bw/day</td><td>0,1483</td><td>% of RVNAS</td><td>1482,88%</td></tr><tr><td>Acute systemic exposure mg/kg bw/day</td><td>0,8106</td><td>% of RVAAS</td><td></td></tr></table>					Operator Model		Mixing, loading and application AOEM			Potential exposure	Longer term systemic exposure mg/kg bw/day	0,1483	% of RVNAS	1482,88%	Acute systemic exposure mg/kg bw/day	0,8106	% of RVAAS		Mixing and Loading	Gloves = No	Clothing = Work wear - arms, body and legs covered	RPE = None	Soluble bags = No	Application	Gloves = No	Clothing = Work wear - arms, body and legs covered	RPE = None	Closed cabin = No	Exposure (including PPE options above)	Longer term systemic exposure mg/kg bw/day	0,0921	% of RVNAS	920,97%	Acute systemic exposure mg/kg bw/day	0,3556	% of RVAAS		Operator Model		Mixing, loading and application AOEM			Potential exposure	Longer term systemic exposure mg/kg bw/day	0,1483	% of RVNAS	1482,88%	Acute systemic exposure mg/kg bw/day	0,8106	% of RVAAS
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	<p>Conclusions:</p> <p>The results of the estimation indicate that the exposure of an unprotected operator (no PPE, wearing work wear) to prothioconazole-desthio is unacceptable, i.e. above the value of AOEL for the metabolite. The use of EUSKATEL PRO (FF-075) causes no risk for operator using appropriate PPE (protective gloves) during mixing and loading.</p> <p>Taking into account the classification of the product (Skin Sens.1, H317) and the results of the exposure calculations, the following sentence is recommended by the evaluator to be placed in the warning section of the label:</p> <p><i>“Stosować rękawice ochronne i odzież roboczą w trakcie przygotowywania cieczy użytkowej oraz w czasie zabiegu.”</i></p> <p>“Use protective gloves and work wear during mixing and loading and application”</p>
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A summary of the exposure models used for estimation of operator exposure to the active substances during application of FF-075/Euskatel Pro according to the critical use(s) is presented in Table 6.6-2. The outcome of the estimation is presented in Table 6.6-3 (longer term exposure). Detailed calculations are in Appendix 3.

Table 6.6-2: Exposure models for intended uses

Critical use(s)	Cereal (max. 1 L product/ha)
Model(s)	Guidance on the assessment of exposure of operators, workers, residents and bystanders in risk assessment for plant protection products; EFSA Journal 2014;12(10):3874 calculator version: 30/03/2015

Table 6.6-3: Estimated operator exposure (longer term exposure)

		Prothioconazole		Prothioconazole-desthio (metabolite)		Azoxystrobin	
Model data	Level of PPE	Total absorbed dose (mg/kg/day)	% of systemic AOEL	Total absorbed dose (mg/kg/day)	% of systemic AOEL	Total absorbed dose (mg/kg/day)	% of systemic AOEL
Tractor mounted boom spray application outdoors to low crops							
Application rate		0.2 kg a.s./ha		0.1814 kg a.s./ha*		0.15 kg a.s./ha	

Spray application (AOEM; 75 th percent- tile) Body weight: 60 kg	Work wear (arms, body and legs covered) M/L and A	0.0619	30.94	0.0016	15.72	0.0489	24.44
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* For calculating exposure to prothioconazole-desthio, 100% conversion of prothioconazole to prothioconazole-desthio was assumed. A conversion factor of 0.907 was applied based on a molecular weight of 344.254 g/mol for prothioconazole and 312.194 g/mol for prothioconazole-desthio. Formation of prothioconazole-desthio is not expected in the concentrate, thus during the M/L task dermal absorption of prothioconazole-desthio was not considered and a dermal absorption value of 0% was applied to remove this from calculation.

6.6.2.2 Measurement of operator exposure

Since the operator exposure estimations carried out indicated that the acceptable operator exposure level (AOEL) will not be exceeded under conditions of intended uses and consideration of the above mentioned personal protective equipment (PPE), a study to provide measurements of operator exposure was not necessary and was therefore not performed.

6.6.3 Worker exposure (KCP 7.2.3)

6.6.3.1 Estimation of worker exposure

Comments of zRMS:	<p>The use of AOEM and absorption values for the calculations of worker exposure, as well as the results of the estimations are correct.</p> <p>Conclusions:</p> <p>The results of the estimation indicate that the exposure of an unprotected worker (no PPE, wearing work wear, inspection: 2h/day) to prothioconazole (200 g/L) prothioconazole-desthio and azoxystrobin (150 g/L) remains on an acceptable level, i.e. below the value of AOEL for the active substances (and highlighted metabolite).</p> <p>Nevertheless, it is forbidden to re-enter area treated with Euskatel Pro/FF-075 until spray deposit on plant surfaces has dried.</p> <p>Bearing in minds the hygienic rules, the use of work wear (coverall) and protective gloves is recommended by the evaluator during inspection of the treated area.</p>
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Table 6.6-4 shows the exposure model(s) used for estimation of worker exposure after entry into a previously treated area or handling a crop treated with FF-075/Euskatel Pro according to the critical use. Outcome of the estimation is presented in Table 6.6-5 (longer term exposure). Detailed calculations are in Appendix 3.

Table 6.6-4: Exposure models for intended uses

Critical use(s)	Cereals (max. 2 x 1 L product/ha)
Model	Guidance on the assessment of exposure of operators, workers, residents and bystanders in risk assessment for plant protection products; EFSA Journal 2014;12(10):3874 calculator version: 30/03/2015

Table 6.6-5: Estimated worker exposure (longer term exposure)

		Prothioconazole		Prothioconazole-desthio (metabolite)		Azoxystrobin	
Model data	Level of PPE	Total absorbed dose (mg/kg bw/day)	% of systemic AOEL	Total absorbed dose (mg/kg bw/day)	% of systemic AOEL	Total absorbed dose (mg/kg bw/day)	% of systemic AOEL
Inspection Outdoor Work rate: 2 hours/day DT ₅₀ : 30 days DFR: 3 µg/cm ² /kg a.s./ha Interval between treatments: 14 days							
Number of applications and application rate		2 x 0.2 kg a.s./ha		2 x 0.1814 kg a.s./ha*		2 x 0.15 kg a.s./ha	
Bodyweight: 60 kg	Work wear (arms, body and legs covered) TC: 12500 cm ² /person/h	0.0241	12.07	0.0026	26.26	0.0181	9.05

* For calculating exposure to prothioconazole-desthio, 100% conversion of prothioconazole to prothioconazole-desthio was assumed. A conversion factor of 0.907 was applied based on a molecular weight of 344.254 g/mol for prothioconazole and 312.194 g/mol for prothioconazole-desthio.

6.6.3.2 Refinement of generic DFR value (KCP 7.2)

Refinement of the generic DFR value is not required.

6.6.3.3 Measurement of worker exposure

Since the worker exposure estimations carried out indicated that the acceptable operator exposure level (AOEL) will not be exceeded under conditions of intended uses and considering above mention PPE, a study to provide measurements of worker exposure was not necessary and was therefore not performed.

6.6.4 Resident and bystander exposure (KCP 7.2.2)

6.6.4.1 Estimation of resident and bystander exposure

Comments of zRMS:	<p>The results of bystander and resident exposure estimations to the active substances contained in the formulation Euskatel Pro / FF-075 containing prothioconazole (200 g/L) and azoxystrobin (150 g/L) and to metabolite prothioconazole-desthio presented by the applicant are accepted.</p> <p>The reference values acutely toxic active substance (RVAAS) for prothioconazole (and its metabolite – prothioconazole-desthio) and azoxystrobin are not allocated. Consequently, it is assumed that the estimation of bystander exposure is covered by the calculation of resident exposure towards these substances.</p> <p>According to the estimation based on AOEM, the use of Euskatel Pro / FF-075 does not cause unacceptable health risk for bystander and resident (both adult and child): the exposure values are significantly below the AOEL for active substances.</p> <p>Summary and conclusions:</p> <p>The incidental short-time exposure of bystander and resident (children and adult) to prothioconazole (and its metabolite – prothioconazole-desthio) and azoxystrobin causes no risk to human health if the product is used in accordance to the intended uses listed in the GAP Table.</p>
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The acute exposure assessment for bystanders covers the exposure that a resident could reasonably be expected to incur in a single day. Therefore, there is no need for a separate acute risk assessment for residents.

No bystander risk assessment is required for PPPs that do not have significant acute toxicity or the potential to exert toxic effects after a single exposure. Exposure in this case will be determined by average exposure over a longer duration, and higher exposures on one day will tend to be offset by lower exposures on other days. Therefore, exposure assessment for residents also covers bystander exposure.

Table 6.6-6 shows the exposure model(s) used for estimation of resident and bystander exposure to prothioconazole, prothioconazole-desthio (metabolite) and azoxystrobin. The outcome of the estimation is presented in **Błąd! Nie można odnaleźć źródła odwołania.** (longer term resident exposure). Detailed calculations are in Appendix 3.

Table 6.6-6: Exposure models for intended uses

Critical use(s)	Cereal (max. 2 x 1 L product/ha)
Model	Guidance on the assessment of exposure of operators, workers, residents and bystanders in risk assessment for plant protection products; EFSA Journal 2014;12(10):3874 calculator version: 30/03/2015

Table 6.6-7: Estimated resident exposure (longer term exposure)

		Prothioconazole		Prothioconazole-desthio (metabolite)		Azoxystrobin	
Model data		Total absorbed dose (mg/kg bw/day)	% of systemic AOEL	Total absorbed dose (mg/kg bw/day)	% of systemic AOEL	Total absorbed dose (mg/kg bw/day)	% of systemic AOEL
Tractor mounted boom spray application outdoors to low crops Buffer zone: 2-3 (m) Drift reduction technology: no DT ₅₀ : 30 days DFR: 3 µg/cm ² /kg a.s./ha Interval between treatments: 14 days							
Number of applications and application rate		2 x 0.2 kg a.s./ha		2 x 0.1814 kg a.s./ha		2 x 0.15 kg a.s./ha	
Resident child Body weight: 10 kg	Drift (75 th perc.)	0.0269	13.43	0.0030	29.58	0.0201	10.07
	Vapour (75 th perc.)	0.0011	0.54	0.0011	10.70	0.0011	0.54
	Deposits (75 th perc.)	0.0028	1.39	0.0005	5.27	0.0021	1.05
	Re-entry (75 th perc.)	0.0291	14.54	0.0032	31.66	0.0218	10.91
	Sum (mean)	0.0411	20.55	0.0056	56.17	0.0311	15.55
Resident adult Body weight: 60 kg	Drift (75 th perc.)	0.0064	3.21	0.0007	7.02	0.0048	2.41
	Vapour (75 th perc.)	0.0002	0.12	0.0002	2.30	0.0002	0.12
	Deposits (75 th perc.)	0.0012	0.59	0.0001	1.28	0.0009	0.44
	Re-entry (75 th perc.)	0.0162	8.08	0.0018	17.59	0.0121	6.06
	Sum (mean)	0.0170	8.51	0.0021	20.61	0.0128	6.41

6.6.4.2 Measurement of resident and/or bystander exposure

Since the resident and/or bystander exposure estimations carried out indicated that the acceptable operator exposure level (AOEL) for prothioconazole, prothioconazole-desthio (metabolite) or azoxystrobin will not be exceeded under conditions of intended uses and considering above mentioned risk mitigation measures, a study to provide measurements of resident/bystander exposure was not necessary and was therefore not performed.

6.6.5 Combined exposure

Comments of zRMS:	<p>The results of operator, worker, resident and bystander combined exposure estimations to the active substances contained in the formulation Euskatel Pro / FF-075 containing prothioconazole (200 g/L) and azoxystrobin (150 g/L) and to metabolite prothioconazole-desthio presented by the applicant are accepted.</p> <p>Conclusions: The use of Euskatel Pro / FF-075 in accordance to the list of intended uses presented in the GAP Table does not cause unacceptable exposure of operator, worker, bystander and resident (both adult and child) to prothioconazole, prothioconazole-desthio and azoxystrobin.</p>
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The product is a mixture of two active substances (prothioconazole and azoxystrobin). In addition, prothioconazole-desthio may be formed (metabolite of prothioconazole). As a worst case, 100% conversion of prothioconazole to the metabolite prothioconazole-desthio is assumed in the exposure assessment therefore it is not necessary to calculate combined exposure for these two substances.

For operators, exposure to prothioconazole leads to a higher % AOEL than prothioconazole-desthio therefore combined exposure to prothioconazole and azoxystrobin is calculated as a worst case. For workers and residents, exposure to prothioconazole-desthio leads to a higher % AOEL than prothioconazole therefore combined exposure to prothioconazole-desthio and azoxystrobin is calculated as a worst case.

6.6.5.1 Exposure assessment of prothionazole or prothioconazole-desthio and azoxystrobin in Euskatel Pro/FF-075

Note: The combined toxicological effect of these active substances has not been investigated with regard to repeated dose toxicity.

At the first tier, combined exposure is calculated as the sum of the component exposures without regard to the mode of action or mechanism/target of toxicity. Initially, the individual Hazard Quotients (HQ) are calculated for all active substances in the PPP by assessing the exposure according to appropriate models and dividing the individual exposure levels by the respective systemic AOEL. This is equivalent to the predicted exposure as % of systemic AOEL from **Błąd! Nie można odnaleźć źródła odwołania.** converted to decimal. The Hazard Index (HI) is the sum of the individual HQs.

Table 6.6-8: Risk assessment from combined exposure (longer term exposure)

Application scenario	Active ingredient	Estimated exposure / AOEL (HQ)
Operators – tractor mounted application Prothioconazole, azoxystrobin: Standard workwear but no PPE Prothioconazole-desthio: Standard workwear, protective gloves (m&l)	Prothioconazole/Prothioconazole-desthio	0.3094/0.4182
	Azoxystrobin	0.2444
	Cumulative risk operators (HI)	0.4016-0.5538/0.6626
Workers – crop inspection Standard workwear but no PPE	Prothioconazole-desthio (metabolite)	0.2626
	Azoxystrobin	0.0905
	Cumulative risk workers (HI)	0.3531
Resident – child No risk mitigation measures	Prothioconazole-desthio (metabolite)	
	Drift	0.2958
	Vapour	0.1070
	Deposits	0.0527
	Re-entry	0.3166
	Sum of all pathways	0.5617
	Azoxystrobin	
	Drift	0.1007
	Vapour	0.0054
	Deposits	0.0105

Application scenario	Active ingredient	Estimated exposure / AOEL (HQ)
	Re-entry	0.1091
	Sum of all pathways	0.1555
	Cumulative risk resident – child (HI)	
	Drift	0.3965
	Vapour	0.1124
	Deposits	0.0632
	Re-entry	0.4257
	Sum of all pathways	0.7172
Resident – adult No risk mitigation measures	Prothiconazole-desthio (metabolite)	
	Drift	0.0702
	Vapour	0.0230
	Deposits	0.0128
	Re-entry	0.1759
	Sum of all pathways	0.2061
	Azoxystrobin	
	Drift	0.0241
	Vapour	0.0012
	Deposits	0.0044
	Re-entry	0.0606
	Sum of all pathways	0.0641
	Cumulative risk resident – adult (HI)	
	Drift	0.0943
	Vapour	0.0242
	Deposits	0.0172
	Re-entry	0.2365
	Sum of all pathways	0.2702

The Hazard Index is < 1. Thus, combined exposure to all active substances in FF-075/Euskatel Pro is not expected to present a risk for operators, workers, residents and bystanders. No further refinement of the assessment is required.

Appendix 1 Lists of data considered in support of the evaluation

Tables considered not relevant can be deleted as appropriate.

MS to blacken authors of vertebrate studies in the version made available to third parties/public.

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
KCP 7.3	W.J.M. Maas	2021	The In Vitro Percutaneous Absorption of Radiolabelled Prothioconazole-desthio n Two In-use Dilutions through Human Split- Thickness Skin Company Report No 20274709 GLP Unpublished	N	Rotam

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
KCP 7	EFSA	2007	Conclusion regarding the peer review of the pesticide risk assessment of the active substance prothioconazole EFSA Scientific Report (2007) 106, 1-98 EFSA Non GLP Published	N	EFSA

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
KCP 7	EFSA	2010	Conclusion on the Peer Review of the risk assessemnt fo the active substance azoxystrobin EFSA Journal 2010; 8(4):1542 EFSA Non GLP Published	N	EFSA

The following tables are to be completed by MS

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
KCP XX	Author	YYYY	Title Company Report N Source GLP/non GLP/GEP/non GEP Published/Unpublished	Y/N	Owner

Appendix 2 Detailed evaluation of the studies relied upon

A 2.1 Statement on bridging possibilities

No bridging was performed.

A 2.2 Acute oral toxicity (KCP 7.1.1)

Comments of zRMS:	Taking into account the composition of the product and the provisions of the Regulation EC No. 1272/2008, the formulation FF-075/Euskatel PRO does not require classification in regards to oral acute toxicity. (for details see dRR part C).
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For each endpoint, if any value of an individual component (or components) is less than limit dose, the calculation is performed according to the following equation:

$$\frac{100}{ATE_{mixture}} = \sum_n \frac{C_{ingredient}}{ATE_{ingredient}}$$

~~The outcome for each acute toxicity endpoint for FF-065 is detailed below:~~

A 2.3 Acute percutaneous (dermal) toxicity (KCP 7.1.2)

Comments of zRMS:	Taking into account the composition of the product and the provisions of the Regulation EC No. 1272/2008, the formulation FF-075/Euskatel PRO does not require classification in regards to dermal acute toxicity (for details see dRR part C).
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All components are greater than limit dose and therefore no calculation is required. It can be concluded that FF-075 does not warrant classification

A 2.4 Acute inhalation toxicity (KCP 7.1.3)

Comments of zRMS:	Taking into account the composition of the product and the provisions of the Regulation EC No. 1272/2008, the formulation FF-075/Euskatel PRO does not required classification in regards to inhalation acute toxicity (for details see dRR part C).
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With the exception of 1 component (Azoxystrobin), all values are greater than limit dose.

100 / (12.8 / 0.5)
100 / 25.6
3.9 mg/L

This is within the range of category 4 classification. Therefore, according to the calculation method, FF075 should be classified as category 4, H332: Harmful if inhaled.

A 2.5 Skin irritation (KCP 7.1.4)

Comments of zRMS:	Taking into account the composition of the product, the formulation FF-075/EUSKATEL PRO does not require classification with regard to skin irritation (for details see dRR part C).
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As no components were classified as skin irritants. It can be concluded that FF-075 does not warrant classification.

A 2.6 Eye irritation (KCP 7.1.5)

Comments of zRMS:	Taking into account the composition of the product, the formulation FF-075/EUSKATEL PRO does not require classification in regards to eye irritation (for details see dRR part C).
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One component of FF-075 (SUPRAGIL MNS 88) is a Cat 2 eye irritant present at 4.26 %. This is below the threshold for classification (which is set at $\geq 10\%$). Therefore FF-075 does not warrant classification.

A 2.7 Skin sensitisation (KCP 7.1.6)

Comments of zRMS:	Taking into account the composition of the product and the provisions of the Regulation EC No. 1272/2008, the formulation FF-075, EUSKATEL PRO requires classification in regards to skin sensitization as Skin Sens 1 H317.
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As no components of FF-75 are skin sensitisers, it can be concluded that FF-075 does not warrant classification.

A 2.8 Supplementary studies for combinations of plant protection products (KCP 7.1.7)

No supplementary studies were performed.

A 2.9 Data on co-formulants (KCP 7.4)

A 2.9.1 Material safety data sheet for each co-formulant

Information regarding material safety data sheets of the co-formulants can be found in the confidential dossier of this submission (Registration Report - Part C).

A 2.9.2 Available toxicological data for each co-formulant

Available toxicological data for each co-formulant can be found in the confidential dossier of this submission (Registration Report - Part C).

Comments of zRMS:	Dermal absorption study of prothioconazole-desthio (Maas, 2021) is accepted. The absorption value taken into account for the purpose of exposure calculations amounts to 2.2 and 6.0% for concentrate and spray dilution (1:400) respectively . For the calculation of exposure to the metabolite during m&l, the default value should be used (20%).
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A 2.10 Studies on dermal absorption (KCP 7.3)

A 2.10.1 Study 1 – Prothioconazole-Desthio in product FF-075

The In Vitro Percutaneous Absorption of Radiolabelled Prothioconazole-desthio n Two In-use Dilutions through Human Split- Thickness Skin

Reference	7.3/01
Report	The In Vitro Percutaneous Absorption of Radiolabelled Prothioconazole-desthio n Two In-use Dilutions through Human Split- Thickness Skin Company Report No 20274709
Guideline(s)	Yes. OECD 428 Skin Absorption: in vitro method (April 2004)
Deviations	No
GLP	Yes
Acceptability	Yes
Duplication (if vertebrate study)	N/A

Materials and methods

Test material	Name (Lot/Batch No.)	[triazole-U- ¹⁴ C]desthioprothioconazole (Batch No. 11949JYC001-1)
Radiolabelled test item	Test preparation	Spiking
	Specific activity	1792 MBq/mmol (= 5.71 MBq/mg)
	Radiochemical purity	99.7%
Blank product	Name (Lot/Batch No.)	Prothioconazole 200 g/L + Azoxystrobin 150 g/L SC Blank (FF-075 Blank) (Batch No. 20200413)
	Concentration a.s.	0.0 g/L ¹

¹ assuming 100% conversion of prothioconazole to prothioconazole-desthio and applying a conversion factor of 0.907 based on a molecular weight of 344.254 g/mol for prothioconazole and 312.194 g/mol for prothioconazole-desthio

Test system		
Diffusion cell	Cell type	dynamic
	(if dynamic) Flow rate	1.5 ml/h
	Exposed skin area	0.64cm ²
	Cover	open
Membrane	Skin type	dermatomed
	Skin thickness range	200-400 µm
	Skin donors age	24-54 years
	Skin donors sex	female
	Location	Abdomen/breast
	Source	Ex vivo
	Integrity test	YEs
Receptor	Receptor medium	phosphate buffered saline (PBS) containing polyoxyethylene 20 oleyl ether (6%, w/v), sodium azide (0.01%, w/v), streptomycin (0.1 mg/mL) and

		penicillin G (100 units/mL)
	Solubility in receptor medium	Yes
Sample Time	Exposure time	8 hours
	Observation time	24 hours
Sampling	Sample intervals	0-1h, 1-2h, then 2 hour intervals to 24 hours after dosing
Washing		post exposure
Final Procedure	Tape stripping	Yes
	TS1-2 analysed separately	Yes
Remarks: None		

Tested doses	Concentrate	Spray dilution 1	Spray dilution 2
Target concentration [mg/ml]	N/A	1.81	0.45
Area dose [$\mu\text{L}/\text{cm}^2$]	N/A	10	10
Total dose [$\mu\text{L}/\text{cell}$]	N/A	6.4	6.4
Specific activity [MBq/mg]	N/A	5.71	5.71
No. of donors	N/A	4	4
No of cells used/valid cells	N/A	8/8	8/8

Results and discussions

Table A 1: In-vitro dermal penetration of active substance 1 formulated as product code/name through human skin - Recovery data

Dose group	High dose		Mid dose		Low dose	
	(Formulation concentrate)		(Spray dilution 1:100)		(Spray dilution 1:400)	
Target concentration [mg/mL]	N/A*		1.81		0.45	
Target dose [$\mu\text{L}/\text{cm}^2$]	N/A*		18.1		4.50	
Mean actual applied dose [$\mu\text{L}/\text{cm}^2$]	N/A*		17.2		4.5	
	Recovery [%]		Recovery [%]		Recovery [%]	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Dislodgeable dose						
Skin washing after 8 h	N/A*	N/A*	96.6	1.4	93.6	1.9
donor wash	N/A*	N/A*	0.13	0.03	94.0	1.8
Dose associated to skin						
Tape strips: 1 st sample, strips 1 + 2	N/A*	N/A*	0.057	0.067	0.19	0.29
Tape strips: 2 nd sample; strips 3 - n	N/A*	N/A*	1.10	0.05	0.25	0.11
Skin preparation	N/A*	N/A*	0.023	0.017	0.07	0.06
Absorbed dose						
Receptor fluid	N/A*	N/A*	1.54	0.71	4.34	1.80
Receptor chamber wash	N/A*	N/A*	0.007	0.004	4.39	1.83
Total recovery¹	N/A*	N/A*	98.5	1.2	89.9	0.9
Absorption essentially complete at end of study (>75% absorption within half the study duration) [%Absorption at $t_{0.5}$]	N/A		Yes [94% \pm 3]		Yes [91% \pm 6]	
If no: Absorption estimates = absorbed dose + tape strips sample 2) ²	N/A*	N/A*	N/A	N/A	N/A	N/A
If yes: Absorption estimates = absorbed dose + skin preparation	N/A*	N/A*	1.57	0.71	4.39	1.83
Absorption estimate normalised ³	N/A*	N/A*	N/A	N/A	N/A	N/A
Relevant absorption estimate ⁴	N/A*	N/A*	2.166		6.024	

Absorption estimates used for risk assessment ⁵	N/A*	2.2	6.0
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¹ Values may not calculate exactly due to rounding of figures

² In accordance with the EFSA Guidance on Dermal Absorption (EFSA Journal 2017;15(6):4873) the radioactivity in the second tape-strip pool (3rd to nth tape strip) is considered potentially absorbable if less than 75% of the absorption occurred in the first half of the study (see Table 7.6.2-1) Finally, the skin preparation is also considered potentially absorbable.

³ According to the EFSA Guidance on Dermal Absorption (EFSA Journal 2017;15(6):4873), cells with insufficient recovery (< 95%) can be corrected by normalisation of absorption estimate to 100% recovery; explanation should be included.

⁴ In accordance with the EFSA Guidance on Dermal Absorption (EFSA Journal 2017;15(6):4873), the relevant absorption estimate is calculated as: mean absorption estimate + ks, where k is the relevant multiplication factor and s is the standard deviation.

⁵ The relevant absorption estimate was rounded to the required number of significant figures in accordance with the EFSA Guidance on Dermal Absorption (EFSA Journal 2017;15(6):4873).

N/A: not applicable

* PTZ-Desthio is formed when diluted for application and therefore, only values for dilutions of the concentrate have been determined

Remarks

Justification for excluded cells / normalisation, if applicable

Conclusion/endpoint:

In conclusion, following topical application of [¹⁴C]PTZ-desthio in test preparation 1 (actual concentration 1.72 g/L) and test preparation 2 (actual concentration 0.45 g/L) to human skin in vitro, the total absorbed dose of [¹⁴C]PTZ-desthio was 1.55% (0.27 µg equiv./cm²) and 4.39% (0.20 µg equiv./cm²), respectively.

The dermal delivery of [¹⁴C]PTZ-desthio was 1.57% (0.27 µg equiv./cm²) of the applied dose for test preparation 1 and 4.47% (0.20 µg equiv./cm²) of the applied dose for test preparation 2.

The mass balance for [¹⁴C]PTZ-desthio topically applied on human skin was 98.5% (16.9 µg equiv./cm²) of the applied dose for test preparation 1 and 98.9% (4.49 µg equiv./cm²) of the applied dose for test preparation 2.

The absorption of [¹⁴C]PTZ-desthio into the receptor fluid within the first half of the study duration on human skin was >75%, for all three test preparations. Therefore, for risk assessment the dermal absorption values can be calculated from the dermal delivery (i.e. total absorbed + exposed skin without tape-strips) as defined by the EFSA Guidance on dermal absorption (2017). After correction for variability, the calculated dermal absorption values for PTZ-desthio for test preparation 1 (spray dilution 1) and 2 (spray dilution 2) are 2.2% (i.e. 1.57 + (0.84 x 0.71)) and 6.0% (i.e. 4.47 + (0.84 x 1.85)), respectively.

A 2.11 Other/Special Studies

N/A

Appendix 3 Exposure calculations

A 3.1 Operator exposure calculations (KCP 7.2.1.1)

A 3.1.1 Calculations for prothioconazole

Table A 2: Input parameters considered for the estimation of operator exposure

Substance	prothioconazole	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate- 0.2 kg a.s. /ha	Spray dilution = 2 g a.s./l	Vapour pressure = low volatile substances having a vapour pressure of <5*10 ⁻³ Pa
Scenario	Cereals / Outdoor / Downward spraying / Vehicle-mounted			Buffer = 2-3	Number applications = 2, Application interval = 14 days
Percentage Absorption	Dermal for product = 10	Dermal for in use dilution = 50	Oral = 100	Inhalation = 100	
RVNAS	0.2 mg/kg bw/day		RVAAS	mg/kg bw/day	
DFR	3 µg a.s./cm ² per kg a.s./ha		DT50	30 days	

Table A 3: Estimation of longer term operator exposure towards prothioconazole according to EFSA guidance

Operator Model		Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day	0.0983	% of RVNAS	49.14%	
	Acute systemic exposure mg/kg bw/day	0.5577	% of RVAAS		
Mixing and Loading	Gloves = No	Clothing = Work wear - arms, body and legs covered	RPE = None	Soluble bags = No	
Application	Gloves = No	Clothing = Work wear - arms, body and legs covered	RPE = None	Closed cabin = No	
Exposure (including PPE options above)	Longer term systemic exposure mg/kg bw/day	0.0619	% of RVNAS	30.94%	
	Acute systemic exposure mg/kg bw/day	0.2906	% of RVAAS		

A 3.1.2 Calculations for prothioconazole-desthio (metabolite)

Table A 4: Input parameters considered for the estimation of operator exposure

Substance	prothioconazole-desthio	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate- 0.1814 kg a.s. /ha	Spray dilution = 1.814 g a.s./l	Vapour pressure = low volatile substances having a vapour pressure of <5*10 ⁻³ Pa
Scenario	Cereals / Outdoor / Downward spraying / Vehicle-mounted			Buffer = 2-3	Number applications = 2, Application interval = 14 days
Percentage Absorption	Dermal for product = 0	Dermal for in use dilution = 6	Oral = 100	Inhalation = 100	
RVNAS	0.01 mg/kg bw/day		RVAAS	mg/kg bw/day	
DFR	3 µg a.s./cm ² per kg a.s./ha		DT50	30 days	

Table A 5: Estimation of longer term operator exposure towards prothioconazole-desthio according to EFSA guidance

Operator Model		Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day	0.0023	% of RVNAS	23.04%	
	Acute systemic exposure mg/kg bw/day	0.0162	% of RVAAS		
Mixing and Loading	Gloves = No	Clothing = Work wear - arms, body and legs covered	RPE = None	Soluble bags = No	
Application	Gloves = No	Clothing = Work wear - arms, body and legs covered	RPE = None	Closed cabin = No	
Exposure (including PPE options above)	Longer term systemic exposure mg/kg bw/day	0.0016	% of RVNAS	15.72%	
	Acute systemic exposure mg/kg bw/day	0.0124	% of RVAAS		

A 3.1.3 Calculations for azoxystrobin

Table A 6: Input parameters considered for the estimation of operator exposure

Substance	azoxystrobin	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate- 0.15 kg a.s. /ha	Spray dilution = 1.5 g a.s./l	Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa
Scenario	Cereals / Outdoor / Downward spraying / Vehicle-mounted			Buffer = 2-3	Number applications = 2, Application interval = 14 days
Percentage Absorption	Dermal for product = 10	Dermal for in use dilution = 50	Oral = 100	Inhalation = 100	
RVNAS	0.2 mg/kg bw/day		RVAAS	mg/kg bw/day	
DFR	3 µg a.s./cm2 per kg a.s./ha		DT50	30 days	

Table A 7: Estimation of longer term operator exposure towards azoxystrobin according to EFSA guidance

Operator Model		Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day	0.0782	% of RVNAS	39.10%	
	Acute systemic exposure mg/kg bw/day	0.4732	% of RVAAS		
Mixing and Loading	Gloves = No	Clothing = Work wear - arms, body and legs covered	RPE = None	Soluble bags = No	
Application	Gloves = No	Clothing = Work wear - arms, body and legs covered	RPE = None	Closed cabin = No	
Exposure (including PPE options above)	Longer term systemic exposure mg/kg bw/day	0.0489	% of RVNAS	24.44%	
	Acute systemic exposure mg/kg bw/day	0.2331	% of RVAAS		

A 3.2 Worker exposure calculations (KCP 7.2.3.1)

A 3.2.1 Calculations for prothioconazole

Table A 8: Input parameters considered for the estimation of worker exposure

Crop type	Cereals
Indoor or outdoor	Outdoor
Application method	Downward spraying
Application equipment	Vehicle-mounted
Worker's task	Inspection, irrigation
Main body parts in contact with foliage	Hand and body
Application rate of active substance	0.2 kg a.s./ha
Number of applications	2
Interval between multiple applications	14 days
Half-life of active substance	30 days
Multiple application factor	1.7
Dermal absorption of the product	10.00%
Dermal absorption of the in-use dilution	50.00%
Dislodgeable foliar residue ($i_AppRate * i_DFR$)	0.6 $\mu\text{g a.s./cm}^2$
Working hours	2 hr
Dermal transfer coefficient - Total potential exposure	12500 cm^2/hr
Dermal transfer coefficient - arms, body and legs covered	1400 cm^2/hr
Dermal transfer coefficient - hands, arms, body and legs covered	no TC available for this assessment cm^2/hr
Inhalation transfer coefficient for automated applications	NA $\text{ha/hr} * 10^{(-3)}$
Inhalation transfer coefficient for cutting ornamentals	NA $\text{ha/hr} * 10^{(-3)}$
Inhalation transfer coefficient for sorting / bundling ornamentals	NA $\text{ha/hr} * 10^{(-3)}$

Table A 9: Estimation of longer term worker exposure towards prothioconazole according to EFSA guidance

Worker - Inspection, irrigation	Potential exposure mg/kg bw/day	0.2155	% of RVNAS	107.73%
	Working clothing mg/kg bw/day	0.0241	% of RVNAS	12.07%
	Working clothing and gloves mg/kg bw/day		% of RVNAS	

A 3.2.2 Calculations for prothioconazole-desthio (metabolite)

Table A 10: Input parameters considered for the estimation of worker exposure

Crop type	Cereals
Indoor or outdoor	Outdoor
Application method	Downward spraying
Application equipment	Vehicle-mounted
Worker's task	Inspection, irrigation
Main body parts in contact with foliage	Hand and body
Application rate of active substance	0.1814 kg a.s./ha
Number of applications	2
Interval between multiple applications	14 days
Half-life of active substance	30 days
Multiple application factor	1.7
Dermal absorption of the product	0.00%
Dermal absorption of the in-use dilution	6.00%
Dislodgeable foliar residue (i_AppRate*i_DFR)	0.5442 µg a.s./cm ²
Working hours	2 hr
Dermal transfer coefficient - Total potential exposure	12500 cm ² /hr
Dermal transfer coefficient - arms, body and legs covered	1400 cm ² /hr
Dermal transfer coefficient - hands, arms, body and legs covered	no TC available for this assessment cm ² /hr
Inhalation transfer coefficient for automated applications	NA ha/hr*10 ^{^(-3)}
Inhalation transfer coefficient for cutting ornamentals	NA ha/hr*10 ^{^(-3)}
Inhalation transfer coefficient for sorting / bundling ornamentals	NA ha/hr*10 ^{^(-3)}

Table A 11: Estimation of longer term worker exposure towards prothioconazole-desthio according to EFSA guidance

Worker - Inspection, irrigation	Potential exposure mg/kg bw/day	0.0235	% of RVNAS	234.50%
	Working clothing mg/kg bw/day	0.0026	% of RVNAS	26.26%
	Working clothing and gloves mg/kg bw/day		% of RVNAS	

A 3.2.3 Calculations for azoxystrobin

Table A 12: Input parameters considered for the estimation of worker exposure

Crop type	Cereals
Indoor or outdoor	Outdoor
Application method	Downward spraying
Application equipment	Vehicle-mounted
Worker's task	Inspection, irrigation
Main body parts in contact with foliage	Hand and body
Application rate of active substance	0.15 kg a.s./ha
Number of applications	2
Interval between multiple applications	14 days
Half-life of active substance	30 days
Multiple application factor	1.7
Dermal absorption of the product	10.00%
Dermal absorption of the in-use dilution	50.00%
Dislodgeable foliar residue (i_AppRate*i_DFR)	0.45 µg a.s./cm ²
Working hours	2 hr
Dermal transfer coefficient - Total potential exposure	12500 cm ² /hr
Dermal transfer coefficient - arms, body and legs covered	1400 cm ² /hr
Dermal transfer coefficient - hands, arms, body and legs covered	no TC available for this assessment cm ² /hr
Inhalation transfer coefficient for automated applications	NA ha/hr*10 ^{^(-3)}
Inhalation transfer coefficient for cutting ornamentals	NA ha/hr*10 ^{^(-3)}
Inhalation transfer coefficient for sorting / bundling ornamentals	NA ha/hr*10 ^{^(-3)}

Table A 13: Estimation of longer term worker exposure towards azoxystrobin according to EFSA guidance

Worker - Inspection, irrigation	Potential exposure mg/kg bw/day	0.1616	% of RVNAS	80.80%
	Working clothing mg/kg bw/day	0.0181	% of RVNAS	9.05%
	Working clothing and gloves mg/kg bw/day		% of RVNAS	

A 3.3 Resident and bystander exposure calculations (KCP 7.2.2.1)

A 3.3.1 Calculations for prothioconazole

Table A 14: Input parameters considered for the estimation of longer term resident exposure

Croptype	Cereals
Application method	Downward spraying
Application equipment	Vehicle-mounted
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.
Buffer strip	2-3 m
Application rate of the product	0.2 kg a.s./ha
Concentration of active substance (in-use dilution for liquid applications)	2 g a.s./l
Dermal absorption of product	10.00%
Dermal absorption of in-use dilution	50.00%
Oral absorption	100.00%
Dislodgeable foliar residue (i_AppRate*i_DFR)	0.6 µg a.s./cm ²
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10 ⁻³ Pa
Concentration in air	0.001 mg/m ³
Resident dermal spray drift exposure 75th percentile - adult	0.47 ml spray dilution/person
Resident dermal spray drift exposure 75th percentile - child	0.327 ml spray dilution/person
Resident inhal. spray drift exposure 75th percentile - adult	0.00010 ml spray dilution/person
Resident inhal. spray drift exposure 75th percentile - child	0.00022 ml spray dilution/person
Resident dermal spray drift exposure mean - adult	0.22318 ml spray dilution/person
Resident dermal spray drift exposure mean - child	0.18 ml spray dilution/person
Resident inhal. spray drift exposure mean - adult	0.00009 ml spray dilution/person
Resident inhal. spray drift exposure mean - child	0.00017 ml spray dilution/person
Exposure duration dermal	2 hours
Exposure duration inhalation	24 hours
Exposure duration entry into treated crops	0.25 hours
Light clothing adjustment factor	18.0%
Breathing rate adult	0.23 m ³ /day/kg
Breathing rate child (1-3 year old)	1.07 m ³ /day/kg
Drift percentage on surface (75th percentile)	5.60%
Drift percentage on surface (mean)	4.10%
Turf transferable residues percentage	5.00%
Transfer coeff. of surface deposits-adult	7300 cm ² /hour
Transfer coeff. of surface deposits-child (1-3 year old)	2600 cm ² /hour
Saliva extraction percentage	50.00%
Surface area of hands mouthed	20 cm ²
Frequency of hand to mouth activity	9.5 events/hour
Ingestion rate for mouthing of grass per day	25 cm ²
Dislodgeable residues percentage transferability for object to mouth	20.00%
Transfer coefficient for entry into treated crops (75th percentile) - adult	7500 cm ² /h
Transfer coefficient for entry into treated crops (75th percentile) - child	2250 cm ² /h
Transfer coefficient for entry into treated crops (mean) - adult	5980 cm ² /h
Transfer coefficient for entry into treated crops (mean) - child	1794 cm ² /h

Table A 15: Estimation of longer term resident exposure towards prothioconazole according to EFSA guidance

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0.0269	% of RVNAS	13.43%
	Vapour (75th percentile) mg/kg bw/day	0.0011	% of RVNAS	0.54%
	Surface deposits (75th percentile) mg/kg bw/day	0.0028	% of RVNAS	1.39%
	Entry into treated crops (75th percentile) mg/kg bw/day	0.0291	% of RVNAS	14.54%
	All pathways (mean) mg/kg bw/day	0.0411	% of RVNAS	20.55%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0.0064	% of RVNAS	3.21%
	Vapour (75th percentile) mg/kg bw/day	0.0002	% of RVNAS	0.12%
	Surface deposits (75th percentile) mg/kg bw/day	0.0012	% of RVNAS	0.59%
	Entry into treated crops (75th percentile) mg/kg bw/day	0.0162	% of RVNAS	8.08%
	All pathways (mean) mg/kg bw/day	0.0170	% of RVNAS	8.51%

A 3.3.2 Calculations for prothioconazole-desthio

Table A 16: Input parameters considered for the estimation of longer term resident exposure

Croptype	Cereals
Application method	Downward spraying
Application equipment	Vehicle-mounted
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.
Buffer strip	2-3 m
Application rate of the product	0.1814 kg a.s./ha
Concentration of active substance (in-use dilution for liquid applications)	1.814 g a.s./l
Dermal absorption of product	0.00%
Dermal absorption of in-use dilution	6.00%
Oral absorption	100.00%
Dislodgeable foliar residue (i_AppRate*i_DFR)	0.5442 µg a.s./cm ²
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10 ⁻³ Pa
Concentration in air	0.001 mg/m ³
Resident dermal spray drift exposure 75th percentile - adult	0.47 ml spray dilution/person
Resident dermal spray drift exposure 75th percentile - child	0.327 ml spray dilution/person
Resident inhal. spray drift exposure 75th percentile - adult	0.00010 ml spray dilution/person
Resident inhal. spray drift exposure 75th percentile - child	0.00022 ml spray dilution/person
Resident dermal spray drift exposure mean - adult	0.22318 ml spray dilution/person
Resident dermal spray drift exposure mean - child	0.18 ml spray dilution/person
Resident inhal. spray drift exposure mean - adult	0.00009 ml spray dilution/person
Resident inhal. spray drift exposure mean - child	0.00017 ml spray dilution/person
Exposure duration dermal	2 hours
Exposure duration inhalation	24 hours
Exposure duration entry into treated crops	0.25 hours
Light clothing adjustment factor	18.0%
Breathing rate adult	0.23 m ³ /day/kg
Breathing rate child (1-3 year old)	1.07 m ³ /day/kg
Drift percentage on surface (75th percentile)	5.60%
Drift percentage on surface (mean)	4.10%
Turf transferable residues percentage	5.00%
Transfer coeff. of surface deposits-adult	7300 cm ² /hour
Transfer coeff. of surface deposits-child (1-3 year old)	2600 cm ² /hour
Saliva extraction percentage	50.00%
Surface area of hands mouthed	20 cm ²
Frequency of hand to mouth activity	9.5 events/hour
Ingestion rate for mouthing of grass per day	25 cm ²
Dislodgeable residues percentage transferability for object to mouth	20.00%
Transfer coefficient for entry into treated crops (75th percentile) - adult	7500 cm ² /h
Transfer coefficient for entry into treated crops (75th percentile) - child	2250 cm ² /h
Transfer coefficient for entry into treated crops (mean) - adult	5980 cm ² /h
Transfer coefficient for entry into treated crops (mean) - child	1794 cm ² /h

Table A 17: Estimation of longer term resident exposure towards prothioconazole-desthio according to EFSA guidance

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0.0030	% of RVNAS	29.58%
	Vapour (75th percentile) mg/kg bw/day	0.0011	% of RVNAS	10.70%
	Surface deposits (75th percentile) mg/kg bw/day	0.0005	% of RVNAS	5.27%
	Entry into treated crops (75th percentile) mg/kg bw/day	0.0032	% of RVNAS	31.66%
	All pathways (mean) mg/kg bw/day	0.0056	% of RVNAS	56.17%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0.0007	% of RVNAS	7.02%
	Vapour (75th percentile) mg/kg bw/day	0.0002	% of RVNAS	2.30%

Surface deposits (75th percentile) mg/kg bw/day	0.0001	% of RVNAS	1.28%
Entry into treated crops (75th percentile) mg/kg bw/day	0.0018	% of RVNAS	17.59%
All pathways (mean) mg/kg bw/day	0.0021	% of RVNAS	20.61%

A 3.3.3 Calculations for azoxystrobin

Table A 18: Input parameters considered for the estimation of longer term resident exposure

Croptype	Cereals
Application method	Downward spraying
Application equipment	Vehicle-mounted
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.
Buffer strip	2-3 m
Application rate of the product	0.15 kg a.s./ha
Concentration of active substance (in-use dilution for liquid applications)	1.5 g a.s./l
Dermal absorption of product	10.00%
Dermal absorption of in-use dilution	50.00%
Oral absorption	100.00%
Dislodgeable foliar residue (i_AppRate*i_DFR)	0.45 µg a.s./cm ²
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10 ⁻³ Pa
Concentration in air	0.001 mg/m ³
Resident dermal spray drift exposure 75th percentile - adult	0.47 ml spray dilution/person
Resident dermal spray drift exposure 75th percentile - child	0.327 ml spray dilution/person
Resident inhal. spray drift exposure 75th percentile - adult	0.00010 ml spray dilution/person
Resident inhal. spray drift exposure 75th percentile - child	0.00022 ml spray dilution/person
Resident dermal spray drift exposure mean - adult	0.22318 ml spray dilution/person
Resident dermal spray drift exposure mean - child	0.18 ml spray dilution/person
Resident inhal. spray drift exposure mean - adult	0.00009 ml spray dilution/person
Resident inhal. spray drift exposure mean - child	0.00017 ml spray dilution/person
Exposure duration dermal	2 hours
Exposure duration inhalation	24 hours
Exposure duration entry into treated crops	0.25 hours
Light clothing adjustment factor	18.0%
Breathing rate adult	0.23 m ³ /day/kg
Breathing rate child (1-3 year old)	1.07 m ³ /day/kg
Drift percentage on surface (75th percentile)	5.60%
Drift percentage on surface (mean)	4.10%
Turf transferable residues percentage	5.00%
Transfer coeff. of surface deposits-adult	7300 cm ² /hour
Transfer coeff. of surface deposits-child (1-3 year old)	2600 cm ² /hour
Saliva extraction percentage	50.00%
Surface area of hands mouthed	20 cm ²
Frequency of hand to mouth activity	9.5 events/hour
Ingestion rate for mouthing of grass per day	25 cm ²
Dislodgeable residues percentage transferability for object to mouth	20.00%
Transfer coefficient for entry into treated crops (75th percentile) - adult	7500 cm ² /h
Transfer coefficient for entry into treated crops (75th percentile) - child	2250 cm ² /h
Transfer coefficient for entry into treated crops (mean) - adult	5980 cm ² /h
Transfer coefficient for entry into treated crops (mean) - child	1794 cm ² /h

Table A 19: Estimation of longer term resident exposure towards azoxystrobin according to EFSA guidance

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0.0201	% of RVNAS	10.07%
	Vapour (75th percentile) mg/kg bw/day	0.0011	% of RVNAS	0.54%
	Surface deposits (75th percentile) mg/kg bw/day	0.0021	% of RVNAS	1.05%

	Entry into treated crops (75th percentile) mg/kg bw/day	0.0218	% of RVNAS	10.91%
	All pathways (mean) mg/kg bw/day	0.0311	% of RVNAS	15.55%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0.0048	% of RVNAS	2.41%
	Vapour (75th percentile) mg/kg bw/day	0.0002	% of RVNAS	0.12%
	Surface deposits (75th percentile) mg/kg bw/day	0.0009	% of RVNAS	0.44%
	Entry into treated crops (75th percentile) mg/kg bw/day	0.0121	% of RVNAS	6.06%
	All pathways (mean) mg/kg bw/day	0.0128	% of RVNAS	6.41%

A 3.4 Combined exposure calculations for prothioconazole, prothioconazole-desthio and azoxystrobin

Not relevant. Combined exposure is considered in Section 6.6.5.

Appendix 4 Detailed evaluation of exposure and/or DFR studies relied upon (KCP 7.2, KCP 7.2.1.1, KCP 7.2.2.1, KCP 7.2.3.1)

Not applicable.