REGISTRATION REPORT

Part B

Section 6

Mammalian Toxicology

Detailed summary of the risk assessment

Product code: SAP2101F

Product name(s): ZELORA START

Chemical active substance:

Prothioconazole, 120 g/L

Folpet, 300 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(authorization)

Applicant: Selectis Produtos para a Agricultura, S.A.

Submission date: December 2023, update: March 2024, April 2024

MS Finalisation date: May 2024 (initial Core Assessment)

August 2024 (final Core Assessment)

Version history

When	What
December 2023	V0 - Initial version submitted by the Selectis Produtos para a Agricultura, S.A. for submission to Poland in the frame of new PPP registration (Acording Art. 33 of Regulation EC No 1107/2009)
March 2024	V1 - Revised version from applicant Selectis Productos para a Agricultura, S.A. as a result of the additional request from z-RMS Poland
April 2024	V2 – Upated version from Applicant Selectis Produtos para a Agricultura, S.A. following data gaps identified by zRMS Poland. All the changes are highlighted in green.
May 2024	Initial assessment by the zRMS The report in the dRR format has been prepared by the Applicant, therefore all comments, additional evaluations and conclusions of the zRMS are presented in grey commenting boxes. Minor changes are introduced directly in the text and highlighted in grey. Not agreed or not relevant information are ~~struck through~~ and shaded for transparency. Following the evaluation and before sending the document for commenting, all highlighted changes in color has been removed, from the parts updated by the Applicant, for better legibility
August 2024	Final report (Core Assessment updated following the commenting period) No additional information or assessments after the commenting period.

Table of Contents

Reviewer general comment:

This part of dossier (B6) summarizes data related to the toxicological profile and NDE assessment for the plant protection product ZELORA START (product code SAP2101F) containing the active substances prothioconazole + folpet (120+300) g/L formulated as Suspension Concentrate. All information has been submitted to support registration according art. 33 of 1107/2009 in Poland also for zonal registration for which PL was designated zRMS. Intended use of PPP is fungicide in the protection of wheat and barley. The zRMS´s per-review all of the elements that are crucial for risk assessment and decision-making. Regarding evaluation of the toxicity profile of the product SAP2101F/ZELORA START, in the absence of experimentally derived acute toxicity data for SAP2101F the Additivity Formula 3.1.3.6.1 has been used to classify a mixture based on acute toxicity estimates (ATE) or converted ATE (cATE) for each ingredient.

NDE assessment for operator, workers and B&R has been calculated using the EFSA calculator, on-line version 1.01 considering the worst-case exposure scenario to cover all the intended uses (highest application rate per application as well as the highest application rate per year with the shorter interval between each application). All NDE calculations provided for operator, workers and B&R resulting from use of PPP, considering all tasks according to the critical use(s), identify safe use of the product SAP50SCF/FOLPEC.

6 Mammalian Toxicology (KCP 7)

6.1 Summary

Table 6.1-1: Information on SAP2101F *

Product name and code	SAP2101F / Prothioconazole + Folpet (120+300) g/L SC
Formulation type	Suspension Concentrate [SC]
Active substance(s) (incl. content)	Prothioconazole, 120 g/L Folpet, 300 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 SAP2101F 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 SAP2101F according to Regulation (EC) No 1272/2008

Hazard class(es), categories	Carc. 2: Carcinogenicity, Category 2 Eye Irrit. 2: Eye irritation, Category 2 Skin Sens. 1: Sensitisation, skin, Category 1
Hazard pictograms or Code(s) for hazard pictogram(s)	GHS07, GHS08
Signal word	Warning
Hazard statement(s)	Carc. 2: H351 - Suspected of causing cancer. Eye Irrit. 2: H319 - Causes serious eye irritation. Skin Sens. 1: H317 - May cause an allergic skin reaction~~; Contains folpet and 1,2-benzisothiazol-3(2H)-one~~
Precautionary statement(s)	~~**P101:** If medical advice is needed, have product container or label at hand.~~ **P102:** Keep out of reach of children. **P201**: Obtain special instructions before use. **P261:** Avoid breathing ~~dust/fume/gas/mist/vapours/~~spray. **P264:** Wash thoroughly after handling. **P280:** Wear protective gloves/protective clothing/eye protection/face protection. ~~Wear protective gloves/face protection/protective clothing/respiratory protection/protective footwear.~~ **P302+P352:** IF ON SKIN: Wash with plenty of water. **P305+P351+P338:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **P308+P313:** IF exposed or concerned: Get medical advice/attention. ~~**P501:** Dispose of the contents/containers in accordance with the current legislation on waste treatment~~
Additional labelling phrases	To avoid risks to man and the environment, comply with the instructions for use. [EUH401]
Other phrases	Operator must wear adequate work clothing and protective gloves during mixing/loading and application. In addition to the above, the use of eye/face protection is required during mixing/loading. Treated crops should not be re-entered before spray deposits on leaf surfaces have completely dried. In case a worker enters the treated area, protective gloves, long trousers and long-sleeved shirt should be worn. Use drift reduction nozzle equipment (50%) or consider a buffer zone of 2-3 m from residential areas. Entry into treated fields should not be allowed to the general public.

Table 6.1-3: Summary of risk assessment for operators, workers, residents and bystanders for SAP2101F

	Result	PPE / Risk mitigation measures
Operators	Acceptable	Operator must wear adequate work clothing and protective gloves during mixing/loading and application. In addition to the above, the use of eye/face protection is required during mixing/loading. *
Workers	Acceptable	Treated areas should not be re-entered before spray deposits on leaf surfaces have completely dried. In case a worker enters the field, protective gloves, long trousers and long-sleeved shirt should be worn. *
Residents	Acceptable	Drift-reduction (50%) and 2-3 m of buffer-zone.
Bystanders	Acceptable	Covered by Resident

* Please refer to the "Other phrases" in Table 6.1-2 for the overall personal protective equipment /clothing proposed based on both the non-dietary exposure/risk assessment and the hazardous classification of the product.

No unacceptable risk for operators, workers, residents and bystanders was identified when the product is used as intended and provided that the PPE/ risk mitigation measures stated in

Table 6.1-3 are applied.

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. safener/synergist (L/ha))** **critical gap for operator, worker, resident or bystander exposure based on [Exposure model]**	**Acceptability of exposure assessment**			
			Method / Kind **(incl. application technique *****)**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**Max. application rate g a.s./ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**			**Operator**	**Worker**	**Residents**	**Bystander**
Zonal uses (field or outdoor uses, certain types of protected crops)												
1	Wheat (winter and spring; soft and durum) (BBCH 32-~~61~~ **59#**)	F	Spraying, LCTM	a) 2 (14) b) 2 (14)	a) 180 + 450 b) 360 + 900	150 - 400	42	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				
2	Barley (spring and winter) (BBCH 30-61)	F	Spraying, LCTM	a) 2 (14) b) 2 (14)	a) 180 + 450 b) 360 + 900	150 - 400	42					
~~**Minor uses according to Article 51 (zonal uses)**~~												
~~3~~	~~Sorghum (BBCH 12-18)~~	~~F~~	~~Spraying, LCTM~~	~~a) 2 (10 days) b) 2 (10 days)~~	~~a) 0.15 b) 0.30~~	~~200 - 400~~	~~N.A.~~		na	na	na	na

* 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

BBCH value has been corrected according information provided by zRMS efficacy Experts

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

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 (M04)**	**Folpet**
Common Name	Prothioconazole	Prothioconazole-desthio	Folpet
CAS-No.	178928-70-6	120983-64-4	133-07-3
Classification and proposed labelling			
With regard to	Hazard classes (s), categories: –	~~No harmonised classification in~~	Hazard classes (s), categories:

	Prothioconazole	Prothioconazole-desthio (M04)	Folpet
toxicological endpoints (according to RAC Opinion proposing harmonised classification and labelling at EU level of Prothioconazole (ISO), (March 2019) and the criteria in Reg. 1272/2008, for prothioconazole and folpet, respectively)	Code(s) for hazard pictogram(s): – Signal word: – Hazard statement(s): – Precautionary statement(s): - There is no toxicological classification	~~Regulation 1272/2008. Classification based on *EFSA Scientific Report (2007) 106, 1-98:*~~ ~~Hazard classes (s), categories: Repr. 1B *~~ ~~Code(s) for hazard pictogram(s): GHS08~~ ~~Signal word: Danger~~ ~~Hazard statement(s): H360d~~ Hazard classes (s), categories: – Code(s) for hazard pictogram(s): – Signal word: – Hazard statement(s): – Precautionary statement(s): - There is no toxicological classification	Acute Tox. 4 Carc. 2 Eye Irrit. 2 Skin Sens. 1 Code(s) for hazard pictogram(s): GHS07, GHS08 Signal word: Warning Hazard statement(s): H317 – May cause an allergic skin reaction H319 – Causes serious eye irritation H332 – Harmful if inhaled H351 – Suspected of causing cancer. Precautionary statement(s): P201 – Obtain special instructions before use; P261 – Avoid breathing dust; P280 – Wear protective gloves/ protective clothing; P305+P351+P338 - IF IN EYES – Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing; P337+P313 – If eye irritation persists: Get medical advice/attention; P302+P352 – IF ON SKIN: Wash with plenty of water/…; P333+P313 – If skin irritation or rash occurs: Get medical advice/attention; P362+P364: Take off contaminated clothing and wash it before reuse; P308+P313 - IF exposed or concerned - Get medical advice/attention; P312 – Call a POISON CENTRE/doctor/… if you fell unwell; P501 - Dispose of contents/container in accordance with local/ regional/ national regulation. Suplemental information: EUH401: To avoid risks to human health and the environment, comply with the instructions for use
Additional C&L proposal	-	-	-
Agreed EU endpoints			
AOEL systemic	0.2 mg/kg bw/d (corrected for 100% oral absorption)	0.01 mg/kg bw/day	0.1 mg/kg bw/d
Reference	EFSA Conclusion 2007	EFSA Scientific Report (2007) 106, 1-98	EFSA Scientific Report (2009) 297, 1-80
Conditions to take into account/critical areas of concern with regard to toxicology			

	Prothioconazole	Prothioconazole-desthio (M04)	Folpet
According to EFSA Conclusion for Prothioconazole and Folpet	None	EFSA Scientific Report (2007) 106, 1 98: The metabolite prothioconazole-desthio is more toxic than prothioconazole in the rat and rabbit developmental studies.	None

6.3 Toxicological Evaluation of Plant Protection Product

A summary of the toxicological evaluation for SAP2101F 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 SAP2101F

zRMS Reviewer comment: In the absence of experimentally derived acute toxicity data for SAP2101F the Additivity Formula 3.1.3.6.1 has been used to classify a mixture based on acute toxicity estimates (ATE) or converted ATE (cATE) for each ingredient.

Type of test, species, model system (Guideline)	Result	Acceptability	Classification (acc. to the criteria in Reg. 1272/2008)	Reference
LD_{50} oral (calculation method)	~~Not submitted, not necessary. Justification presented in Appendix 2~~ Calculated ATEmix for SAP2021F is higher than 2000 mg/kg bw	Yes	None	Classification in accordance with Regulation 1272/2008
LD_{50} dermal (calculation method)	~~Not submitted, not necessary. Justification presented in Appendix 2~~ Mixture does not contain any substance classified for acute dermal toxicity	Yes	None	Classification in accordance with Regulation 1272/2008
LC_{50} inhalation (calculation method)	~~Not submitted, not necessary. Justification presented in Appendix 2~~ Calculated ATEmix for SAP2021F is higher than 5 mg/L	Yes	None	Classification in accordance with Regulation 1272/2008
Skin irritation (calculation method)	~~Not submitted, not necessary. Justification presented in Appendix 2~~ Ingredients concentration was compared to the generic concentration limits	Yes	Not irritant	Classification in accordance with Regulation 1272/2008
Eye irritation (calculation method)	~~Not submitted, not necessary. Justification presented in Appendix 2~~ Ingredients concentration was compared to the generic concentration limits	Yes	eye irritation H319	Classification in accordance with Regulation 1272/2008
Skin sensitisation (calculation method)	~~Not submitted, not necessary. Justification presented in Appendix 2~~ Ingredients concentration was compared to the generic concentration limits	Yes	skin sensitisation H317	Classification in accordance with Regulation 1272/2008

Supplementary studies for combinations of plant protection products	No data – not required	--	--	--

~~**Table 6.3-2: Additional toxicological information relevant for classification/labelling of SAP2101F**~~

	~~**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 (CAS No. 178928-70-6)~~ ~~(10,5 % (w/w))~~	~~Not classified for toxicology~~	~~Harmonised classification: ATP17; Regulation (EU) 2021/849~~	~~None~~
	~~Folpet (CAS No. 133-07-3)~~ ~~(26,4 % (w/w))~~	~~Acute Tox. 4: H332; Carc. 2: H351; Eye Irrit. 2: H319; Skin Sens. 1: H317 Warning~~	~~Reg. 1272/2008~~	~~Carc. 2: H351; Eye Irrit. 2: H319; Skin Sens. 1: H317~~
~~Toxicological properties of non-active substance(s) (relevant for classification of product)~~	~~Available toxicological data for each co-formulant can be found in the confidential dossier of this submission (dRR Part C).~~			
~~Further toxicological information~~	~~No data – not required~~			

Table 6.3-3: Additional toxicological information relevant for classification/labelling of SAP2101F

	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 (CAS No. 178928-70-6) (10,5 % (w/w))	Not classified for toxicology	Harmonised classification: ATP17; Regulation (EU) 2021/849	None
	Prothioconazole-desthio (M04) (CAS No. 120983-64-4) (4.756 % (w/w))	Not classified for toxicology	No harmonised classification in Regulation 1272/2008	None
	Folpet (CAS No. 133-07-3) (26,4 % (w/w))	Acute Tox. 4: H332; Carc. 2: H351; Eye Irrit. 2: H319; Skin Sens. 1: H317 Warning	Reg. 1272/2008	Carc. 2: H351; Eye Irrit. 2: H319; Skin Sens. 1: H317
Toxicological properties of non-active substance(s) (relevant for classification of product)	Available toxicological data for each co-formulant can be found in the confidential dossier of this submission (dRR Part C).			
Further toxicological information	No data – not required			

6.4 Toxicological Evaluation of Groundwater Metabolites

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

6.5 Dermal Absorption (KCP 7.3)

A summary of the dermal absorption rates for the active substances in SAP2101F are presented in the following table.

Table 6.5-1: Dermal absorption rates for active substances in SAP2101F

	Prothioconazole		**Prothioconazole-desthio**		**Folpet**	
	Value	**Value**	**Value**	**Reference**	**Value**	**Reference**
Concentrate	10%	Default values EFSA Guidance on Dermal Absorption (EFSA Journal 2017; 15(6):4873)	1.2%	New study reported in Appendix 2	10%	Default values EFSA Guidance on Dermal Absorption (EFSA Journal 2017; 15(6):4873)
Dilution	50%		17%	New study reported in Appendix 2	50%	

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	SAP2101F		
Formulation type	SC		
Category	Fungicide		
Active substance(s) and Relevant Metabolite (incl. content) *(Technical content)*	**Prothioconazole** 120 g/L *(122.45g/L)*	**Prothio-desthio** (JAU 6476-desthio) 108.84 g/L *Conversion at 100%: (111.06 g/L)* *Conversion at 50%: (55.47 g/L)*	**Folpet** 300 g/L *(312.5 g/L)*
AOEL systemic	0.2 mg/kg bw/d	0.01 mg/kg bw/d	0.1 mg/kg bw/d
Inhalation absorption	100%	100%	100%
Oral absorption	100%	100%	50%
Dermal absorption	Concentrate: 10% Dilution: 50% (Default)	Concentrate: 1.2% Dilution: 17% (0.40815 g/L) (Based on product (Prothiconazole + Folpet (120+300) g/L SC))	Concentrate: 10% Dilution: 50% (Default)

The calculations were carried out with the concentration of technical active substance, since AOEL has been established based on the technical substance.

All the calculations were performed for minimum and maximum application rate. However, only the calculations for the maximum application rate were presented on sections 6.6.2/6.6.3 and 6.6.4. For the calculations with the minimum application rate (that are covered by the maximum dose) please see appendix 4.

According to the EFSA conclusion (EFSA Scientific Report 2007; 106, 1-98) the metabolite JAU 6476-desthio (M04) is considered more toxic than the parent. Therefore, a detailed risk assessment for all population groups is required for JAU 6476-desthio.

Relevant notes for prothioconazole-desthio risk assessment:

Since the conversion rate of prothioconazole to prothioconazole-desthio is not known, the following assumptions were used in the exposure calculations:

- For the exposure assessment to prothioconazole-desthio a conversion of 100% and 50% prothioconazole to prothioconazole-desthio were assumed. To calculate the amount of prothioconazole-desthio, a conversion factor of 0.907 and 0.453 was applied (based on a molecular weight of 344.254 g/mol for prothioconazole and 312.194 g/mol for prothioconazole-desthio);

- For operator exposure, the assessment considering as a worst-case scenario exposure to 100% prothioconazole when handling the concentrate during mixing/loading and exposure to 100% prothioconazole-desthio during application of the spray dilution. Therefore, for the values of dermal absorption of prothioconazole-desthio in the concentrate and of prothioconazole in the dilution were set to 0 % and the values were adjusted corresponding model calculations for prothioconazole-desthio and prothioconazole, respectively.

- Additionally, exposure assessment was also performed considering a 50% conversion factor of prothioconazole into prothioconazole-desthio. Based on this, pro-rata corrections were applied for concentrate and dilution considering that the analysed values are lower than the tested values for prothioconazole-desthio.

- No conversion of prothioconazole-desthio to prothioconazole was considered for the exposure assessment of prothioconazole.

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 EU is given in Part B, Section 0.

Justification

None.

6.6.2 Operator exposure (KCP 7.2.1)

Comments of zRMS:	NDE calculation (EFSA on-line model OPEX ver. 1.01) performed by the Applicant is acceptable and zRMS Reviewer agrees to the conclusions. The risk for operators is acceptable under conditions of intended uses and considering below mentioned risk mitigation measures such as Work wear (arms, body and legs covered) during M, L and A

6.6.2.1 Estimation of operator exposure

A summary of the exposure models used for estimation of operator exposure to the active substances during application of SAP2101F 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 - Table 6.6-34 (longer term exposure). Detailed calculations are in Appendix 3.

Table 6.6-2: Exposure models for intended uses

Critical use(s)	Cereals (Wheat and Barley) (min. 1 L product/ha - max. 1.5 L product/ha)
Model(s)	EFSA (European Food Safety Authority), Guidance on the assessment of exposure of operators, workers, residents and bystanders in risk assessment of plant protection products. EFSA Journal 2022;20(1):7032, 134 pp. https://doi.org/10.2903/j.efsa.2022.7032

Estimated operator exposure (acute exposure)

None AAOEL was allocated for prothioconazole, its metabolite (prothioconazole-desthio) or even for folpet. Therefore, estimates of the acute exposure to operators has not been conducted.

Table 6.6-3: Estimated operator exposure (longer term exposure) – *prothioconazole to prothioconazole-desthio 100% conversion*

		Prothioconazole		Prothioconazole-desthio (M04)		Folpet	
Model data	**Level of PPE**	**Total absorbed dose (mg/kg/day)**	**% of systemic AOEL(1)**	**Total absorbed dose (mg/kg/day)**	**% of systemic AOEL(2)**	**Total absorbed dose (mg/kg/day)**	**% of systemic AOEL(3)**
Outdoor Vehicle-mounted: Downward spraying Number of Applications: 2 Interval between applications: 14 Crops: Cereals (Wheat and Barley)							
Application rate		0.183675 kg a.s./ha		0.16659 kg a.s./ha		0.46875 kg a.s./ha	
Dermal absorption values for the concentrate		10%		Not relevant		10%	
Dermal absorption values for the dilution		Not relevant		17%		50%	
Spray application (AOEM**;** 75th percentile) Body weight: 60 kg	Potential exposure	0.0884	44.2	0.00572	57.2	0.213	**213**
	Work wear (arms, body and legs covered) M/L and A	0.0574	28.7	0.00381	38.1	0.135	**135**
	Work wear (arms, body and legs covered) and gloves M/L and Work wear (arms, body and legs covered) during A	0.0018	0.9	0.00381	38.1	0.0338	**33.8**

(1) AOEL of prothioconazole: 0.2 mg/kg bw/day
(2) AOEL of prothioconazole-desthio: 0.01 mg/kg bw/day
(3) AOEL of folpet: 0.1 mg/kg bw/day

Table 6.6-4: Estimated operator exposure (longer term exposure) – *prothioconazole to prothioconazole-desthio 50% conversion*

		Prothioconazole		Prothioconazole-desthio (M04)		Folpet	
Model data	**Level of PPE**	**Total absorbed dose (mg/kg/day)**	**% of systemic AOEL(1)**	**Total absorbed dose (mg/kg/day)**	**% of systemic AOEL(2)**	**Total absorbed dose (mg/kg/day)**	**% of systemic AOEL(3)**
Outdoor Vehicle-mounted: Downward spraying Number of Applications: 2 Interval between applications: 14 Crops: Cereals (Wheat and Barley)							
Application rate		0.183675 kg a.s./ha		0.08321 kg a.s./ha		0.46875 kg a.s./ha	
Dermal absorption values for the concentrate		10%		2.35% (*pro-rata correction*)		10%	

Dermal absorption values for the dilution		50%		33.36 (*pro-rata correction*)		50%	
Spray application (AOEM**;** 75th percentile) Body weight: 60 kg	Potential exposure	0.0942	47.1	0.014	140	0.182	182
	Work wear (arms, body and legs covered) M/L and A	0.0624	31.2	0.00969	96.9	0.118	118
	Work wear (arms, body and legs covered) and gloves M/L and Work wear (arms, body and legs covered) during A	0.0066	**3.3**	0.00181	**18.1**	0.0163	**16.3**

Operator exposure levels were found to be below the respective AOEL values of prothioconazole, prothiodesthio and folpet, when adequate work clothing and protective gloves are worn, during mixing/loading and application. The combined exposure was also considered. For details, please also refer to section 6.6.5 - Combined exposure.

The use of protective gloves during mixing/loading and application is also supported by the toxicological properties of the formulation (H317, H351). Moreover, considering that the product is also classified for eye irritation (H319), eye/face protection should be used by the operator during mixing/loading.

Overall, based on the operator exposure estimates and considering also the hazardous properties of the product, the following phrases should be included in the product label:

- Operator must wear adequate work clothing and protective gloves during mixing/loading and application. In addition to the above, the use of eye/face protection is required during mixing/loading.

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)

Comments of zRMS:	NDE calculation (EFSA on-line model OPEX ver. 1.01) performed by the Applicant is acceptable and zRMS Reviewer agrees to the conclusions. Exposure for workers (entry into a previously treated area or handling a crop according to the critical uses) is acceptable under conditions of intended uses considering below mentioned risk mitigation measures such as Work wear, (arms, body and legs covered) but no PPE is used.

6.6.3.1 Estimation of worker exposure

Table 6.6-5 shows the exposure model(s) used for estimation of worker exposure after entry into a previously treated area or handling a crop treated with SAP2101F according to the critical use(s). Outcome of the estimation is presented in Table 5 and 6 (longer term exposure). Detailed calculations are in Appendix 3.

Table 6.6-5: Exposure models for intended uses

Critical use(s)	Cereals (Wheat and Barley) (min. 1 L product/ha - max. 1.5 L product/ha)
Model	EFSA (European Food Safety Authority), Guidance on the assessment of exposure of operators, workers, residents and bystanders in risk assessment of plant protection products. EFSA Journal 2022;20(1):7032, 134 pp. https://doi.org/10.2903/j.efsa.2022.7032

Estimated worker exposure (acute exposure)

None AAOEL was allocated for prothioconazole, its metabolite (prothioconazole-desthio) or even for folpet. Therefore, estimates of the acute exposure to operators has not been conducted.

Table 6.6-6: Estimated worker exposure (longer term exposure) – *prothioconazole to prothioconazole-desthio 100% conversion*

		Prothioconazole		**Prothioconazole-desthio (M04)**		**Folpet**	
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, irrigation Outdoor Work rate: 2 hours/day, DT_{50}: 30 days DFR: 3 µg/cm²/kg a.s./ha Interval between treatments: 14 days							
Number of applications and application rate		2 x 0.183675 kg a.s./ha		0.16659 kg a.s./ha		2 x 0.46875 kg a.s./ha	
Dermal absorption values for the dilution		Not relevant		17%		50%	
Body weight: 60 kg	Potential TC: 12500 cm²/person/h	0.0394	**19.7**	0.0609	609	0.504	504
	Work wear (arms, body and legs covered) TC: 1400 cm²/person/h	0.0044	**2.2**	0.00682	**68.2**	0.0564	**56.4**
	Work wear (arms, body and legs covered) and gloves TC: 1250 cm²/person/h	0.004	**2**	0.00609	**60.9**	0.0504	**50.4**

(1) AOEL of prothioconazole: 0.2 mg/kg bw/day
(2) AOEL of prothioconazole-desthio: 0.01 mg/kg bw/day
(3) AOEL of folpet: 0.1 mg/kg bw/day

Table 6.6-7: Estimated worker exposure (longer term exposure) – *prothioconazole to prothioconazole-desthio 50% conversion*

		Prothioconazole		**Prothioconazole-desthio (M04)**		**Folpet**	
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, irrigation 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 0.183675 kg a.s./ha		2 x 0.08321 kg a.s./ha		2 x 0.46875 kg a.s./ha	
Dermal absorption values for the dilution		50%		33.36 (*pro-rata correction*)		50%	
Body weight: 60 kg	Potential TC: 12500 cm^2/person/h	0.1974	**98.7**	0.0597	**597**	0.504	504
	Work wear (arms, body and legs covered) TC: 1400 cm^2/person/h	0.0222	**11.1**	0.00668	**66.8**	0.0564	**56.4**
	Work wear (arms, body and legs covered) and gloves TC: 1250 cm^2/person/h	0.0198	**9.9**	0.000597	**59.7**	0.0504	**50.4**

Worker exposure levels were found to be below the respective AOEL values of prothioconazole, prothio-desthio and folpet, when adequate work clothing and protective gloves are worn. However, when the combined exposure is considered based on the sum between prothio-desthio and folpet an unacceptable risk it is demonstrated. Therefore, in order to achieve an acceptable risk for worker when the combined exposure is considered Additional calculations considering a high tier study (DFR) was deemed necessary to refine the default DFR value. Please see section 6.6.3.2 – "Refinement of generic DFR value" for detailed DFR calculations. Thus, new calculations considering a refined value for the DFR based on field studies (summarized on point A 2.11) are presented below for worker calculations.

Table 6.6-8: Estimated worker exposure (longer term exposure) - refined – *prothioconazole to prothioconazole-desthio 100% conversion*

		Prothioconazole		Prothioconazole-desthio		Folpet	
Model data	**Level of PPE**	**Total absorbed dose (mg/kg bw/day)**	**% of systemic AOEL(1)**	**Total absorbed dose (mg/kg bw/day)**	**% of systemic AOEL(2)**	**Total absorbed dose (mg/kg bw/day)**	**% of systemic AOEL(3)**
Application rate: 1.5 L prod/ha		0.183675 kg a.s./ha		0.16659 kg a.s./ha		0.46875 kg a.s./ha	
DFR		1		0.306		1.378	
DT50 (days)		30					
Dermal absorption values for the dilution		Not relevant		17%		50%	
Potential TC: 12500 cm^2/person/h		0.0132	**6.6**	0.00629	**62.9**	0.232	232
Work wear (arms, body and legs covered) TC: 1400 cm^2/person/h		0.0014	**0.7**	0.0007	**7**	0.026	**26**
Work wear (arms, body and legs covered) and gloves TC: 1250 cm^2/person/h		0.0014	**0.7**	0.00063	**6.3**	0.0232	**23.2**

(1) AOEL of prothioconazole: 0.2 mg/kg bw/day
(2) AOEL of prothioconazole-desthio: 0.01 mg/kg bw/day
(3) AOEL of folpet: 0.1 mg/kg bw/day

Table 6.6-9: Estimated worker exposure (longer term exposure) -refined – ***prothioconazole to prothioconazole-desthio 50% conversion***

		Prothioconazole		Prothioconazole-desthio		Folpet	
Model data	**Level of PPE**	**Total absorbed dose (mg/kg bw/day)**	**% of systemic AOEL(1)**	**Total absorbed dose (mg/kg bw/day)**	**% of systemic AOEL(2)**	**Total absorbed dose (mg/kg bw/day)**	**% of systemic AOEL(3)**
Application rate: 1.5 L prod/ha		0.183675 kg a.s./ha		0.08321 kg a.s./ha		0.46875 kg a.s./ha	
DFR		1		0.613		1.378	
DT50 (days)		30					
Dermal absorption values for the dilution		50%		33.36 (*pro-rata correction*)		50%	
Potential TC: 12500 cm^2/person/h		0.0658	**32.9**	0.0121	**121**	0.232	**232**
Work wear (arms, body and legs covered) TC: 1400 cm^2/person/h		0.0074	**3.7**	0.00136	**13.6**	0.026	**26**
Work wear (arms, body and legs covered) and gloves TC: 1250 cm^2/person/h		0.0066	**3.3**	0.00121	**12.1**	0.0232	**23.2**

CONCLUSION

The total systemic exposure levels were found to be below the respective AOEL values of prothioconazole, folpet and the metabolite prothioconazole-desthio even considered the combined exposure.

The inclusion of data from dislodgeable foliar residue trials for each active substance and metabolite will allow to reduce the mitigation measure for work wear only. However, the use of protective gloves is recommended and supported by the toxicological properties of the formulation (H317, H351), therefore, the following phrases should be included in the product label:

"Treated crops should not be re-entered before spray deposits on leaf surfaces have completely dried. In case a worker enters the treated area, protective gloves, long trousers and long-sleeved shirt should be worn."

6.6.3.2 Refinement of generic DFR value (KCP 7.2)

The EFSA model default values for dislodgeable foliar residues and foliar dissipation have been refined in the risk assessments for cereals using data from dislodgeable foliar residue trials on cereals (wheat and/or barley) in Northern/Central Europe. Full details of this study are presented in point 2.11. Calculation of the DFR and DT50 values are given in below.

The DFR results across each of the two treatments applied in the DFR study are similar, suggesting there is minimal accumulation of prothioconazole. This conclusion is supported by the half-life of ~ 1.02 days for prothioconazole, which are derived from these data. For prothio-desthio and Folpet we have a DT50 of 4.56 and 2.48 days, respectively.

The dissipation of both active substance and metabolite residues on leaves was calculated using SFO with the CAKE software as demonstrated on tables 6.6.3.2-2 to 6.6.3.2-4. As the mean DFR from the second treatment is slightly higher than from the previous one, the corrected values from the second treatment were used in the calculations.

According to OPEX - EFSA guidance 2022 (EFSA Journal 2022;20(1):7032), considering that only the minimum number of replicates (3) are provided, the representative DFR value was set at the maximum value observed. Therefore, the values of 0.18 (Germany trial), 0.05 (Poland trial) and 0.62 (Germany trial) ug/cm2 from 0 days after second application for prothioconazole, prothio-desthio and folpet, respectively.

Those mean values were than normalised considering the dose applied, DFR = Residue value (corrected) / Dose applied.

As mentioned on field phase report, two foliar applications of the formulated product SAP2101F containing Prothioconazole 12% w/v (=120 g/L) + Folpet 30% w/v (=300 g/L) were applied at a target rate of 1.5 L/ha (=180 g Prothioconazole/ha + 450 g Folpet/ha). To calculate the amount of prothioconazole-desthio a conversion factor of 0.907 and 0.453 were applied (based on a molecular weight of 344.254 g/mol for prothioconazole and 312.194 g/mol for prothioconazole-desthio). Based on these conversion factors it is possible to conclude an estimated applied dose of 163.26 g/L (= 180 x 0.907) and 81.54 g/L (=180 x 0.453).

Considering all the information above the following normalized DFR and DT50 values were set:

Table 6.6.3.2-1 DFR calculations

	Prothioconazole	**Prothioconazole-desthio**		**Folpet**
		100% conversion	***50% conversion***	
Dose applied (kg a.s./ha)	0.18	0.16326	0.08154	0.45
Residue value (µg/cm^2)	0.18	0.05	0.05	0.62
DFR calculation (µg/cm^2 kg a.s./ha)	(0.18/0.18) = **1**	(0.05/0.16326) = **0.306**	(0.05/0.08154) = **0.613**	(0.62/0.45) = **1.378**

Table 6.6.3.2-2 DT_{50} calculated for the different trials using CAKE software - Prothioconazole

Trial	**1**	**2**	**3**	**Mean DT50**
Kinetic model	SFO – full dataset of the corrected mean residues values			**1.02**
DT50 (days)	0.562	1.66	0.851	

Table 6.6.3.2-3 DT_{50} calculated for the different trials using CAKE software – Prothio-desthio

Trial	**1**	**2**	**3**	**Mean DT50**
Kinetic model	SFO – full dataset of the uncorrected mean residues values			**4.56**
DT50 (days)	0.897	10.2	2.59	

Table 6.6.3.2-4 DT_{50} calculated for the different trials using CAKE software - Folpet

Trial	**1**	**2**	**3**	**Mean DT50**
Kinetic model	SFO – full dataset of the uncorrected mean residues values			**2.48**
DT50 (days)	0.131	4.39	2.92	

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)

Comments of zRMS:	Justification of waiving acute risk assessment discussed by the applicant is reliable thus, zRMS agrees to the conclusions. Also no AAOEL has been set for folpet, therefore in line with *EFSA, 2022. Guidance on the assessment of exposure of operators, workers, residents and bystanders in risk assessment of plant protection products. EFSA, Journal 2022;20(1):7032, 134 pp*. exposure assessment for residents also covers bystander exposure refer point 2.3.1 Step 1; Table 2. Risk for bystanders and residents is acceptable under conditions of intended uses.

6.6.4.1 Estimation of resident and bystander exposure

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 6.6-10 shows the exposure model(s) used for estimation of resident to prothioconazole, its metabolite (prothioconazole-desthio) and folpet. The outcome of the estimation is presented in Table 8 and 9 (longer term resident exposure). Detailed calculations are in Appendix 3.

Table 6.6-10: Exposure models for intended uses

Critical use(s)	Cereals (Wheat and Barley) (min. 1 L product/ha - max. 1.5 L product/ha)
Model	EFSA (European Food Safety Authority), Guidance on the assessment of exposure of operators, workers, residents and bystanders in risk assessment of plant protection products. EFSA Journal 2022;20(1):7032, 134 pp. https://doi.org/10.2903/j.efsa.2022.7032

Table 6.6-11: Estimated resident exposure (longer term exposure) – *prothioconazole to prothioconazole-desthio 100% conversion*

		Prothioconazole		**Prothioconazole-desthio**		**Folpet**	
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**
Outdoor Vehicle-mounted: Downward spraying Buffer zone: 2-3 (m) Drift reduction technology: No DT_{50}: 30 days DFR: 3 µg/cm²/kg a.s./ha Interval between applications: 14 Crops: Cereals (Wheat and Barley)							
Number of applications and application rate		2 x 0.183675 kg a.s./ha		2 x 0.16659 kg a.s./ha		2 x 0.46875 kg a.s./ha	
DFR		3					

DT50 (days)		30					
Dermal absorption values for the dilution		50%		17%		50%	
Resident child Body weight: 10 kg	Drift (75th perc.)	0.0166	8.3	0.00513	51.3	0.0423	42.3
	Vapour (75th perc.)	0.0008	0.4	0.0008	8	0.0008	0.8
	Deposits (75th perc.)	0.0026	1.3	0.00094	9.4	0.0062	6.2
	Re-entry (75th perc.)	0.0266	13.3	0.00822	82.2	0.068	68
	Sum (mean)	0.033	**16.5**	0.0108	108	0.0827	**82.7**
Resident adult Body weight: 60 kg	Drift (75th perc.)	0.004	2	0.00121	12.1	0.01	10
	Vapour (75th perc.)	0.0002	0.1	0.00027	2.7	0.0003	0.3
	Deposits (75th perc.)	0.001	0.5	0.00033	3.3	0.0027	2.7
	Re-entry (75th perc.)	0.0148	7.4	0.00457	45.7	0.0378	37.8
	Sum (mean)	0.0148	**7.4**	0.00472	47.2	0.0371	**37.1**
*Refinement considering **50% of drift-reduction and Buffer-zone of 10 m****							
Resident child Body weight: 10 kg	Drift (75th perc.)	0.0046	2.3	0.0014	14	0.0115	11.5
	Vapour (75th perc.)	0.0008	0.4	0.0008	8	0.0008	0.8
	Deposits (75th perc.)	0.0002	0.1	0.00011	1.1	0.0007	0.7
	Re-entry (75th perc.)	0.0266	13.3	0.00822	82.2	0.068	68
	Sum (mean)	0.0248	12.4	0.00822	82.2	0.062	**62**
Resident adult Body weight: 60 kg	Drift (75th perc.)	0.0008	0.4	0.00026	2.6	0.0021	2.1
	Vapour (75th perc.)	0.0002	0.1	0.00027	2.7	0.0003	0.3
	Deposits (75th perc.)	0.00012	0.06	0.00004	0.4	0.0003	0.3
	Re-entry (75th perc.)	0.0148	7.4	0.00457	45.7	0.0378	37.8
	Sum (mean)	0.0126	6.3	0.00408	40.8	0.0318	**31.8**

Table 6.6-12: Estimated resident exposure (longer term exposure) – *prothioconazole to prothioconazole-desthio 50% conversion*

		Prothioconazole		**Prothioconazole-desthio**		**Folpet**	
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**
Outdoor Vehicle-mounted: Downward spraying Buffer zone: 2-3 (m) Drift reduction technology: No DT_{50}: 30 days DFR: 3 µg/cm²/kg a.s./ha Interval between applications: 14 Crops: Cereals (Wheat and Barley)							
Number of applications and application rate		2 x 0.183675 kg a.s./ha		2 x 0.08321 kg a.s./ha		2 x 0.46875 kg a.s./ha	

DFR		3					
DT50 (days)		30					
Dermal absorption values for the dilution		50%		33.36 (*pro-rata correction*)		50%	
Resident child Body weight: 10 kg	Drift (75th perc.)	0.0166	8.3	0.00506	50.2	0.0423	42.3
	Vapour (75th perc.)	0.0008	0.4	0.0008	8	0.0008	0.8
	Deposits (75th perc.)	0.0026	1.3	0.00081	8.1	0.0062	6.2
	Re-entry (75th perc.)	0.0266	13.3	0.00806	80.6	0.068	68
	Sum (mean)	0.033	**16.5**	0.00106	**106**	0.0827	**82.7**
Resident adult Body weight: 60 kg	Drift (75th perc.)	0.004	2	0.00119	11.9	0.01	10
	Vapour (75th perc.)	0.0002	0.1	0.00027	2.7	0.0003	0.3
	Deposits (75th perc.)	0.001	0.5	0.00033	3.3	0.0027	2.7
	Re-entry (75th perc.)	0.0148	7.4	0.00448	44.8	0.0378	37.8
	Sum (mean)	0.0148	**7.4**	0.00463	**46.3**	0.0371	**37.1**
*Refinement considering **50% of drift-reduction and Buffer-zone of 10 m****							
Resident child Body weight: 10 kg	Drift (75th perc.)	0.0046	2.3	0.00137	13.7	0.0115	11.5
	Vapour (75th perc.)	0.0008	0.4	0.0008	8	0.0008	0.8
	Deposits (75th perc.)	0.0002	0.1	0.00009	0.9	0.0007	0.7
	Re-entry (75th perc.)	0.0266	13.3	0.00806	80.6	0.068	68
	Sum (mean)	0.0248	**12.4**	0.00806	**80.6**	0.062	**62**
Resident adult Body weight: 60 kg	Drift (75th perc.)	0.0008	0.4	0.00025	2.5	0.0021	2.1
	Vapour (75th perc.)	0.0002	0.1	0.00027	2.7	0.0003	0.3
	Deposits (75th perc.)	0.00012	0.06	0.00004	0.4	0.0003	0.3
	Re-entry (75th perc.)	0.0148	7.4	0.00448	44.8	0.0378	37.8
	Sum (mean)	0.0126	**6.3**	0.00401	**40.1**	0.0318	**31.8**

Considering that the calculations with the default DFR values resulted in an unacceptable risk for resident (due to entry into treated crop parameter), additional calculations considering a refined DFR (0 days after the last application) have being included to obtain an acceptable risk for resident when the combined exposure is considered (please refer section 6.6.5 – combined exposure).

According to EFSA guidance 2022 (EFSA Journal 2022;20(1):7032), "entry into treated crops is based on exposure from activities such as walking in treated fields for adults. **The method used should be the same as for workers, with the same DFR** and a TC based on data for inspection activities (75th percentile: 7,500 cm^2/h, mean: 5,980 cm^2/h), and with a 15-min exposure."

Table 6.6-13: Estimated resident exposure (longer term exposure) – *prothioconazole to prothioconazole-desthio 100% conversion*

		Prothioconazole				Folpet	
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**
Outdoor Vehicle-mounted: Downward spraying Buffer zone: 2-3 (m) Drift reduction technology: Yes DT_{50}: 30 days DFR: 3 µg/cm²/kg a.s./ha Interval between applications: 14 Crops: Cereals (Wheat and Barley)							
Number of applications and application rate		2 x 0.183675 kg a.s./ha		2 x 0.16659 kg a.s./ha		2 x 0.46875 kg a.s./ha	
$DFR_{refined}$*		1		0.306		1.378	
DT50 (days)		30					
Dermal absorption values for the dilution		50%		17%		50%	
Resident child Body weight: 10 kg	Drift (75th perc.)	0.0082	4.1	0.00256	25.6	0.0212	21.2
	Vapour (75th perc.)	0.0008	0.4	0.0008	8	0.0008	0.8
	Deposits (75th perc.)	0.0012	0.6	0.00047	4.7	0.0031	3.1
	Re-entry (75th perc.)	0.0088	4.4	0.00085	8.5	0.0313	31.3
	Sum (mean)	0.0134	**6.7**	0.00322	**32.2**	0.0396	**39.6**
Resident adult Body weight: 60 kg	Drift (75th perc.)	0.002	1	0.00061	6.1	0.005	5
	Vapour (75th perc.)	0.0002	0.1	0.00027	2.7	0.0003	0.3
	Deposits (75th perc.)	0.0006	0.3	0.00017	1.7	0.0014	1.4
	Re-entry (75th perc.)	0.005	2.5	0.00047	4.7	0.0174	17.4
	Sum (mean)	0.0056	**2.8**	0.00105	**10.5**	0.0175	**17.5**

Table 6.6-14: Estimated resident exposure (longer term exposure) – *prothioconazole to prothioconazole-desthio 50% conversion*

		Prothioconazole				Folpet	
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**
Outdoor Vehicle-mounted: Downward spraying Buffer zone: 2-3 (m) Drift reduction technology: Yes DT_{50}: 30 days DFR: 3 µg/cm²/kg a.s./ha Interval between applications: 14 Crops: Cereals (Wheat and Barley)							
Number of applications and application rate		2 x 0.183675 kg a.s./ha		2 x 0.08321 kg a.s./ha		2 x 0.46875 kg a.s./ha	

$DFR_{refined}$*		1		0.613		1.378	
DT50 (days)		30					
Dermal absorption values for the dilution		50%		33.36 (*pro-rata correction*)		50%	
Resident child Body weight: 10 kg	Drift (75th perc.)	0.0082	4.1	0.00251	25.1	0.021.2	21.2
	Vapour (75th perc.)	0.008	0.4	0.0008	8	0.0008	0.8
	Deposits (75th perc.)	0.0012	0.6	0.00041	4.1	0.0031	3.1
	Re-entry (75th perc.)	0.0088	4.4	0.00164	16.4	0.0313	31.3
	Sum (mean)	0.0134	**6.7**	0.00377	**37.7**	0.0396	**39.6**
Resident adult Body weight: 60 kg	Drift (75th perc.)	0.002	1	0.00059	5.9	0.005	5
	Vapour (75th perc.)	0.0002	0.1	0.00027	2.7	0.0003	0.3
	Deposits (75th perc.)	0.0006	0.3	0.00016	1.6	0.0014	1.4
	Re-entry (75th perc.)	0.005	2.5	0.00091	9.1	0.0174	17.4
	Sum (mean)	0.0056	**2.8**	0.00139	**13.9**	0.0175	**17.5**

CONCLUSION

The total systemic exposure levels were found to be below the respective AOEL values of prothioconazole, folpet and the metabolite prothioconazole-desthio even considered the combined exposure.

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 and folpet 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

The product is a mixture of two active substances.

From a scientific point of view, it is regarded necessary to take into account potential combination effects since one of the active substances are classified as CMR (Folpet is classified as H351).

For the combined exposure, the following assumption was considered:

Taking into account that parent prothioconazole is quickly converted to the metabolite prothioconazole-desthio, for worker and resident was assumed that 100% and 50% of prothioconazole parent was converted to the metabolite. Therefore, the combined exposure of worker and resident will include the assessment between prothioconazole-desthio and folpet for 100% conversion, while for 50% prothioconazole will also be considered.

For operator, the same assumption was considered during application since during the mixing and loading the metabolite is not formed yet.

This it is considered as a worst-case approach since the AOEL of folpet is based on the NOAEL of 10 mg/kg bw/day of the rab-bit developmental toxicity study and the finding of reduced body weight gain and

the AOEL of prothioconazole-desthio is based on the NOAEL of the supplementary rat developmental toxicity study and the finding of increased rudimentary supernumerary ribs. Thus, the key target organ and the critical effects for setting the systemic AOEL values of folpet and prothioconazole-desthio are different.

6.6.5.1 Exposure assessment of Prothioconazole (and its metabolites, prothio-desthio) and Folpet in SAP2101F

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.

Table 6.6-15: Risk assessment from combined exposure (longer term exposure) – *prothioconazole to prothioconazole-desthio 100% conversion*

Application scenario	Active ingredient	Estimated exposure / AOEL (HQ)
Operators – Vehicle-mounted: Downward spraying Application rate: 0.183675 kg a.s./ha (Prothio); 0.46875 kg a.s./ha (Folpet) *Work wear (arms, body and legs cov-ered) and gloves M/L and Work wear (arms, body and legs covered) during A*	Prothioconazole (mixing and loading)	0.009
	Prothioconazole-desthio (application)	0.381
	Folpet	0.338
	Cumulative risk operators	**0.728**
Workers – Inspection, irrigation Work wear (arms, body and legs covered) TC: 1400 cm^2/person/h	Prothioconazole-desthio (M04)	0.07
	Folpet	0.26
	Cumulative risk workers (HI)	**0.33**
Resident – child ***50% of drift-reduction and Buffer-zone of 2-3m (with refined DFR value)***	Prothioconazole-desthio (M04)	
	Drift	0.256
	Vapour	0.08
	Deposits	0.047
	Re-entry	0.085
	Sum of all pathways	0.322
	Folpet	
	Drift	0.212
	Vapour	0.008
	Deposits	0.031
	Re-entry	0.313
	Sum of all pathways	0.396
	Cumulative risk resident – child (HI)	
	Drift	0.468
	Vapour	0.088
	Deposits	0.078
	Re-entry	0.398
	Sum of all pathways	0.718
Resident - adult	Prothioconazole-desthio (M04)	

Application scenario	Active ingredient	Estimated exposure / AOEL (HQ)
	Drift	0.061
	Vapour	0.027
	Deposits	0.017
	Re-entry	0.047
	Sum of all pathways	0.105
	Folpet	
	Drift	0.05
	Vapour	0.003
	Deposits	0.014
	Re-entry	0.174
	Sum of all pathways	0.175
	Cumulative risk resident – adult (HI)	
	Drift	0.111
	Vapour	0.03
	Deposits	0.031
	Re-entry	0.221
	Sum of all pathways	0.28

Table 6.6-16: Risk assessment from combined exposure (longer term exposure) – *prothioconazole to prothioconazole-desthio 50% conversion*

Application scenario	Active ingredient	Estimated exposure / AOEL (HQ)
Operators – Vehicle-mounted: Downward spraying Application rate: 0.183675 kg a.s./ha (Prothio); 0.46875 kg a.s./ha (Folpet) *Work wear (arms, body and legs cov-ered) and gloves M/L and Work wear (arms, body and legs covered) during A*	Prothioconazole (mixing and loading)	0.033
	Prothioconazole-desthio (application)	0.181
	Folpet	0.163
	Cumulative risk operators	**0.377**
Workers – Inspection, irrigation Work wear (arms, body and legs covered) TC: 1400 cm^2/person/h	Prothioconazole	0.037
	Prothioconazole-desthio (M04)	0.136
	Folpet	0.26
	Cumulative risk workers (HI)	**0.433**
Resident – child ***50% of drift-reduction and Buffer-zone of 2-3m (with refined DFR value)***	Prothioconazole	
	Drift	0.041
	Vapour	0.004
	Deposits	0.006
	Re-entry	0.044
	Sum of all pathways	0.067
	Prothioconazole-desthio (M04)	
	Drift	0.251
	Vapour	0.08

Application scenario	Active ingredient	Estimated exposure / AOEL (HQ)
	Deposits	0.041
	Re-entry	0.164
	Sum of all pathways	0.377
	Folpet	
	Drift	0.212
	Vapour	0.008
	Deposits	0.031
	Re-entry	0.313
	Sum of all pathways	0.396
	Cumulative risk resident – child (HI)	
	Drift	0.504
	Vapour	0.092
	Deposits	0.078
	Re-entry	0.521
	Sum of all pathways	0.84
Resident - adult	Prothioconazole	
	Drift	0.01
	Vapour	0.001
	Deposits	0.003
	Re-entry	0.025
	Sum of all pathways	0.028
	Prothioconazole-desthio (M04)	
	Drift	0.059
	Vapour	0.027
	Deposits	0.016
	Re-entry	0.091
	Sum of all pathways	0.139
	Folpet	
	Drift	0.05
	Vapour	0.003
	Deposits	0.014
	Re-entry	0.174
	Sum of all pathways	0.175
	Cumulative risk resident – adult (HI)	
	Drift	0.119
	Vapour	0.04
	Deposits	0.053
	Re-entry	0.29
	Sum of all pathways	0.292

The SUM HQ is < 1. Thus, combined exposure to all active substances in SAP2101F 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

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 7.2/01	Torres, M.	2022	SAP2101F (PROTHIOCONAZOLE 120 g/L + FOLPET 300 g/L) – DISLODGEABLE FOLIAR RESIDUE DECLINE STUDY ON CEREALS (WHEAT OR BARLEY) IN NORTHERN/CENTRAL EUROPE IN 2021 512SRES21X04 GLP Unpublished	N	Ascenza Agro S.A.
KCP 7.2/02	Gaffney, V.	2022	Determination of the Decline of Prothioconazole, Prothioconazole-desthio and Folpet Dislodgeable Foliar Residues on Cereals (Wheat and Barley) in Northern Europe in 2021 after Application of SAP2101F DFR11/21 GLP Unpublished	N	Ascenza Agro S.A.
KCP 7.3/01	Imart, C.	2021	IN-VITRO HUMAN SKIN PENETRATION OF PROTHIOCONAZOLE-DESTHIO IN PROTHIOCONAZOLE + FOLPET 120+300 g/L SC S21-04572 Eurofins Agroscience Services Chem SAS GLP Unpublished	N	Ascenza Agro S.A.

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
-	-	-	-	-	-

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 Detailed evaluation of the studies relied upon

A 2.1 Statement on bridging possibilities

Not required.

Comments of zRMS:	No bridging statement is necessary. Data on the active substances and co-formulants were used according to the rules for classification of mixtures of Regulation (EC) No 1272/2008.

A 2.2 Acute oral toxicity (KCP 7.1.1)

Comments of zRMS:	Hazard assessment and proposed classification of the product has been concluded considering content of relevant ingredients in the mixture (Additivity formula) (for details see Part C).

The studies to assess the acute toxicity of the plant protection product SAP2101F were judged to be not necessary in the interest of animal welfare, according to Article 62 of Regulation (EC) No 1107/2009. The assessment has been conducted according to Regulation EC 1272/2008 requirements.

Therefore, a case for the classification and labelling of SAP2101F for human health effects, based on existing data for all formulation components is provided in Part C, Toxicological Classification document of this registration report.

Conclusion

Under the calculations, the oral LD_{50} of SAP2101F is higher than 2000 mg/kg bw in rats. Thus, no classification is required according to Regulation (EC) No. 1272/2008.

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

Comments of zRMS:	Hazard assessment and proposed classification of the product has been concluded considering content of relevant ingredients in the mixture (Additivity formula) (for details see Part C).

The studies to assess the acute toxicity of the plant protection product SAP2101F were judged to be not necessary in the interest of animal welfare, according to Article 62 of Regulation (EC) No 1107/2009. The assessment has been conducted according to Regulation EC 1272/2008 requirements.

Therefore, a case for the classification and labelling of SAP2101F for human health effects, based on existing data for all formulation components is provided in Part C, Toxicological Classification document of this registration report.

Conclusion

Under the calculations, the dermal LD_{50} of SAP2101F is higher than 2000 mg/kg bw in rats. Thus, no classification is required according to Regulation (EC) No. 1272/2008.

A 2.4 Acute inhalation toxicity (KCP 7.1.3)

Comments of zRMS:	Hazard assessment and proposed classification of the product has been concluded considering content of relevant ingredients in the mixture (Additivity formula) (for details see Part C).

The studies to assess the acute toxicity of the plant protection product SAP2101F were judged to be not necessary in the interest of animal welfare, according to Article 62 of Regulation (EC) No 1107/2009. The assessment has been conducted according to Regulation EC 1272/2008 requirements.

Therefore, a case for the classification and labelling of SAP2101F for human health effects, based on existing data for all formulation components is provided in Part C, Toxicological Classification document of this registration report.

Conclusion

Under the calculations, the inhalation LC_{50} of SAP2101F is higher than 5 mg/L air in rats. Thus, no classification is required according to Regulation (EC) No. 1272/2008.

A 2.5 Skin irritation (KCP 7.1.4)

Comments of zRMS:	Hazard assessment and proposed classification of the product has been concluded considering content of relevant ingredients in the mixture (concentration that triggers classification of the mixture) (for details see Part C).

The studies to assess the acute toxicity of the plant protection product SAP2101F were judged to be not necessary in the interest of animal welfare, according to Article 62 of Regulation (EC) No 1107/2009. The assessment has been conducted according to Regulation EC 1272/2008 requirements.

Therefore, a case for the classification and labelling of SAP2101F for human health effects, based on existing data for all formulation components is provided in Part C, Toxicological Classification document of this registration report.

Conclusion

Under the calculations, SAP2101F is not a skin irritant. Thus, no classification is required according to Regulation (EC) No. 1272/2008.

A 2.6 Eye irritation (KCP 7.1.5)

Comments of zRMS:	Hazard assessment and proposed classification of the product has been concluded considering content of relevant ingredients in the mixture (concentration that triggers classification of the mixture) (for details see Part C).

The studies to assess the acute toxicity of the plant protection product SAP2101F were judged to be not necessary in the interest of animal welfare, according to Article 62 of Regulation (EC) No 1107/2009. The assessment has been conducted according to Regulation EC 1272/2008 requirements.

Therefore, a case for the classification and labelling of SAP2101F for human health effects, based on existing data for all formulation components is provided in Part C, Toxicological Classification document of this registration report.

Conclusion

Under the calculations, SAP2101F is an eye irritant. Thus, H319 classification is required according to Regulation (EC) No. 1272/2008.

A 2.7 Skin sensitisation (KCP 7.1.6)

Comments of zRMS:	Hazard assessment and proposed classification of the product has been concluded considering content of relevant ingredients in the mixture (concentration that triggers classification of the mixture) (for details see Part C).

The studies to assess the acute toxicity of the plant protection product SAP2101F were judged to be not necessary in the interest of animal welfare, according to Article 62 of Regulation (EC) No 1107/2009. The assessment has been conducted according to Regulation EC 1272/2008 requirements.

Therefore, a case for the classification and labelling of SAP2101F for human health effects, based on existing data for all formulation components is provided in Part C, Toxicological Classification document of this registration report.

Conclusion

Under the calculations, SAP2101F is a skin sensitiser. Thus, H317 classification is required according to Regulation (EC) No. 1272/2008.

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

Not required.

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).

A 2.10 Studies on dermal absorption (KCP 7.3)

A 2.10.1 Study 1 – Active substance 1 in SAP2101F

Comparative dermal absorption, in vitro using rat and human skin

Comments of zRMS:	Study has been performed according to OECD 428 and is considered acceptable. The dermal absorption values as proposed by the applicant are acceptable. The dermal penetration estimates for prothioconazole-desthio to be used for risk assessment was determined to be 1.2 % (mean + k * SD) and 17 % for the formulation concentrate and the 1:266.67 spray dilution, respectively, based on the EFSA guidance criteria. Study accepted.

Reference	KCP 7.3/01
Report	IN-VITRO HUMAN SKIN PENETRATION OF PROTHIOCONAZOLE-DESTHIO IN PROTHIOCONAZOLE + FOLPET 120+300 g/L SC, Imart, C., 2021
Guideline(s)	Yes Test guidelines: - Regulation (EC) No 440/2008 – Test method B.45 - OECD guideline for the testing of chemicals: Test No. 428: Skin Absorption: in vitro Method (13 April 2004) - OECD guidance document for the conduct of skin absorption studies, OECD series on testing and assessment. Number 28, 05-Mar-2004 (ENV/JM/MONO(2004)2) - OECD Guidance notes on dermal absorption, 18 August 2011 (ENV/JM/MONO(2011)36) - Guidance on Dermal Absorption, EFSA Journal 2017; 15(6): 4873 GLP guidelines: - OECD Principles of Good Laboratory Practice (as revised in 1997), ENV/MC/CHEM(98) 17 - EC Commission Directive 2004/10/EC of 11 February 2004 (official Journal No. L 50/44) - Article Annexe II à l'article D523-8 du code de l'environnement, France - Local Standard Operating procedures - The study plan referenced S21-04572 and its amendment
Deviations	No
GLP	Yes
Acceptability	Yes

Objective

The aim of this study was to investigate the rate and extent of the in-vitro dermal absorption of prothioconazole-desthio following topical application of Prothioconazole + Folpet 120+300 g/L SC test item, to the surface of human split-thickness skin mounted on flow-through diffusion cells, at the concentrated rate and one in-use spray dilution.

The methodology used is based on the assumption that all prothioconazole is degraded to desthio-metabolite. Therefore, the dermal absorption was tested for a concentration that mimics a 100 % degradation of prothioconazole in the formulation.

Test System

Test system: Human skin
Number (n): 4 human donors, 2 cells per donor = 8 cells per dose, or n=16 cells in total

Treatment

Reference item: Prothioconazole-desthio
Test item: Prothioconazole + Folpet 120+300 g/L SC
In-vitro model: Flow-through diffusion cells

Compartments: Receptor fluid = PBS 0.01M + 3% polyoxyethylene 20 oleyl ether

Skin = Treated skin (mean thickness of 316-400 µm) + surrounding skin

Tape strips = maximum 10 strips were performed: when epidermis was removed during tape stripping, the piece of skin was get back for analysis with the skin compartment

Washing = 1 mL of Sanex® 10% + 9 x 1 mL of water + 3 half cotton-swabs

Nominal formulation concentrations:

Formulation concentrate undiluted	108.84 g/L
Spray dilution (1:266.67)	0.40815 g/L

Occlusion condition: No

Exposure time: 8 hours (to mimic contact during a normal working day)

Post exposure time: 16 hours

Study duration: 24 hours (from initiation of exposure)

Results and discussions

Table A 1: In-vitro dermal penetration of active substance 1 formulated as SAP2101F through human skin - Recovery data

Dose group	High dose (Formulation concentrate) n=8		Low dose (Spray dilution 1: 266.67) n=8	
Target concentration [mg/mL]	108.84		0.40815	
Target dose [µg/cm²]	1088.40		4.08	
Mean actual applied dose [µg/cm²]	1035.90		4.20	
	Recovery [%]		Recovery [%]	
	Mean	S.D.	Mean	S.D.
Dislodgeable dose				
Skin washing after 8 h	97.18	2.36	74.87	7.35
Donor chamber wash	0.31	0.14	0.70	0.24
Dose associated to skin				
Tape strips: 1st sample, strips 1 + 2	0.48	0.17	7.79	3.42
Tape strips: 2nd sample; strips 3 - n	0.38	0.14	4.56	2.43

Skin preparation	0.29	0.14	3.29	1.99
Absorbed dose				
Receptor fluid	0.40	0.21	7.97	5.22
Receptor chamber wash	BLQ	NC	0.04	0.06
Total recovery[1]	98.91	2.32	97.51	1.85
Absorption essentially complete at end of study (>75% absorption within half the study duration) [%Absorption at $t_{0.5}$]	No [52.65% ± 11.52]		Yes [85.47% ± 2.25]	
If no: Absorption estimates = absorbed dose + skin preparation + tape strips sample 2)[2]	0.93	0.33	NA	NA
If yes: Absorption estimates = absorbed dose + skin preparation	NA	NA	11.31	6.99
Absorption estimates normalized used for risk assessment[3]	**1.2**		**17**	

[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.
[3] In accordance with the EFSA Guidance on Dermal Absorption (EFSA Journal 2017;15(6):4873), total absorption = mean + k*SD, where k= 0.84 based on the number of replicates employed (n=8).
BLQ : below the limit of quantification ; NC: not calculated ; N/A: not applicable ; SD: standard deviation

Conclusion/endpoint:

The dermal penetration of prothioconazole-desthio formulated as Prothioconazole + Folpet 120+300 g/L SC through human dermatomed skin was determined in vitro. The amount of applied dose penetrating within 24 hours was determined to be 1.2 % (mean + k * SD) and 17 % for the formulation concentrate and the 1:266.67 spray dilution, respectively, based on the EFSA guidance criteria.

A 2.11 Other/Special Studies

For detailed summaries of field and analytical phase of DFR studies, please see Appendix 4.

Appendix 3 Exposure calculations

Please find below the word report generate by the EFSA calculator as well as the zip for the online tool.

WORD REPORT

Prothioconazole + Folpet SC (Nov.2023).

Prothioconazole+Folpet_120+300_SC_Mai

ZIP

Prothioconazole + Folpet SC (Nov.2023).v0 - CEU_20231120_10h56_opex1.0.1.zip

Prothioconazole+Folpet_120+300_SC_March2024_opex1.0.1.zip

A 3.1 Combined exposure calculations for Prothioconazole, Prothio-desthio and Folpet

Please see point 6.5.5

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)

- **FIELD PHASE**

Report:	**KCP 7.2/01, Torres, M., 2022**
Title:	SAP2101F (PROTHIOCONAZOLE 120 g/L + FOLPET 300 g/L) – DISLODGEABLE FOLIAR RESIDUE DECLINE STUDY ON CEREALS (WHEAT OR BARLEY) IN NORTHERN/CENTRAL EUROPE IN 2021
Document No:	512SRES21X04
Guidelines:	Regulations (EU) No. 283/2013 and 284/2013 implementing Regulation (EC) No. 1107/2009 of the European Parliament. ▪ "Commission Working Document 7029/VI/95 Rev. 5, General Recommendations for the Design, Preparation and Realization of Residue Trials, July 22, 1997. ▪ OECD Guideline for the testing of chemicals on Crop Field Trial (TG 509 published in September 2009). ▪ OECD Series on Testing and Assessment No. 9 "Guidance document on the conduct of studies of occupational exposure to pesticides during agricultural application", Paris 1997. OCDE/GD(97)148. ▪ U.S. EPA Series 875.2100 Occupational and Residential Exposure Test Guidelines, Foliar Dislodgeable Residue Dissipation. ▪ SANTE/2019/12752, Technical guidelines on data requirements for setting maximum residue levels, comparability of residue trials and extrapolation of residue data on products from plant and animal origin, 01/01/2021.
GLP	Yes

SUMMARY

SAP2101F (Prothioconazole 120 g/L + Folpet 300 g/L) is a fungicide effective against a diseases caused by ascomycetes (Septoria and Helminthosporium), basidiomycetes, and deuteromycetes in crops of commercial importance developed by ASCENZA.

Prothioconazole is a broad spectrum anti-fungal agent of triazolinthione family; it has been widely used in crop protection especially in cereals, with preventive, curative, eradicating effects and long residual activity. Folpet is a contact fungicide with a broad spectrum of action derived from phthalimide and trichloromethylsulfenyl chloride with foliar fungicidal activity and preventive action.

The objective of this study was to generate specimens on decline of Prothioconazole, its metabolite Prothioconazole-desthio (sum of isomers) and Folpet in dislodgeable foliar residues (DFR) from wheat and/or barley in order to support the registration of market value of plant protection products applied according good agricultural practice (GAP).

Three decline curve trials coded as SRPL21-022-512FR, SRDE21-026-512FR and BKA21-001-512FR were conducted in Murczyn (Żnin - Poland), Moosburg an der Isar, Freising (Bavaria – Germany) and Kiskunlacháza (Hungary) during 2021, respectively, and the dislodging and storage areas were done at Field Test Site of Syntech Research Poland located in Łabiszyn, at Field Test Site of Syntech Research Germany located in Moosburg an der Isar and at the Field Test Site of BIOTEK Agriculture Hungary Kft. Located in Csömör, respectively.

Two foliar applications were performed starting between 56 and 59 days before normal commercial harvest (NCH) of the formulated product SAP2101F containing Prothioconazole 12% w/v (=120 g/L) + Folpet 30% w/v (=300 g/L) were applied at a target rate of 1.5 L/ha (=180 g Prothioconazole/ha + 450 g Folpet/ha) onto the crop in open field conditions. Applications were done following the study timing with 14 days between then and last application between 42 and 45 days before commercial harvest (=DBCH), with

BBCH 32-58, The formulation was applied using appropriate application equipment at the proposed normal use rates and timings.

Untreated samples were collected at 0 DBA1 (days before application 1) and 14DAA2 (days after application 2).

Untreated samples (leave pieces corresponding to a surface of 400 cm2 , based on a mean weight test) were collected at 0 DBA1 (days before application 1) and 14 ±1 DAA2 (days after application 2), while treated samples were collected at 0 DBA1 (days before application), 0 DAA1 (days after application 1), 0 DBA2, 0 DAA2, 24 HAA2 (hours after application 2), 3 DAA2, 5 DAA2, 7 DAA2 and 14 DAA2.

Untreated samples were collected for field fortifications purposes at 0 DBA1 (days before application 1), 0 DBA2, 3 DAA2 (days after application 2) and 14 DAA2.

The specimens (untreated & treated) were stored separated and deep frozen [max: -19ºC, min: -31.3ºC] until their shipment to the Test Facility Laboratorio de Residuos ASCENZA AGRO S.A., Portugal to be analysed in a different GLP study coded as DFR11/21 being the Study Director Vanessa Gaffney. Shipment was done in insulated boxes with dry ice and samples were received in perfect conditions.

There were no unusual events that affected this study.

APPLICATION DETAILS

A summary of application details is given below. These data reflect the intended application scheme, or, if minor deviations occurred, these were within the acceptable range described in study plan (Appendix 1).

Treatment details for Trials 1 to 3

Trial No. (Country)	Date	BBCH crop stage	Spray Volume (L/ha)	Actual Application Rate (L f.p./ha)	Application Rate (g a.s./ha)	
					Prothioconazole	Folpet
SRPL21-022-512FR Poland	24 May 2021	32-33	207.9	1.56	187.100	467.750
	07 Jun 2021	39-43	192.8	1.45	173.550	433.875
SRDE21-026-512FR Germany	16 June 2021	33	295.0	1.475	176.944	442.485
	30 June 2021	58	293.7	1.468	176.202	440.505
BKA21-001-512FR Hungary	27 Jul 2021	33	296	1.480	177.600	444.000
	10 Aug 2021	37	298.67	1.490	179.202	448.005

a.s. - active substance

METHOD OF SAMPLING

Untreated plot was sampled first and then treated plot when applicable. Three replicates (Approx. 400 cm2 leaves sample per replicate) were collected per plot at each sampling time-point. Retain specimens were not taken. Time of sampling in field was recorded.
The leaves were sampled directly into a pre-labelled jar. The jar was large enough so that the wash solution (100 mL) was added to the leaves.
Leaf samples were taken when the foliage was dry and placed in appropriate containers for extraction.
Before first sampling event, before application A2 and before sampling at 7 DAA2 a leaf weight checking was done: The amount of leaves collected provided a weight which corresponds to a leaf surface of 400 cm2. 4 replications of 10 leaves of a similar surface were sampled. The width and length of each leaf and then, the weight of each repetition was measured. Thus, the mean weight of the 4 replications with a known surface was obtained. It allowed to establish the sample weight to collect to ensure the required surface, always with an acceptable tolerance of +/- 5%.
The leaf area was calculated by dividing the weight of each sample by the weight per unit leaf area, determined by measuring the leaf areas of a known weight of material (following to DFRs guideline

EPA875.2100). All replicate samples that were collected represented a leaf surface area of about 400 cm2, based on a double-sided leaf area.
Double-sided leaf area represented the surface area on both sides of individual leaves.

The surface area collected of each sample was noted.
Samples were taken from all parts of the plot; leave the ends of the rows unharvested.

METHOD OF DISLODGING

Production of dislodging solution: Aerosol OT100 was used to be made up to a solution of 0.01% w/v in distilled water. The dislodging solution was prepared in advance (at least 1 hour) of the leaf disc sampling. The production was done as follows:

a. 100 mL of Aerosol OT solution (dislodging solution 0.01% w/v) were added to the leaves in the collection vessel and the lid was secured. The sample was shaken at a speed which visibly agitated the contents of the vessel on a reciprocating platform shaker operating at approximately 200 cycles per minute for 15 minutes.
b. The contents of the vessel were decanted (the leaf wash) into a HDPE screw cap pre-labelled bottle (500 mL size). A volume of 100 mL of 0.01% w/v Aerosol OT solution was added to the remaining leaves and it was shaken again as described above. The contents of the vessel were decanted into the vessel with the first wash. The volume of each wash was recorded.
c. 200 mL of MeCN (acetonitrile) were added to the sample bottle.

d. The bottle was capped securely and shaken briefly in order to mix both solutions.

The bottle was depressurized (loosen and re-tighten cap) and resealed with additional tape around the lid and the bottle was double labelled.

The samples were introduced into the chest freezers (different untreated from treated) until the shipment to the laboratory for analysis.

The dislodging solutions were frozen within <8 hours after field sampling. Leaves were discarded after dislodging procedure.

FIELD FORTIFICATION METHOD

Fortification was made to the total washing solution after dislodging procedure in the control leaves specimens on four occasions: 0DBA1, 0DBA2, 3DAA2 and 14DAA2. The vial content (containing appropriate concentration of the reference item) was added to the leaf wash and the vial then dropped into sample (without the lid). This fortified dislodging solution was conveniently protected and packed then placed into freezer.

- **ANALYTICAL PHASE**

Report:	**KCP 7.2/02, Gaffney, V., 2022**
Title:	Determination of the Decline of Prothioconazole, Prothioconazole-desthio and Folpet Dislodgeable Foliar Residues on Cereals (Wheat and Barley) in Northern Europe in 2021 after Application of SAP2101F
Document No:	DFR11/21
Guidelines:	OECD Series on Principles of GLP and Compliance Monitoring: ▪ Number 1, OECD Principles on Good Laboratory Practice (as revised in 1997) (ENV/MC/CHEM(98)17). ▪ Directive 2004/10/EC (codified version) from European Parliament and Council of 11 February ▪ 2004. ▪ Decreto-Lei nº 99/2000 of 30 May 2000 (Portuguese decree on OECD Principles of GLP).

	▪ Regulation (EC) nº 1107/2009 of the European Parliament and of Council of 21 October 2009. ▪ Commission Regulation (EU) Nº 283/2013 of the Commission of 1 March 2013; ▪ Commission Regulation (EU) Nº 284/2013 of the Commission of 1 March 2013. The quality assurance of Laboratório de Resíduos de Pesticidas of ASCENZA AGRO, S.A. declares: That the present final report was inspected by the quality assurance of Laboratório de Resíduos de Pesticidas and complies with: ▪ OECD Series on Principles of GLP and Compliance Monitoring: ▪ Number 1, OECD Principles on Good Laboratory Practice (as revised in 1997) (ENV/MC/CHEM(98)17) ▪ Directive 2004/10/EC (codified version) from European Parliament and Council of 11 February 2004. ▪ Decreto-Lei nº 99/2000 of 30 May 2000 (Portuguese decree on OECD Principles of GLP).
GLP	Yes

OBJECTIVE

The objective of this study was to determine the decline of prothioconazole, prothioconazole-desthio and folpet dislodgeable foliar residues in cereals (wheat and barley) following two applications of SAP2101F at a rate of 1.5 L/ha onto the crop in open field conditions.
Leaf disc wash solutions and leaf disc wash field fortified solutions were analysed for residues of prothioconazole, prothioconazole-desthio and folpet. The analytical method was validated within the scope of this study.
Samples were generated in 3 trials, 1 in Northern France (SRFR21-037-512FR in wheat), 1 in Germany (SRDE21-020-512FR in barley) and 1 in Poland (SRPL21-022-512FR in wheat), during the field phase of study 512SRES21X04 from SynTech Research Spain S.L. which is directed by Manuel Torres.

This analytical phase was conducted by an independent study from the field phase.

SUMMARY

Leaf disc wash solutions and leaf disc wash field fortified solutions were sent frozen to Laboratório de Resíduos de Pesticidas (LabRP) in order to analyse the magnitude of prothioconazole, prothioconazole-desthio and folpet in dislodgeable foliar residues in cereals leaves, generated under three field trials, 1 in Northern France, 1 in trial in Germany and 1 in Poland by SynTech Research Spain S.L., under the direction of Manuel Torres.
The solutions were obtained by washing leaf discs from cereals leaves with an aqueous solution of a surfactant after two applications of the formulated product SAP2101F. According to the field information, sampling has been taken in the untreated modality, immediately before first application, 0 DBA 1 (DBA – days before application), and 14 days after second application, 14 DAA2 (DAA – days after application) for control samples and field recovery tests and at 0 DBA2 and 3 DAA2 for field recovery tests. Regarding treated modalities sampling has been performed at 0 DBA 1, 0 DAA1, 0 DBA2, 0 DAA2, 24 HAA2 (HAA – hours after second application), 3 DAA2, 5 DAA2, 7 DAA2 and 14 DAA2.
To assess the stability of prothioconazole, prothioconazole-desthio and folpet residues under field, storage and transport conditions, leaf disc wash field fortified solutions were also delivered together with the specimens described above. The results regarding the stability of protioconazole, protioconazole-desthio and folpet in leaf disc wash solutions will be reported.

After reception all samples were stored at ≤ -18 ºC until analysis.
The validation assays were performed under the current study. Validation results are presented on **Table 24** of this report.
Specimens were analysed by direct injection into UPLC-TQ-S-micro. The analytical procedure followed is described at point **7.6** of this report.

Moreover, the quantification of prothioconazole, prothioconazole-desthio and folpet in the samples was performed using a linear regression analytical calibration with matrix matched calibration standards. Procedural recovery tests in control specimens were injected concurrently with the analytical specimens.

The results were in accordance with the requirements on SANTE/2020/12830, Rev 1.

Final results are compiled in the tables below.

Syntech Sample Code	LabRP Sample Code	Specimen	Plot	Days	Folpet (µg/L)	Folpet (µg/cm2)	Mean Folpet** (µg/L)	Mean Folpet** (µg/cm2)	Corrected Mean Folpet* (µg/cm2)
SRDE21-010-512FR-01	1015/DFR11/21	Leaf disc wash	U	0 DBA1	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRDE21-010-512FR-02	1016/DFR11/21				< LOQ	< LOQ			
SRDE21-010-512FR-03	1017/DFR11/21				< LOQ	< LOQ			
SRDE21-010-512FR-10	1024/DFR11/21		T		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRDE21-010-512FR-11	1025/DFR11/21				< LOQ	< LOQ			
SRDE21-010-512FR-12	1026/DFR11/21				< LOQ	< LOQ			
SRDE21-010-512FR-13	1027/DFR11/21			0 DAA1	1315	0.66	983	0.49	0.51
SRDE21-010-512FR-14	1028/DFR11/21				1097	0.55			
SRDE21-010-512FR-15	1029/DFR11/21				537	0.27			
SRDE21-010-512FR-22	1036/DFR11/21			0 DBA2	141	0.07	131	0.07	0.07
SRDE21-010-512FR-23	1037/DFR11/21				103	0.05			
SRDE21-010-512FR-24	1038/DFR11/21				146	0.07			
SRDE21-010-512FR-25	1039/DFR11/21			0 DAA2	1302	0.65	1204	0.60	0.62
SRDE21-010-512FR-26	1040/DFR11/21				1019	0.51			
SRDE21-010-512FR-27	1041/DFR11/21				1291	0.65			
SRDE21-010-512FR-28	1042/DFR11/21		T	21 HAA2	2090	1.05	1105	0.55	0.57
SRDE21-010-512FR-29	1043/DFR11/21				812	0.41			
SRDE21-010-512FR-30	1044/DFR11/21				411	0.21			
SRDE21-010-512FR-37	1051/DFR11/21			3 DAA2	271	0.14	348	0.17	0.18
SRDE21-010-512FR-38	1052/DFR11/21				350	0.17			
SRDE21-010-512FR-39	1053/DFR11/21				423	0.21			
SRDE21-010-512FR-40	1054/DFR11/21			5 DAA2	981	0.49	831	0.42	0.43
SRDE21-010-512FR-41	1055/DFR11/21				805	0.40			
SRDE21-010-512FR-42	1056/DFR11/21				706	0.35			
SRDE21-010-512FR-43	1057/DFR11/21			7 DAA2	381	0.19	319	0.16	0.17
SRDE21-010-512FR-44	1058/DFR11/21				464	0.23			
SRDE21-010-512FR-45	1059/DFR11/21				112	0.06			
SRDE21-010-512FR-46	1060/DFR11/21		U	14 DAA2	33	0.02	13	0.007	0.007
SRDE21-010-512FR-47	1061/DFR11/21				3.4	0.00			
SRDE21-010-512FR-48	1062/DFR11/21				2.8	0.00			
SRDE21-010-512FR-55	1069/DFR11/21		T		112	0.06	155	0.08	0.08
SRDE21-010-512FR-56	1070/DFR11/21				99	0.05			
SRDE21-010-512FR-57	1071/DFR11/21				255	0.13			

T- treated plot; U - untreated plot; DBA - days before application; DAA - days after aplication; LOQ - limit of quantification (2.0 µg/L; 0,001 µg/cm^2).

* Values corrected taking into account the overall recovery of the field fortification samples of this trial (96.5 %).

** When one replicate is < LOQ, the LOQ value is used as default value for calculating the mean.

Table 1 - Summary of results for Folpet from trial SRDE21-010-512FR-Germany.

Syntech Sample Code	LabRP Sample Code	Specimen	Plot	Days	Prothioconazole (µg/L)	Prothioconazole (µg/cm2)	Mean Prothioconazole ** (µg/L)	Mean Prothioconazole ** (µg/cm2)	Corrected Mean Prothioconazole* (µg/cm2)
SRDE21-010-512FR-01	1015/DFR11/21				< LOQ	< LOQ			
SRDE21-010-512FR-02	1016/DFR11/21		U		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRDE21-010-512FR-03	1017/DFR11/21			0 DBA1	< LOQ	< LOQ			
SRDE21-010-512FR-10	1024/DFR11/21				2.0	0.001			
SRDE21-010-512FR-11	1025/DFR11/21				2.0	0.001	5.1	0.003	0.003
SRDE21-010-512FR-12	1026/DFR11/21				11.3	0.006			
SRDE21-010-512FR-13	1027/DFR11/21				421	0.21			
SRDE21-010-512FR-14	1028/DFR11/21			0 DAA1	383	0.19	328	0.16	0.17
SRDE21-010-512FR-15	1029/DFR11/21				180	0.09			
SRDE21-010-512FR-22	1036/DFR11/21				23	0.011			
SRDE21-010-512FR-23	1037/DFR11/21			0 DBA2	27	0.013	19	0.009	0.010
SRDE21-010-512FR-24	1038/DFR11/21				7.6	0.004			
SRDE21-010-512FR-25	1039/DFR11/21				328	0.16			
SRDE21-010-512FR-26	1040/DFR11/21			0 DAA2	324	0.16	336	0.17	0.18
SRDE21-010-512FR-27	1041/DFR11/21		T		356	0.18			
SRDE21-010-512FR-28	1042/DFR11/21				664	0.33			
SRDE21-010-512FR-29	1043/DFR11/21	Leaf disc wash		24 HAA2	105	0.05	263	0.13	0.14
SRDE21-010-512FR-30	1044/DFR11/21				20	0.01			
SRDE21-010-512FR-37	1051/DFR11/21				5.0	0.003			
SRDE21-010-512FR-38	1052/DFR11/21			3 DAA2	8.2	0.004	6.1	0.003	0.003
SRDE21-010-512FR-39	1053/DFR11/21				5.0	0.003			
SRDE21-010-512FR-40	1054/DFR11/21				217	0.11			
SRDE21-010-512FR-41	1055/DFR11/21			5 DAA2	67	0.03	101	0.05	0.05
SRDE21-010-512FR-42	1056/DFR11/21				18	0.009			
SRDE21-010-512FR-43	1057/DFR11/21				53	0.03			
SRDE21-010-512FR-44	1058/DFR11/21			7 DAA2	56	0.03	70	0.03	0.04
SRDE21-010-512FR-45	1059/DFR11/21				99	0.05			
SRDE21-010-512FR-46	1060/DFR11/21				29	0.01			
SRDE21-010-512FR-47	1061/DFR11/21		U		14	0.007	17	0.008	0.009
SRDE21-010-512FR-48	1062/DFR11/21			14 DAA2	7.5	0.004			
SRDE21-010-512FR-55	1069/DFR11/21				77	0.04			
SRDE21-010-512FR-56	1070/DFR11/21		T		37	0.02	80	0.04	0.04
SRDE21-010-512FR-57	1071/DFR11/21				126	0.06			

T - treated plot; U - untreated plot; DBA - days before application; DAA - days after application; LOQ - limit of quantification (2.0 µg/L; 0.001 µg/cm²).

* Values corrected taking into account the overall recovery of the field fortification samples of this trial (95.4 %).

** When one replicate is < LOQ, the LOQ value is used as default value for calculating the mean.

Table 2 - Summary of results for Prothioconazole from trial SRDE21-010-512FR-Germany.

Syntech Sample Code	LabRP Sample Code	Specimen	Plot	Days	Prothioconazole-desthio (µg/L)	Prothioconazole-desthio (µg/cm2)	Mean Prothioconazole-desthio ** (µg/L)	Mean Prothioconazole-desthio ** (µg/cm2)	Corrected Mean Prothioconazole-desthio* (µg/cm2)
SRDE21-010-512FR-01	1015/DFR11/21				< LOQ	< LOQ			
SRDE21-010-512FR-02	1016/DFR11/21		U		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRDE21-010-512FR-03	1017/DFR11/21			0 DBA1	< LOQ	< LOQ			
SRDE21-010-512FR-10	1024/DFR11/21				2.0	0.004			
SRDE21-010-512FR-11	1025/DFR11/21				2.0	0.004	3.9	0.004	0.004
SRDE21-010-512FR-12	1026/DFR11/21				7.6	0.004			
SRDE21-010-512FR-13	1027/DFR11/21				53	0.03			
SRDE21-010-512FR-14	1028/DFR11/21			0 DAA1	73	0.04	51	0.03	0.03
SRDE21-010-512FR-15	1029/DFR11/21				28	0.01			
SRDE21-010-512FR-22	1036/DFR11/21				9.2	0.005			
SRDE21-010-512FR-23	1037/DFR11/21			0 DBA2	4.7	0.002	5.5	0.003	0.003
SRDE21-010-512FR-24	1038/DFR11/21				2.7	0.001			
SRDE21-010-512FR-25	1039/DFR11/21				34	0.02			
SRDE21-010-512FR-26	1040/DFR11/21			0 DAA2	35	0.02	36	0.02	0.02
SRDE21-010-512FR-27	1041/DFR11/21		T		38	0.02			
SRDE21-010-512FR-28	1042/DFR11/21				110	0.05			
SRDE21-010-512FR-29	1043/DFR11/21	Leaf disc wash		24 HAA2	32	0.02	51	0.03	0.03
SRDE21-010-512FR-30	1044/DFR11/21				10	0.005			
SRDE21-010-512FR-37	1051/DFR11/21				5.7	0.003			
SRDE21-010-512FR-38	1052/DFR11/21			3 DAA2	8.7	0.004	7.1	0.004	0.004
SRDE21-010-512FR-39	1053/DFR11/21				6.9	0.003			
SRDE21-010-512FR-40	1054/DFR11/21				84	0.04			
SRDE21-010-512FR-41	1055/DFR11/21			5 DAA2	32	0.02	40	0.02	0.02
SRDE21-010-512FR-42	1056/DFR11/21				4.7	0.002			
SRDE21-010-512FR-43	1057/DFR11/21				42	0.02			
SRDE21-010-512FR-44	1058/DFR11/21			7 DAA2	20	0.01	31	0.02	0.02
SRDE21-010-512FR-45	1059/DFR11/21				31	0.02			
SRDE21-010-512FR-46	1060/DFR11/21				3.7	0.002			
SRDE21-010-512FR-47	1061/DFR11/21		U		2.0	0.001	2.6	0.001	0.001
SRDE21-010-512FR-48	1062/DFR11/21			14 DAA2	2.0	0.001			
SRDE21-010-512FR-55	1069/DFR11/21				12	0.006			
SRDE21-010-512FR-56	1070/DFR11/21		T		8.7	0.004	12	0.006	0.006
SRDE21-010-512FR-57	1071/DFR11/21				15	0.008			

T - treated plot; U - untreated plot; DBA - days before application; DAA - days after application; LOQ - limit of quantification (2.0 µg/L; 0.001 µg/cm²).

* Values corrected taking into account the overall recovery of the field fortification samples of this trial (98.7 %).

** When one replicate is < LOQ, the LOQ value is used as default value for calculating the mean.

Table 3 - Summary of results for Prothioconazole-desthio from trial SRDE21-010-512FR-Germany.

Syntech Sample Code	LabRP Sample Code	Specimen	Plot	Days	Folpet (µg/L)	Folpet (µg/cm2)	Mean Folpet** (µg/L)	Mean Folpet** (µg/cm2)	Corrected Mean Folpet* (µg/cm2)
SRPL21-022-512FR-01	1269/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-02	1270/DFR11/21		U		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-03	1271/DFR11/21			0 DBA1	< LOQ	< LOQ			
SRPL21-022-512FR-10	1278/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-11	1279/DFR11/21				< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-12	1280/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-13	1281/DFR11/21				2.0	0.001			
SRPL21-022-512FR-14	1282/DFR11/21			0 DAA1	2.7	0.001	2.2	0.001	0.001
SRPL21-022-512FR-15	1283/DFR11/21				2.0	0.001			
SRPL21-022-512FR-22	1290/DFR11/21				4.0	0.002			
SRPL21-022-512FR-23	1291/DFR11/21			0 DBA2	7.0	0.004	7.5	0.004	0.004
SRPL21-022-512FR-24	1292/DFR11/21				12	0.006			
SRPL21-022-512FR-25	1293/DFR11/21				449	0.22			
SRPL21-022-512FR-26	1294/DFR11/21			0 DAA2	327	0.16	383	0.19	0.20
SRPL21-022-512FR-27	1295/DFR11/21				374	0.19			
SRPL21-022-512FR-28	1296/DFR11/21		T		< LOQ	< LOQ			
SRPL21-022-512FR-29	1297/DFR11/21	Leaf disc wash		24 HAA2	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-30	1298/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-37	1305/DFR11/21				2.4	0.001			
SRPL21-022-512FR-38	1306/DFR11/21			3 DAA2	2.0	0.001	2.1	0.001	0.001
SRPL21-022-512FR-39	1307/DFR11/21				2.0	0.001			
SRPL21-022-512FR-40	1308/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-41	1309/DFR11/21			5 DAA2	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-42	1310/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-43	1311/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-44	1312/DFR11/21			7 DAA2	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-45	1313/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-46	1314/DFR11/21				2.0	0.001			
SRPL21-022-512FR-47	1315/DFR11/21		U		3.4	0.002	2.5	0.001	0.001
SRPL21-022-512FR-48	1316/DFR11/21			14 DAA2	2.0	0.001			
SRPL21-022-512FR-55	1323/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-56	1324/DFR11/21		T		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-57	1325/DFR11/21				< LOQ	< LOQ			

T- treated plot; U - untreated plot; DBA - days before application; DAA - days after aplication; LOQ - limit of quantification (2.0 µg/L; 0,001 µg/cm^2).

* Values corrected taking into account the overall recovery of the field fortification samples of this trial (96.5 %).

** When one replicate is < LOQ, the LOQ value is used as default value for calculating the mean.

Table 4 - Summary of results for Folpet from trial SRPL21-022-512FR-Poland.

Syntech Sample Code	LabRP Sample Code	Specimen	Plot	Days	Prothioconazole (µg/L)	Prothioconazole (µg/cm2)	Mean Prothioconazole ** (µg/L)	Mean Prothioconazole ** (µg/cm2)	Corrected Mean Prothioconazole* (µg/cm2)
SRPL21-022-512FR-01	1269/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-02	1270/DFR11/21		U		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-03	1271/DFR11/21			0 DBA1	< LOQ	< LOQ			
SRPL21-022-512FR-10	1278/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-11	1279/DFR11/21				< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-12	1280/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-13	1281/DFR11/21				58	0.03			
SRPL21-022-512FR-14	1282/DFR11/21			0 DAA1	64	0.03	54	0.03	0.03
SRPL21-022-512FR-15	1283/DFR11/21				41	0.02			
SRPL21-022-512FR-22	1290/DFR11/21				2.0	0.001			
SRPL21-022-512FR-23	1291/DFR11/21			0 DBA2	2.0	0.001	2.6	0.001	0.001
SRPL21-022-512FR-24	1292/DFR11/21				3.9	0.002			
SRPL21-022-512FR-25	1293/DFR11/21				127	0.06			
SRPL21-022-512FR-26	1294/DFR11/21			0 DAA2	119	0.06	126	0.06	0.07
SRPL21-022-512FR-27	1295/DFR11/21				133	0.07			
SRPL21-022-512FR-28	1296/DFR11/21		T		56	0.03			
SRPL21-022-512FR-29	1297/DFR11/21	Leaf disc wash		21 HAA2	39	0.02	44	0.02	0.02
SRPL21-022-512FR-30	1298/DFR11/21				36	0.02			
SRPL21-022-512FR-37	1305/DFR11/21				6.1	0.003			
SRPL21-022-512FR-38	1306/DFR11/21			3 DAA2	6.4	0.003	6.4	0.003	0.003
SRPL21-022-512FR-39	1307/DFR11/21				6.7	0.003			
SRPL21-022-512FR-40	1308/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-41	1309/DFR11/21			5 DAA2	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-42	1310/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-43	1311/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-44	1312/DFR11/21			7 DAA2	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-45	1313/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-46	1314/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-47	1315/DFR11/21		U		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-48	1316/DFR11/21			14 DAA2	< LOQ	< LOQ			
SRPL21-022-512FR-55	1323/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-56	1324/DFR11/21		T		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-57	1325/DFR11/21				< LOQ	< LOQ			

T - treated plot; U - untreated plot; DBA - days before application; DAA - days after aplication; LOQ - limit of quantification (2.0 µg/L; 0,001 µg/cm²).

* Values corrected taking into account the overall recovery of the field fortification samples of this trial (95.4 %).

** When one replicate is < LOQ, the LOQ value is used as default value for calculating the mean.

Table 5 - Summary of results for Prothioconazole from trial SRPL21-022-512FR-Poland.

Syntech Sample Code	LabRP Sample Code	Specimen	Plot	Days	Prothioconazole-desthio (µg/L)	Prothioconazole-desthio (µg/cm2)	Mean Prothioconazole-desthio** (µg/L)	Mean Prothioconazole-desthio** (µg/cm2)	Corrected Mean Prothioconazole-desthio* (µg/cm2)
SRPL21-022-512FR-01	1269/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-02	1270/DFR11/21		U		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-03	1271/DFR11/21			0 DBA1	< LOQ	< LOQ			
SRPL21-022-512FR-10	1278/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-11	1279/DFR11/21				< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-12	1280/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-13	1281/DFR11/21				20.2	0.01			
SRPL21-022-512FR-14	1282/DFR11/21			0 DAA1	26.1	0.01	23	0.01	0.01
SRPL21-022-512FR-15	1283/DFR11/21				23.5	0.01			
SRPL21-022-512FR-22	1290/DFR11/21				2.0	0.012			
SRPL21-022-512FR-23	1291/DFR11/21			0 DBA2	2.0	0.012	2.8	0.009	0.009
SRPL21-022-512FR-24	1292/DFR11/21				4.5	0.002			
SRPL21-022-512FR-25	1293/DFR11/21				171.5	0.09			
SRPL21-022-512FR-26	1294/DFR11/21			0 DAA2	39.6	0.02	104	0.05	0.05
SRPL21-022-512FR-27	1295/DFR11/21				102.0	0.05			
SRPL21-022-512FR-28	1296/DFR11/21		T		56.7	0.03			
SRPL21-022-512FR-29	1297/DFR11/21	Leaf disc wash		21 HAA2	36.9	0.02	45	0.02	0.02
SRPL21-022-512FR-30	1298/DFR11/21				42.6	0.02			
SRPL21-022-512FR-37	1305/DFR11/21				12.4	0.006			
SRPL21-022-512FR-38	1306/DFR11/21			3 DAA2	23.4	0.012	18	0.009	0.009
SRPL21-022-512FR-39	1307/DFR11/21				19.5	0.010			
SRPL21-022-512FR-40	1308/DFR11/21				2.0	0.012			
SRPL21-022-512FR-41	1309/DFR11/21			5 DAA2	2.5	0.001	2.4	0.005	0.005
SRPL21-022-512FR-42	1310/DFR11/21				2.6	0.001			
SRPL21-022-512FR-43	1311/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-44	1312/DFR11/21			7 DAA2	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-45	1313/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-46	1314/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-47	1315/DFR11/21		U		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-48	1316/DFR11/21			14 DAA2	< LOQ	< LOQ			
SRPL21-022-512FR-55	1323/DFR11/21				< LOQ	< LOQ			
SRPL21-022-512FR-56	1324/DFR11/21		T		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRPL21-022-512FR-57	1325/DFR11/21				< LOQ	< LOQ			

T - treated plot; U - untreated plot; DBA - days before application; DAA - days after aplication; LOQ - limit of quantification (2.0 µg/L; 0,001 µg/cm²).

* Values corrected taking into account the overall recovery of the field fortification samples of this trial (98.7 %).

** When one replicate is < LOQ, the LOQ value is used as default value for calculating the mean.

Table 6 - Summary of results for Prothioconazole-desthio from trial SRPL21-022-512FR-Poland.

Syntech Sample Code	LabRP Sample Code	Specimen	Plot	Days	Folpet (µg/L)	Folpet (µg/cm2)	Mean Folpet** (µg/L)	Mean Folpet** (µg/cm2)	Corrected Mean Folpet* (µg/cm2)
SRFR21-037-512FR-01	1367/DFR11/21	Leaf disc wash	U	0 DBA1	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-02	1368/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-03	1369/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-10	1370/DFR11/21		T		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-11	1371/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-12	1372/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-13	1408/DFR11/21			0 DAA1	225	0.11	453	0.23	0.23
SRFR21-037-512FR-14	1409/DFR11/21				549	0.27			
SRFR21-037-512FR-15	1410/DFR11/21				585	0.29			
SRFR21-037-512FR-22	1394/DFR11/21			0 DBA2	2.0	0.001	2.4	0.001	0.001
SRFR21-037-512FR-23	1395/DFR11/21				3.3	0.002			
SRFR21-037-512FR-24	1396/DFR11/21				2.0	0.001			
SRFR21-037-512FR-25	1397/DFR11/21			0 DAA2	559	0.28	504	0.25	0.26
SRFR21-037-512FR-26	1398/DFR11/21				488	0.24			
SRFR21-037-512FR-27	1399/DFR11/21				467	0.23			
SRFR21-037-512FR-28	1400/DFR11/21		T	21 HAA2	445	0.22	516	0.26	0.27
SRFR21-037-512FR-29	1401/DFR11/21				468	0.23			
SRFR21-037-512FR-30	1376/DFR11/21				635	0.32			
SRFR21-037-512FR-37	1383/DFR11/21			3 DAA2	207	0.10	243	0.12	0.13
SRFR21-037-512FR-38	1384/DFR11/21				398	0.20			
SRFR21-037-512FR-39	1385/DFR11/21				125	0.06			
SRFR21-037-512FR-40	1386/DFR11/21			5 DAA2	100	0.05	182	0.09	0.09
SRFR21-037-512FR-41	1387/DFR11/21				435	0.22			
SRFR21-037-512FR-42	1388/DFR11/21				12	0.01			
SRFR21-037-512FR-43	1412/DFR11/21			7 DAA2	83	0.04	77	0.04	0.04
SRFR21-037-512FR-44	1413/DFR11/21				108	0.05			
SRFR21-037-512FR-45	1415/DFR11/21				42	0.02			
SRFR21-037-512FR-46	1373/DFR11/21		U	14 DAA2	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-47	1374/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-48	1375/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-55	1421/DFR11/21		T		13	0.006	6.1	0.003	0.003
SRFR21-037-512FR-56	1422/DFR11/21				2.1	0.001			
SRFR21-037-512FR-57	1423/DFR11/21				3.4	0.002			

T - treated plot; U - untreated plot; DBA - days before application; DAA - days after aplication; LOQ - limit of quantification (2.0 µg/L; 0,001 µg/cm^2).

* Values corrected taking into account the overall recovery of the field fortification samples of this trial (96.5 %).

** When one replicate is < LOQ, the LOQ value is used as default value for calculating the mean.

Table 7 - Summary of results for Folpet from trial SRFR21-037-512FR-Northern France.

Syntech Sample Code	LabRP Sample Code	Specimen	Plot	Days	Prothioconazole (µg/L)	Prothioconazole (µg/cm2)	Mean Prothioconazole ** (µg/L)	Mean Prothioconazole ** (µg/cm2)	Corrected Mean Prothioconazole* (µg/cm2)
SRFR21-037-512FR-01	1367/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-02	1368/DFR11/21		U		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-03	1369/DFR11/21			0 DBA1	< LOQ	< LOQ			
SRFR21-037-512FR-10	1370/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-11	1371/DFR11/21				< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-12	1372/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-13	1408/DFR11/21				177	0.09			
SRFR21-037-512FR-14	1409/DFR11/21			0 DAA1	215	0.11	192	0.10	0.10
SRFR21-037-512FR-15	1410/DFR11/21				185	0.09			
SRFR21-037-512FR-22	1394/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-23	1395/DFR11/21			0 DBA2	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-24	1396/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-25	1397/DFR11/21				264	0.13			
SRFR21-037-512FR-26	1398/DFR11/21			0 DAA2	236	0.12	245	0.12	0.13
SRFR21-037-512FR-27	1399/DFR11/21				234	0.12			
SRFR21-037-512FR-28	1400/DFR11/21		T		99	0.05			
SRFR21-037-512FR-29	1401/DFR11/21	Leaf disc wash		24 HAA2	111	0.06	109	0.05	0.06
SRFR21-037-512FR-30	1376/DFR11/21				117	0.06			
SRFR21-037-512FR-37	1383/DFR11/21				14	0.007			
SRFR21-037-512FR-38	1384/DFR11/21			3 DAA2	23	0.012	16	0.008	0.008
SRFR21-037-512FR-39	1385/DFR11/21				9.5	0.005			
SRFR21-037-512FR-40	1386/DFR11/21				4.2	0.002			
SRFR21-037-512FR-41	1387/DFR11/21			5 DAA2	2.0	0.001	2.7	0.001	0.001
SRFR21-037-512FR-42	1388/DFR11/21				2.0	0.001			
SRFR21-037-512FR-43	1412/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-44	1413/DFR11/21			7 DAA2	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-45	1415/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-46	1373/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-47	1374/DFR11/21		U		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-48	1375/DFR11/21			14 DAA2	< LOQ	< LOQ			
SRFR21-037-512FR-55	1421/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-56	1422/DFR11/21		T		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-57	1423/DFR11/21				< LOQ	< LOQ			

T - treated plot; U - untreated plot; DBA - days before application; DAA - days after aplication; LOQ - limit of quantification (2.0 µg/L; 0,001 µg/cm²).

* Values corrected taking into account the overall recovery of the field fortification samples of this trial (95.4 %).

** When one replicate is < LOQ, the LOQ value is used as default value for calculating the mean.

Table 8 - Summary of results for Prothioconazole from trial SRFR21-037-512FR-Northern France.

Syntech Sample Code	LabRP Sample Code	Specimen	Plot	Days	Prothioconazole-desthio (µg/L)	Prothioconazole-desthio (µg/cm2)	Mean Prothioconazole-desthio ** (µg/L)	Mean Prothioconazole-desthio** (µg/cm2)	Corrected Mean Prothioconazole-desthio* (µg/cm2)
SRFR21-037-512FR-01	1367/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-02	1368/DFR11/21		U		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-03	1369/DFR11/21			0 DBA1	< LOQ	< LOQ			
SRFR21-037-512FR-10	1370/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-11	1371/DFR11/21				< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-12	1372/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-13	1408/DFR11/21				19	0.01			
SRFR21-037-512FR-14	1409/DFR11/21			0 DAA1	23	0.01	22	0.01	0.01
SRFR21-037-512FR-15	1410/DFR11/21				25	0.01			
SRFR21-037-512FR-22	1394/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-23	1395/DFR11/21			0 DBA2	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-24	1396/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-25	1397/DFR11/21				29	0.01			
SRFR21-037-512FR-26	1398/DFR11/21			0 DAA2	22	0.01	24	0.01	0.01
SRFR21-037-512FR-27	1399/DFR11/21				21	0.01			
SRFR21-037-512FR-28	1400/DFR11/21		T		35	0.02			
SRFR21-037-512FR-29	1401/DFR11/21	Leaf disc wash		24 HAA2	39	0.02	38	0.02	0.02
SRFR21-037-512FR-30	1376/DFR11/21				40	0.02			
SRFR21-037-512FR-37	1383/DFR11/21				13	0.007			
SRFR21-037-512FR-38	1384/DFR11/21			3 DAA2	9.5	0.005	10	0.005	0.005
SRFR21-037-512FR-39	1385/DFR11/21				8.0	0.004			
SRFR21-037-512FR-40	1386/DFR11/21				4.8	0.002			
SRFR21-037-512FR-41	1387/DFR11/21			5 DAA2	2.0	0.001	2.9	0.001	0.001
SRFR21-037-512FR-42	1388/DFR11/21				2.0	0.001			
SRFR21-037-512FR-43	1412/DFR11/21				2.0	0.000			
SRFR21-037-512FR-44	1413/DFR11/21			7 DAA2	2.0	0.001	2.1	0.001	0.001
SRFR21-037-512FR-45	1415/DFR11/21				2.2	0.001			
SRFR21-037-512FR-46	1373/DFR11/21				< LOQ	< LOQ			
SRFR21-037-512FR-47	1374/DFR11/21		U		< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
SRFR21-037-512FR-48	1375/DFR11/21			14 DAA2	< LOQ	< LOQ			
SRFR21-037-512FR-55	1421/DFR11/21				6.8	0.003			
SRFR21-037-512FR-56	1422/DFR11/21		T		5.4	0.003	5.7	0.003	0.003
SRFR21-037-512FR-57	1423/DFR11/21				5.1	0.003			

T - treated plot; U - untreated plot; DBA - days before application; DAA - days after aplication; LOQ - limit of quantification (2.0 µg/L; 0,001 µg/cm²).

* Values corrected taking into account the overall recovery of the field fortification samples of this trial (98.7 %).

** When one replicate is < LOQ, the LOQ value is used as default value for calculating the mean.

Table 9 - Summary of results for Prothioconazole-desthio from trial SRFR21-037-512FR-Northern France.

CONCLUSION

An analytical method validated under the scope of this study was used to determine the magnitude of prothioconazole, prothioconazole-desthio and folpet in dislodgeable foliar residues in cereals leaves generated under SynTech Research study 512SRES21X04. For this purpose, leaf disc wash solutions and leaf disc wash field fortified solutions were analysed for residues of prothioconazole, prothioconazole-desthio and folpet.
The results of the field recovery tests demonstrated that the residues protioconazole, protioconazole-desthio and folpet in cereals leaf disc wash solutions are stable under field, storage and transport conditions and also during the experimental work performed in this study.

The performance of the analytical method was demonstrated by recovery tests injected concurrently with the samples. The results achieved fulfill with the criteria set on SANTE/2020/12830 Rev 1.
All the analytical work has been conducted in accordance with GLP principles.