REGISTRATION REPORT

**Part B**

**Section 6**

**Mammalian Toxicology**

Detailed summary of the risk assessment

Product code: CA3573

Product name(s): Carnadine/Kestrel

Chemical active substance:

Acetamiprid, 200 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

(Re-authorisation acc. to Art. 43)

Applicant: Nufarm Europe GmbH

Submission date: July 2020

MS Finalisation date: November 2020 (initial Core Assessment)

November 2021, January 2022 (final Core Assessment)

# Version history

| When | What |
|---|---|
| July 2020 | Version 1.0 (application) |
| November 2020 | Evaluation by the zRMS (re-authorization)<br>The report in the dRR format has been prepared by the Applicant (new data relied on by the applicant but not previously evaluated at EU peer review has been highlighted in yellow), 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~~. |
| November 2021 | Final report (Core Assessment updated following the commenting period).<br>Additional information/assessments included by the zRMS in the report in response to comments recieved from the cMS and the Applicant are highlighted in green. |
| January 2022 | Final report (Core Assessment after additional round of the commenting period)<br>No additional information or assessments after the commenting period. |

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**Reviewer's comments:**

Conclusions from the assessment were prepared using grey commenting boxes. Rewording changes or text amendments were done using grey highlights in the text. The parts of the text added by the zRMS evaluator are highlighted in grey, whereas the parts struck off are ~~visibly marked with the grey font~~. All data and information assessed during the EU re-evaluation of acetamipride is considered EU peer-reviewed data. New data relied on by the applicant but not previously evaluated at EU peer review has been highlighted in yellow (new data).
Text in green shading has been adjusted, as appropriate, in response to the comments made in the reporting table.
For the current submission in the context of art. 43; Reg. 1107/2009, data for plant protection product CA3573/Carnadine/Kestrel has been reviewed by the zRMS PL to reflect changes and updates resulting from renewal of the approval of acetamipride as active substance in accordance with Regulation (EC) No 1107/2009 (*EFSA (European Food Safety Authority), 2016. Conclusion on the peer review of the pesticide risk assessment of the active substance acetamiprid. EFSA Journal 2016;14(11):4610, 26 pp. doi:10.2903/j.efsa.2016.4610).*

**Note:** After the commenting period the RMS for acetamiprid (NL) informed Polish authorities that although in the data matching table for acetamiprid of June 2021 (and also of December 2020) it was concluded that the data matching was shown sufficiently by Nufarm GmbH & Co. KG, there was a mistake made by the RMS and the conclusion has to be amended since Nufarm needs to show the access to the study on oral developmental toxicity by Nemec (2008), which was used to derive the toxicological reference values and for this reason should have been considered necessary for the active substance renewal.
According to indications of SANTE/2016/11449 (rev 1.5 of October 2021), submission of evidence on ongoing negotiations and steps taken to get access to the vertebrate study are sufficient to conclude matching of the vertebrate data. In support of the zonal evaluation of CA3573, Nufarm submitted copies of the correspondence with the acetamiprid authorisation holder showing that negotiations on the access to the study by Nemec (2008) are ongoing. In addition to that it has to be noted that in line with Article 62 of Regulation (EC) No 1107/2009, the MS authority may use the vertebrate study in evaluation of the application of the prospective Applicant (here: Nufarm) also in case when no agreement with the authorisation holder is reached. Taking this into account, the endpoint from the study may be conditionally used in evaluation performed in area of the toxicology section, even before the agreement between the two companies is reached.

# 6 Mammalian Toxicology (KCP 7)

Please note:

This application is for CA3573 with the trade name Carnadine or Kestrel (Acetamiprid 200 SL) by Nufarm GmbH & Co.KG. The product was formerly owned by Adama Makhteshim Ltd. under the product code MCW-2222. The two products are identical. Therefore all studies conducted with MCW-2222 can be used for CA3573, without any restrictions. Further details are given in Part C.

The information of this dRR was already evaluated for the 1st notification of MCW-2222. To facilitate the evaluation all changes compared to the 1st evaluation are highlighted in yellow. Changes which are based on the new format are not highlighted in yellow.

## 6.1 Summary

**Table 6.1-1: Information on CA 3573/Acetamiprid 200 SL (Carnadine / Kestrel)**

| | |
|---|---|
| Product name and code | Acetamiprid 200 SL / CA 3573 |
| Formulation type | SL |
| Active substance(s) (incl. content) | Acetamiprid (200 g/L) |
| Function | Insecticide |
| 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 | Yes<br>PL: Kestrel 200 SL (authorization no. 106/2018), |

| | |
|---|---|
| | PL: Carnadine 200 SL (reg No R-157/2018),<br>SK: Carnadine (authorization no. 19-00504-AU) |

* Information on the detailed composition of CA 3573/Acetamiprid 200 SL 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 CA 3573/Acetamiprid 200 SL according to Regulation (EC) No 1272/2008**

| | |
|---|---|
| Hazard class(es), categories: | Oral 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, P301 + P312, P330, P501 |
| Additional labelling phrases: | To avoid risks to man and the environment, comply with the instructions for use. [EUH401] |
| | 16.73 and 22.01% of the mixture consist of ingredients of unknown inhalation toxicity. All ingredients of the mixture are of unknown respiratory sensitization. |

* Acetamiprid is classified as oral acute tox 4 with acute toxicity range from > 300 and ≤ 2000 mg/kg bw (acute toxicity point estimate 500 mg/kg bw). We have, however, used acute toxicity point estimate of 301 (lower limit of the specified range) for classification of product toxicity since acute oral toxicity study with the product itself results in similar classification.

**Table 6.1-3: Summary of risk assessment for operators, workers, bystanders and residents for CA 3573/Acetamiprid 200 SL**

| | Result | PPE / Risk mitigation measures |
|---|---|---|
| Operators | Acceptable | Oilseed rape: Gloves during mixing/loading and application<br>Apples: Gloves during mixing/loading and application ~~(with application rate: 1 x 0.050 kg a.s./ha and an interval of 365 days and dermal absorption 31%)~~ |
| Workers | Acceptable | Oilseed rape: None<br>Apples: None |
| Bystanders | Acceptable | None |
| Residents | Acceptable | None |

No unacceptable risk for operators, workers, bystanders and residents was identified when the product is used as intended and provided that the PPE/ risk mitigation measures stated in * Acetamiprid is classified as oral acute tox 4 with acute toxicity range from > 300 and ≤ 2000 mg/kg bw (acute toxicity point estimate 500 mg/kg bw). We have, however, used acute toxicity point estimate of 301 (lower limit of the specified range) for classification of product toxicity since acute oral toxicity study with the product itself results in similar classification.

Table 6.1-3 are applied.

A summary of the critical uses and the overall conclusion regarding exposure for operators, workers and bystanders/residents 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, bystander or resident 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 kg as/ha a) a.s. 1 b) a.s. 2** | **Water L/ha min / max** | | | **Operator** | **Worker** | **Bystander** | **Residents** |
| 7 | Spring oil seed rape (BBCH 31-59) | F | Foliar Spraying, overall | 1 ; ~~365~~ | a) 0.060<br>b) 0.060 | 200 - 400 | 28 | EFSA Model | R | A | A | A |
| 2 | Apple (BBCH 69-PHI) | F | Foliar Spraying, overall | 1 ; ~~365~~ | a) 0.05<br>b) 0.05 | 500 - 900 | 14 | EFSA Model | R | A | A | A |

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

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

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

Explanation for column 10 “Acceptability of exposure assessment”:

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

## Data gaps

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**

| | **Acetamiprid** |
|---|---|
| Common Name | Acetamiprid |
| CAS-No. | 135410-20-7 |
| **Classification and proposed labelling** | |
| With regard to toxicological endpoints (according to the criteria in Reg. 1272/2008, as amended) | Hazard classes (s), categories: Acute oral toxicity 4<br>Code(s) for hazard pictogram(s): GHS07<br>Signal word: Warning<br>Hazard statement(s): H302 Harmful if swallowed<br>Precautionary statement(s): P264, P270, P301+P312, P330, P501 |
| Additional C&L proposal | EUH210 - Safety data sheet available on request.<br>EUH401 - To avoid risks to human health and the environment, comply with the instructions for use. |
| AOEL systemic | 0.025 mg/kg bw/d (based on rat, developmental neurotoxicity study; ~~not corrected for oral absorption, calculated with~~ uncertainity factor of 100) |
| AAOEL systemic | 0.025 mg/kg bw/d (based on rat, developmental neurotoxicity study; ~~not corrected for oral absorption, calculated with~~ uncertainity factor of 100) |
| Reference | EFSA Conclusion, 2016 *(EFSA Journal 2016;14(11):4610)* |
| Review Report for active substance | Member states shall pay particular attention to the risk of operators |

## 6.3 Toxicological Evaluation of Plant Protection Product

**Reviewer's comments:**

~~For the current submission in the context of art. 43; Reg. 1107/2009, APPL provided an assessment of the toxicological potential based on calculation method (ATEmix). ZRMS PL, in accordance with the EC recommendations to avoid tests on animals, for the purposes of hazard classification use the data obtained using the calculation method and do not request for *in vivo* data.~~
~~Since in the dRR also available already existing *in vivo* studies which has been evaluated and accepted during first registration of the product, ZRMS believes that other EU-countries might be willing to see the reports that are available (if the classification based on them is different from the one obtained by calculation).~~

To avoid misunderstanding regarding hazard classification, ZRMS confirms that for the purposes of product classification, results (end-points) obtained from of the existing *in vivo* studies has been took into account for the hazard assessment. Mentioned above *in vivo* studies has been approved during the first registration.
By accepting the already existing animal studies, to identification of effects following a single exposure to the plant protection product can be established. The data is sufficient to indicate the time course and characteristics of the effect with full details of behavioral changes and possible gross pathological findings at post-mortem.
Note:
There is no duplication of vertebrate studies. The testing strategy takes into account methods compliant with the 3R concept for refinement, reduction and replacement of animal testing where applicable and acceptable.

A summary of the toxicological evaluation for CA 3573/Acetamiprid 200 SL 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. Since the studies were conducted after June 2011 acute endpoints are also calculated, calculations are provided in Part C and the results of the calculations

are presented additionally in Table 6.3-1.

**Table 6.3-1: Summary of evaluation of the studies on acute toxicity including irritancy and skin sensitisation for CA 3573/Acetamiprid 200 SL**

| Type of test, species, model system (Guideline) | Result | Acceptability | Classification (acc. to the criteria in Reg. 1272/2008) | Reference |
|---|---|---|---|---|
| $LD_{50}$ oral, rat (OECD 423) | >300 and <2000 mg/kg bw Cut-off: 500 mg/kg bw | Yes, accepted during first autorisation* | Category 4 (H302) | KCP 7.1.1/01 xxx, xxx. (2013), Report No. R-31123 |
| ~~$LD_{50}$ oral, calculation~~ | ~~1710 mg/kg bw~~ | ~~Yes~~ | ~~Category 4 (H302)~~ | ~~Calculations are provided in Part C~~ |
| $LD_{50}$ dermal, rat (OECD 402) | >2000 mg/kg bw | Yes, accepted during first autorisation* | None | KCP 7.1.2/01 xxx, xxx. (2013), Report No. R-31124 |
| ~~$LD_{50}$ dermal, calculation~~ | ~~>2000 mg/kg bw~~ | ~~Yes~~ | ~~Not classified~~ | ~~Calculations are provided in Part C~~ |
| $LC_{50}$ inhalation, rat (OECD 403) | >5.16 mg/L air | Yes, accepted during first autorisation* | None | KCP 7.1.3/01 xxx, xxx. (2013), Report No. R-31125 |
| ~~$LC_{50}$ inhalation, calculation~~ | ~~Not classified~~ | ~~Yes~~ | ~~Not classified~~ | ~~Calculations are provided in Part C~~ |
| Skin irritation, human epidermis (OECD 439) | Non-irritant | Yes, accepted during first autorisation* | None | KCP 7.1.4/01 Kiss, I. (2013), Report No. R-31126 |
| Skin irritation, rabbit (OECD 404) | Non-irritant | Yes, accepted during first autorisation* | None | KCP 7.1.4/02 Xxx xxx (2013), Report No. R-31126A |
| ~~Skin irritation, calculation~~ | ~~Non-Irritant~~ | ~~Yes~~ | ~~None~~ | ~~Calculations are provided in Part C~~ |
| Eye irritation, isolated chicken eyes (OECD 438) | Slight irritant | Yes, accepted during first autorisation* | According to the guideline OECD 438, the product does not require a classification as a severe eye irritant. An *in vivo* study is required for classification. | KCP 7.1.5/01 Kiss, I. (2013), Report No. R-31127 |
| Eye irritation, rabbits (OECD 405) | Non-Irritant | Yes, accepted during first autorisation* | None | KCP 7.1.5/02 xxx, xxx. (2013), Report No. R-31127A |
| ~~Eye irritation, calculation~~ | ~~Non-Irritant~~ | ~~Yes~~ | ~~None~~ | ~~Calculations are provided in Part C~~ |
| Skin sensitisation, mouse (OECD 429, LLNA) | Non-sensitising | Yes, accepted during first autorisation* | None | KCP 7.1.6/01 xxx, xxx., 2013, Report No. R-31128 |
| ~~Skin sensitisation, calculation~~ | ~~Non-sensitising~~ | ~~Yes~~ | ~~None~~ | ~~Calculations are provided in Part C~~ |
| Supplementary studies for combinations of plant protection products | No data – not required | | - | - |

***** all existing *in vivo* studies has been evaluated and positively accepted during first authorization of the product, thus ZRMS PL do not provided new assessment for the purpose current submission in the context of art. 43; Reg. 1107/2009.

**Table 6.3-2: Additional toxicological information relevant for classification/labelling of CA 3573/Acetamiprid 200 SL**

| | **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) | active substance (acetamiprid 17.61% (w/w)) | None | N.a. | N.a. |
| Toxicological properties of non-active substance(s) (relevant for classification of product) | No data – not required | | | |
| 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

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 CA3573/Acetamiprid 200 SL are presented in the following table.

**Table 6.5-1: Dermal absorption rates for active substances in CA3573/Acetamiprid 200 SL**

| **Acetamiprid 200 SL** | | | |
|---|---|---|---|
| | **Experimental** | | **EU agreed endpoint (EFSA Conclusion (2016)** |
| Concentrate 200 g/L | 4% | Recalculated dermal absorption values (according to EFSA Journal 2017;15(6):4873) of study reported in Appendix 2 | Not applicable. The product was not the representative formulation. |
| Dilution 0.035 g/L (Dilution rate 5714) | 31% | Recalculated dermal absorption values (according to EFSA Journal 2017;15(6):4873) of study reported in Appendix 2 | Not applicable. The product was not the representative formulation. |

### 6.5.1 Justification for proposed values – Acetamiprid 200 SL

Proposed dermal absorption rates for acetamiprid are based on dermal absorption studies on a formulation identical to CA3573/Acetamiprid 200 SL. The study results are summarized in the following table. Full summaries of studies on the dermal absorption of Acetamiprid 200 SL/CA3573 that have not previously been evaluated within an EU peer review process are described in detail in Appendix 2.

**Table 6.5-2: Summary of the results of submitted dermal absorption studies for Acetamiprid 200 SL**

| Test | Concentrate | Spray dilution (5714 dilution factor) | Formulation in study | Acceptability of study | Justification provided on representativity of study formulation for current product | Acceptability of justification | Reference* |
|---|---|---|---|---|---|---|---|
| *In vitro* (rat) | 11.9 ± 1.7% | 42.7 ± 5.6% | Acetamiprid 200 SL | Yes, accepted during first autorisation** | Yes (see Appendix A 2.10) | N/A | KCP 7.3/01 Rheus, A.A., 2013 |
| *In vitro* (human) | 3.4 ± 0.6% | 25.1 ± 5.9% | Acetamiprid 200 SL | Yes, accepted during first autorisation** | Yes (see Appendix A 2.10) | N/A | KCP 7.3/01 Rheus, A.A., 2013 |
| *In vitro* (human) | 4.03% | 30.51% | Acetamiprid 200 SL | Yes | Yes (see Appendix A 2.10) | Justification accepted. Endpoint can be used for current product | KCP 7.3/01 Rheus, A.A., 2013 Recalculated based on EFSA 2017 |

* Indicates that a study was reviewed at EU level

** studies has been evaluated and positively accepted during first authorization of the product. Due to this ZRMS do not evaluated these studies for the current renewal of the registration. Dermal absorption values obtained from the *in vitro* (Rheus, A.A., 2013) study has been recalculated in accordance with the current guidelines (2017) for the testing dermal absorption. This aproache has been accepted by the ZRMS PL.

## 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 | CA3573/Acetamiprid 200 SL |
| Formulation type | SL |
| Category | Insecticide |
| Container size(s), short description | Not applicable* |
| Active substance(s) (incl. content) | Acetamiprid 200 SL 200 g/L |
| AOEL systemic | 0.025 mg/kg bw/d |
| AAOEL systemic | 0.025 mg/kg bw/d |
| Inhalation absorption | 100% |
| Oral absorption | 100% |
| Dermal absorption | Concentrate: 4%**<br>Dilution: 31% (> 0.035 g/L, dilution rate: 1:5714)***<br>(based on product/formulation) |

* Information about containers is not needed anymore since exposure calculations are conducted only with the EFSA model.
** The dermal absorption value for the concentrate with 200 g/L was not pro rata corrected.
*** The dermal absorption value for spray dilutions higher than 0.035 g/L was not pro rata corrected.

### 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 Central zone is given in Part B, Section 0.

**Justification**

Spring oilseeds rape, with an application rate of 60 g/ha and a maximum application volume of 400 L/ha were selected for exposure assessment as they covered all other low crops (potatoes with 1 x 36 g/ha and corn with 1 x 60 g/ha) presented in the GAP. Apples, with a single application rate of 50 g/ha a maximum application volume of 900 L/ha were selected for exposure assessment as they represent the worst case scenario for operators, workers, bystanders and residents compared to the other uses in apples with lower application rates.

### 6.6.2 Operator exposure (KCP 7.2.1)

**Reviewer's comments:**

For the purposes of product re-registration, the applicant provided a new OPEX assessment calculated according to the AOEM model (EFSA calculator).
Based on this data zRMS identified safe use of CA3573 / Carnadine/Kestre (see GAP) to the operator, worker and bystander resulting from exposure to acetamipride. These data are accepted and sufficient for decision making and re-registration. Study meets the current data requirements Regulation (EU) No 284/2013.

#### 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 CA3573/Acetamiprid 200 SL according to the critical use(s) is presented in Table 6.6-2. Outcome of the estimation is presented in Table 6.6-3 and Table 6.6-4. Detailed calculations are in Appendix 3.

**Table 6.6-2: Exposure models for intended uses**

| | |
|---|---|
| Critical use(s) | Spring oilseed rape (max. 0.3 L/kg product/ha); Application rate: 1 x 0.06 kg a.s./ha and dermal absorption 31%<br>Apple (max. 0.25 L/kg product/ha) Application rate: 1 x 0.050 kg a.s./ha and dermal absorption 31% |
| Model | **New EFSA model** [Latest version: 30 Mar 2015 – Version produced to support guidance document published 23/10/2014] |

**Table 6.6-3: Estimated operator exposure - Long term**

| | | Acetamiprid | |
|---|---|---|---|
| **Model data** | **Level of PPE** | **Total absorbed dose (mg/kg/day)** | **% of systemic AOEL** |
| Vehicle mounted downward application on spring oilseed rape<br>Application rate: 1 x 0.06 kg a.s./ha and dermal absorption 31% | | | |
| **EFSA model**<br>Application volume 200 L/ha<br>Body weight: 60 kg | no PPE* | 0.0102 | 40.80 |
| | + Gloves mixing/loading | 0.0027 | 10.81 |
| | | | |
| Vehicle mounted upward application on apples<br>Application rate: 1 x 0.050 kg a.s./ha and dermal absorption 31% | | | |
| **EFSA model**<br>Application volume 500 L/ha<br>Body weight: 60 kg | no PPE* | 0.0130 | 52.13 |
| | + Gloves mixing/loading | 0.0111 | 44.60 |

* no PPE: Operator wearing Work wear - arms, body and legs covered

**Table 6.6-4: Estimated operator exposure - Acute**

| | | Acetamiprid | |
|---|---|---|---|
| **Model data** | **Level of PPE** | **Total absorbed dose (mg/kg/day)** | **% of systemic AAOEL** |
| Vehicle mounted downward application on spring oilseed rape<br>Application rate: 1 x 0.06 kg a.s./ha and dermal absorption 31% | | | |
| **EFSA model**<br>Application volume 200 L/ha<br>Body weight: 60 kg | no PPE* | 0.0561 | 224.39 |
| | + Gloves mixing/loading | 0.0286 | 114.33 |
| | + Gloves mixing/loading and application | 0.0217 | 86.74 |
| Vehicle mounted upward application on apples<br>Application rate: 1 x 0.050 kg a.s./ha and dermal absorption 31% | | | |
| **EFSA model**<br>Application volume 500 L/ha<br>Body weight: 60 kg | no PPE* | 0.0433 | 173.09 |
| | + Gloves mixing/loading | 0.0364 | 145.69 |
| | + Gloves mixing/loading and application | 0.0227 | 90.74 |

* Operator wearing Work wear - arms, body and legs covered

## 6.6.3 Measurement of operator exposure

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

## 6.6.4 Worker exposure (KCP 7.2.3)

### 6.6.4.1 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 CA3573/Acetamiprid 200 SL according to the critical use(s). Outcome of the estimation is presented in** Table 6.6-6 and Table 6.6-7. Detailed calculations are in Appendix 3.

**Table 6.6-5: Exposure models for intended uses**

| | |
|---|---|
| Critical use(s) | Spring oilseed rape (max. 0.3 L/kg product/ha); Application rate: 1 x 0.06 kg a.s./ha and dermal absorption 31%<br>Apple (max. 0.25 L/kg product/ha) Application rate: 1 x 0.050 kg a.s./ha and dermal absorption 31% |
| Model | **New EFSA model**<br>[Latest version: 30 Mar 2015 – Version produced to support guidance document published 23/10/2014] |

**Table 6.6-6: Estimated worker exposure - Default $DT_{50}$ and DFR**

| | | Acetamiprid | |
|---|---|---|---|
| **Model data** | **Level of PPE** | **Total absorbed dose (mg/kg/day)** | **% of systemic AOEL** |
| Vehicle mounted downward application on spring oilseed rape<br>Application rate: 1 x 0.06 kg a.s./ha and dermal absorption 31% | | | |
| 2 hours/day (1),<br>365 days interval<br>TC: 1400 $cm^2$/person/h (2)<br>Body weight: 60 kg | no PPE (3) | 0.0026 | 10.42 |
| | with PPE (4) | n.a. | n.a. |
| Vehicle mounted upward application on apples<br>Application rate: 1 x 0.050 kg a.s./ha and dermal absorption 31% | | | |
| 8 hours/day (1),<br>365 days interval<br>TC: 4500 $cm^2$/person/h (2)<br>Body weight: 60 kg | no PPE (3) | 0.0279 | 111.60 |
| | with PPE (4) | 0.0140 | 55.80 |

(1) 8 h/day or 2 h/day of working hours.
(2) No PPE: Work wear - arms, body and legs covered
(3) Work wear - arms, body and legs covered
(4) Working wear and gloves

### 6.6.4.2 Refinement of generic DFR value (KCP 7.2)

Worker exposure in apples only pass the exposure assessment when worker use gloves. Since in some countries it is not allowed to register a use where worker need to use gloves, refined calculations are now presented considering the DFR study (Wilson 2016). A magnitude of foliar dislodgeable residues dissipation on pome fruit in southern and central Europe (Spain, Italy and Czech republic) was carried out by Wilson (2016) (KCP/4.1.1/02, Appendix 4). The initial dislodgeable foliar residue (DFR) and the decline rate ($DT_{50}$) for Czech Republic were 1.813 µg/$cm^2$/kg a.s./ha and 3.72 days, respectively. These values were used for refinement of worker exposure (Table 6.6-7) The study is summarised in A 4.1.1.

**Table 6.6-7: Refined estimated worker exposure – apples ($DT_{50}$: 3.72 days and DFR: 1.813 µg/cm²/kg a.s./h**

| | | Acetamiprid | |
|---|---|---|---|
| **Model data** | **Level of PPE** | **Total absorbed dose (mg/kg/day)** | **% of systemic AOEL** |
| Vehicle mounted upward application on apples<br>Application rate: 1 x 0.050 kg a.s./ha and dermal absorption 31% | | | |
| 8 hours/day (1),<br>365 days interval<br>TC: 4500 cm²/person/h (2)<br>Body weight: 60 kg | no PPE (3) | 0.0169 | 67.44 |
| | with PPE (4) | 0.0084 | 33.72 |

### 6.6.4.3 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. For further information please refer to 6.6.4.2

## 6.6.5 Bystander and resident exposure (KCP 7.2.2)

### 6.6.5.1 Estimation of bystander and resident exposure

Table 6.6-8 shows the exposure model(s) used for estimation of bystander and resident exposure to CA 3573/Acetamiprid 200 SL. Outcome of the estimation is presented in
Table 6.6-9. Detailed calculations are in Appendix 3.

**Table 6.6-8: Exposure models for intended uses**

| | |
|---|---|
| Critical use(s) | Spring oilseed rape (max. 0.3 L/kg product/ha)<br>Apple (max. 1 x 0.25 L/kg product/ha) For bystanders and residents: 1 x 0.05 kg a.s./ha and dermal absorption 31% with 365 days interval. |
| Model | **New EFSA model**<br>[Latest version: 30 Mar 2015 – Version produced to support guidance document published 23/10/2014] |

**Table 6.6-9: Estimated bystander and resident exposure - Default $DT_{50}$ and DFR**

| | Acetamiprid | | |
|---|---|---|---|
| **Model data** | **Total absorbed dose (mg/kg/day)** | **% of systemic AOEL** | **% of systemic AAOEL** |
| Vehicle mounted downward application on spring oilseed rape<br>Application rate: 1 x 0.06 kg a.s./ha and dermal absorption 31% | | | |
| Bystanders (children)<br>Drift rate: 0.74% (0.0011 m)<br>Body weight: 10 kg | 0.0031 | 12.56 | - |
| Bystanders (adult)<br>Drift rate: 1.21% (0.0005 m)<br>Body weight: 60 kg | 0.0017 | 6.98 | - |
| Residents (children)<br>Drift rate: 0.327% (0.00022 m)<br>Body weight: 10 kg | 0.0052 | - | 20.74 |
| Residents (adult)<br>Drift rate: 0.47% (0.0001 m)<br>Body weight: 60 kg | 0.0020 | - | 7.99 |
| Vehicle mounted upward application on apples<br>Application rate: 1 x 0.05 kg a.s./ha and dermal absorption 31% ~~with 365 days interval~~ | | | |
| Bystanders (children)<br>Drift rate: 3.87 % (0.0035 m)<br>Body weight: 10 kg | 0.0026 | 10.46 | |
| Bystanders (adult)<br>Drift rate: 12.9 % (0.0044 m)<br>Body weight: 60 kg | 0.0015 | 5.81 | |
| Vehicle mounted upward application on apples<br>Application rate: 1 x 0.05 kg a.s./ha and dermal absorption 31% ~~with 365 days interval~~ | | | |
| Residents (children)<br>Drift rate: 1.689% (0.00164 m)<br>Body weight: 10 kg | 0.0062 | - | 24.67 |
| Residents (adult)<br>Drift rate: 5.63% (0.0021 m)<br>Body weight: 60 kg | 0.0030 | - | 12.08 |

### 6.6.5.2 Measurement of bystander and/or resident exposure

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

### 6.6.6 Combined exposure

Not relevant. The product contains only one active substance.

**Reference list**

EFSA, 2016: Conclusion on the peer review of the pesticide risk assessment of the active substance acetamiprid (EFSA Journal 2016;14(11):4610).

Netherlands, 2017: Renewal Assessment Report following the inclusion of the active substance in ANNEX I of Council Directive 91/414/EEC, December 2017

EFSA, 2017: Guidance on dermal absorption (EFSA Journal 2017;15(6):4873)

# 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<br>Company Report No.<br>Source (where different from company)<br>GLP or GEP status<br>Published or not | Vertebrate study Y/N | Owner |
|---|---|---|---|---|---|
| KCP 7.1.1/01 | xxx xxx. | 2013 | Acetamiprid 200 SL: Acute oral toxicity study in rats<br>R-31123<br>xxx<br>GLP<br>Unpublished | Y | Adama |
| KCP 7.1.2/01 | xxx xxx. | 2013 | Acetamiprid 200 SL: Acute dermal toxicity study in rats<br>R-31124<br>xxx<br>GLP<br>Unpublished | Y | Adama |
| KCP 7.1.3/01 | xxx xxx. | 2013 | Acetamiprid 200 SL: Acute inhalation toxicity study (Nose-only) in the rat<br>R-31125<br>Xxx, xxx<br>GLP<br>Unpublished | Y | Adama |
| KCP 7.1.4/01 | Kiss I. | 2013 | Acetamiprid 200 SL: *In vitro* skin irritation test in the EPISKIN model<br>R-31126<br>Source CiToxLAB Hungary Ltd<br>GLP<br>Unpublished | N | Adama |
| KCP 7.1.4/02 | xxx xxxx. | 2013 | Acetamiprid 200 SL: Acute skin irritation study in rabbits<br>R-31126A<br>xxx<br>GLP<br>Unpublished | Y | Adama |
| KCP 7.1.5/01 | Kiss I. | 2013 | Acetamiprid 200 SL: *In vitro* eye irritation test in isolated chicken eyes<br>R-31127<br>Source CiToxLAB Hungary Ltd | N | Adama |

| Data point | Author(s) | Year | Title<br>Company Report No.<br>Source (where different from company)<br>GLP or GEP status<br>Published or not | Vertebrate study Y/N | Owner |
|---|---|---|---|---|---|
| | | | GLP<br>Unpublished | | |
| KCP 7.1.5/02 | xxx xxx. | 2013 | Acetamiprid 200 SL: Acute eye irritation study in rabbits<br>R-31127A<br>xxxx<br>GLP<br>Unpublished | Y | Adama |
| KCP 7.1.6/01 | xxx, xxx. | 2013 | Skin sensitisation test: Local lymph node assay with Acetamiprid 200 SL<br>R-31128<br>xxx<br>GLP<br>Unpublished | Y | Adama |
| KCP 7.3/01 | Rheus, A.A. | 2013 | *In vitro* percutaneous absorption of Acetamiprid, formulated as Acetamiprid 200 SL, through human and rat skin<br>R-31287<br>Source TNO Triskelion<br>GLP<br>Unpublished | N | Adama |
| KCP 7.2/01 | Wilson, A. | 2016 | Acetamiprid foliar dislodgeable residues dissipation on pome fruit in southern and northern europe (Spain, Italy and Czech republic)<br>R-37353<br>Source AgroChemex International Ltd<br>GLP<br>Unpublished | N | Adama |

## 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<br>Company Report No.<br>Source (where different from company)<br>GLP or GEP status<br>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<br>Company Report No.<br>Source (where different from company)<br>GLP or GEP status<br>Published or not | Vertebrate study<br>Y/N | Owner |
|---|---|---|---|---|---|
| - | - | - | - | - | - |

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

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

# Appendix 2 Detailed evaluation of the studies relied upon

## A 2.1 Statement on bridging possibilities

| | |
|---|---|
| Comments of zRMS: | No remarks. |

CA3573 is the same product as MCW-2222. No bridging is needed for this submission.

## A 2.2 Acute oral toxicity (KCP 7.1.1)

| | |
|---|---|
| Comments of zRMS: | This study was previously reviewed in the original dRR and therefore the zRMS did not re-evaluate the study. The study was considered acceptable. |

| | |
|---|---|
| Reference: | KCP 7.1.1/01 |
| Report | Acetamiprid 200 SL: Acute oral toxicity study in rats, xxx xxx., 2013, Report No. R-31123, Study No.12/445-001P |
| Guideline(s): | OECD 423; Commission regulation (EC) NO 440/2008, B.1.TRIS; EPA OPPTS 870.1100 |
| Deviations: | Yes, the temperature was below the normal range (min 18.1 °C) |
| GLP: | Yes |
| Acceptability: | Yes |
| Duplication (if vertebrate study) | No |

### Materials and methods

| | |
|---|---|
| **Test material (Lot/Batch No.)** | MCW-2222/Acetamiprid 200 SL 201.8 g/L (Lot/Batch No. 577-271212-02) |
| **Species** | Rat, CRL:(WI) |
| **No. of animals (group size)** | 5 rats/sex |
| **Dose(s)** | 2000, 300 mg/kg bw |
| **Exposure** | Once by gavage |
| **Vehicle/Dilution** | Polyethylene glycol (PEG 400) |
| **Post exposure observation period** | 14 days |
| **Remarks** | None |

### Results and discussions

**Table A1: Results of acute oral toxicity study in rats of MCW-2222/Acetamiprid 200 SL**

| Dose (mg/kg bw) | Toxicological results * | Duration of signs | Time of death | $LD_{50}$ (mg/kg bw) (14 days) |
|---|---|---|---|---|
| Male rats | | | | |
| - | - | - | - | - |
| Female rats | | | | |
| 2000 | 3/3/3 | Day 0 | Day 0 | < 2000 |

| Dose (mg/kg bw) | Toxicological results * | Duration of signs | Time of death | $LD_{50}$ (mg/kg bw) (14 days) |
|---|---|---|---|---|
| 300 | 0/0/6 | - | - | > 300 |

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

**Table A2: Summary of findings of acute oral toxicity study in rats of MCW-2222/Acetamiprid 200 SL**

| | **2000 mg/kg bw** | **300 mg/kg bw** |
|---|---|---|
| **Mortality:** | Mortality (3/3) at day 0 | No mortality occurred |
| **Clinical signs:** | Decreased activity (3/3), vocalisation (1/3), hunched back (3/3), intermittent tremors (3/3), prone position (2/3), dyspnoea (1/3) | No clinical signs of toxicity were observed |
| **Body weight:** | - | No indication of treatment-related effects |
| **Macroscopic examination:** | Diffuse red discoloration of the stomach glandular mucosa in 3/3 found dead females at necropsy. In addition, dark/red discoloration of the collapsed lungs was also seen in these animals. | The necropsies performed at the end of the study revealed no apparent findings. |

### Conclusion

Under the experimental conditions, the oral $LD_{50}$ of MCW-2222/Acetamiprid 200 is between 300 and 2000 mg/kg bw in rats. According to Regulation (EC) No. 1272/2008, Acetamiprid 200 SL must be classified as "Category 4" with >300 and <2000 mg/kg bw $LD_{50}$ for acute oral exposure.

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

| | |
|---|---|
| Comments of zRMS: | This study was previously reviewed in the original dRR and therefore the zRMS did not re-evaluate the study. Study was considered acceptable. |

### A 2.3.1 Study 1

| | |
|---|---|
| Reference: | KCP 7.1.2/01 |
| Report | Acetamiprid 200 SL: Acute dermal toxicity study in rats, xxx xxx., 2013, Report No. R-31124, Study No.12/445-002P |
| Guideline(s): | OECD 402; US EPA OPPTS 870.1200; Commission Regulation (EC) No. 440/2008, B.3 |
| Deviations: | No |
| GLP: | Yes |
| Acceptability: | Yes |
| Duplication (if vertebrate study) | No |

### Materials and methods

| | |
|---|---|
| **Test material (Lot/Batch No.)** | MCW-2222/Acetamiprid 200 SL 201.8 g/L (Lot/Batch No. 577-271212-02) |
| **Species** | Rats, CRL:(WI) |
| **No. of animals (group size)** | 5 rats/sex |

| | |
|---|---|
| **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 A3: Results of acute dermal toxicity study in rats of MCW-2222/Acetamiprid 200**

| Dose (mg/kg bw) | Toxicological results * | Duration of signs | Time of death | $LD_{50}$ (mg/kg bw) (14 days) |
|---|---|---|---|---|
| Male rats | | | | |
| 2000 | 0/0/5 | - | - | > 2000 |
| Female rats | | | | |
| 2000 | 0/0/5 | - | - | > 2000 |

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

**Table A4: Summary of findings of acute dermal toxicity study in rats of MCW-2222/Acetamiprid 200 SL**

| | |
|---|---|
| **Mortality:** | No mortality occurred |
| **Clinical signs:** | No clinical signs of toxicity were observed. |
| **Body weight:** | There were no effects on body weight |
| **Macroscopic examination:** | The necropsies performed at the end of the study revealed no apparent findings |

## Conclusion

Under the experimental conditions, the dermal $LD_{50}$ of Acetamiprid 200 SL is higher than 2000 mg/kg bw in rats. Thus, according to Regulation (EC) No. 1272/2008, Acetamiprid 200 SL must not be classified for acute dermal toxicity.

## A 2.4 Acute inhalation toxicity (KCP 7.1.3)

| | |
|---|---|
| Comments of zRMS: | This study was previously reviewed in the original dRR and therefore the zRMS did not re-evaluate the study. Study was considered acceptable. |

### A 2.4.1 Study 1

| | |
|---|---|
| Reference: | KCP 7.1.3/01 |
| Report | Acetamiprid 200 SL: Acute inhalation toxicity study (Nose-only) in the rat, xxx xxx., 2013, Report No. R-31125, Study No. 12/445-004P |
| Guideline(s): | OECD 403, EPA OPPTS 870.1300 and Council Regulation (EC) No 440/2008, B.2 |
| Deviations: | Yes, the relative humidity in the inhalation chamber was not evaluated due to a malfunction of the humidity sensor. However, these deviations had no effect on the purpose and integrity of the study. |
| GLP: | Yes |
| Acceptability: | Yes |
| Duplication (if vertebrate study) | No |

**Materials and methods**

| | |
|---|---|
| **Test material (Lot/Batch No.)** | MCW-2222/Acetamiprid 200 SL 201.8 g/L (577-271212-02) |
| **Species** | Rats, Wistar Crl:WI |
| **No. of animals (group size)** | 5 rats/sex/dose (main study), 1 rat/sex/dose (sighting exposure) |
| **Concentration(s)** | 5 mg/L air |
| **Exposure** | 4 hours (nose only) |
| **Vehicle/Dilution** | None |
| **Post exposure observation period** | 14 days |
| **Remarks** | None |

**Results and discussions**

**Table A5: Concentration(s) and exposure conditions**

| Target conc. (mg/L air) | or | Nominal conc. (mg/L air) | Actual conc. (mg/L air) | MMAD * (µm) | GSD ** (µm) |
|---|---|---|---|---|---|
| 5[a] | | 19.88 | 5.16 | 2.22 | 2.06 |
| 5[b] | | 19.88 | 5 | 2.30 | 2.07 |

* MMAD = Mass Median Aerodynamic Diameter
** GSD = Geometric Standard Deviation
a Main study
b Sighting exposure

**Table A6: Results of acute inhalation toxicity study in rats of MCW-2222/Acetamiprid**

| Concentration (mg/L air) | Toxicological results * | Duration of signs | Time of death | $LC_{50}$ (mg/L air) (14 days) |
|---|---|---|---|---|
| Male rats | | | | |
| 5.00 | 0/1/1 | Day 0-2 | - | > 5.16 |
| 5.16 | 0/5/5 | Day 0 | - | |
| Female rats | | | | |
| 5.00 | 0/1/1 | Day 0-2 | - | > 5.16 |
| 5.16 | 0/5/5 | Day 0 | - | |

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

**Table A7: Summary of findings of acute inhalation toxicity study in rats of MCW-2222/Acetamiprid 200**

| | Sighting exposure (5 mg/L air) | Main study (5.16 mg/L air) |
|---|---|---|
| **Mortality:** | No mortality occurred | No mortality occurred |
| **Clinical signs:** | Yes, laboured respiration (slight to moderate) was recorded in all rats during the period of Day 0-2. In the male animal, continuous tremor and decreased activity were seen on Day 0 and Day 0-1, respectively. | Yes, laboured respiration (slight to moderate) was recorded in all rats, and continuous tremor was observed in a single female on Day 0. All animals were symptom-free from Day 2. |
| **Body weight:** | Slight to moderate bodyweight loss (6.3-11.1%) was recorded in both animals onDay 1-3. The animals gained back their initial bodyweight values between Day 3 and Day 7. | Slight bodyweight loss (2.0-8.9%) was noted in all animals on Day 1-3. Both males and females returned to their initial bodyweight values by up to Day 7. |
| **Macroscopic examination:** | No external or internal findings were noted at necropsy in all animals. | No external or internal findings were noted at necropsy in all animals. |

## Conclusion

Under the experimental conditions, the inhalation $LC_{50}$ of MCW-2222/Acetamiprid is higher than 5.16 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: | These studies were reviewed during the initial authorization in the original dRR and therefore zRMS did not re-evaluate it. Studies were considered acceptable. |

### A 2.5.1 Study 1

| | |
|---|---|
| Reference: | KCP 7.1.4/01 |
| Report | Acetamiprid 200 SL: *In vitro* skin irritation test in the EPISKIN model, Kiss I., 2013, Report No. R-31126, Study No.12/445-043B |
| Guideline(s): | OECD 439; Regulation (EC) No 1272/2008 on CLP; Commission regulation (EU) No 761/2009 (amending Reg No 440/2008, B.46) |
| Deviations: | No |
| GLP: | Yes |
| Acceptability: | Yes |
| Duplication (if vertebrate study) | No |

#### Materials and methods

| | |
|---|---|
| **Test material (Lot/Batch No.)** | MCW-2222/Acetamiprid 200 SL 201.8 g/L (Lot/Batch No. 577-271212-02) |
| **Species** | Human epidermis model EPISKIN-SM |
| **No. of animals (group size)** | 3 disks per treatment |
| **Initial test using one animal** | No, the study involves *in vitro* testing |
| **Exposure** | 50 µL (15 min) |
| **Vehicle/Dilution** | None |
| **Post exposure observation period** | 42 hours post incubation + 3 hours with MTT |
| **Remarks** | None |

#### Results and discussions

**Table A8: Cell viability of MCW-2222/Acetamiprid 200 SL**

| **Negative Control: PBS**** | | **Positive Control: SDS***** | | **Test: Acetamiprid 200 SL** | | |
|---|---|---|---|---|---|---|
| Optical Density | Viability (% RV) | Optical Density | Viability (% RV) | Optical Density | OD after adjustment* (TODTT) | Viability (% RV) |
| 0.669 | 100 | 0.094 | 14 | 0.709 | 0.675 | 101 |
| 0.624 | 93 | 0.048 | 7.2 | 0.707 | 0.673 | 100 |
| 0.718 | 107 | 0.075 | 11 | 0.663 | 0.629 | 94 |
| **0.670** | **100 ± 7** | **0.072** | **11 ± 3.41** | **-** | **0.659** | **98 ± 3.79** |

* For the test item, the material had a residual colour which was expected to cause an OD of 0.034 in the final solutions. This was subtracted from the measured OD values.

** The negative control is Phosphate Buffered Saline.

*** The positive control is Sodium Dodecyl Sulphate.

**Conclusion**

Under the experimental conditions, the mean relative viability of the MCW-2222/Acetamiprid 200 treated skins value was 98%, and therefore it is not a skin irritant. Thus, no classification is required according to Regulation (EC) No. 1272/2008.

## A 2.5.2 Study 2

| | |
|---|---|
| Reference: | KCP 7.1.4/02 |
| Report | Acetamiprid 200 SL: Acute skin irritation study in rabbits, xxx xxx., 2013, Report No. R-31126A, Study No.12/445-006N |
| Guideline(s): | OECD 404; EPA OPPTS 870.2500; EC 440/2008, B.4 |
| Deviations: | Yes, the relative humidity (max 75%) was out of normal range on six instances during the acclimatisation period. These deviations are considered to have no impact on the outcome of the study and interpretation of the results. |
| GLP: | Yes |
| Acceptability: | Yes |
| Duplication (if vertebrate study) | No |

**Materials and methods**

| | |
|---|---|
| **Test material (Lot/Batch No.)** | MCW-2222/Acetamiprid 200 SL 201.8 g/L (Lot/Batch No. 577-271212-02) |
| **Species** | Rabbits, New Zealand |
| **No. of animals (group size)** | 3 young male adults |
| **Initial test using one animal** | Yes |
| **Exposure** | 0.5 mL (4 hours, semi-occlusive application) |
| **Vehicle/Dilution** | None |
| **Post exposure observation period** | 1, 24, 48 and 72 hours |
| **Remarks** | None |

**Results and discussions**

**Table A9: Skin irritation of MCW-2222/Acetamiprid 200**

| Animal No. | | Scores after treatment * | | | | Mean scores Erythema/ oedema (24-72 h) | Primary skin irritation index |
|---|---|---|---|---|---|---|---|
| | | 1 h | 24 h | 48 h | 72 h | | |
| 1 | Erythema<br>Oedema | 0<br>0 | 0<br>0 | 0<br>0 | 0<br>0 | 0.00 | 0.00 |
| 2 | Erythema<br>Oedema | 0<br>0 | 0<br>0 | 0<br>0 | 0<br>0 | | |
| 3 | Erythema<br>Oedema | 0<br>0 | 0<br>0 | 0<br>0 | 0<br>0 | | |

* scores in the range of 0 to 4

| | |
|---|---|
| **Clinical signs:** | No clinical signs of toxicity were observed. |

**Conclusion**

Under the experimental conditions, the MCW-2222/Acetamiprid 200 treated rabbit skins did not cause any clinical signs or skin irritation effects during the observation period. Thus, no classification is required according to Regulation (EC) No. 1272/2008.

## A 2.6 Eye irritation (KCP 7.1.5)

| | |
|---|---|
| Comments of zRMS: | These studies were reviewed during the initial authorization in the original dRR and therefore zRMS did not re-evaluate it. Studies were considered acceptable. |

### A 2.6.1 Study 1

| | |
|---|---|
| Reference: | KCP 7.1.5/01 |
| Report | Acetamiprid 200 SL: *In vitro* eye irritation test in isolated chicken eyes, Kiss I., 2013, Report No. R-31127, Study No. 12/445-038CS |
| Guideline(s): | OECD 438; Regulation (EC) No 1272/2008 on CLP; Commission Regulation (EC) No 1152/2010 (amending, Reg. No 440/2008, method B.48) |
| Deviations: | None |
| GLP: | Yes |
| Acceptability: | Yes |
| Duplication (if vertebrate study) | No |

**Materials and methods**

| | |
|---|---|
| **Test material (Lot/Batch No.)** | MCW-2222/Acetamiprid 200 SL 201.8 g/L (577-271212-02) |
| **Species** | Chicken, Ross 308 |
| **No. of animals (group size)** | 3 isolated eyes per treatment |
| **Initial test using one animal** | No, study involves *in vitro* testing |
| **Exposure** | 30 µL test item (single instillation in cornea, 10 sec, after exposure washed with 20 mL isotonic saline) |
| **Irritation (time point)** | Slightly irritating (75 minutes) |
| **Vehicle/Dilution** | None |
| **Post exposure observation period** | 30, 75, 120, 180, 240 minutes |
| **Remarks** | None |

**Results and discussions**

**Table A10: Eye irritation of MCW-2222/Acetamiprid 200**

| | **Test item (MCW-2222)** | | **Positive control (Trichloroacetic acid 30% (w/v))** | | **Negative control (Sodium chloride 0.9%)** | |
|---|---|---|---|---|---|---|
| **Observation** | **Value** | **ICE Class *** | **Value** | **ICE Class *** | **Value** | **ICE Class *** |
| Mean maximum corneal swelling at up to 75 min | 0% | I | -2% | I | 0% | I |
| Mean maximum corneal swelling at up to 240 min | -2% | I | -12% | II | 0% | I |
| Mean maximum corneal opacity | 1 | II | 3.67 | IV | 0.00 | I |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mean fluorescein retention | 2.33 | III | 2.83 | IV | 0.00 | I | |
| Other Observations | None | | Immediate cornea opacity score 4. | | None | | |
| Overall ICE Class * | 1xI 1xII 1xIII | | 1xII 2xIV | | 3xI | | |

**Conclusion**

Under the experimental conditions, MCW-2222/Acetamiprid 200 is slightly irritating. According to the guideline OECD 438, Acetamiprid 200 SL does not require a classification as a severe eye irritant, an *in vivo* study is required for classification**.**

## A 2.6.2 Study 2

| | |
|---|---|
| Reference: | KCP 7.1.5/02 |
| Report | Acetamiprid 200 SL: Acute eye irritation study in rabbits, xxx xxx, 2013, Report No. R-31127A, Study No. 12/445-005N |
| Guideline(s): | OECD 405; Commission Regulation (EC) No 440/2008, B.5; EPA OPPTS 870.2400 |
| Deviations: | Yes, the relative humidity (max. 79%) was out of the normal range. However, this is not considered to impact the outcome of the study |
| GLP: | Yes |
| Acceptability: | Yes |
| Duplication (if vertebrate study) | No |

**Materials and methods**

| | |
|---|---|
| **Test material (Lot/Batch No.)** | MCW-2222/Acetamiprid 200 SL 201.8 g/L (577-271212-02) |
| **Species** | Rabbits, New Zealand White |
| **No. of animals (group size)** | 3 Males |
| **Initial test using one animal** | Yes |
| **Exposure** | 0.1 mL (single instillation in conjunctival sac) |
| **Irritation (time point)** | Yes (1 hour-72h) |
| **Vehicle/Dilution** | None |
| **Post exposure observation period** | 1, 24, 48, 72 hours, 7 days |
| **Remarks** | None |

**Results and discussions**

**Table A11: Eye irritation of MCW-2222/Acetamiprid 200**

| **Animal No.** | | **Scores after treatment **** | | | | | **Mean scores (24-72 h)** | **Reversible (day)** |
|---|---|---|---|---|---|---|---|---|
| | | **1 h** | **24 h** | **48 h** | **72 h** | **7 days** | | |
| 1 | Corneal opacity | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Iritis | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Redness conjunctivae | 2 | 2 | 2 | 1 | 0 | 1.67 | c |
| | Chemosis conjunctivae | 2 | 1 | 1 | 0 | 0 | 0.67 | c |
| | Discharge | 3 | 2 | 1 | 0 | 0 | 1 | c |
| | Fluorescein reaction | * | + | + | - | - | | c |

| Animal No. | | Scores after treatment ** | | | | | Mean scores (24-72 h) | Reversible (day) |
|---|---|---|---|---|---|---|---|---|
| | | 1 h | 24 h | 48 h | 72 h | 7 days | | |
| 2 | Corneal opacity | 0 | 0 | 0 | 0 | * | 0 | |
| | Iritis | 0 | 0 | 0 | 0 | * | 0 | |
| | Redness conjunctivae | 2 | 1 | 1 | 0 | * | 0.67 | c |
| | Chemosis conjunctivae | 2 | 1 | 0 | 0 | * | 0.33 | c |
| | Discharge | 2 | 1 | 0 | 0 | * | 0.33 | c |
| | Fluorescein reaction | * | - | - | - | * | | c |
| 3 | Corneal opacity | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Iritis | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Redness conjunctivae | 2 | 1 | 1 | 1 | 0 | 1.00 | c |
| | Chemosis conjunctivae | 1 | 0 | 0 | 0 | 0 | 0 | c |
| | Discharge | 3 | 1 | 0 | 0 | 0 | 0.33 | c |
| | Fluorescein reaction | * | + | - | - | - | | c |

** Scores in the range of 0 to 4 for cornea opacity and chemosis, 0 to 3 for redness of conjunctivae and 0 to 2 for iritis
* No data
c Completely reversible

| | |
|---|---|
| **Clinical signs:** | No clinical signs of systemic toxicity were observed. |

**Conclusion**

Under the experimental conditions, MCW-2222/Acetamiprid 200 caused initial conjunctival irritant effects at one hour which were reduced at 48 hours after application. The effects were fully reversible within 1 week. According to Regulation (EC) No 1272/2008, MCW-2222 does not require classification as an eye irritant.

## A 2.7 Skin sensitisation (KCP 7.1.6)

| | |
|---|---|
| Comments of zRMS: | This study was previously reviewed in the original dRR and therefore the zRMS did not re-evaluate the study. Study was considered acceptable. |

### A 2.7.1 Study 1

| | |
|---|---|
| Reference: | KCP 7.1.6/01 |
| Report | Skin sensitisation test: Local lymph node assay with Acetamiprid 200 SL, xxx, xxx., 2013, Report No. R-31128, Study No. 12/445-037E |
| Guideline(s): | OECD 429, Commission Regulation (EC) No 440/2008 B.42 |
| Deviations: | No |
| GLP: | Yes |
| Acceptability: | Yes |
| Duplication (if vertebrate study) | No |

## Materials and methods

| | |
|---|---|
| **Test material (Lot/Batch No.)** | MCW-2222/Acetamiprid 200 SL 201.8 g/L (577-271212-02) |
| **Species** | Mice, CBA/J Rj strain |
| **No. of animals (group size)** | Test substance group: 4 female mice<br>Vehicle control DMF goup: 4 female mice<br>Positive control group 25% (w/v) HCA in DMF: 4 female mice |
| **Range finding:** | Yes, 100, 50, 25 and 10% (w/v) in the preliminary test |
| **Exposure (concentration(s), no. of applications)** | Main Test: 25µL/ear at 25, 10, 5 and 2.5% (w/v) of test material once a day for three consecutive days |
| **Vehicle** | N,N-dimethylformamide (DMF) |
| **Pre-treatment prior to topical application** | No |
| **Reliability check** | None |
| **Remarks** | None |

## Results and discussions

**Table A12: Results of skin sensitisation study of MCW-2222/Acetamiprid 200**

| | No. of lymph nodes | Concentration (%) | Measured DPM / group | DPM* | DPN** | Stimulation index (SI) |
|---|---|---|---|---|---|---|
| MCW-2222/Acetamiprid 200 SL | 8 | 25% (w/v) in DMF | 2185 | 2148 | 268.5 | 1 |
| | 8 | 10% (w/v) in DMF | 2673 | 2636 | 329.5 | 1.2 |
| | 8 | 5% (w/v) in DMF | 1566 | 1529 | 191.1 | 0.7 |
| | 8 | 2.5% (w/v) in DMF | 2162 | 2125 | 265.6 | 1 |
| Background | - | 5% (w/v) TCA | 37 | - | - | - |
| Negative vehicle control (DMF) | 8 | DMF concurrent to the test item treated groups | 2226 | 2189 | 273.6 | 1 |
| Positive control | 8 | 25% (w/v) HCA in DMF) | 18095 | 18058 | 2257.3 | 8.2 |

* Disintegration per minute
** Disintegration per node

| | |
|---|---|
| **Clinical signs:** | Yes, signs of systemic toxicity were observed. Decreased activity and incoordination were observed in the 25% (w/v) dose group on Day 1 after treatment. Two hours after treatment on Day 1 decreased activity, incoordination and intermittent tremors were observed in this group. These animals became symptom-free on Days 2-6.<br>Animals in the 10, 5 and 2.5% (w/v) dose groups were symptom-free during the study. |

## Conclusion

Under the experimental conditions, MCW-2222/Acetamiprid 200 is not a skin sensitiser. Thus, no 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)**

None.

## 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)

| | |
|---|---|
| Comments of zRMS: | This study was previously reviewed in the original dRR and therefore the zRMS did not re-evaluate the study. Study was considered acceptable. |

### A 2.10.1 Study 1

| | |
|---|---|
| Reference: | KCP 7.3/01 |
| Report | *In vitro* percutaneous absorption of Acetamiprid, formulated as Acetamiprid 200 SL, through human and rat skin, Rheus, A.A., 2013, Report No. R-31287, TNO Triskelion Study Code 20330/08 |
| Guideline(s): | OECD 428, April 2004.<br>EU Method B.45 (Reg. No. 440/2008) |
| Deviations: | No deviation which affected the validity of the study |
| GLP: | Yes |
| Acceptability: | Yes |
| Duplication<br>(if vertebrate study) | No |

## Materials and methods

| | |
|---|---|
| **Test materials (Lot/Batch No.)** | MCW-2222/Acetamiprid 200 SL 200 g/L (577-271212-02)<br>Blank formulation: MCW 2222 blank (301212)<br>Radiolabelled material: [methylene-$^{14}$C]-Acetamiprid (239-141-0321-A-20121206-DRE, 98.3% radiochemical purity) |
| **Vehicle** | [$^{14}$C] acetamiprid dissolved in methanol<br>The solvent was evaporated under $N_2$ gas until complete dryness. |
| **Skin preparations** | Human skin, 4 donors (born from 1955-1969, breast and abdomen samples, 2 skin membranes from 3 donors and 1 skin membrane from one donor in each test group)<br>Rat skin, 1 donor (male rat (Wistar WU, Charles River, Germany), ca. 8 weeks old)<br>Preparation: The full thickness skin samples (human and rat) were dermatomed to slices which contained epidermis and some dermis and which were 200 – 400 µm thick. |
| **Test system** | Diffusion cell:<br>PermeGear Inc. flow-through diffusion cell (Temp. approx. 32±1°C, 1.6 mL/h flow-rate)<br>Receptor fluid:<br>saline (0.9% sodium chloride (w/v) containing 0.01% sodium azide, (w/v)), supplemented 5% bovine serum albumin (BSA, w/v). |
| **Membrane integrity and membrane selection** | The integrity of the selected skin samples was tested with tritiated water ($^3H_2O$). The membranes were exposed to 200 µL over 3 hours.<br>Selection:<br>Skin membranes with a Kp value below the cut-off value of $2.5\times10^{-3}$ cm/h (human) or $3.5\times10^{-3}$ cm/h (rat) were selected for the study. |
| **Application on skin** | Volume applied per skin: 6.4 µL of dose preparations applied topically on 0.64 $cm^2$ skin memebrane<br>Concentrate human (A): n=7, 202.3 g/L total concentration, 2053 ± 36 µg/$cm^2$ mean dose a.s. applied<br>Dilution human (B): n=7, 0.036 g/L total concentration, 0.37 ± 0.00 µg/$cm^2$ mean dose a.s. applied<br>Concentrate rat (C): n=6, 202.3 g/L total concentration, 2077 ± 12 µg/$cm^2$ mean dose a.s. applied<br>Dilution rat (D): n=6, 0.036 g/L total concentration, 0.37 ± 0.00 µg/$cm^2$ mean dose a.s. applied<br>Exposure time: 8 h |
| **Sampling** | Receptor fluid samples were collected during the following intervals: 0-1 h, 1-2 h, followed by 2-h intervals until 24 hours after application.<br>Skin wash: After an exposure period of 8 h, the unabsorbed test substance was removed from the application site using a mild soap solution (i.e. 3% Teepol in water), water and cotton swabs.<br>After 24 h of exposure, the diffusion cell was dismantled. Receptor and donor compartments were washed twice with 1.0 mL ethanol.<br>Each skin membrane was tape stripped 15 times using D-Squame® Skin Sampling Discs (CuDerm Corporation) and a D-Squame pressure device. Tape strips were stored individually for further analysis.<br>Skin membranes were digested in a 1.5 M KOH solution with 20% aqueous ethanol for at least 24 h. |
| **Analysis of radioactivity** | The radioactivity in the samples was determined using a Canberra Packard Tricarb 3100 TR scintillation counter. Ultima Gold™ scintillation liquid (Packard) was added to samples of the receptor fluid (10 mL per sample), the diffusion cell washes (10 mL per sample), the cotton swab extracts (10 mL to a 0.5 mL aliquot of each sample), the tape strips (4 mL per sample), and to samples of the mock dosing samples (10 mL per sample). For the determination of radioactivity in digested skin preparations, 15 mL Hionic Fluor™ scintillation liquid (Packard) was added to each digested skin membrane. Radioactivity was determined in all collected samples. |
| **HPLC** | HPLC with radiodetection was carried out using an Inertsil ODS-2 (250 x 4.6 mm, 5 µm) column with demineralised water + 0.1% triofluoroacetic acid (TFA) and acetonitrile + 0.1% TFA as mobile phases and an UV detector wavelength of 247 nm. |
| **Remarks** | None |

## Results and discussions

Integrity of skin membranes

Skin membranes with a Kp value below the cut-off value of $2.5\times10^{-3}$ cm/h (human) or $3.5\times10^{-3}$ cm/h (rat) were selected for the study, except two human skin membranes with a Kp value slightly higher than 2.5 (i.e. a Kp value of 2.52) were included in the study (one skin membrane in group A and one skin membrane

in group B), due to an insufficient number of skin membranes of donor 2 that met the acceptance criteria.

Receptor fluid solubility

The solubility of acetamiprid in water was reported to be ca 2.95 mg/mL. Considering the maximum absorption of acetamiprid into the receptor fluid of 116.3 µg (i.e. 181.7 µg/cm² in 38.4 mL over 24 h, i.e. 3.0 µg/mL (replicate C-3), the solubility of the test substance in the receptor fluid was considered sufficient. Furthermore, in the flow-through cells used, the volume of the receptor fluid in the receptor chamber beneath the skin is ca. 0.2 mL, which at a flow rate of ca. 1.6 mL/h, was replenished continuously (8 times per hour). Thus, it was assured that the rate of diffusion into the receptor fluid did not become a rate-limiting step.

Analytical check of dose preparations

The homogeneity of [$^{14}$C]acetamiprid in the dose preparations was checked; the coefficients of variation (CV) of the dose preparations were 0.5% (A/C) and 0.2% (B/D), and therefore considered sufficient. The radiochemical purity of [$^{14}$C]acetamiprid in the dose preparations was found to be >97% for both dose preparations.

**Table A13: Distribution of radioactivity following the application of [$^{14}$C]Acetamiprid to human and rat skin *in vitro***

| **Dose level** | | **High** | | **Low** | |
|---|---|---|---|---|---|
| **Skin type** | | **Human** | **Rat** | **Human** | **Rat** |
| Skin surface (Skin swabs) | [%] | 96.1 ± 2.6 | 87.5 ± 3.2 | 72.5 ± 7.4 | 55.0 ± 5.8 |
| Skin surface (2 surface tape strips) | [%] | 0.10 ± 0.03 | 0.03 ± 0.03 | 0.79 ± 0.36 | 0.68 ± 0.21 |
| Remaining on cell (Donor chamber) | [%] | 0.13 ± 0.21 | 0.06 ± 0.02 | 0.47 ± 0.65 | 0.23 ± 0.12 |
| Total | [%] | 96.33 | 87.59 | 73.76 | 55.91 |
| 75% absorbed in RF in first half of study | | No | Yes | No | Yes |
| Receptor fluid | [%] | 2.75 ± 0.69 | 8.15 ± 0.27 | 14.24 ± 7.34 | 11.75 ± 5.22 |
| Skin | [%] | 0.36 ± 0.14 | 3.42 ± 1.19 | 8.73 ± 3.62 | 23.6 ± 6.0 |
| Remaining on cell | [%] | 0.01 ± 0.01 | 0.01 ± 0.01 | 0.16 ± 0.04 | 0.06 ± 0.02 |
| Total | [%] | 3.1 ± 0.6 | 11.6 ± 1.4 | 23.1 ± 6.6 | 35.4 ± 8.7 |
| Stratum Corneum (Tape strips 3-15) | [%] | 0.31 ± 0.09 | 0.29 ± 0.38 | 1.92 ± 1.00 | 7.31 ± 5.20 |
| Total absorbable | [%] | 3.4 ± 0.6 | 11.9 ± 1.7 | 25.1 ± 5.9 | 42.7 ± 5.6 |
| Total recovery | [%] | 99.7 ± 2.5 | 99.5 ± 2.0 | 98.8 ± 4.8 | 98.6 ± 2.6 |
| Absorption rate (µg equiv./cm2/h) | | 6.38 ± 3.12 | 32.8 ± 2.3 | 0.0041 ± 0.0034 | 0.0073 ± 0.0046 |

## Conclusion

The total absorbable dose was found to be 3.4% and 25.1% in human skin for the high and low dose levels, respectively and 11.9% (high dose) and 42.7% (low dose) in rat skin.
Based on the potentially absorbed dose, for the concentrate formulation human skin was 3.5 times less permeable for acetamiprid compared to rat skin (11.9 / 3.4), while for the field dilution, human skin was 1.7 times less permeable for acetamiprid compared to rat skin (42.7 / 25.1).

## Recalculation according to EFSA 2017[1]

[1] EFSA Journal 2017;15(6):4873

Dermal absorption values found in the study conducted by Reus, 2013 were recalculated according to the new EFSA Dermal absorption guidance of 2017 (EFSA Journal 2017;15(6):4873). For more details, please refer to Table A 14 to Table A16.

**Table A14: Recalculation of dermal absorption values for the concentrate (200 g/L) - *in vitro*.**

| | Mean | SD | SD [%] | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|
| Skin wash | | | | 95.600 | 99.400 | 95.600 | 90.900 | 97.000 | 97.200 | 96.900 |
| Dislodgeable dose | | | | 95.600 | 99.400 | 95.600 | 90.900 | 97.000 | 97.200 | 96.900 |
| Donor chanber wash | | | | 0.030 | 0.040 | 0.130 | 0.590 | 0.050 | 0.040 | 0.030 |
| Total dislodgeable | | | | 95.630 | 99.440 | 95.730 | 91.490 | 97.050 | 97.240 | 96.930 |
| Tape strips 1 + 2 | | | | 0.140 | 0.100 | 0.100 | 0.050 | 0.110 | 0.160 | 0.090 |
| Receptor fluid (End of study) [%] | | | | 2.610 | 2.710 | 3.850 | 2.640 | 3.420 | 2.240 | 1.800 |
| Receptor fluid (Half of study duration) [µg/cm2] | | | | 40.000 | 46.900 | 67.500 | 38.300 | 56.800 | 25.700 | 18.400 |
| Receptor fluid (End of study) [µg/cm2] | | | | 53.200 | 55.500 | 76.500 | 55.300 | 71.400 | 45.700 | 37.300 |
| t0.5 | 71.758 | 14.472 | 20.168 | 75.188 | 84.505 | 88.235 | 69.259 | 79.552 | 56.236 | 49.330 |
| Receptor chamber wash | | | | 0.010 | 0.010 | 0.010 | 0.010 | 0.010 | 0.020 | 0.030 |
| Total absorption | | | | 2.6200 | 2.7200 | 3.8600 | 2.6500 | 3.4300 | 2.2600 | 1.8300 |
| Stripped Skin / Exposed Skin / Skin Preparation | | | | 0.190 | 0.200 | 0.300 | 0.410 | 0.430 | 0.400 | 0.590 |
| Absorbed Dose / Dermal delivery | | | | 2.81 | 2.92 | 4.16 | 3.06 | 3.86 | 2.66 | 2.42 |
| Tape strips 3+ | | | | 0.280 | 0.210 | 0.250 | 0.230 | 0.430 | 0.440 | 0.310 |
| Interim - potentially absorbable dose | 3.43 | 0.65 | 18.89 | 3.09 | 3.13 | 4.41 | 3.29 | 4.29 | 3.10 | 2.73 |
| Stratum corneum (all tape strips) | | | | 0.420 | 0.310 | 0.350 | 0.280 | 0.540 | 0.600 | 0.400 |
| Total unabsorbed | | | | 95.770 | 99.540 | 95.830 | 91.540 | 97.160 | 97.400 | 97.020 |
| Total recovery (Mass balance) [%] | 99.76 | | | 98.9 | 102.7 | 100.2 | 94.8 | 101.5 | 100.5 | 99.8 |
| SD (t0.5) * Multiplication factor k | 13.314 | | | | | | | | | |
| t0.5 - SD * k | 58.44 | | | | | | | | | |
| SD (Interim - pot. Abs. dose) * Multiplication factor k | 0.60 | | | | | | | | | |
| 100% - Total recovery [%] | 0.24 | | | | | | | | | |
| Addition approach | | Should be used when recovery is <95% and not-normalised dermal absorption value is <5% | | | | | | | | |
| Potentially absorbable dose | 3.43 | | | | | | | | | |
| Potentially absorbable dose + SD * k | 4.0 | | | | | | | | | |

**Table A15: Recalculation of dermal absorption values for dilution 1 (0.035 g/L) - *in vitro*.**

| | Mean | SD | SD [%] | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|
| Skin wash | | | | 72.500 | 76.700 | 63.100 | 75.300 | 61.800 | 76.400 | 81.600 |
| Dislodgeable dose | | | | 72.500 | 76.700 | 63.100 | 75.300 | 61.800 | 76.400 | 81.600 |
| Donor chanber wash | | | | 0.190 | 0.160 | 1.940 | 0.180 | 0.380 | 0.220 | 0.240 |
| Total dislodgeable | | | | 72.690 | 76.860 | 65.040 | 75.480 | 62.180 | 76.620 | 81.840 |
| Tape strips 1 + 2 | | | | 0.830 | 0.810 | 0.380 | 1.090 | 0.350 | 0.700 | 1.350 |
| Receptor fluid (End of study) [%] | | | | 17.260 | 13.740 | 11.530 | 13.140 | 28.410 | 11.040 | 4.540 |
| Receptor fluid (Half of study duration) [µg/cm2] | | | | 0.043 | 0.033 | 0.028 | 0.026 | 0.084 | 0.021 | 0.007 |
| Receptor fluid (End of study) [µg/cm2] | | | | 0.063 | 0.050 | 0.043 | 0.049 | 0.104 | 0.041 | 0.017 |
| t0.5 | 60.800 | 13.145 | 21.620 | 68.254 | 66.000 | 65.116 | 53.061 | 80.769 | 51.220 | 41.176 |
| Receptor chamber wash | | | | 0.200 | 0.140 | 0.150 | 0.180 | 0.140 | 0.230 | 0.100 |
| Total absorption | | | | 17.4600 | 13.8800 | 11.6800 | 13.3200 | 28.5500 | 11.2700 | 4.6400 |
| Stripped Skin / Exposed Skin / Skin Preparation | | | | 5.850 | 5.060 | 12.080 | 9.740 | 5.840 | 14.690 | 7.880 |
| Absorbed Dose / Dermal delivery | | | | 23.31 | 18.94 | 23.76 | 23.06 | 34.39 | 25.96 | 12.52 |
| Tape strips 3+ | | | | 1.860 | 2.420 | 0.670 | 1.520 | 0.850 | 2.550 | 3.490 |
| Interim - potentially absorbable dose | 25.04 | 5.94 | 23.72 | 25.17 | 21.36 | 24.43 | 24.58 | 35.24 | 28.51 | 16.01 |
| Stratum corneum (all tape strips) | | | | 2.690 | 3.230 | 1.050 | 2.610 | 1.200 | 3.250 | 4.840 |
| Total unabsorbed | | | | 73.520 | 77.670 | 65.420 | 76.570 | 62.530 | 77.320 | 83.190 |
| Total recovery (Mass balance) [%] | 98.79 | | | 98.7 | 99.0 | 89.9 | 101.2 | 97.8 | 105.8 | 99.2 |
| SD (t0.5) * Multiplication factor k | 12.093 | | | | | | | | | |
| t0.5 - SD * k | 48.71 | | | | | | | | | |
| SD (Interim - pot. Abs. dose) * Multiplication factor k | 5.47 | | | | | | | | | |
| 100% - Total recovery [%] | 1.21 | | | | | | | | | |
| Normalisation approach | | Only acceptable if not-normalised dermal absorption value is >5% | | | | | | | | |
| Potentially absorbable dose | 25.04 | | | | | | | | | |
| Potentially absorbable dose + SD * k | 30.51 | | | | | | | | | |
| Dermal abs. (Study), pro rata corr. [%] | 31 | | | | | | | | | |

## A 2.11 Other/Special Studies

None.

# Appendix 3 Exposure calculations

## A 3.1 Operator exposure calculations (KCP 7.2.1.1)

### A 3.1.1 Calculations for Acetamiprid

**Table A16: Input parameters considered for the estimation of operator exposure for the application on Spring oilseed rape - 60 g/ha – EFSA Model**

| | | | | | |
|---|---|---|---|---|---|
| Substance | Acetamiprid | Formulation = Soluble concentrates, emulsifiable concentrate, etc. | Application rate- 0.06 kg a.s. /ha | Spray dilution = 0.3 g a.s./l | Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa |
| Scenario | Oilseeds / Outdoor / Downward spraying / Vehicle-mounted | | | Buffer = 2-3 | Number applications = 1, Application interval = 365 days |
| Percentage Absoprtion | Dermal for product = 4 | Dermal for in use diluation = 31 | Oral = 100 | Inhalation = 100 | |
| RVNAS | 0.025 mg/kg bw/day | | RVAAS | 0.025 mg/kg bw/day | |
| DFR | 3 µg a.s./cm2 per kg a.s./ha | | DT50 | 30 days | |

**Table A17: Estimation of operator exposure towards acetamiprid for the application on spring oilseed rape - 60 g/ha - EFSA Model without PPE**

| **Operator Model** | Mixing, loading and application AOEM | | | |
|---|---|---|---|---|
| Potential exposure | Longer term systemic exposure mg/kg bw/day | 0.0166 | % of RVNAS | 66.22% |
| | Acute systemic exposure mg/kg bw/day | 0.1284 | % of RVAAS | 513.66% |
| Mixing and Loading | Gloves = No | Clothing = Work wear - arms, body and legs covered | RPE = None | Soluble bags = No |
| Application | Gloves = No | Clothing = Work wear - arms, body and legs covered | RPE = None | Closed cabin = No |
| Exposure (including PPE options above) | Longer term systemic exposure mg/kg bw/day | 0.0102 | % of RVNAS | 40.80% |
| | Acute systemic exposure mg/kg bw/day | 0.0561 | % of RVAAS | 224.39% |

**Table A18: Estimation of operator exposure towards acetamiprid for the application on Spring oilseed rape - 60 g/ha - EFSA Model with PPE (gloves during m/l)**

| **Operator Model** | | Mixing, loading and application AOEM | | |
|---|---|---|---|---|
| Potential exposure | Longer term systemic exposure mg/kg bw/day | 0.0166 | % of RVNAS | 66.22% |
| | Acute systemic exposure mg/kg bw/day | 0.1284 | % of RVAAS | 513.66% |
| Mixing and Loading | Gloves = Yes | Clothing = Work wear - arms, body and legs covered | RPE = None | Soluble bags = No |
| Application | Gloves = No | Clothing = Work wear - arms, body and legs covered | RPE = None | Closed cabin = No |
| Exposure (including PPE options above) | Longer term systemic exposure mg/kg bw/day | 0.0027 | % of RVNAS | 10.81% |
| | Acute systemic exposure mg/kg bw/day | 0.0286 | % of RVAAS | 114.33% |

**Table A19: Estimation of operator exposure towards acetamiprid for the application on Spring oilseed rape - 60 g/ha - EFSA Model with PPE (Gloves during m/l and application)**

| **Operator Model** | | Mixing, loading and application AOEM | | |
|---|---|---|---|---|
| Potential exposure | Longer term systemic exposure mg/kg bw/day | 0.0166 | % of RVNAS | 66.22% |
| | Acute systemic exposure mg/kg bw/day | 0.1284 | % of RVAAS | 513.66% |
| Mixing and Loading | Gloves = Yes | Clothing = Work wear - arms, body and legs covered | RPE = None | Soluble bags = No |
| Application | Gloves = Yes | Clothing = Work wear - arms, body and legs covered | RPE = None | Closed cabin = No |
| Exposure (including PPE options above) | Longer term systemic exposure mg/kg bw/day | 0.0008 | % of RVNAS | 3.21% |
| | Acute systemic exposure mg/kg bw/day | 0.0217 | % of RVAAS | 86.74% |

**Table A20: Input parameters considered for the estimation of operator exposure for the application on Apples - 50 g/ha deluted in 900 L [31% dermal absorption]- EFSA Model**

| | | | | | |
|---|---|---|---|---|---|
| Substance | Acetamiprid | Formulation = Soluble concentrates, emulsifiable concentrate, etc. | Application rate-0.05 kg a.s. /ha | Spray dilution = 0.1 g a.s./l | Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa |
| Scenario | Pome fruit late (dense foliage) / Outdoor / Upward spraying / Vehicle-mounted | | | Buffer = 5 | Number applications = 1, Application interval = 365 days |
| Percentage Absoprtion | Dermal for product = 4 | Dermal for in use diluation = 31 | Oral = 100 | Inhalation = 100 | |
| RVNAS | 0.025 mg/kg bw/day | | RVAAS | 0.025 mg/kg bw/day | |
| DFR | 3 µg a.s./cm2 per kg a.s./ha | | DT50 | 30 days | |

**Table A21: Estimation of operator exposure towards acetamiprid for the application on Apples - 50 g/ha deluted in 900 L [31% dermal absorption] - EFSA Model without PPE**

| **Operator Model** | Mixing, loading and application AOEM | | | |
|---|---|---|---|---|
| Potential exposure | Longer term systemic exposure mg/kg bw/day | 0.0370 | % of RVNAS | 147.81% |
| | Acute systemic exposure mg/kg bw/day | 0.2147 | % of RVAAS | 858.90% |
| Mixing and Loading | Gloves = No | Clothing = Work wear - arms, body and legs covered | RPE = None | Soluble bags = No |
| Application | Gloves = No | Clothing = Work wear - arms, body and legs covered | RPE = None | Closed cabin = No |
| Exposure (including PPE options above) | Longer term systemic exposure mg/kg bw/day | 0.0130 | % of RVNAS | 52.13% |
| | Acute systemic exposure mg/kg bw/day | 0.0433 | % of RVAAS | 173.09% |

**Table A22: Estimation of operator exposure towards acetamiprid for the application on Apples - 50 g/ha deluted in 900 L [31% dermal absorption] - EFSA Model with PPE (gloves during m/l)**

| **Operator Model** | Mixing, loading and application AOEM | | | |
|---|---|---|---|---|
| Potential exposure | Longer term systemic exposure mg/kg bw/day | 0.0370 | % of RVNAS | 147.81% |
| | Acute systemic exposure mg/kg bw/day | 0.2147 | % of RVAAS | 858.90% |
| Mixing and Loading | Gloves = Yes | Clothing = Work wear - arms, body and legs covered | RPE = None | Soluble bags = No |
| Application | Gloves = No | Clothing = Work wear - arms, body and legs covered | RPE = None | Closed cabin = No |
| Exposure (including PPE options above) | Longer term systemic exposure mg/kg bw/day | 0.0111 | % of RVNAS | 44.60% |
| | Acute systemic exposure mg/kg bw/day | 0.0364 | % of RVAAS | 145.69% |

**Table A23: Estimation of operator exposure towards acetamiprid for the application on Apples - 50 g/ha deluted in 900 L [31% dermal absorption] - EFSA Model with PPE (gloves during m/l and application)**

| **Operator Model** | Mixing, loading and application AOEM | | | |
|---|---|---|---|---|
| Potential exposure | Longer term systemic exposure mg/kg bw/day | 0.0370 | % of RVNAS | 147.81% |
| | Acute systemic exposure mg/kg bw/day | 0.2147 | % of RVAAS | 858.90% |
| Mixing and Loading | Gloves = Yes | Clothing = Work wear - arms, body and legs covered | RPE = None | Soluble bags = No |
| Application | Gloves = Yes | Clothing = Work wear - arms, body and legs covered | RPE = None | Closed cabin = No |
| Exposure (including PPE options above) | Longer term systemic exposure mg/kg bw/day | 0.0042 | % of RVNAS | 16.76% |
| | Acute systemic exposure mg/kg bw/day | 0.0227 | % of RVAAS | 90.74% |

# A 3.2 Worker exposure calculations (KCP 7.2.3.1)

## A 3.2.1 Calculations for Acetamiprid

**Table A24: Input parameters considered for the estimation of worker exposure for the application on Spring oilseed rape - 60 g/ha – EFSA model**

| | | | | | |
|---|---|---|---|---|---|
| Substance | Acetamiprid | Formulation = Soluble concentrates, emulsifiable concentrate, etc. | Application rate- 0.06 kg a.s. /ha | Spray dilution = 0.3 g a.s./l | Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa |
| Scenario | Oilseeds / Outdoor / Downward spraying / Vehicle-mounted | | | Buffer = 2-3 | Number applications = 1, Application interval = 365 days |
| Percentage Absoprtion | Dermal for product = 4 | Dermal for in use diluation = 31 | Oral = 100 | Inhalation = 100 | |
| RVNAS | 0.025 mg/kg bw/day | | RVAAS | 0.025 mg/kg bw/day | |
| DFR | 3 µg a.s./cm2 per kg a.s./ha | | DT50 | 30 days | |

**Table A25: Estimation of worker exposure towards acetamiprid for the application on Spring oilseed rape - 60 g/ha – EFSA model**

| | | | | |
|---|---|---|---|---|
| **Worker - Inspection, irrigation** | Potential exposure mg/kg bw/day | 0.0233 | % of RVNAS | 93.00% |
| | Working clothing mg/kg bw/day | 0.0026 | % of RVNAS | 10.42% |
| | Working clothing and gloves mg/kg bw/day | | % of RVNAS | |

**Table A26: Input parameters considered for the estimation of worker exposure for the application on Apples - 50 g/ha - [31% dermal absorption and application rate 1 and default DFR] - EFSA Model**

| | | | | | |
|---|---|---|---|---|---|
| Substance | Acetamiprid | Formulation = Soluble concentrates, emulsifiable concentrate, etc. | Application rate- 0.05 kg a.s. /ha | Spray dilution = 0.1 g a.s./l | Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa |
| Scenario | Pome fruit late (dense foliage) / Outdoor / Upward spraying / Vehicle-mounted | | | Buffer = 5 | Number applications = 1, Application interval = 365 days |
| Percentage Absoprtion | Dermal for product = 4 | Dermal for in use diluation = 31 | Oral = 100 | Inhalation = 100 | |
| RVNAS | 0.025 mg/kg bw/day | | RVAAS | 0.025 mg/kg bw/day | |
| DFR | 3 µg a.s./cm2 per kg a.s./ha | | DT50 | 30 days | |

**Table A27: Estimation of worker exposure towards acetamiprid for the application on Apples - 50 g/ha - [31% dermal absorption and application rate 1 and default DFR] - EFSA Model**

| | | | | |
|---|---|---|---|---|
| **Worker - Searching, reaching, picking** | Potential exposure mg/kg bw/day | 0.1395 | % of RVNAS | 558.00% |
| | Working clothing mg/kg bw/day | 0.0279 | % of RVNAS | 111.60% |
| | Working clothing and gloves mg/kg bw/day | 0.0140 | % of RVNAS | 55.80% |

**Table A28: Input parameters considered for the estimation of worker exposure for the application on Apples - 50 g/ha – [31% dermal absorption and application rate 1 and $DT_{50}$=3.72 days and DFR=1.813 µg/$cm^2$/kg a.s./ha] - EFSA Model**

| | | | | | |
|---|---|---|---|---|---|
| Substance | Acetamiprid | Formulation = Soluble concentrates, emulsifiable concentrate, etc. | Application rate- 0.05 kg a.s. /ha | Spray dilution = 0.1 g a.s./l | Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa |
| Scenario | Pome fruit late (dense foliage) / Outdoor / Upward spraying / Vehicle-mounted | | | Buffer = 5 | Number applications = 1, Application interval = 365 days |
| Percentage Absoprtion | Dermal for product = 4 | Dermal for in use diluation = 31 | Oral = 100 | Inhalation = 100 | |
| RVNAS | 0.025 mg/kg bw/day | | RVAAS | 0.025 mg/kg bw/day | |
| DFR | 1.813 µg a.s./cm2 per kg a.s./ha | | DT50 | 3.72 days | |

**Table A29: Estimation of worker exposure towards acetamiprid for the application on Apples - 50 g/ha – [31% dermal absorption and application rate and $DT_{50}$=3.72 days and DFR=1.813 µg/$cm^2$/kg a.s./ha] - EFSA Model**

| | | | | |
|---|---|---|---|---|
| **Worker - Searching, reaching, picking** | Potential exposure mg/kg bw/day | 0.0843 | % of RVNAS | 337.22% |
| | Working clothing mg/kg bw/day | 0.0169 | % of RVNAS | 67.44% |
| | Working clothing and gloves mg/kg bw/day | 0.0084 | % of RVNAS | 33.72% |

# A 3.3 Bystander and resident exposure calculations (KCP 7.2.2.1)

## A 3.3.1 Calculations for Acetamiprid

**Table A30: Input parameters considered for the estimation of bystander and resident exposure for the application on Spring oilseed rape - 60 g/ha – EFSA model**

| | | | | | |
|---|---|---|---|---|---|
| Substance | Acetamiprid | Formulation = Soluble concentrates, emulsifiable concentrate, etc. | Application rate- 0.06 kg a.s. /ha | Spray dilution = 0.3 g a.s./l | Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa |
| Scenario | Oilseeds / Outdoor / Downward spraying / Vehicle-mounted | | | Buffer = 2-3 | Number applications = 1, Application interval = 365 days |
| Percentage Absoprtion | Dermal for product = 4 | Dermal for in use diluation = 31 | Oral = 100 | Inhalation = 100 | |
| RVNAS | 0.025 mg/kg bw/day | | RVAAS | 0.025 mg/kg bw/day | |
| DFR | 3 µg a.s./cm2 per kg a.s./ha | | DT50 | 30 days | |

**Table A31: Estimation of bystander and resident exposure towards acetamiprid for the application on Spring oilseed rape - 60 g/ha – EFSA model**

| | | | | |
|---|---|---|---|---|
| **Resident - child** | Spray drift (75th percentile) mg/kg bw/day | 0.0025 | % of RVNAS | 10.00% |
| | Vapour (75th percentile) mg/kg bw/day | 0.0011 | % of RVNAS | 4.28% |
| | Surface deposits (75th percentile) mg/kg bw/day | 0.0003 | % of RVNAS | 1.28% |
| | Entry into treated crops (75th percentile) mg/kg bw/day | 0.0031 | % of RVNAS | 12.56% |
| | All pathways (mean) mg/kg bw/day | 0.0052 | % of RVNAS | 20.74% |
| **Resident - adult** | Spray drift (75th percentile) mg/kg bw/day | 0.0006 | % of RVNAS | 2.39% |
| | Vapour (75th percentile) mg/kg bw/day | 0.0002 | % of RVNAS | 0.92% |
| | Surface deposits (75th percentile) mg/kg bw/day | 0.0001 | % of RVNAS | 0.51% |
| | Entry into treated crops (75th percentile) mg/kg bw/day | 0.0017 | % of RVNAS | 6.98% |
| | All pathways (mean) mg/kg bw/day | 0.0020 | % of RVNAS | 7.99% |
| **Bystander - child** | Spray drift (95th percentile) mg/kg bw/day | 0.0057 | % of RVAAS | 22.71% |
| | Vapour (95th percentile) mg/kg bw/day | 0.0011 | % of RVAAS | 4.28% |
| | Surface deposits (95th percentile) mg/kg bw/day | 0.0009 | % of RVAAS | 3.80% |
| | Entry into treated crops (95th percentile) mg/kg bw/day | 0.0031 | % of RVAAS | 12.56% |
| **Bystander - adult** | Spray drift (95th percentile) mg/kg bw/day | 0.0015 | % of RVAAS | 6.16% |
| | Vapour (95th percentile) mg/kg bw/day | 0.0002 | % of RVAAS | 0.92% |
| | Surface deposits (95th percentile) mg/kg bw/day | 0.0004 | % of RVAAS | 1.53% |

| | | | |
|---|---|---|---|
| Entry into treated crops (95th percentile) mg/kg bw/day | 0.0017 | % of RVAAS | 6.98% |

**Table A32: Input parameters considered for the estimation of bystander and resident exposure for the application on Apples - 50 g/ha – [31% dermal absorption and application rate 1(365) and default DFR] - EFSA Model**

| | | | | | |
|---|---|---|---|---|---|
| Substance | Acetamiprid | Formulation = Soluble concentrates, emulsifiable concentrate, etc. | Application rate-0.05 kg a.s. /ha | Spray dilution = 0.1 g a.s./l | Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa |
| Scenario | Pome fruit late (dense foliage) / Outdoor / Upward spraying / Vehicle-mounted | | | Buffer = 5 | Number applications = 1, Application interval = 365 days |
| Percentage Absoprtion | Dermal for product = 4 | Dermal for in use diluation = 31 | Oral = 100 | Inhalation = 100 | |
| RVNAS | 0.025 mg/kg bw/day | | RVAAS | 0.025 mg/kg bw/day | |
| DFR | 3 µg a.s./cm2 per kg a.s./ha | | DT50 | 30 days | |

**Table A33: Estimation of bystander and resident exposure towards acetamiprid for the application on Apples - 50 g/ha – [31% dermal absorption and application rate 1(365) and default DFR] - EFSA Model**

| | | | | |
|---|---|---|---|---|
| **Resident - child** | Spray drift (75th percentile) mg/kg bw/day | 0.0043 | % of RVNAS | 17.24% |
| | Vapour (75th percentile) mg/kg bw/day | 0.0011 | % of RVNAS | 4.28% |
| | Surface deposits (75th percentile) mg/kg bw/day | 0.0003 | % of RVNAS | 1.15% |
| | Entry into treated crops (75th percentile) mg/kg bw/day | 0.0026 | % of RVNAS | 10.46% |
| | All pathways (mean) mg/kg bw/day | 0.0062 | % of RVNAS | 24.67% |
| **Resident - adult** | Spray drift (75th percentile) mg/kg bw/day | 0.0024 | % of RVNAS | 9.55% |
| | Vapour (75th percentile) mg/kg bw/day | 0.0002 | % of RVNAS | 0.92% |
| | Surface deposits (75th percentile) mg/kg bw/day | 0.0001 | % of RVNAS | 0.46% |
| | Entry into treated crops (75th percentile) mg/kg bw/day | 0.0015 | % of RVNAS | 5.81% |
| | All pathways (mean) mg/kg bw/day | 0.0030 | % of RVNAS | 12.08% |
| **Bystander - child** | Spray drift (95th percentile) mg/kg bw/day | 0.0099 | % of RVAAS | 39.49% |
| | Vapour (95th percentile) mg/kg bw/day | 0.0011 | % of RVAAS | 4.28% |
| | Surface deposits (95th percentile) mg/kg bw/day | 0.0008 | % of RVAAS | 3.13% |
| | Entry into treated crops (95th percentile) mg/kg bw/day | 0.0026 | % of RVAAS | 10.46% |
| **Bystander - adult** | Spray drift (95th percentile) mg/kg bw/day | 0.0055 | % of RVAAS | 21.89% |
| | Vapour (95th percentile) mg/kg bw/day | 0.0002 | % of RVAAS | 0.92% |
| | Surface deposits (95th percentile) mg/kg bw/day | 0.0003 | % of RVAAS | 1.26% |
| | Entry into treated crops (95th percentile) mg/kg bw/day | 0.0015 | % of RVAAS | 5.81% |

# 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)

## A 4.1.1 Study 1

| | |
|---|---|
| Reference: | KCP 7.2/01 |
| Report | Acetamiprid foliar dislodgeable residues dissipation on pome fruit in southern and northern Europe (Spain, Italy and Czech republic), Wilson, A. 2016, Report No. R-37353, AgroChemex Report No. ACI16-010 |
| Guideline(s): | Foliar Dislodgeable Residue Dissipation: OPPTS 875.2100, OECD Series on Testing and Assessment No. 72 and Series on Pesticides No. 39, EC 7029/VI/95 rev. 5, SANCO/825/00 rev. 8.1, SANCO/3029/99 rev. 4 |
| Deviations: | Yes, All the dislodging solution was combined (400 mL) and subsequently 100 mL taken for the "ship" and "retain" samples. The remaining 200 mL was discarded. The dislodging of the 5 DALA samples was started after approximately 5 hours after field sampling, rather than within 4 hours. However, these deviations have no effect on the study. |
| GLP: | Yes |
| Acceptability: | Yes |
| Duplication (if vertebrate study) | No |

### Materials and methods

| | |
|---|---|
| **Test material (Lot/Batch No.)** | MCW-2222/Acetamiprid 200 SL 205.1 g/L (811-021115-01) |
| **Test site, no. of applications** | Spain (L'Armentara), Italy (Castello Dell'Acqua) and Czech Republic (Dètkovice); 2 applications of SL formulation |
| **Test material** | 40 Pome leaf discs (5 $cm^2$) per treatment and subplot (3 subplots per treatment) |
| **Nominal rate of application** | 100 g a.s./ha (Spain, Italy); 80 g a.s./ha (Czech Republic) |
| **Interval between the first application** | Spain, Italy: 8 days<br>Czech Republic: 7 days |
| **DFR samples** | Prior and after application and 1, 2, 3, 5, 7, 10, 14±1, 21±1, 28±1 days after the last application |
| **Field fortification samples** | 7, 14±1, 21±1, 28±1 days after the last application |
| **Remarks** | None |

## Results and discussions

**Table A34: Results of filed recovery study of MCW-2222/Acetamiprid 200**

| Occasion | Field recovery (%) | | | | | |
|---|---|---|---|---|---|---|
| | Trial 1 (Spain) | | Trial 2 (Italy) | | Trial 3 (Czech Republic) | |
| | Low rate (1 µg/L) | High rate (1000 µg/L) | Low rate (1 µg/L) | High rate (1000 µg/L) | Low rate (1 µg/L) | High rate (1000 µg/L) |
| Applic. 1 | 94.9 | 105.7 | 95.2 | 103.0 | 99.4 | 96.8 |
| Applic. 2 | 95.7 | 104.2 | 92.8 | 96.8 | 92.4 | 95.8 |
| 7 DALA | 99.7 | 107.7 | ** | 93.3 | 93.1 | 91.8 |
| 14±1 DALA | 85.7 | 92.1 | 103.7 | 108.5 | 93.5 | 94.8 |
| 21±1 DALA | 89.9 | 102.7 | 104.2 | 109.4 | 96.8 | 92.4 |
| 28±1 DALA | 90.6 | 103.8 | 93.7* | 98.3 | 95.3 | 103.5 |

* Calculated from two replicates due to suspected double fortification on the third replicate; DALA = days after last application

** The field recovery for the low rate could not be confirmed due to anomalous results

**Table A35: Results of DFR analysis of MCW-2222/Acetamiprid 200**

| Occasion | Dislodged acetamiprid (µg/cm²)[1] | | |
|---|---|---|---|
| | Trial 1 (Spain) | Trial 2 (Italy) | Trial 3 (Czech Republic) |
| Prior applic. 1 | ND | ND | ND |
| Applic. 1 (+ 4 hr) | **0.2777** | **0.1213** | **0.1450** |
| Prior applic. 2 | 0.0398 | 0.0079 | 0.0450 |
| Applic. 2 (+ 4 hr) | 0.2498 | 0.0370 | 0.1832 |
| 1 DALA | 0.2678 | 0.0270 | 0.1717 |
| 2 DALA | 0.2342 | 0.0318 | 0.1370 |
| 3 DALA | 0.1810 | 0.0277 | 0.0985 |
| 5 DALA | 0.1083 | 0.0188 | 0.1022 |
| 7 DALA | 0.0597 | 0.0149 | 0.0349 |
| 10 DALA | 0.0607 | 0.0134 | 0.0308 |
| 14 DALA | 0.0420 | 0.0111 | 0.0174 |
| 21 DALA | 0.0386 | 0.0067 | 0.0139 |
| 28 DALA | 0.0208 | 0.0049 | 0.0075 |

1 Based on surface area of 400 $cm^2$ for 40 discs; ND = below the limit of detection; DALA = days after last application

**Table A36: DFR and $DT_{50}$ values values for each country and mean values**

| | Spain | Italy | Czech | Mean |
|---|---|---|---|---|
| DFR after first application (µg/cm²): | 0.2777 | 0.1213 | 0.1450 | 0.1813 |
| DFR after first application and corrected for the application rate (µg/cm²/kg a.s./ha): | 2.723 | 1.134 | 1.813 | 1.890 |
| $DT_{50}$ | 4.19 | 5.45 | 3.72 | 4.45 |

| | |
|---|---|
| **Evaluation:** | The site in Italy was excluded from the calculation of the average initial dislodgeable foliar Residues and from DT50 due to the occurrence of a light rain shower (3 mm) after the spray has dried, approximately 35 minutes after the last application.<br>The limit of quantitation (LOQ) was 0.2 µg/L and the limit of detection (LOD) was 0.02 µg/L. |

**Conclusion**

The initial dislodgeable foliar residues after one application and corrected for the application rate were 2.723, 1.134 and 1.813 µg/cm²/kg a.s./ha, in Spain, Italy and Czech Republic. The average decline rate ($DT_{50}$) in Spain, Czech Republic and Italy was 4.19, 3.72 and 5.45 days.