

FINAL REGISTRATION REPORT

Part B

Section 6

Mammalian Toxicology

Detailed summary of the risk assessment

Product code: SHA 126000 B

Product name(s): CLARA

Chemical active substance:

Chloromequat chloride, 720 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(authorization)

Applicant: Sharda Cropchem Ltd.

Submission date: February 2022

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Version history

When	What
March 2023	ZRM's evaluated dRR submitted by Applicant.
October 2023	The Final Registration Report

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6 Mammalian Toxicology (KCP 7)

6.1 Summary

Table 6.1-1: Information on SHA 126000 B / CLARA*

Product name and code	SHA 126000 B / CLARA
Formulation type	Soluble concentrate [Code: SL]
Active substance(s) (incl. content)	Chlormequat chloride; 720 g/L
Function	Plant growth regulator
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 SHA 126000 B / CLARA 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 SHA 126000 B / CLARA according to Regulation (EC) No 1272/2008

Hazard class(es), categories	Acute Tox., 4
Hazard pictograms or Code(s) for hazard pictogram(s)	GHS07
Signal word	Warning
Hazard statement(s)	H302
Precautionary statement(s)	P264, P270, P280, P301 + P312, P330, P501
Additional labelling phrases	To avoid risks to man and the environment, comply with the instructions for use. [EUH401]

Table 6.1-3: Summary of risk assessment for operators, workers, residents and bystanders for SHA 126000 B / CLARA

	Result	PPE / Risk mitigation measures
Operators	Acceptable	Work wear (arms, body and legs covered) M/L and A + gloves during M/L
Workers	Acceptable	Work wear (arms, body and legs covered)
Residents	Acceptable	None
Bystanders	Acceptable	None

No unacceptable risk for workers, residents and bystanders was identified when the product is used as

intended. No specific PPE is necessary.

No unacceptable risk for operators 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			
			Method / Kind (incl. application technique ***)	Max. number (min. interval between applications) a) per use b) per crop/season	Max. application rate kg as/ha a) a.s. 1 b) a.s. 2	Water L/ha min / max					PHI (d)	Remarks: (e.g. safener/synergist (L/ha)) critical gap for operator, worker, resident or bystander exposure based on [Exposure model]	Operator	Worker
1	Winter wheat (BBCH 29-32)	F	Spraying, LCTM	a)1 b)1	a) 1.51	200-300				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				

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

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

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

Explanation for column 10 "Acceptability of exposure assessment"

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

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)

	Chlormequat chloride
Common Name	Chlormequat chloride
CAS-No.	999-81-5
Classification and proposed labelling	
With regard to toxicological endpoints (according to the	Hazard classes (s), categories: Acute Tox. 4 (oral), Acute Tox. 4 (dermal) Code(s) for hazard pictogram(s): GHS07

	Chlormequat chloride
criteria in Reg. 1272/2008, as amended)	Signal word: Warning Hazard statement(s): H302, H312
Additional C&L proposal	None
Agreed EU endpoints	
AOEL systemic	0.04 mg/kg bw/d
Reference	EFSA Scientific Report (2008) 179, 1-77
Conditions to take into account/critical areas of concern with regard to toxicology	
According to EFSA Scientific Report (2008) 179, 1-77 for Chlormequat	None

6.3 Toxicological Evaluation of Plant Protection Product

The assessment of acute toxicological properties (acute oral toxicity, acute inhalation toxicity, skin irritation, eye irritation and skin sensitisation) of Chlormequat chloride 72% SL are derived from the classification of the active compounds and co-formulants.

Justification for the proposed classification according to the Regulation (EC) No 1272/2008:

Full details of the calculation methodology, co-formulants and their volumes in the product can be found in an appendix to the confidential dossier of this submission (Registration Report, Part C).

Classification for Chlormequat chloride 72% SL was calculated based on classification of active ingredients and co-formulants, except for acute dermal toxicity. Based on those calculations for formulation and provided study, Chlormequat chloride 72% SL is classified as Acute Tox. 4 (oral).

A summary of the toxicological evaluation for SHA 126000 B / CLARA is given in the following tables. Full summary of acute dermal toxicity study on the product that has not been previously considered within an EU peer review process is described in detail in Appendix 2.

Table 6.3-1: Summary of evaluation of the acute dermal toxicity study for SHA 126000 B / CLARA

Type of test, species, model system (Guideline)	Result	Acceptability	Classification (acc. to the criteria in Reg. 1272/2008)	Reference
LD ₅₀ dermal, rat (OECD 402)	> 2000 mg/kg bw	Yes / No / Supplementary	None	C. C. Magar, 2018

Table 6.3-2: Additional toxicological information relevant for classification/labelling of SHA 126000 B / CLARA

	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)	Chlormequat chloride (72% (w/w))	H302, H312	Reg. 1272/2008	H302

	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)
for classification of product)				
Toxicological properties of non-active substance(s) (relevant for classification of product)	-	-	-	-
Further toxicological information	No data – not required			

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

** Material safety data sheet by the applicant

6.4 Toxicological Evaluation of Groundwater Metabolites

Not relevant, Chlormequat chloride doesn't produce soil metabolites.

6.5 Dermal Absorption (KCP 7.3)

A summary of the dermal absorption rates for the active substances in SHA 126000 B / CLARA are presented in the following table.

Table 6.5-1: Dermal absorption rates for active substances in SHA 126000 B / CLARA

	Chlormequat chloride	
	Value	Reference
Concentrate	4%	EFSA Scientific Report (2008) 179, 1-77
Dilution	4%	EFSA Scientific Report (2008) 179, 1-77

6.5.1 Justification for proposed values - Chlormequat chloride

Proposed dermal absorption rates for Chlormequat chloride are based on dermal absorption studies on a formulation similar to SHA 126000 B / CLARA. The study results are summarised in the following table.

Table 6.5-2: Summary of the results of submitted dermal absorption studies for Chlormequat chloride

Test	Concentrate	Spray dilution	Formulation in study	Acceptability of study	Justification provided on representativity of study formulation for current product	Acceptability of justification	Reference*
In-vivo (rat) 10 h exposure / 72 sacrifice	3.3% (7.5 mg/cm ²)	-	BAS 062 03 W (Chlormequat-chloride 750 g/L)	Yes	Similar formulation	Justification accepted. Endpoint can be used for current product	DAR of Chlormequat, Volume 3, Annex B, part 2/D, B.6, November 2007
In-vivo (rat) 10 h exposure / 72 sacrifice	-	2.2% (1 mg/cm ²)	BAS 062 03 W (Chlormequat-chloride 750 g/L)	Yes	Similar formulation	Justification accepted. Endpoint can be used for current product	DAR of Chlormequat, Volume 3, Annex B, part 2/D, B.6, November 2007
In-vivo (rat) 10 h exposure / 72 sacrifice	-	2.3% (0.1 mg/cm ²)	BAS 062 03 W (Chlormequat-chloride 750 g/L)	Yes	Similar formulation	Justification accepted. Endpoint can be used for current product	DAR of Chlormequat, Volume 3, Annex B, part 2/D, B.6, November 2007
In-vivo (rat) 24 h exposure / 24 sacrifice	3.5%	3.5%	BAS 062 03 W (Chlormequat-chloride 750 g/L)	Yes	Similar formulation	Justification accepted. Endpoint can be used for current product	DAR of Chlormequat, Volume 3, Annex B, part 2/D, B.6, November 2007

* indicates that a study was reviewed at EU level

Conclusion:

Based on the results of an in vivo test with rats performed with the formulation Chlormequat chloride 750 g/L, since water is the only co-formulant, the agreed dermal absorption values were 4% for both the concentrate and the field dilution.

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	SHA 126000 B / CLARA
Formulation type	SL
Category	Plant growth regulator
Active substance(s) (incl. content)	Chlormequat chloride 720 g/L

AOEL systemic	0.04 mg/kg bw/d
Inhalation absorption	100%
Oral absorption	100%
Dermal absorption	Concentrate: 4% Dilution: 4% (EU Agreed / Based on product BAS 062 03 W (Chlormequat-chloride 750 g/L))

6.6.1 Selection of critical use(s) and justification

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

Justification

There is only one intended GAP.

6.6.2 Operator exposure (KCP 7.2.1)

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 SHA 126000 B / CLARA according to the critical use(s) is presented in Table 6.6-2. The outcome of the estimation is presented in Table 6.6-3 (longer term exposure). Detailed calculations are in Appendix 3.

Table 6.6-2: Exposure models for intended uses

Critical use(s)	Winter wheat (max. 2.1 L product/ha)
Model(s)	Guidance on the assessment of exposure of operators, workers, residents and bystanders in risk assessment for plant protection products; EFSA Journal 2014;12(10):3874 calculator version: 30/03/2015

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

		Chlormequat chloride	
Model data	Level of PPE	Total absorbed dose (mg/kg/day)	% of systemic AOEL
Tractor mounted boom spray application outdoors to low crops (winter wheat)			
Application rate		1.51 kg a.s./ha	
Spray application (AOEM; 75 th percentile) Body weight: 60 kg	Potential exposure	0.1549	0.0119
	Work wear (arms, body and legs covered) M/L and A + gloves M/L	387	30

Conclusion

According to the EFSA AOEM Model, it can be concluded that the risk for operator is acceptable, using CLARA with tractor mounted spray application in winter wheat, with use of adequate work clothing and gloves during mixing and loading.

Implication for labelling: P280: Wear protective gloves, protective clothing.

6.6.2.2 Measurement of operator exposure

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

6.6.3 Worker exposure (KCP 7.2.3)

6.6.3.1 Estimation of worker exposure

Table 6.6-4 shows the exposure model(s) used for estimation of worker exposure after entry into a previously treated area or handling a crop treated with SHA 126000 B / CLARA according to the critical use(s). Outcome of the estimation is presented in Table 6.6-5 (longer term exposure). Detailed calculations are in Appendix 3.

Table 6.6-4: Exposure models for intended uses

Critical use(s)	Winter wheat (max. 1 x 2.1 L product/ha)
Model	Guidance on the assessment of exposure of operators, workers, residents and bystanders in risk assessment for plant protection products; EFSA Journal 2014;12(10):3874 calculator version: 30/03/2015

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

		Chlormequat chloride	
Model data	Level of PPE	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: 365 days			
Number of applications and application rate		1 x 1.51 kg a.s./ha	
Body weight: 60 kg	Potential TC: 12500 cm ² /person/h	0.0755	189
	Work wear (arms, body and legs covered) TC: 1400 cm ² /person/h	0.0085	21
	Work wear (arms, body and legs covered) and gloves TC: not available for this assessment	–	–

Conclusion

According to the EFSA AOEM Model, it can be concluded there is no unacceptable risk anticipated for the worker wearing adequate work clothing without gloves for inspection/irrigation activities for re-entering winter wheat treated with CLARA.

Implication for labelling: None

6.6.3.2 Refinement of generic DFR value (KCP 7.2)

Not required.

If no DFR data for the specific compound are available, a conservative default value for the DFR may be taken as 3 µg/cm² (30 mg a.s./m²).

6.6.3.3 Measurement of worker exposure

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

6.6.4 Resident and bystander exposure (KCP 7.2.2)

6.6.4.1 Estimation of resident and bystander exposure

The acute exposure assessment for bystanders covers the exposure that a resident could reasonably be expected to incur in a single day. Therefore, there is no need for a separate acute risk assessment for residents.

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

Table 6.6-6 shows the exposure model(s) used for estimation of resident and bystander exposure to Chlormequat chloride. The outcome of the estimation is presented in Table 6.6-7 (longer term resident exposure). Detailed calculations are in Appendix 3.

Table 6.6-6: Exposure models for intended uses

Critical use(s)	Winter wheat (max. 1 x 2.1 L product/ha)
Model	Guidance on the assessment of exposure of operators, workers, residents and bystanders in risk assessment for plant protection products; EFSA Journal 2014;12(10):3874 calculator version: 30/03/2015

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

		Chlormequat chloride	
Model data		Total absorbed dose (mg/kg bw/day)	% of systemic AOEL
Tractor mounted boom spray application outdoors to low crops (winter wheat) Buffer zone: 2-3(m) Drift reduction technology: no DT ₅₀ : 30 days DFR: 3 µg/cm ² /kg a.s./ha Interval between treatments: 365 days			
Number of applications and application rate		1 x 1.51 kg a.s./ha	
Resident child Body weight: 10 kg	Drift (75 th perc.)	0.0083	20.66
	Vapour (75 th perc.)	0.0011	2.68
	Deposits (75 th perc.)	0.0021	5.26
	Re-entry (75 th perc.)	0.0102	25.48
	Sum (mean)	0.0153	38.31
Resident adult Body weight: 60 kg	Drift (75 th perc.)	0.0020	4.88
	Vapour (75 th perc.)	0.0002	0.58
	Deposits (75 th perc.)	0.0004	1.03
	Re-entry (75 th perc.)	0.0057	14.16
	Sum (mean)	0.0060	14.95

Conclusion

According to the EFSA AOEM Model, it can be concluded that there is no undue risk to any bystander after accidental short-term exposure nor to any resident exposure to MEPCY.

Implication for labelling: None

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 Chlormequat chloride 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

Not relevant. The product contains only one active substance.

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 7.1.2	xxx	2018	Acute dermal toxicity study of Chlormequat chloride 72% SL in rat INTOX PVT. LTD., Report No.: R/16852/ADR/18 GLP, Unpublished	Y	Sharda Cropchem Limited

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

No additional study submitted.

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

Appendix 2 Detailed evaluation of the studies relied upon

A 2.1 Statement on bridging possibilities

Not relevant.

A 2.2 Acute oral toxicity (KCP 7.1.1)

Comments of zRMS:	According to the Regulation EC No. 1272/2008, Chlormequat chloride 72% SL is classified as Acute Toxicity Category 4 (oral) (H302) with pictogram GHS07 and signal word “Warning”.
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The classification of Chlormequat chloride 72% SL was performed by calculation. The assessment of acute toxicological properties (acute oral toxicity, acute inhalation toxicity, skin irritation, eye irritation and skin sensitisation) of Chlormequat chloride 72% SL is derived from the classification of the active compounds and co-formulants as shown below. For obvious confidentiality reasons, the names and percentages of co-formulants are disclosed in Part C:

Formulant	% of formulation	Acute Oral Toxicity	Acute Inhalation Toxicity	Dermal Irritation	Ocular Irritation	Sensitising potential
Chlormequat chloride technical (CAS: 999-81-5)	70.66	500 mg/kg ²⁾ H302	*	Not Irritating ¹⁾	Not Irritating ¹⁾	Not sensitising ¹⁾
Coformulant 1	xxx	>2000 mg/kg ¹⁾	*	Not Irritating ¹⁾	Not Irritating ¹⁾	Not sensitising ¹⁾

* No Information / but in their MSDS are not classified acutely inhalation toxic

¹⁾ As co-formulant is not classified

²⁾ According to the Regulation (EC) n°1272/2008, Oral: ATE = 500 mg/kg is used for the calculation for co-formulant classified as Acute Tox. 4: H302.

According to Regulation (EC) No 1272/2008 classification of mixtures based on ingredients of the mixture is determined by calculation from the ATE values:

$$\frac{100}{ATE_{mix}} = \sum_r \frac{C_i}{ATE_i}$$

or

$$\frac{100 - (\sum C_{unknown} \text{ if } > 10\%)}{ATE_{mix}} = \sum_r \frac{C_i}{ATE_i}$$

where:

C_i = concentration of ingredient i (% w/w or % v/v)

i = the individual ingredient from 1 to n

n = the number of ingredients

ATE_i = Acute Toxicity Estimate of ingredient i.

The acute oral toxicity classification for Chlormequat chloride 72% SL is calculated:

$$ATE_{mix} = \frac{100}{\sum_r \frac{C_i}{ATE_i}}$$

$$ATE_{mix} = \frac{100}{\frac{xxx}{500}} = 707.61 \text{ mg/kg bw}$$

The acute oral toxicity of Chlormequat chloride 72% SL was estimated to be < 2000 mg/kg.

Therefore, according to the Regulation EC No. 1272/2008, Chlormequat chloride 72% SL is classified as Acute Toxicity Category 4 (oral) (H302) with pictogram GHS07 and signal word “Warning”.

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

Comments of zRMS:	Under the experimental conditions, the dermal LD₅₀ of SHA 126000 B / CLARA is higher than 2000 mg/kg bw in rats. Thus, no classification is required according to Regulation (EC) No. 1272/2008.
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A 2.3.1 Study 1

Reference	KCP 7.1.2
Report	Acute dermal toxicity study of Chlormequat chloride 72% SL in rat, xxxxxxxx 2018, Report No.: R/16852/ADR/18
Guideline(s)	Yes, OECD No. 402
Deviations	No
GLP	Yes
Acceptability	Yes
Duplication (if vertebrate study)	No

Materials and methods

Test material (Lot/Batch No.)	SHA 126000 B / CLARA (Batch No.: SCL-27012)
Species	Rat, Wistar
No. of animals (group size)	1 female / group (dose range finding study) 2 females / group (main study)
Dose(s)	2000 mg/kg bw
Exposure	24 hours (dermal, semi-occlusive)
Vehicle/Dilution	None
Post exposure observation period	14 days
Remarks	None

Results and discussions

Table A 1: Results of acute dermal toxicity study in rats of SHA 126000 B / CLARA

Dose (mg/kg bw)	Toxicological results *	Duration of signs	Time of death	LD ₅₀ (mg/kg bw) (14 days)
Female rat				
2000	0/0/1	-	-	> 2000
Female rats				
2000	0/0/2	-	-	> 2000

* Number of animals which died/number of animals with clinical signs/number of animals used

Table A 2: Summary of findings of acute dermal toxicity study in rats of SHA 126000 B / CLARA

Mortality	No mortality occurred.
Clinical signs	No clinical signs of toxicity were observed.
Body weight	The body weight gain by the treated rats was not affected during the observation period.
Macroscopic examination	The necropsies performed at the end of the study revealed no apparent findings.

Conclusion

Under the experimental conditions, the dermal LD₅₀ of SHA 126000 B / CLARA 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:	According to the Regulation EC No. 1272/2008, Chlormequat chloride 72% SL is not classified. No signal word or hazard statement is required for this hazard.
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Neither the active substance nor co-formulant in the Chlormequat chloride 72% SL recipe are classified as danger through inhalation.

According to the Regulation EC No. 1272/2008, Chlormequat chloride 72% SL is **not classified**. No signal word or hazard statement is required for this hazard.

A 2.5 Skin irritation (KCP 7.1.4)

Comments of zRMS:	According to the Regulation EC No. 1272/2008, Chlormequat chloride 72% SL is not classified. No signal word or hazard statement is required for this hazard.
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Neither the active substance nor co-formulant in the Chlormequat chloride 72% SL recipe are classified as danger through skin contact.

According to the Regulation EC No. 1272/2008, Chlormequat chloride 72% SL is **not classified**. No signal word or hazard statement is required for this hazard.

A 2.6 Eye irritation (KCP 7.1.5)

Comments of zRMS:	According to the Regulation EC No. 1272/2008, Chlormequat chloride 72% SL is not classified. No signal word or hazard statement is required for this hazard
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Neither the active substance nor co-formulant in the Chlormequat chloride 72% SL recipe are classified as danger through eye contact.

According to the Regulation EC No. 1272/2008, Chlormequat chloride 72% SL is **not classified**. No signal word or hazard statement is required for this hazard.

A 2.7 Skin sensitisation (KCP 7.1.6)

Comments of zRMS:	According to the Regulation EC No. 1272/2008, Chlormequat chloride 72% SL is not classified. No signal word or hazard statement is required for this hazard.
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Neither the active substance nor co-formulant in the Chlormequat chloride 72% SL recipe are classified as skin sensitiser.

According to the Regulation EC No. 1272/2008, Chlormequat chloride 72% SL is **not classified**. No signal word or hazard statement is required for this hazard.

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

No supplementary studies are necessary.

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)

Chlormequat chloride

The dermal absorption value for soluble concentrate formulations as stated in the List of endpoints for Chlormequat chloride is based on a SL formulation containing 750 g/L Chlormequat chloride (BAS 062 03 W). The dermal absorption is 4% for a concentrate and 4% for a spray dilution.

According to EFSA guidance on dermal absorption (EFSA Journal 2017;15(6):4873 adopted: 24 May 2017) data on another (reference) formulation can be used if the formulation to be assessed is closely related.

This is the case for the formulation Chlormequat chloride 72% SL.

EU agreed endpoint can be used as BAS 062 03 W (Chlormequat-chloride 750 g/L) and Chlormequat chloride 72% SL are the same type of formulation, concentration in active substance is similar, main coformulant is water, and have similar dermal irritation and sensitization properties.

A 2.11 Other/Special Studies

No new additional other/special studies.

Appendix 3 Exposure calculations

A 3.1 Operator exposure calculations (KCP 7.2.1.1)

A 3.1.1 Calculations for Chlormequat chloride

Table A 3: Input parameters considered for the estimation of operator exposure

Formulation type	SL		Crop type	Winter wheat
Application rate (AR)	1.51	kg a.s./ha	Application method	Downward spraying
Area treated per day (A)	50	ha	Application equipment	Vehicle-mounted
Dermal absorption (DA)	4	% (concentr.)	Indoor/outdoor	Outdoor
	4	% (dilution)	Closed cabin	No
Inhalation absorption (IA)	100	%	Drift reduction	No
Body weight (BW)	60	kg/person	Cultivation	Normal
AOEL	0.04	mg/kg bw/d	Water soluble bag	No

Table A 4: Estimation of longer term operator exposure towards Chlormequat chloride according to EFSA guidance

	Potential		With work wear +PPE/RPE	
Mixing and loading				
<u>Hands</u>			Protective gloves	
Specific exposure value	5421.5053803	µg/person	22.9783110	µg/person
Systemic exposure	90.3584230	mg/kg bw/d	0.3829719	mg/kg bw/d
<u>Body</u>			Work wear	
Specific exposure value	2981.6402472	µg/person	43.9142865	µg/person
Systemic exposure	49.6940041	mg/kg bw/d	0.7319048	mg/kg bw/d
<u>Head</u>			None	
Specific exposure value	156.6884350	µg/person	156.6884350	µg/person
Systemic exposure	2.6114739	mg/kg bw/d	2.6114739	mg/kg bw/d
<u>Inhalation</u>			None	
Specific exposure value	13.4053147	µg/person	13.4053147	µg/person
Systemic exposure	0.2234219	mg/kg bw/d	0.2234219	mg/kg bw/d
Application				
<u>Hands</u>			None	
Specific exposure value	447.9366073	µg/person	447.9366073	µg/person
Systemic exposure	7.4656101	mg/kg bw/d	7.4656101	mg/kg bw/d
<u>Body</u>			Work wear	
Specific exposure value	250.4566676	µg/person	6.8704490	µg/person
Systemic exposure	4.1742778	mg/kg bw/d	0.1145075	mg/kg bw/d
<u>Head</u>			None	
Specific exposure value	11.8374402	µg/person	11.8374402	µg/person

Systemic exposure	0.1972907	mg/kg bw/d	0.1972907	mg/kg bw/d
<u>Inhalation</u>			None	
Specific exposure value	9.0373854	µg/person	9.0373854	µg/person
Systemic exposure	0.1506231	mg/kg bw/d	0.1506231	mg/kg bw/d
Total				
Total systemic exposure	0.1548751	mg/kg bw/d	0.0118778	mg/kg bw/d
% of AOEL	387.19	%	29.69	%

A 3.2 Worker exposure calculations (KCP 7.2.3.1)

A 3.2.1 Calculations for Chlormequat chloride

Table A 5: Input parameters considered for the estimation of worker exposure

Intended use(s)	Winter wheat, inspection, irrigation, outdoor		Dislodgeable foliar residue (DFR)	3	µg/cm ² /kg a.s./ha
Application rate (AR)	1.51	kg a.s./ha	Dermal absorption (DA)	4	% (worst case)
Number of applications (NA)	1		Inhalation absorption (IA)	100	%
Interval between applications	365	days	Work rate per day (WR)	2	h/d
Half-life of active substance	30	days	TC dermal (potential)	12500	cm ² /h
Multiple application factor (MAF)	1.0		TC dermal (work wear)	1400	cm ² /h
Body weight (BW)	60	kg/person	TC dermal (work wear, gloves)	-	cm ² /h
AOEL	0.04	mg/kg bw/d	Task specific factor inhalation	-	ha/h x 10 ⁻³

Table A 6: Estimation of longer term worker exposure towards Chlormequat chloride according to EFSA guidance

	Potential		With work wear		With work wear and gloves	
Worker (re-entry): Dermal exposure after application						
(DFR x TC x WR x AR x MAF x DA) / BW						
Systemic exposure	0.0755000	mg/kg bw/d	0.0084560	mg/kg bw/d	-	mg/kg bw/d
% of AOEL	188.75	%	21.14	%	-	%

A 3.3 Resident and bystander exposure calculations (KCP 7.2.2.1)

A 3.3.1 Calculations for Chlormequat chloride

Table A 7: Input parameters considered for the estimation of longer term resident exposure

Intended use(s)	Winter wheat, downward spraying		Drift reduction (DR)		%
Application rate (AR)	1.51	kg a.s./ha	Transfer coefficient surface deposits (TC)	7300	cm ² /h (adult)
				2600	cm ² /h (child)
Minimum water volume	200	L/ha	Drift on surface (D) - 75 th perc.	5.60	%

(V)					
Buffer strip	2-3	m	Drift on surface (D) - mean	4.10	%
Number of applications (NA)	1		Turf Transferable Residues (TTR)	5	%
Interval between applications	365	days	Exposure duration dermal (H _D)	2	h
Half-life of active substance	30	days	Exposure duration inhal. (H _I)	24	h
Multiple application factor (MAF)	1.0		Exposure duration entry into treated crops (H _E)	0.25	h
Body weight (BW)	60	kg/person (adults)	Airborne Concentration of Vapour (VC)	0.001	mg/m ³
	10	kg/person (children)			
Dermal absorption (DA)	4	% ('worst case')	Dislodgeable foliar residue (DFR)	3	µg/cm ² /kg a.s.
Inhalation absorption (IA)	100	%	Light clothing adjustment factor (CF)	18	%
Oral absorption (OA)	100	%	Saliva Extraction Factor (SE)	50	%
AOEL	0.04	mg/kg bw/d	Surface Area of Hands (SA)	20	cm ²
Spray drift dermal (SD) - 75 th perc.	0.47	mL spray dilution (adult)	Frequency of Hand to Mouth (Freq)	20	events/h
	0.327	mL spray dilution (child)			
Spray drift inhal. (SI) - 75 th perc.	0.00010	mL spray dilution (adult)	Dislodgeable residues object to mouth (DR _{OM})	20	%
	0.00022	mL spray dilution (child)			
Spray drift dermal (SD) - mean	0.22318	mL spray dilution (adult)	Ingestion Rate for Mouthing of Grass (IgR)	25	cm ² /d
	0.18	mL spray dilution (child)			
Spray drift inhal. (SD) - mean	0.00009	mL spray dilution (adult)	TC entry into treated crops - 75 th perc.	7500	cm ² /h (adult)
	0.00017	mL spray dilution (child)		2250	cm ² /h (child)
Inhalation rate (IR)	16.57	m ³ /d (adult)	TC entry into treated crops - mean:	5980	cm ² /h (adult)
	8.31	m ³ /d (child)		1794	cm ² /h (child)

Table A 8: Estimation of longer term resident exposure towards Chlormequat chloride according to EFSA guidance

Adult			Child		
Spray drift (75th perc.)					
$(SD \times DA \times (1 - CF) + SI) \times AR \times MAF \times V \times DR / BW$					
Systemic exposure	0.0019524	mg/kg bw/d	Systemic exposure	0.0082639	mg/kg bw/d
% of AOEL:	4.88	%	% of AOEL:	20.66	%
Vapour (75th perc.)					
$(VC \times IR \times IA) / BW$					
Systemic exposure	0.0002300	mg/kg bw/d	Systemic exposure	0.0010700	mg/kg bw/d
% of AOEL:	0.58	%	% of AOEL:	2.68	%
Surface deposits (75th perc.)					
Dermal					

AR x MAF x D x TTR x TC x H _D x DA / BW							
Systemic exposure	0.0004115	mg/kg bw/d	Systemic exposure	0.0008794	mg/kg bw/d		
Hand to mouth							
AR x MAF x D x TTR x SE x SA x Freq x H _D x OA / BW							
			Systemic exposure	0.0008033	mg/kg bw/d		
Object to mouth							
AR x MAF x D x DR _{OM} x IgR x OA / BW							
			Systemic exposure	0.0004228	mg/kg bw/d		
Total							
Systemic exposure	0.0004115	mg/kg bw/d	Systemic exposure	0.0021055	mg/kg bw/d		
% of AOEL:	1.03	%	% of AOEL:	5.26	%		
Entry into treated crops (75 th perc.)							
Dermal							
AR x MAF x TC x H _D x DFR x DA / BW							
Systemic exposure	0.0056625	mg/kg bw/d	Systemic exposure	0.0101925	mg/kg bw/d		
Hand to mouth							
AR x MAF x 100% x TTR x SE x SA x Freq x H _D x OA / BW							
			Systemic exposure		mg/kg bw/d		
Object to mouth							
AR x MAF x 100% x DR _{OM} x IgR x OA / BW							
			Systemic exposure		mg/kg bw/d		
Total							
Systemic exposure	0.0056625	mg/kg bw/d	Systemic exposure	0.0101925	mg/kg bw/d		
% of AOEL:	14.16	%	% of AOEL:	25.48	%		
All pathways (mean)							
Systemic exposure		0.0059787	mg/kg bw/d	Systemic exposure		0.0153242	mg/kg bw/d
% of AOEL:	14.95	%	% of AOEL:		38.31	%	

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

Not relevant.