FINAL REGISTRATION REPORT

Part B

Section 5

Analytical Methods

Detailed summary of the risk assessment

Product code: SHA 076127 A

Product name(s): PROSIM

Chemical active substances:

Propamocarb hydrochloride, 400 g/L
Cymoxanil, 50 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(authorization)

Applicant: Sharda Cropchem España S.L.

Submission date: October 2020

Update date: January 2023

Finalisation date: 12/2022; 03/2023

Version history

When	What
12/2022	RMS finalised the dRR assesment
January 2023	Applicant update
March 2023	Final registration report

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5 Analytical methods

5.1 Conclusion and summary of assessment

Sufficiently sensitive and selective analytical methods are available for the active substance(s) and relevant impurities in the plant protection product.
Noticed data gaps are:

- none

Sufficiently sensitive and selective analytical methods are available for all analytes included in the residue definitions.
Noticed data gaps are:
Propamocarb

- According to the Regulation No. 283/2013 an analytical method for the determination of residues in body fluids and tissues for enforcement/monitoring purposes is required (post registration requirement).

Cymoxanil

- ~~The Applicant is required to complete the methods, in Table 5.3-2 for group of high starch content matrices (potato), with the limit of quantification of 0.01 mg/kg (before registration).~~ A new method provided by the Applicant was evaluated. However, according to current requirements, ILV for this method must also be provided. This requirement can be considered as a post-registration requirement.
- According to the Regulation No. 283/2013 an analytical method for the determination of residues in body fluids and tissues for enforcement/monitoring purposes is required (post registration requirement).

Commodity/crop	Supported/ Not supported
High starch content (Potato)	Supported/

5.2 Methods used for the generation of pre-authorization data (KCP 5.1)

5.2.1 Analysis of the plant protection product (KCP 5.1.1)

5.2.1.1 Determination of active substance and/or variant in the plant protection product (KCP 5.1.1)

An overview on the acceptable methods and possible data gaps for analysis of Propamocarb and Cymoxanil in plant protection product is provided as follows:

Comments of zRMS:	The proposed analytical method is suitable for the simultaneous determination of active substances propamocarb hydrochloride and cymoxanil in plant protection product PROSIM. The proposed analytical method has been fully validated in terms of specificity, linearity, repeatability, and accuracy. Proposed method fulfils the requirements of SANCO/3030/99 rev.4 and SANCO/3030/99 rev.5 guidance. The validation of the analytical method has been accepted.

Reference:	KCP 5.1.1
Report	Propamocarb 40% + Cymoxanil 5% SC: analysis of active substance content and physicochemical properties of initial preparation and preparation after accelerated storage procedure, Marta Michalec-Minch, 2018, report No. 109/2018
Guidelines:	SANCO/3030/99 rev. 4
Deviations:	No
GLP:	Yes
Acceptability:	Yes

Materials and methods

Test Item

Name:	Propamocarb 40% + Cymoxanil 5% SC
Active substances:	propamocarb cymoxanil
CAS:	25606-41-1 57966-95-7
A.i. content:	40% 5%
Batch number:	SCL-64932
Date of expiry:	08/01/2020

Equipment:

- liquid chromatograph Dionex UtliMate 3000 with PAD detector (UV-Vis) and computer programme "CHROMELEON Version 6.80"
- chromatographic column: Kinetex C18 2,6 µm; 100 A, 100x4,6 mm for Propamocarb hydrochloride
  Synergi™ 4µm Hydro-RP; 80 A, 250x4,6 mm for Cymoxanil

Chromatographic conditions for Propamocarb:

Column:	Kinetex C18 2,6µm; 100A, 100x4,6mm
Column temperature	25°C
Flow rate:	0.5cm^3/min
Eluent:	70% ammonia solution: methanol (2:8) + 30% water + 0.1% phosphoric acid
Elution program:	isocratic
Injection volume:	20µL
Detector:	UV 210 nm
Run time:	6.5 minutes

Chromatographic conditions for Cymoxanil:

Column:	Synergi™ 4µm Hydro-RP; 80 A, 250x4,6 mm
Column temperature	30°C
Flow rate:	1.2cm^3/min
Eluent:	60% methanol + 40% water + 0.1% phosphoric acid
Elution program:	isocratic
Injection volume:	20µL
Detector:	UV 240 nm
Run time:	6 minutes

Validation - Results and discussions

Table 5.2-1: Methods suitable for the determination of Propamocarb and Cymoxanil in plant protection product Propamocarb 40% + Cymoxanil 5% SC

	Propamocarb	**Cymoxanil**
Author(s), year	Marta Michalec-Minch, 2018, report No. 109/2018	
Principle of method	HPLC-UV	
Linearity (linear between mg/L / % range of the declared content) (correlation coefficient, expressed as r)	Calibration equation: y = 0.0677 x - 2.3987 Correlation coeff. (R) = 1.000 Linear from 261 to 392 mg/L	Calibration equation: Y = 0.9528 x - 3.3828 Correlation coeff. (R) = ~~1.000~~ 0.9997 Linear from 28.40 to 42.50 mg/L
Precision – Repeatability Mean n = 7 (%RSD)	Reproductibility RSD = 0.24% Repeatability RSD = 0.47% The RSDr (Horwitz) = 1.54 Horrat value: 0.3	Reproductibility: RSD = 0.36% Repeatability: RSD = 1.50% The RSDr (Horwitz) = 2.10 Horrat value: 0.7
Accuracy n = 7 (% Recovery)	Low (conc. 80%) = 100.4% Medium (conc. 100%) = 101.0% High (conc. 120%) = 99.3%	Low (conc. 80%) = 100.6% Medium (conc. 100%) = 99.8% High (conc. 120%) = 102.0%
Interference/ Specificity	0.14% (test item) 0.11% (standard)	0.11% (test item) 0.08% (standard)
Comment	None	

Conclusion

According to SANCO/3030/99 rev. 4 method was successfully validated and is suitable for determination of propamocarb hydrochloride and cymoxanil content in the product Propamocarb 40% + Cymoxanil 5% SC.

5.2.1.2 Description of analytical methods for the determination of relevant impurities (KCP 5.1.1)

Not relevant.

5.2.1.3 Description of analytical methods for the determination of formulants (KCP 5.1.1)

Not relevant.

5.2.1.4 Applicability of existing CIPAC methods (KCP 5.1.1)

A CIPAC method No. 399 is available for Propamocarb
A CIPAC method No. 399.601 is available for Propamocarb hydrochloride.
A CIPAC method No. 419 is available for Cymoxanil.

5.2.2 Methods for the determination of residues (KCP 5.1.2)

Please refer to post registration methods.

5.3 Methods for post-authorization control and monitoring purposes (KCP 5.2)

5.3.1 Analysis of the plant protection product (KCP 5.2)

Analytical methods for the determination of the active substance and relevant impurities in the plant protection product shall be submitted, unless the applicant shows that these methods already submitted in accordance with the requirements set out in point 5.2.1 can be applied.

5.3.2 Description of analytical methods for the determination of residues Propamocarb (KCP 5.2)

5.3.2.1 Overview of residue definitions and levels for which compliance is required

Compared to the residue definition proposed in the Draft Assessment Report (incl. its addenda) the current legal residue definition is identical.

Table 5.3-1: Relevant residue definitions for monitoring/enforcement and levels for which compliance is required

Matrix	Residue definition	MRL / limit	Reference for MRL/level Remarks
Plant, high water content	Sum of propamocarb and its salts, expressed as propamocarb	0.01 mg/kg	Regulation (EU) No. 2020/856
Plant, high acid content		0.01 mg/kg	Regulation (EU) No. 2020/856
Plant, high protein/high starch content (dry commodities)		0.01 mg/kg	Regulation (EU) No. 2020/856
Plant, high oil content		0.01 mg/kg	Regulation (EU) No. 2020/856
Plant, difficult matrices (hops, spices, tea)		0.05 mg/kg	Regulation (EU) No. 2020/856
Muscle	Ruminant and pigs: N-oxide propamocarb Poultry and eggs: N-desmethyl propamocarb	0.01 mg/kg	Regulation (EU) No. 2020/856
Milk		0.01 mg/kg	Regulation (EU) No. 2020/856
Eggs		0.05 mg/kg	Regulation (EU) No. 2020/856
Fat		0.01 mg/kg	Regulation (EU) No. 2020/856
Liver, kidney		0.02 mg/kg	Regulation (EU) No. 2020/856
Soil (Ecotoxicology)	Propamocarb and its salts, expressed as propamocarb	0.05 mg/kg	common limit

Matrix	Residue definition	MRL / limit	Reference for MRL/level Remarks
Drinking water (Human toxicology)	Propamocarb and its salts, expressed as propamocarb	0.1 µg/L	general limit for drinking water
Surface water (Ecotoxicology)	Propamocarb and its salts, expressed as propamocarb	> 6300 µg/L	Lowest NOEC from aquatic toxicity study on *Lepomis macrochirus*
Air	Propamocarb and its salts, expressed as propamocarb	87 µg/m^3	AOEL sys: 0.29 mg/kg bw/d
Tissue (meat or liver)	No residue definition is needed	Not required	not classified as T / T+
Body fluids		Not required	not classified as T / T+

5.3.2.2 Description of analytical methods for the determination of residues in plant matrices (KCP 5.2)

An overview on the acceptable methods and possible data gaps for analysis of Propamocarb in plant matrices is given in the following tables.

Table 5.3-2: Validated methods for food and feed of plant origin (required for all matrix types, "difficult" matrix only when indicated by intended GAP)

Component of residue definition: Sum of propamocarb and its salts, expressed as propamocarb				
Matrix type	**Method type**	**Method LOQ**	**Principle of method (i.e. GC-MS or HPLC-UV)**	**Author(s), year / missing / EU agreed**
High water content	Primary	0.01 mg/kg	HPLC-MS/MS	P. Mende, 2001 Report No. 20003024/01-RVP DAR, Ireland, 2005 EU Agreed
	ILV	0.01 mg/kg	HPLC-MS/MS	A. Wrede, 2001 Report No. 01F086 DAR, Ireland, 2005 EU Agreed
	Confirmatory (if required)	0.01 mg/kg	HPLC-MS/MS	P. Mende, 2001 Report No. 20003024/01-RVP DAR, Ireland, 2005 EU Agreed
High protein/high starch content (dry)	Primary	0.01 mg/kg	HPLC-MS/MS	O. Pigeon, 2001 Report No. CHIMAC-AGRIPHAR/RE PROPAMOCARB/2001
	ILV	0.01 mg/kg	HPLC-MS/MS	L. Roland, 2003 Report No. 5-CAPROPV02/03 DAR, Ireland, 2005
	Confirmatory (if required)	0.01 mg/kg	HPLC-MS/MS	O. Pigeon, 2001 Report No. CHIMAC-AGRIPHAR/RE PROPAMOCARB/2001

Table 5.3-3: Statement on extraction efficiency

	Method for products of plant origin
Not required, because:	Residues ≥ LOQ are not expected.

zRMS:
As the commodity under consideration belongs to high starch content group, zRMS concluded that sufficient validated analytical methods are available to monitor the residues of propamocarb at the validated LOQ level of 0.01 mg/kg. Confirmatory and ILV methods are available.

5.3.2.3 Description of analytical methods for the determination of residues in animal matrices (KCP 5.2)

Not relevant.

5.3.2.4 Description of methods for the analysis of soil (KCP 5.2)

An overview on the acceptable methods and possible data gaps for analysis of propamocarb in soil is given in the following tables.

Table 5.3-4: Validated methods for soil (if appropriate)

Component of residue definition: Sum of propamocarb and its salts, expressed as propamocarb			
Method type	**Method LOQ**	**Principle of method (*i.e.* GC-MS or HPLC-UV)**	**Author(s), year / missing**
Primary	0.02 mg/kg	HPLC-MS/MS	P. Mende, 2002 Report No. 20001397/01-RVS DAR, Ireland, 2005 EU Agreed
Confirmatory	0.02 mg/kg	HPLC-MS/MS	P. Mende, 2002 Report No. 20001397/01-RVS DAR, Ireland, 2005 EU Agreed
Primary	0.02 mg/kg	HPLC-MS/MS	R. de Vries, 1997 Report No. 174904 DAR, Ireland, 2005 EU Agreed
Confirmatory	0.02 mg/kg	HPLC-MS/MS	R. de Vries, 1997 Report No. 174904 DAR, Ireland, 2005 EU Agreed

5.3.2.5 Description of methods for the analysis of water (KCP 5.2)

An overview on the acceptable methods and possible data gaps for analysis of propamocarb in surface and drinking water is given in the following tables.

zRMS:
For drinking water or groundwater the limit of quantification must meet 0.1 µg/L (SANTE/2020/12830, Rev.1; 24. February 2021). LOQ of methods for drinking water is 0.05 µg/L (Wrede, 2001; Vries, 1997). Therefore the method Wrede, 2001 and Vries, 1997 meet this requirement.

Table 5.3-5: Validated methods for water (if appropriate)

Component of residue definition: Sum of propamocarb and its salts, expressed as propamocarb				
Matrix type	**Method type**	**Method LOQ**	**Principle of method (i.e. GC-MS or HPLC-UV)**	**Author(s), year / missing**
Drinking water	Primary	~~0.5 µg/L~~ 0.05 µg/L	HPLC-MS/MS	A. Wrede, 2001 Report No. EM F06/00-0 DAR, Ireland, 2005 EU Agreed
	ILV	~~0.5 µg/L~~ 0.05 µg/L	HPLC-MS/MS	R. de Vries, 1997 Report No. 173598 DAR, Ireland, 2005 EU Agreed
	Confirmatory	~~0.5 µg/L~~ 0.05 µg/L	HPLC-MS/MS	A. Wrede, 2001 Report No. EM F06/00-0 DAR, Ireland, 2005 EU Agreed
Surface water	Primary	~~0.5 µg/L~~ 0.05 µg/L	HPLC-MS/MS	A. Wrede, 2001 Report No. EM F06/00-0 DAR, Ireland, 2005 EU Agreed
	Confirmatory	~~0.5 µg/L~~ 0.05 µg/L	HPLC-MS/MS	A. Wrede, 2001 Report No. EM F06/00-0 DAR, Ireland, 2005 EU Agreed

5.3.2.6 Description of methods for the analysis of air (KCP 5.2)

An overview on the acceptable methods and possible data gaps for analysis of propamocarb in air is given in the following tables.

Table 5.3-6: Validated methods for air (if appropriate)

Component of residue definition: Sum of propamocarb and its salts, expressed as propamocarb			
Method type	**Method LOQ**	**Principle of method (i.e. GC-MS or HPLC-UV)**	**Author(s), year / missing**
Primary	9 µg/m^3	LC-MS/MS	T. Class, 2004 Report No. C 042611 DAR, Ireland, 2005 EU Agreed
Confirmatory	-	-	LC-MS/MS is highly selective method therefore

Component of residue definition: Sum of propamocarb and its salts, expressed as propamocarb			
Method type	**Method LOQ**	**Principle of method (i.e. GC-MS or HPLC-UV)**	**Author(s), year / missing**
			no other confirmatory method is required.
Primary	0.4 µg/m^3	GC-MS/MS	R. de Vries, 1997 Report No. 174915 DAR, Ireland, 2005 EU Agreed
Confirmatory	-	-	GC-MS/MS is highly selective method therefore no other confirmatory method is required.

5.3.2.7 Description of methods for the analysis of body fluids and tissues (KCP 5.2)

Not required as Propamocarb is not classified as toxic or very toxic.

zRMS:
According to the Regulation No. 283/2013 an analytical method for the determination of residues in body fluids and tissues for enforcement/monitoring purposes is required (data gap).

5.3.2.8 Other studies/ information

No new or additional studies have been submitted.

5.3.3 Description of analytical methods for the determination of residues Cymoxanil (KCP 5.2)

5.3.3.1 Overview of residue definitions and levels for which compliance is required

Compared to the residue definition proposed in the Draft Assessment Report (incl. its addenda) the current legal residue definition is identical.

Table 5.3-7: Relevant residue definitions for monitoring/enforcement and levels for which compliance is required

Matrix	Residue definition	MRL / limit	Reference for MRL/level Remarks
Plant, high water content	Cymoxanil	0.01 mg/kg	Regulation (EU) No. 2018/832 Reg. (EU) 2022/1363 applies from 25 February 2023
Plant, high acid content		0.01 mg/kg	Regulation (EU) No. 2018/832 Reg. (EU) 2022/1363 applies from 25 February 2023

Matrix	Residue definition	MRL / limit	Reference for MRL/level Remarks
Plant, high protein/high starch content (dry commodities)		0.01 mg/kg	Regulation (EU) No. 2018/832 Reg. (EU) 2022/1363 applies from 25 February 2023
Plant, high oil content		0.01 mg/kg	Regulation (EU) No. 2018/832 Reg. (EU) 2022/1363 applies from 25 February 2023
Plant, difficult matrices (hops, spices, tea)		0.1 mg/kg	Regulation (EU) No. 2018/832 Reg. (EU) 2022/1363 applies from 25 February 2023
Muscle	Cymoxanil	0.01 mg/kg	Regulation (EU) No. 2018/832 Reg. (EU) 2022/1363 applies from 25 February 2023
Milk		0.01 mg/kg	Regulation (EU) No. 2018/832 Reg. (EU) 2022/1363 applies from 25 February 2023
Eggs		0.01 mg/kg	Regulation (EU) No. 2018/832 Reg. (EU) 2022/1363 applies from 25 February 2023
Fat		0.01 mg/kg	Regulation (EU) No. 2018/832 Reg. (EU) 2022/1363 applies from 25 February 2023
Liver, kidney		0.01 mg/kg	Regulation (EU) No. 2018/832 Reg. (EU) 2022/1363 applies from 25 February 2023
Soil (Ecotoxicology)	Cymoxanil	0.05 mg/kg	common limit
Drinking water (Human toxicology)	Cymoxanil and IN-KQ960	0.1 µg/L	general limit for drinking water
Surface water (Ecotoxicology)	Cymoxanil and IN-KQ960	44 µg/L	Lowest NOEC from aquatic toxicity study on *Oncorhynchus mykiss*
Air	Cymoxanil	3 µg/m^3	AOEL sys: 0.01 mg/kg bw/d
Tissue (meat or liver)	No residue definition is needed	Not required	not classified as T / T+
Body fluids		Not required	not classified as T / T+

5.3.3.2 Description of analytical methods for the determination of residues in plant matrices (KCP 5.2)

An overview on the acceptable methods and possible data gaps for analysis of Propamocarb in plant matrices is given in the following tables.

zRMS:
According to the EFSA Journal 2015;13(12):4355 multi-residue QuEChERS method is applicable for the determination of cymoxanil. The LC-MS/MS analyses cymoxanil residues in high water, high acid content and dry commodities with an LOQ of 0.01 mg/kg (CEN, 2008). The Applicant is required to complete the methods, in Table 5.3-2 for group of high starch content matrices (potato), with the limit of quantification of 0.01 mg/kg (before registration).
A new method provided by the Applicant was evaluated. However, according to current requirements, ILV for this method must also be provided. This requirement can be considered as a post-registration requirement.

Table 5.3-8: Validated methods for food and feed of plant origin (required for all matrix types, "difficult" matrix only when indicated by intended GAP)

Component of residue definition: Cymoxanil				
Matrix type	**Method type**	**Method LOQ**	**Principle of method (i.e. GC-MS or HPLC-UV)**	**Author(s), year / missing / EU agreed**
High water content	Primary	0.04 mg/kg	GC-NPD	T. Class, S. Kretschmer, 1999 Report No. DuPont-2158 DAR, Austria, 2007 EU Agreed
	ILV	0.04 mg/kg	GC-NPD	M. Linkerhagner, 1999 Report No. DuPont Report No. 2946 DAR, Austria, 2007 EU Agreed
	Confirmatory (if required)	0.04 mg/kg	GC-MS/MS	T. Class, S. Kretschmer, 1999 Report No. DuPont-2946 DAR, Austria, 2007 EU Agreed
High protein/high starch content (dry)	Primary	0.04 mg/kg	GC-NPD	T. Class, S. Kretschmer, 1999 Report No. DuPont-2158 DAR, Austria, 2007 EU Agreed
	ILV	0.04 mg/kg	GC-NPD	M. Linkerhagner, 1999 Report No. DuPont Report No. 2946 DAR, Austria, 2007 EU Agreed
	Confirmatory (if required)	0.04 mg/kg	GC-MS/MS	T. Class, S. Kretschmer, 1999 Report No. DuPont-2946 DAR, Austria, 2007 EU Agreed
	Primary	0.01 mg/kg	LC-MS/MS	KCP 5.2.1.1 D. Gąszczyk, 2022 Report No. PW-2022-01
	Confirmatory	-	-	LC-MS/MS is highly selective

Component of residue definition: Cymoxanil				
Matrix type	**Method type**	**Method LOQ**	**Principle of method (i.e. GC-MS or HPLC-UV)**	**Author(s), year / missing / EU agreed**
	(if required)			method therefore no confirmatory method is required.

Table 5.3-9: Statement on extraction efficiency

	Method for products of plant origin
Not required, because:	Residues ≥ LOQ are not expected.

5.3.3.3 Description of analytical methods for the determination of residues in animal matrices (KCP 5.2)

Not relevant.

5.3.3.4 Description of methods for the analysis of soil (KCP 5.2)

An overview on the acceptable methods and possible data gaps for analysis of propamocarb in soil is given in the following tables.

Table 5.3-10: Validated methods for soil (if appropriate)

Component of residue definition: Cymoxanil			
Method type	**Method LOQ**	**Principle of method (*i.e.* GC-MS or HPLC-UV)**	**Author(s), year / missing**
Primary	0.01 mg/kg	HPLC – UV	T. Melkebeke, 2000 Report No. 281802 DAR, Austria, 2007 EU Agreed
Confirmatory	0.01 mg/kg	HPLC – DAD	T. Melkebeke, 2000 Report No. 281802 DAR, Austria, 2007 EU Agreed

5.3.3.5 Description of methods for the analysis of water (KCP 5.2)

An overview on the acceptable methods and possible data gaps for analysis of propamocarb in surface and drinking water is given in the following tables.

Table 5.3-11: Validated methods for water (if appropriate)

Component of residue definition: Cymoxanil				
Matrix type	**Method type**	**Method LOQ**	**Principle of method (i.e. GC-MS or HPLC-UV)**	**Author(s), year / missing**
Drinking water	Primary	0.1 µg/L	HPLC-UV	M. E. Y. Cabusas, 1999 Report No. DuPont-2126 DAR, Austria, 2007 EU Agreed
	ILV	-	-	Not provided during EU review.
	Confirmatory	0.1 µg/L	HPLC-UV	M. E. Y. Cabusas, 1999 Report No. DuPont-2126 DAR, Austria, 2007 EU Agreed
Surface water	Primary	0.1 µg/L	HPLC-UV	M. E. Y. Cabusas, 1999 Report No. DuPont-2126 DAR, Austria, 2007 EU Agreed
	Confirmatory	0.1 µg/L	HPLC-UV	M. E. Y. Cabusas, 1999 Report No. DuPont-2126 DAR, Austria, 2007 EU Agreed

5.3.3.6 Description of methods for the analysis of air (KCP 5.2)

An overview on the acceptable methods and possible data gaps for analysis of propamocarb in air is given in the following tables.

Table 5.3-12: Validated methods for air (if appropriate)

Component of residue definition: Cymoxanil			
Method type	**Method LOQ**	**Principle of method (i.e. GC-MS or HPLC-UV)**	**Author(s), year / missing**
Primary	0.46 µg/m^3	HPLC-UV	T. Melkebeke, 2000 Report No. 257805 DAR, Austria, 2007 EU Agreed
Confirmatory	0.46 µg/m^3	HPLC-UV	T. Melkebeke, 2000 Report No. 257805 DAR, Austria, 2007 EU Agreed

5.3.3.7 Description of methods for the analysis of body fluids and tissues (KCP 5.2)

Not required as Cymoxanil is not classified as toxic or very toxic.

zRMS: According to the Regulation No. 283/2013 an analytical method for the determination of residues in body fluids and tissues for enforcement/monitoring purposes is required (post registration require-

ment).

5.3.3.8 Other studies/ information

No new or additional studies have been submitted.

Appendix 1 Lists of data considered in support of the evaluation

Tables considered not relevant can be deleted as appropriate.

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

List of data submitted by the applicant and relied on

Data point	**Author(s)**	**Year**	**Title** **Company Report No.** **Source (where different from company)** **GLP or GEP status** **Published or not**	**Vertebrate study Y/N**	**Owner**
KCP 5.1.1	Marta Michalec-Minch	2018	Propamocarb 40% + Cymoxanil 5% SC Analysis of active substance content and physicochemical properties of intial preparation and preparation after accelerated storage procedure Institute of Heavy Organic Synthesis report No. 109/2018 GLP Unpublished	N	SHARDA Cropchem Limited
KCP 5.2.1.1	D. Gąszczyk	2022	Validation of method for determination of Propamocarb and Cymoxanil by Liquid Chromatography (LC-MS/MS). Ferico Report No. PW-2020-01 GLP Unpublished	N	SHARDA Cropchem Limited

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

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

The following tables are to be completed by MS

List of data submitted by the applicant and not relied on

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

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

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

Appendix 2 Detailed evaluation of submitted analytical methods

A 2.1 Analytical methods for Propamocarb

A 2.1.1 Methods used for the generation of pre-authorization data (KCP 5.1)

No new or additional studies have been submitted

A 2.1.2 Methods for post-authorization control and monitoring purposes (KCP 5.2)

A 2.1.2.1 Description of analytical methods for the determination of residues in plant matrices (KCP 5.2)

No new or additional studies have been submitted

A 2.1.2.2 Description of analytical methods for the determination of residues in animal matrices (KCP 5.2)

No new or additional studies have been submitted

A 2.1.2.3 Description of Methods for the Analysis of Soil (KCP 5.2)

No new or additional studies have been submitted

A 2.1.2.4 Description of Methods for the Analysis of Water (KCP 5.2)

No new or additional studies have been submitted

A 2.1.2.5 Description of Methods for the Analysis of Air (KCP 5.2)

No new or additional studies have been submitted

A 2.1.2.6 Description of Methods for the Analysis of Body Fluids and Tissues (KCP 5.2)

No new or additional studies have been submitted

A 2.1.2.7 A.2.A.9 Other Studies/ Information

No new or additional studies have been submitted

A 2.2 Analytical methods for Cymoxanil

A 2.2.1 Methods used for the generation of pre-authorization data (KCP 5.1)

No new or additional studies have been submitted

A 2.2.2 Methods for post-authorization control and monitoring purposes (KCP 5.2)

A 2.2.2.1 Description of analytical methods for the determination of residues in plant matrices (KCP 5.2)

~~No new or additional studies have been submitted~~

A 2.2.2.1.1 Analytical method 1

A 2.2.2.1.1.1 Method validation

Comments of zRMS:	Method is acceptable

Reference:	KCP 5.2.1.1
Report	Validation of method for determination of Propamocarb and Cymoxanil by Liquid Chromatography (LC-MS/MS). D. Gąszczyk, 2022, Report No. PW-2022-01
Guideline(s):	SANTE/2020/12830, Rev. 1
Deviations:	No
GLP:	Yes
Acceptability:	Yes

Materials and methods

Preparation of samples for validation
Untreated homogeneous matrix samples were weight at 10 g into a 50 mL centrifuge tube. Spiking solution was added and then 10 mL of acetonitrile was added to reach the final volume of 10 mL. The tube was closed and shaken vigorously by hand in room temperature for 1 min to 3 min. Then the buffer salt mixture (Quechers) was added and samples were shaken vigorously for 5 min using shaker and centrifuged for 5 min at 5500 rpm. After this time 0.5 mL of sample and 10 µL of TPP was transferred into Eppendorf tube. Samples were diluted to the final volume of 1 mL by water containing 5 mM ammonium formate and 0.1% of formic acid. Prepared samples were filtered with 0.22 µm PTFE into the injection vial for LC-MS/MS.

Results and discussions

Table A 1: Recovery results from method validation of Cymoxanil and Propamocarb using the analytical method

Matrix	Analyte	Fortification level (mg/kg) (*n* = 6)	Mean recovery (%)	RSD (%)	Comments
Potato	Propamocarb	0.01	96.62	0.23	
		0.1	98.69	1.69	
		0.01	95.10	0.33	
		0.1	101.78	1.57	
	Cymoxanil	0.01	110.11	0.20	
		0.1	103.23	2.95	
		0.01	109.09	0.23	
		0.1	104.64	3.97	

Table A 2: Characteristics for the analytical method used for validation of Propamocarb and Cymoxanil residues in potato

	Propamocarb	Cymoxanil
Specificity	Response <30% of LOQ. The method is specific	Response <30% of LOQ. The method is specific
Calibration (type, number of data points)	First mass transition y=0.8897x+0.0022 R^2=0.9937 Second mass transition y=0.2167x+0.00093702 R^2=0.9920	First mass transition 0.003 mg/kg to 2 mg/kg y=0.3653x-0.0027 R^2=0.9969 Second mass transition y=0.0816x-0.00062836 R^2=0.9963
Assessment of matrix effects is presented	Yes	Yes
Limit of determination/quantification	LOQ = 0.01 mg/kg LOD = 0.003 mg/kg	LOQ = 0.01 mg/kg LOD = 0.003 mg/kg

Conclusion

According to SANTE/2020/12830, Rev. 1 the method was accurately validated and is suitable for determination of residues of propamocarb and cymoxanil in potato.

A 2.2.2.2 Description of analytical methods for the determination of residues in animal matrices (KCP 5.2)

No new or additional studies have been submitted

A 2.2.2.3 Description of Methods for the Analysis of Soil (KCP 5.2)

No new or additional studies have been submitted

A 2.2.2.4 Description of Methods for the Analysis of Water (KCP 5.2)

No new or additional studies have been submitted

A 2.2.2.5 Description of Methods for the Analysis of Air (KCP 5.2)

No new or additional studies have been submitted

A 2.2.2.6 Description of Methods for the Analysis of Body Fluids and Tissues (KCP 5.2)

No new or additional studies have been submitted

A 2.2.2.7 A.2.A.9 Other Studies/ Information

No new or additional studies have been submitted