

REASONED OPINION

Reasoned opinion on the modification of the existing MRLs for acequinocyl in cucumbers, melons and pumpkins¹

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ABSTRACT

In accordance with Article 6 of Regulation (EC) No 396/2005, Germany, herewith referred to as the evaluating Member State (EMS), received an application from LWK NRW Pflanzenschutzdienst to modify the existing MRLs for the active substance acequinocyl in cucumbers, melons and pumpkins. In order to accommodate for the intended uses of acequinocyl in Germany, the EMS proposed to raise the existing MRL in cucumbers from the LOQ of 0.01 mg/kg to 0.08 mg/kg and concluded that insufficient data were provided to propose an MRL in melons and pumpkins. According to EFSA the data are sufficient to derive a MRL proposal of 0.08 mg/kg for acequinocyl in cucumbers in support of the intended indoor use. The data were insufficient to support the outdoor NEU use on cucumbers and the indoor use on melons and pumpkins. Based on the risk assessment results, EFSA concludes that the intended indoor use of acequinocyl on cucumbers will not result in a consumer exposure exceeding the toxicological reference values and therefore is unlikely to pose a public health concern.

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KEY WORDS

Acequinocyl, cucumbers, melons, pumpkins, MRL application, Regulation (EC) No 396/2005, consumer risk assessment, acaricide.

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SUMMARY

In accordance with Article 6 of Regulation (EC) No 396/2005³, Germany, herewith referred to as the evaluating Member State (EMS), received an application from LWK NRW Pflanzenschutzdienst to modify the existing MRLs for the active substance acequinocyl in cucumbers, melons and pumpkins. In order to accommodate for the intended uses of acequinocyl in Germany, the EMS proposed to raise the existing MRL in cucumbers from the LOQ of 0.01 mg/kg to 0.08 mg/kg and concluded that insufficient data were provided to propose an MRL in melons and pumpkins. The EMS drafted an evaluation report according to Article 8 of Regulation (EC) No 396/2005, which was submitted to the European Commission and forwarded to EFSA on 28 June 2012.

EFSA bases its assessment on the evaluation report submitted by the EMS Germany, the Draft Assessment Report and the addendum prepared under Council Directive 91/414/EEC, the conclusions on the peer review of the pesticide risk assessment of the active substance acequinocyl as well as the conclusion from the previous EFSA opinions on acequinocyl.

The toxicological profile of acequinocyl was assessed in the framework of the peer review and the data were sufficient to derive an ADI of 0.023 mg/kg bw per day and an ARfD of 0.08 mg/kg bw.

The metabolism of acequinocyl has been investigated in fruits and fruiting crops following foliar application. The peer review proposed that for this crop group the relevant residue for the enforcement and risk assessment is defined as parent acequinocyl. EFSA concludes that the metabolism of acequinocyl in cucurbits is sufficiently addressed and that the derived residue definitions are applicable.

EFSA concludes that the submitted supervised residue trials are sufficient to derive a MRL proposal of 0.08 mg/kg for acequinocyl in cucumbers in support of the intended indoor use. The data were insufficient to support the outdoor NEU use on cucumbers and the indoor use on melons and pumpkins. Adequate analytical enforcement methods are available to control the residues of acequinocyl in the crops under consideration at the validated LOQ of 0.01 mg/kg.

Studies investigating the effects of processing on the nature and magnitude of acequinocyl residues have not been performed and are not required in the framework of the current MRL application since the calculated total theoretical maximum daily intake (TMDI) is less than 10% of the ADI.

Given the fast degradation of acequinocyl residues in soil, EFSA concludes that acequinocyl residues are not expected to occur in rotational/succeeding crops grown in rotation with cucumbers, provided that the active substance is used according to the intended use pattern.

The nature and magnitude of acequinocyl residues in commodities of animal origin is not relevant in the framework of this application, as cucumbers are not fed to livestock.

The consumer risk assessment was performed with revision 2 of the EFSA Pesticides Residues Intake Model (PRIMO). For the calculation of the chronic exposure, EFSA used the median residue values as derived from the residue trials on cucumbers. For melons and pumpkins no data were available to derive MRL proposals and thus the existing EU MRL was used as an input value. For several commodities the median residue values were available to refine the exposure calculation. For the remaining commodities of plant and animal origin, the existing MRLs as established in Annex IIIA of Regulation (EC) No 396/2005 were used as input values.

The acute exposure assessment was performed only with regard to cucumbers assuming the consumption of a large portion of the food item as reported in the national food surveys containing residues at the highest level as observed in supervised field trials.

³ Regulation (EC) No 396/2005 of the Parliament and of the Council of 23 February 2005. OJ L 70, 16.03.2005, p. 1-16.

The estimated exposure was then compared with the toxicological reference values derived for acequinocyl.

No long-term consumer intake concerns were identified for any of the European diets incorporated in the EFSA PRIMo. The total calculated intake values accounted for up to 8.2 % of the ADI (DE child diet). The contribution of residues in cucumbers to the total consumer exposure accounted for a maximum of 0.14 % of the ADI (DK child diet).

No acute consumer risk was identified in relation to the residues in cucumbers from the intended indoor use (2.9 % of the ARfD).

EFSA concludes that the intended indoor use of acequinocyl on cucumbers will not result in a consumer exposure exceeding the toxicological reference values and therefore is unlikely to pose a public health concern.

Thus EFSA proposes to amend the existing MRLs as reported in the summary table.

Summary table

Code number ^(a)	Commodity	Existing EU MRL (mg/kg)	Proposed EU MRL (mg/kg)	Justification for the proposal
Enforcement residue definition: Acequinocyl				
0232010	Cucumbers	0.01*	0.08	The MRL proposal is sufficiently supported by data and no risk for consumers was identified for the intended indoor use.
0233010	Melons	0.01*	No new proposal	The intended indoor use is not supported by residue data.
0233020	Pumpkins	0.01*	No new proposal	

(a): According to Annex I of Regulation (EC) No 396/2005.

(*): Indicates that the MRL is set at the limit of analytical quantification.

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BACKGROUND

Regulation (EC) No 396/2005 establishes the rules governing the setting of pesticide MRLs at European Union level. Article 6 of that Regulation lays down that any party having a legitimate interest or requesting an authorisation for the use of a plant protection product in accordance with Council Directive 91/414/EEC, repealed by Regulation (EC) No 1107/2009, shall submit to a Member State, when appropriate, an application to set or to modify an MRL in accordance with the provisions of Article 7 of that Regulation.

Germany, hereafter referred to as the evaluating Member State (EMS), received an application from the LWK NRW Pflanzenschutzdienst⁴ to modify the existing MRLs for the active substance acequinocyl in cucumbers, melons and pumpkins. This application was notified to the European Commission and EFSA and subsequently evaluated by the EMS in accordance with Article 8 of the Regulation. After completion, the evaluation report was submitted to the European Commission who forwarded the application, the evaluation report and the supporting dossier to EFSA on 28 June 2012.

The application was included in the EFSA Register of Questions with the reference number EFSA-Q-2012-00675 and the following subject:

Acequinocyl - Application to modify the existing MRLs in cucurbits (inedible peel).

Germany proposed to raise the existing MRL for acequinocyl in cucumbers from the LOQ (limit of quantification) of 0.01 mg/kg to 0.08 mg/kg and concluded that insufficient data were provided to propose an MRL for acequinocyl in melons and pumpkins.

EFSA proceeded with the assessment of the application and the evaluation report as required by Article 10 of the Regulation.

TERMS OF REFERENCE

In accordance with Article 10 of Regulation (EC) No 396/2005, EFSA shall, based on the evaluation report provided by the evaluating Member State, provide a reasoned opinion on the risks to the consumer associated with the application.

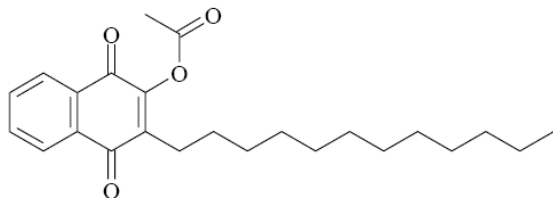
In accordance with Article 11 of that Regulation, the reasoned opinion shall be provided as soon as possible and at the latest within three months (which may be extended to six months where more detailed evaluations need to be carried out) from the date of receipt of the application. Where EFSA requests supplementary information, the time limit laid down shall be suspended until that information has been provided.

In this particular case the calculated deadline for providing the reasoned opinion is 28 September 2012.

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THE ACTIVE SUBSTANCE AND ITS USE PATTERN

Acequinocyl is the ISO common name for 3-dodecyl-1,4-dihydro-1,4-dioxo-2-naphthyl acetate (IUPAC). The chemical structure of the compound is herewith reported.



Molecular weight: 384.5

Acequinocyl is a non-systemic acaricide which is considered fat-soluble. It blocks the cellular respiration at membrane level in mites. It is used as a foliar application to control spider mites in ornamentals, apples and pears.

Acequinocyl is a new active substance which was peer reviewed according to Directive 91/414/EEC with the Netherlands designated as rapporteur Member State (RMS). The EFSA conclusion has been issued in 2007 (EFSA, 2007a), but the decision on the inclusion or non-inclusion of acequinocyl in Annex I of Directive 91/414/EEC has not been yet taken. Commission Implementing Decision 2011/490/EU⁵ gives the Member States the right to extend the provisional authorisations on the use of the active substance for a period ending 31 July 2013. The representative uses evaluated in the peer review were field and greenhouse foliar applications on ornamentals, apples and pears.

The EU MRLs for acequinocyl are established in Annex IIIA of Regulation (EC) No 396/2005 (Appendix C). The MRL proposals for oranges, mandarins, peaches, grapes, tomatoes, aubergines and hops have been evaluated by EFSA (EFSA, 2010a, 2010b) and were implemented in the EU legislation. The existing EU MRL for acequinocyl in cucumbers, melons and pumpkins is set at the LOQ of 0.01 mg/kg. No CXLs are established for acequinocyl.

The details of the intended indoor and outdoor GAPs in Germany for the use of acequinocyl on cucumbers, melons and pumpkins are given in Appendix A.

⁵ Commission Implementing Decision 2011/490/EU of 2 August 2011. OJ L 201, 4.8.2011, p. 16-18.

ASSESSMENT

EFSA bases its assessment on the evaluation report submitted by the EMS (Germany, 2012), the Draft Assessment Report (DAR) and its addendum prepared under Council Directive 91/414/EEC (The Netherlands, 2005, 2007), the conclusion on the peer review of the pesticide risk assessment of the active substance acequinocyl (EFSA, 2007a), as well as the conclusions from previous EFSA reasoned opinions on acequinocyl (EFSA, 2010a, 2010b). The assessment is performed in accordance with the legal provisions of the Uniform Principles for the Evaluation and the Authorisation of Plant Protection Products adopted by Commission Regulation (EU) No 546/2011⁶ and the currently applicable guidance documents relevant for the consumer risk assessment of pesticide residues (EC, 1996, 1997a, 1997b, 1997c, 1997d, 1997e, 1997f, 1997g, 2000, 2010a, 2010b, 2011; OECD, 2011).

1. Method of analysis

1.1. Methods for enforcement of residues in food of plant origin

Analytical methods for the enforcement of acequinocyl residues in plant commodities were investigated in the framework of the peer review of Directive 91/414/EEC (The Netherlands, 2005). For the determination of acequinocyl and its metabolite R1⁷ (acequinocyl-OH) in matrices with high water and high acid content an HPLC-MS/MS method has been validated at the LOQ of 0.01 mg/kg for each substance separately. The ILV study has been performed.

EFSA concludes that sufficiently validated analytical methods are available to control residues of acequinocyl in the crops under consideration.

1.2. Methods for enforcement of residues in food of animal origin

Analytical methods for the determination of residues in food of animal origin are not assessed in the current application, since the crops under consideration are normally not fed to livestock.

2. Mammalian toxicology

The toxicological profile of the active substance acequinocyl was assessed in the framework of the peer review under Directive 91/414/EEC (EFSA, 2007a). The data were sufficient to derive toxicological reference values for acequinocyl which are compiled in Table 2-1.

Table 2-1: Overview of the toxicological reference values

	Source	Year	Value	Study relied upon	Safety factor
Acequinocyl					
ADI	EFSA	2007	0.023 mg/kg bw per day	2 yrs rat	100
ARfD	EFSA	2007	0.08 mg/kg bw	Rat, mechanistic studies, single dose	100

⁶ Commission Regulation (EU) No 546/2011 of 10 June 2011. OJ L 155, 11.06.2011, p. 127-175.

⁷ R1: 2-dodecyl-3-hydroxynaphthalene-1,4-dione

3. Residues

3.1. Nature and magnitude of residues in plant

3.1.1. Primary crops

3.1.1.1. Nature of residues

The metabolism of acequinocyl in fruits and fruiting vegetables crop group (apples, aubergines and oranges) following foliar treatment was investigated in the framework of the peer review under Directive 91/414/EEC (The Netherlands, 2005, EFSA, 2007a) and the details of the studies have been discussed in the previously issued EFSA reasoned opinions (EFSA, 2010a, 2010b).

The metabolic pathway of acequinocyl proceeds through hydrolysis of the acetic acid ester moiety, opening of the naphthalenedione ring and hydrolysis of the dodecyl aliphatic chain. These reactions result in the formation of phthalic acid⁸. The peer review proposed that in fruits and fruiting vegetables the relevant residue for the enforcement and risk assessment is defined as parent acequinocyl. Phthalic acid was not considered appropriate for inclusion in the residue definition, due to its lack of specificity and its presence in the environment from other sources (EFSA, 2007a).

EFSA concludes that the metabolism of acequinocyl is sufficiently addressed in the crops under consideration and no additional investigations are necessary.

3.1.1.2. Magnitude of residues

a. Cucumbers

In support of the intended indoor GAP, the applicant submitted in total 9 GAP compliant residue trials on cucumbers which were performed in Germany in 2009 and 2010. The data are sufficient to derive a MRL proposal of 0.08 mg/kg for acequinocyl in cucumbers.

In support of the intended outdoor NEU GAP, the applicant had submitted 4 residue trials on gherkins, which were not compliant with the intended GAP in terms of the number of applications and was therefore disregarded by the EMS and EFSA. The outdoor NEU use of acequinocyl on cucumbers is thus not supported and no MRL proposal can be derived.

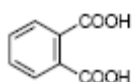
b. Melons, pumpkins

No residue trials were submitted and thus no MRL proposal can be derived for residues of acequinocyl in melons and pumpkins.

The results of the residue trials, the related risk assessment input values (highest residue, median residue) and the MRL proposals are summarised in Table 3-1.

The storage stability of acequinocyl in primary crops was investigated in the framework of the peer review under Directive 91/414/EEC (EFSA, 2007a). Residues of acequinocyl and its metabolite R1 were found to be stable at $\leq -18^{\circ}\text{C}$ for at least 18 months in matrices with high water content. The supervised residue trial samples of cucumbers were stored within this period of time (maximum of 13 months) and therefore the residue data are considered valid with regard to storage stability.

According to the EMS, the analytical methods used to analyse the supervised residue trial samples have been sufficiently validated and were proven to be fit for purpose (Germany, 2012).



⁸ Phthalic acid

Table 3-1: Overview of the available residues trials data

Commodity	Residue region (a)	Outdoor /Indoor	Individual trial results (mg/kg)		Median residue (mg/kg) (b)	Highest residue (mg/kg) (c)	MRL proposal (mg/kg)	Median CF (d)	Comments (e)
			Enforcement (acequinocyl)	Risk assessment (acequinocyl)					
Cucumbers	EU	Indoor	0.01; 0.013; 2 x 0.02; 0.023; 0.027; 0.029; 2 x 0.04	0.01; 0.013; 2 x 0.02; 0.023; 0.027; 0.029; 2 x 0.04	0.02	0.04	0.08	1.0	$R_{ber} = 0.07$ $R_{max} = 0.06$ $MRL_{OECD} = 0.074/0.08$
	NEU	Outdoor	-	-	The provided residue trials on gherkins are incompliant with the intended NEU GAP.				
Melons, pumpkins	NEU	Outdoor	-	-	No residue trials submitted and the extrapolation from the available data on cucumbers is not acceptable according to the EU guidelines (EC, 2011).				

(a): NEU (Northern and Central Europe), SEU (Southern Europe and Mediterranean), EU (*i.e.* outdoor use) or Import (country code) (EC, 2011).

(b): Median value of the individual trial results according to the enforcement residue definition.

(c): Highest value of the individual trial results according to the enforcement residue definition.

(d): The median conversion factor for enforcement to risk assessment is obtained by calculating the median of the individual conversion factors for each residue trial.

(e): Statistical estimation of MRLs according to the EU methodology (R_{ber} , R_{max} ; EC, 1997g) and unrounded/rounded values according to the OECD methodology (OECD, 2011).

3.1.1.3. Effect of industrial processing and/or household preparation

The effect of processing on the nature of acequinocyl has not been investigated in the peer review (EFSA, 2007a) or in the framework of the MRL application. Specific studies to assess the magnitude of acequinocyl residues during the processing of cucumbers have not been submitted in the framework of the current application. Since the calculated total theoretical maximum daily intake (TMDI) is less than 10% of the ADI (see section 4), no such studies are required in the framework of the current MRL application.

However, before a final decision is taken on the residue definition for processed commodities, a hydrolysis study would have to be performed according to the requirements as established in the EU guidance document on processing studies (EC, 1997d). The need for such studies is to be considered in the framework of Article 12 of Regulation (EC) No 396/2005.

3.1.2. Rotational crops

3.1.2.1. Preliminary considerations

The rate of degradation of acequinocyl residues in the soil was investigated under the peer review of Directive 91/414/EEC in the field and laboratory studies (The Netherlands, 2005). According to the field studies, degradation of acequinocyl residues in soil occurs very fast. The derived DT_{90f} values for parent and its metabolite R1⁹ accounted for a maximum of 20.6 hours and 23.9 hours, respectively. Metabolite AKM-18¹⁰ was only incidentally found (EFSA, 2007a).

Studies investigating the nature and magnitude of acequinocyl in rotational crops have not been submitted in the framework of the peer review (use on annual crops and ornamentals).

EFSA concludes that acequinocyl residues are not expected to occur in rotational/succeeding crops grown in rotation with cucumbers, provided that the active substance is used on cucumbers according to the intended use pattern.

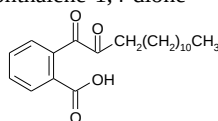
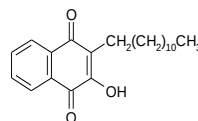
3.2. Nature and magnitude of residues in livestock

Since cucurbits and/or their by-products are not normally fed to livestock, the nature and magnitude of acequinocyl residues in livestock is not assessed in the framework of this application.

4. Consumer risk assessment

The consumer risk assessment was performed with revision 2 of the EFSA Pesticide Residues Intake Model (PRIMo). This exposure assessment model contains the relevant European food consumption data for different sub-groups of the EU population¹¹ (EFSA, 2007b). For the calculation of the chronic exposure, EFSA used the median residue values as derived from the residue trials on cucumbers (see Table 3-1). For melons and pumpkins no data were available to derive MRL proposals and thus the existing EU MRL was used as an input value for these crops. For several commodities the median residue values were available from the previously issued EFSA reasoned opinions (EFSA, 2010a,

⁹ R1 (acequinocyl-OH): 2-dodecyl-3-hydroxynaphthalene-1,4-dione



¹⁰ AKM-18: 2-(2-oxotetradecanoyl)benzoic acid

¹¹ The calculation of the long-term exposure (chronic exposure) is based on the mean consumption data representative for 22 national diets collected from MS surveys plus 1 regional and 4 cluster diets from the WHO GEMS Food database; for the acute exposure assessment the most critical large portion consumption data from 19 national diets collected from MS surveys is used. The complete list of diets incorporated in EFSA PRIMo is given in its reference section (EFSA, 2007).

2010b) to refine the exposure calculation. For the remaining commodities of plant and animal origin, the existing MRLs as established in Annex IIIA of Regulation (EC) No 396/2005 were used as input values.

The model assumptions for the long-term exposure assessment are considered to be sufficiently conservative for a first tier exposure assessment, assuming that all food items consumed have been treated with the active substance under consideration. In reality, it is not likely that all food consumed will contain residues at the MRL or at levels of the median residue values identified in supervised field trials. However, if this first tier exposure assessment does not exceed the toxicological reference value for long-term exposure (*i.e.* the ADI), a consumer health risk can be excluded with a high probability.

The acute exposure assessment was performed only with regard to cucumbers assuming the consumption of a large portion of the food item as reported in the national food surveys containing residues at the highest level as observed in supervised field trials. A variability factor accounting for the inhomogeneous distribution on the individual items consumed was included in the calculation, when required (EFSA, 2007b).

The input values used for the dietary exposure calculation are summarised in Table 4-1.

Table 4-1: Input values for the consumer dietary exposure assessment

Commodity	Chronic exposure assessment		Acute exposure assessment	
	Input value (mg/kg)	Comment	Input value (mg/kg)	Comment
Risk assessment residue definition: Acequinocyl				
Cucumbers	0.02	Median residue (Table 3-1)	0.04	Highest residue (Table 3-1)
Hops	2.6	Median residue (EFSA, 2010b)	Acute risk assessment was undertaken only with regard to cucumbers	
Mandarins	0.02	Median residue (EFSA, 2010a)		
Oranges	0.01	Median residue (EFSA, 2010a)		
Peaches	0.014	Median residue (EFSA, 2010a)		
Table and wine grapes	0.045	Median residue (EFSA, 2010a)		
Tomatoes	0.1	Median residue (EFSA, 2010a)		
Aubergines	0.1	Median residue (EFSA, 2010a)		
Other commodities of plant and animal origin	MRL	See Appendix C		

The estimated exposure was then compared with the toxicological reference values derived for acequinocyl (see Table 2-1). The results of the intake calculation are presented in Appendix B to this reasoned opinion.

No long-term consumer intake concerns were identified for any of the European diets incorporated in the EFSA PRIMo. The total calculated intake values accounted for up to 8.2 % of the ADI (DE child diet). The contribution of residues in cucumbers to the total consumer exposure accounted for a maximum of 0.14 % of the ADI (DK child diet).

No acute consumer risk was identified in relation to the residues in cucumbers from the intended indoor use. The calculated maximum exposure in percentage of the ARfD was 2.9 % for cucumbers.

EFSA concludes that the intended use of acequinocyl on cucumbers will not result in a consumer exposure exceeding the toxicological reference values and therefore is unlikely to pose a public health concern.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The toxicological profile of acequinocyl was assessed in the framework of the peer review and the data were sufficient to derive an ADI of 0.023 mg/kg bw per day and an ARfD of 0.08 mg/kg bw.

The metabolism of acequinocyl has been investigated in fruits and fruiting crops following foliar application. The peer review proposed that for this crop group the relevant residue for the enforcement and risk assessment is defined as parent acequinocyl. EFSA concludes that the metabolism of acequinocyl in cucurbits is sufficiently addressed and that the derived residue definitions are applicable.

EFSA concludes that the submitted supervised residue trials are sufficient to derive a MRL proposal of 0.08 mg/kg for acequinocyl in cucumbers in support of the intended indoor use. The data were insufficient to support the outdoor NEU use on cucumbers and the indoor use on melons and pumpkins. Adequate analytical enforcement methods are available to control the residues of acequinocyl in the crops under consideration at the validated LOQ of 0.01 mg/kg.

Studies investigating the effects of processing on the nature and magnitude of acequinocyl residues have not been performed and are not required in the framework of the current MRL application since the calculated total theoretical maximum daily intake (TMDI) is less than 10% of the ADI.

Given the fast degradation of acequinocyl residues in soil, EFSA concludes that acequinocyl residues are not expected to occur in rotational/succeeding crops grown in rotation with cucumbers, provided that the active substance is used according to the intended use pattern.

The nature and magnitude of acequinocyl residues in commodities of animal origin is not relevant in the framework of this application, as cucumbers are not fed to livestock.

The consumer risk assessment was performed with revision 2 of the EFSA Pesticides Residues Intake Model (PRIMO). For the calculation of the chronic exposure, EFSA used the median residue values as derived from the residue trials on cucumbers. For melons and pumpkins no data were available to derive MRL proposals and thus the existing EU MRL was used as an input value. For several commodities the median residue values were available to refine the exposure calculation. For the remaining commodities of plant and animal origin, the existing MRLs as established in Annex IIIA of Regulation (EC) No 396/2005 were used as input values.

The acute exposure assessment was performed only with regard to cucumbers assuming the consumption of a large portion of the food item as reported in the national food surveys containing residues at the highest level as observed in supervised field trials.

The estimated exposure was then compared with the toxicological reference values derived for acequinocyl.

No long-term consumer intake concerns were identified for any of the European diets incorporated in the EFSA PRIMO. The total calculated intake values accounted for up to 8.2 % of the ADI (DE child diet). The contribution of residues in cucumbers to the total consumer exposure accounted for a maximum of 0.14 % of the ADI (DK child diet).

No acute consumer risk was identified in relation to the residues in cucumbers from the intended indoor use (2.9 % of the ARfD).

EFSA concludes that the intended indoor use of acequinocyl on cucumbers will not result in a consumer exposure exceeding the toxicological reference values and therefore is unlikely to pose a public health concern.

RECOMMENDATIONS

Code number ^(a)	Commodity	Existing EU MRL (mg/kg)	Proposed EU MRL (mg/kg)	Justification for the proposal
Enforcement residue definition: Acequinocyl				
0232010	Cucumbers	0.01*	0.08	The MRL proposal is sufficiently supported by data and no risk for consumers was identified for the intended indoor use.
0233010	Melons	0.01*	No new proposal	The intended indoor use is not supported by residue data.
0233020	Pumpkins	0.01*	No new proposal	

(a): According to Annex I of Regulation (EC) No 396/2005.

(*): Indicates that the MRL is set at the limit of analytical quantification.

REFERENCES

- Anastassiades M, Lehotay SJ, Stajnbaher D, Schenck FJ, 2003. Fast and Easy Mutliresidue Method Employing Acetonitrile Extraction/Partitioning and Dispersive Solid-Phase Extraction for the Determination of Pesticide Residues in Produce. Journal of AOAC International, 86, 22, 412-431.
- CEN (European Committee for Standardisation), 2008. Foods of plant origin - Determination of pesticide residues using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE. QuEChERS-method. EN 15662.2008. November 2008.
- EC (European Commission), 1996. Appendix G. Livestock Feeding Studies. 7031/VI/95 rev.4. Available from: http://ec.europa.eu/food/plant/protection/resources/publications_en.
- EC (European Commission), 1997a. Appendix A. Metabolism and distribution in plants. 7028/IV/95-rev.3. Available from: http://ec.europa.eu/food/plant/protection/resources/publications_en
- EC (European Commission), 1997b. Appendix B. General recommendations for the design, preparation and realisation of residue trials. Annex 2. Classification of (minor) crops not listed in the Appendix of Council Directive 90/642/EEC. 7029/VI/95-rev.6. Available from: http://ec.europa.eu/food/plant/protection/resources/publications_en
- EC (European Commission), 1997c. Appendix C. Testing of plant protection products in rotational crops. 7524/VI/95-rev.2. Available from: http://ec.europa.eu/food/plant/protection/resources/publications_en
- EC (European Commission), 1997d. Appendix E. Processing studies. 7035/VI/95-rev.5. Available from: http://ec.europa.eu/food/plant/protection/resources/publications_en
- EC (European Commission), 1997e. Appendix F. Metabolism and distribution in domestic animals. 7030/VI/95-rev.3. Available from: http://ec.europa.eu/food/plant/protection/resources/publications_en
- EC (European Commission), 1997f. Appendix H. Storage stability of residue samples. 7032/VI/95-rev.5. Available from: http://ec.europa.eu/food/plant/protection/resources/publications_en
- EC (European Commission), 1997g. Appendix I. Calculation of maximum residue level and safety intervals. 7039/VI/95. Available from: http://ec.europa.eu/food/plant/protection/resources/publications_en
- EC (European Commission), 2000. Residue analytical methods. For pre-registration data requirement for Annex II (part A, section 4) and Annex III (part A, section 5 of Directive 91/414). SANCO/3029/99-rev.4. Available from: http://ec.europa.eu/food/plant/protection/resources/publications_en

- EC (European Commission), 2010a. Classes to be used for the setting of EU pesticide Maximum Residue Levels (MRLs). SANCO 10634/2010 Rev. 0, finalised in the Standing Committee on the Food Chain and Animal Health at its meeting of 23-24 March 2010.
- EC (European Commission), 2010b. Residue analytical methods. For post-registration control. SANCO/825/00-rev.8.1. Available from: http://ec.europa.eu/food/plant/protection/resources/publications_en
- EC (European Commission), 2011. Appendix D. Guidelines on comparability, extrapolation, group tolerances and data requirements for setting MRLs. 7525/VI/95-rev.9. Available from: http://ec.europa.eu/food/plant/protection/resources/publications_en
- EFSA (European Food Safety Authority), 2007a. Conclusion on the peer review of the pesticide risk assessment of the active substance acequinocyl. *EFSA Scientific Report* (2007), 125, 1-79.p
- EFSA (European Food Safety Authority), 2007b. Reasoned opinion on the potential chronic and acute risk to consumers health arising from proposed temporary EU MRLs. Available online: www.efsa.europa.eu/efsajournal
- EFSA (European Food Safety Authority), 2010a. Reasoned opinion on the modification of the existing MRLs for acequinocyl in oranges, mandarins, peaches, grapes, tomatoes and aubergines prepared by EFSA Pesticide Risk Assessment Peer Review (PRAPeR) Unit. *EFSA Journal* 2010; 8(4):1596, 28 pp.
- EFSA (European Food Safety Authority), 2010b. Reasoned opinion on the modification of the existing MRL for acequinocyl in hops prepared by EFSA Pesticide Risk Assessment Peer Review (PRAPeR) Unit. *EFSA Journal* 2010; 8(12):1937, 25 pp.
- Germany, 2012. Evaluation report on the setting of MRLs for acequinocyl in cucumbers, melons and pumpkins prepared by the evaluating Member State (EMS) under Article 8 of Regulation (EC) No 396/2005, 9 May 2012, 24 pp.
- Meier U, 2001. Growth Stages of mono- and dicotyledonous plants. BBCH Monograph, 2nd Ed., Federal Biological Research Centre of Agriculture and Forest. Braunschweig, Germany. Available from: http://www.jki.bund.de/fileadmin/dam/uploads/veroeff/bbch/BBCH-Skala_englisch
- OECD (Organisation for Economic Co-operation and Development), 2011. OECD MRL Calculator: spreadsheet for single data set and spreadsheet for multiple data set, 2 March 2011. In: Pesticide Publications/Publications on Pesticide Residues. Available from: <http://www.oecd.org/env/pesticides>
- The Netherlands, 2005. Draft assessment report on the active substance acequinocyl prepared by the rapporteur Member State the Netherlands in the framework of Council Directive 91/414/EEC, February 2005.
- The Netherlands, 2007. Final addendum to the draft assessment report on the active substance acequinocyl prepared by the rapporteur Member State the Netherlands in the framework of Council Directive 91/414/EEC, September 2007.

APPENDICES

A. GOOD AGRICULTURAL PRACTICE (GAPs)

Crop and/or situation (a)	Member State or Country	F G or I (b)	Pest or group of pests controlled (c)	Formulation type (d - f)	Application				Application rate per treatment			PHI (days) (l)	Remarks (m)
					method kind (f - h)	growth stage & season (j)	number min max (k)	interval min max	kg, product /ha min max	L water /ha min max	kg a.s./ha min max		
Cucumber	DE	G	Red spider mites		spray		2	10-14 days	0.625 0.938 1.25	600 900 1200	0.094 (0.016 kg a.s./hL) 0.14 (0.016 kg a.s./hL) 0.19 (0.016 kg a.s./hL)	3	50cm plant height 50-125 cm plant height >125 cm plant height
		F					2	10-14 days	1.25	600	0.19	3	
Ccurbits with inedible peel (bottle gourd, musky gourd, pumpkin, melon, giant pumpkin)	DE	G	Red spider mites		spray		2	10-14 days	0.625 0.938 1.25	600 900 1200	0.094 (0.016 kg a.s./hL) 0.14 (0.016 kg a.s./hL) 0.19 (0.016 kg a.s./hL)	3	50cm plant height 50-125 cm plant height >125 cm plant height

- Remarks:
- (a) For crops, EU or other classifications, e.g. Codex, should be used; where relevant, the use situation should be described (e.g. fumigation of a structure)
 - (b) Outdoor or field use (F), glasshouse application (G) or indoor application (I)
 - (c) e.g. biting and sucking insects, soil born insects, foliar fungi, weeds
 - (d) e.g. wettable powder (WP), emulsifiable concentrate (EC), granule (GR)
 - (e) GCPF Technical Monograph No 2, 4th Ed., 1999 or other codes, e.g. OECD/CIPAC, should be used
 - (f) All abbreviations used must be explained
 - (g) Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench
 - (h) Kind, e.g. overall, broadcast, aerial spraying, row, individual plant, between the plants - type of equipment used must be indicated
 - (i) g/kg or g/l
 - (j) Growth stage at last treatment (Growth stages of mono- and dicotyledonous plants. BBCH Monograph, 2nd Ed., 2001), including where relevant, information on season at time of application
 - (k) The minimum and maximum number of application possible under practical conditions of use must be provided
 - (l) PHI - minimum pre-harvest interval
 - (m) Remarks may include: Extent of use/economic importance/restrictions (*i.e.* feeding, grazing)

B. PESTICIDE RESIDUES INTAKE MODEL (PRIMO)

				Acequinocyl				Prepare workbook for refined calculations		
				Status of the active substance: Pending		Code no.:				
				LOQ (mg/kg bw): 0.01		proposed LOQ:				
				Toxicological end points						
				ADI (mg/kg bw/day): 0.023		ARfD (mg/kg bw): 0.08		Undo refined calculations		
				Source of ADI: EFSA		Source of ARfD: EFSA				
				Year of evaluation: 2007		Year of evaluation: 2007				
Chronic risk assessment - refined calculations										
				TMDI (range) in % of ADI minimum - maximum						
				1 8						
				No of diets exceeding ADI: ---						
	Highest calculated TMDI values in % of ADI	MS Diet		Highest contributor to MS diet (in % of ADI)	Commodity / group of commodities	2nd contributor to MS diet (in % of ADI)	Commodity / group of commodities	3rd contributor to MS diet (in % of ADI)	Commodity / group of commodities	pTMRs at LOQ (in % of ADI)
	8.2	DE child		5.2	Apples	0.6	Milk and cream,	0.4	Tomatoes	1.6
	6.2	NL child		2.8	Apples	1.3	Milk and cream,	0.3	Tomatoes	2.5
	4.6	WHO Cluster diet B		1.3	Tomatoes	0.4	Apples	0.4	Wheat	1.6
	4.5	FR toddler		1.7	Milk and cream,	1.1	Apples	0.3	Tomatoes	2.8
	3.9	UK Infant		1.7	Milk and cream,	0.7	Apples	0.4	Sugar beet (root)	2.8
	3.8	UK Toddler		1.0	Sugar beet (root)	0.9	Milk and cream,	0.7	Apples	2.6
	3.6	IE adult		0.6	Grapefruit	0.4	Apples	0.3	Pears	1.4
	3.3	DK child		1.0	Apples	0.5	Milk and cream,	0.3	Pears	1.5
	3.1	FR infant		1.1	Milk and cream,	1.1	Apples	0.2	Potatoes	1.8
	2.6	ES child		0.5	Milk and cream,	0.5	Apples	0.4	Tomatoes	1.4
	2.5	SE general population 90th percentile		0.5	Milk and cream,	0.5	Apples	0.3	Tomatoes	1.3
	2.4	WHO cluster diet E		0.4	Apples	0.3	Wine grapes	0.2	Tomatoes	1.1
	2.3	PT General population		0.5	Wine grapes	0.5	Apples	0.4	Tomatoes	0.6
	2.2	WHO cluster diet D		0.4	Tomatoes	0.3	Apples	0.3	Wheat	1.1
	2.2	WHO regional European diet		0.5	Tomatoes	0.3	Apples	0.2	Milk and cream,	1.0
	2.0	FR all population		0.8	Wine grapes	0.2	Apples	0.2	Tomatoes	0.5
	2.0	NL general		0.5	Apples	0.3	Milk and cream,	0.2	Tomatoes	0.8
	1.9	WHO Cluster diet F		0.3	Tomatoes	0.3	Apples	0.2	Milk and cream,	1.0
	1.9	IT kids/toddler		0.6	Tomatoes	0.4	Apples	0.3	Wheat	0.6
	1.8	PL general population		0.9	Apples	0.4	Tomatoes	0.1	Potatoes	0.3
	1.8	LT adult		0.8	Apples	0.3	Tomatoes	0.2	Milk and cream,	0.6
	1.7	ES adult		0.3	Tomatoes	0.3	Apples	0.2	Milk and cream,	0.7
	1.6	UK vegetarian		0.3	Tomatoes	0.3	Apples	0.2	Sugar beet (root)	0.7
	1.6	DK adult		0.3	Apples	0.3	Wine grapes	0.2	Milk and cream,	0.6
	1.5	IT adult		0.5	Tomatoes	0.3	Apples	0.2	Wheat	0.4
	1.4	UK Adult		0.2	Wine grapes	0.2	Tomatoes	0.2	Apples	0.6
	1.1	FI adult		0.2	Milk and cream,	0.2	Tomatoes	0.2	Apples	0.5
Conclusion:										
The estimated Theoretical Maximum Daily Intakes (TMDI), based on pTMRs were below the ADI. A long-term intake of residues of Acequinocyl is unlikely to present a public health concern.										

Acute risk assessment /children - refined calculations						Acute risk assessment / adults / general population - refined calculations						
The acute risk assessment is based on the ARfD.												
For each commodity the calculation is based on the highest reported MS consumption per kg bw and the corresponding unit weight from the MS with the critical consumption. If no data on the unit weight was available from that MS an average European unit weight was used for the IESTI calculation.												
In the IESTI 1 calculation, the variability factors were 10, 7 or 5 (according to JMPR manual 2002), for lettuce a variability factor of 5 was used.												
In the IESTI 2 calculations, the variability factors of 10 and 7 were replaced by 5. For lettuce the calculation was performed with a variability factor of 3.												
Threshold MRL is the calculated residue level which would leads to an exposure equivalent to 100 % of the ARfD.												
Unprocessed commodities	No of commodities for which ARfD/ADI is exceeded (IESTI 1):			No of commodities for which ARfD/ADI is exceeded (IESTI 2):			No of commodities for which ARfD/ADI is exceeded (IESTI 1):			No of commodities for which ARfD/ADI is exceeded (IESTI 2):		
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	IESTI 1	*)	**) (***)	IESTI 2	*)	**) (***)	IESTI 1	*)	**) (***)	IESTI 2	*)	**) (***)
	Highest % of ARfD/ADI	Commodities	pTMRL/ threshold MRL (mg/kg)	Highest % of ARfD/ADI	Commodities	pTMRL/ threshold MRL (mg/kg)	Highest % of ARfD/ADI	Commodities	pTMRL/ threshold MRL (mg/kg)	Highest % of ARfD/ADI	Commodities	pTMRL/ threshold MRL (mg/kg)
	2.9	Cucumbers	0.04 / -	2.9	Cucumbers	0.04 / -	1.0	Cucumbers	0.04 / -	1.0	Cucumbers	0.04 / -
No of critical MRLs (IESTI 1)			---			No of critical MRLs (IESTI 2)			---			
Processed commodities	No of commodities for which ARfD/ADI is exceeded:			No of commodities for which ARfD/ADI is exceeded:			No of commodities for which ARfD/ADI is exceeded:			No of commodities for which ARfD/ADI is exceeded:		
	---			---			---			---		
	***)			***)			***)			***)		
	Highest % of ARfD/ADI	Processed commodities	pTMRL/ threshold MRL (mg/kg)				Highest % of ARfD/ADI	Processed commodities	pTMRL/ threshold MRL (mg/kg)			
*) The results of the IESTI calculations are reported for at least 5 commodities. If the ARfD is exceeded for more than 5 commodities, all IESTI values > 90% of ARfD are reported.												
**) pTMRL: provisional temporary MRL												
***) pTMRL: provisional temporary MRL for unprocessed commodity												
Conclusion:												
For Acequinocyl IESTI 1 and IESTI 2 were calculated for food commodities for which pTMRLs were submitted and for which consumption data are available.												
No exceedance of the ARfD/ADI was identified for any unprocessed commodity.												
For processed commodities, no exceedance of the ARfD/ADI was identified.												

C. EXISTING EU MAXIMUM RESIDUE LEVELS (MRLs)

(Pesticides - Web Version - EU MRLs (File created on 18/02/2013 14:27))

Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl	Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl	Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl	Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl
100000	1. FRUIT FRESH OR FROZEN; NUTS		151000	(a) Table and wine grapes	0,3	162020	Lychee (Litchi) (Pulasan, rambutan (hairy litchi))	0,01*	213030	Celeriac	0,01*
110000	(i) Citrus fruit		151010	Table grapes	0,3	162030	Passion fruit	0,01*	213040	Horseradish	0,01*
110010	Grapefruit (Shaddocks, pomelos, sweeties, tangelo, ugli and other hybrids)	0,2	151020	Wine grapes	0,3	162040	Prickly pear (cactus fruit)	0,01*	213050	Jerusalem artichokes	0,01*
110020	Oranges (Bergamot, bitter orange, chinotto and other hybrids)	0,4	152000	(b) Strawberries	0,01*	162050	Star apple	0,01*	213060	Parsnips	0,01*
110030	Lemons (Citron, lemon)	0,2	153000	(c) Cane fruit	0,01*	162060	American persimmon (Virginia kaki) (Black sapote, white sapote, green sapote, canistel (yellow sapote), and mamey sapote)	0,01*	213070	Parsley root	0,01*
110040	Limes	0,2	153010	Blackberries	0,01*				213080	Radishes (Black radish, Japanese radish, small radish and similar varieties)	0,01*
110050	Mandarins (Clementine, tangerine and other hybrids)	0,4	153020	Dewberries (Loganberries, Boysenberries, and cloudberry)	0,01*	162990	Others	0,01*	213090	Salsify (Scorzonera, Spanish salsify (Spanish oysterplant))	0,01*
110990	Others	0,2	153030	Raspberries (Wineberries)	0,01*	163000	(c) Inedible peel, large	0,01*	213100	Swedes	0,01*
120000	(ii) Tree nuts (shelled or unshelled)		153990	Others	0,01*	163010	Avocados	0,01*	213110	Turnips	0,01*
120010	Almonds	0,02	154000	(d) Other small fruit & berries	0,01*	163020	Bananas (Dwarf banana, plantain, apple banana)	0,01*	213990	Others	0,01*
120020	Brazil nuts	0,01*	154010	Blueberries (Bilberries, cowberries (red bilberries))	0,01*	163030	Mangoes	0,01*	220000	(ii) Bulb vegetables	0,01*
120030	Cashew nuts	0,01*	154020	Cranberries	0,01*	163040	Papaya	0,01*	220010	Garlic	0,01*
120040	Chestnuts	0,01*	154030	Curants (red, black and white)	0,01*	163050	Pomegranate	0,01*	220020	Onions (Silverskin onions)	0,01*
120050	Coconuts	0,01*	154040	Gooseberries (Including hybrids with other ribes species)	0,01*	163060	Cherimoya (Custard apple, sugar apple (sweetsop), llama and other medium sized Annonaceae)	0,01*	220030	Shallots	0,01*
120060	Hazelnuts (Filbert)	0,01*	154050	Rose hips	0,01*				220040	Spring onions (Welsh onion and similar varieties)	0,01*
120070	Macadamia	0,01*	154060	Mulberries (arbutus berry)	0,01*	163070	Guava	0,01*	220990	Others	0,01*
120080	Pecans	0,01*	154070	Azarolet (mediterranean medlar)	0,01*	163080	Pineapples	0,01*	230000	(iii) Fruiting vegetables	
120090	Pine nuts	0,01*	154080	Elderberries (Black chokeberry (appleberry), mountain ash, azarole, buckthorn (sea sawtooth), hawthorn, service berries, and other treeberries)	0,01*	163090	Bread fruit (Jackfruit)	0,01*	231000	(a) Solanaceae	
120100	Pistachios	0,01*				163100	Durian	0,01*	231010	Tomatoes (Cherry tomatoes,)	0,2
120110	Walnuts	0,01*	154990	Others	0,01*	163110	Soursop (guanabana)	0,01*	231020	Peppers (Chilli peppers)	0,01*
120990	Others	0,01*	160000	(vi) Miscellaneous fruit	0,01*	163990	Others	0,01*	231030	Aubergines (egg plants) (Pepino)	0,2
130000	(iii) Pome fruit	0,1	161000	(a) Edible peel	0,01*	200000	2. VEGETABLES FRESH OR FROZEN		231040	Okra, lady's fingers	0,01*
130010	Apples (Crab apple)	0,1	161010	Dates	0,01*	210000	(i) Root and tuber vegetables	0,01*	231990	Others	0,01*
130020	Pears (Oriental pear)	0,1	161020	Figs	0,01*	211000	(a) Potatoes	0,01*	232000	(b) Cucurbits - edible peel	0,01*
130030	Quinces	0,1	161030	Table olives	0,01*	212000	(b) Tropical root and tuber vegetables	0,01*	232010	Cucumbers	0,01*
130040	Medlar	0,1	161040	Kumquats (Marumi kumquats, nagami kumquats)	0,01*	212010	Cassava (Dasheen, eddoe (Japanese taro), tannia)	0,01*	232020	Gherkins	0,01*
130050	Loquat	0,1	161050	Carambola (Bilimbi)	0,01*	212020	Sweet potatoes	0,01*	232030	Courgettes (Summer squash, marrow (patisson))	0,01*
130990	Others	0,1	161060	Persimmon	0,01*	212030	Yams (Potato bean (yam bean), Mexican yam bean)	0,01*	232990	Others	0,01*
140000	(iv) Stone fruit		161070	Jambolan (java plum) (Java apple (water apple), pomarac, rose apple, Brazilian cherry (grumichama), Surinam cherry)	0,01*	212040	Arrowroot	0,01*	233000	(c) Cucurbits-inedible peel	0,01*
140010	Apricots	0,01*				212990	Others	0,01*	233010	Melons (Kiwano)	0,01*
140020	Cherries (sweet cherries, sour cherries)	0,01*	161990	Others	0,01*	213000	(c) Other root and tuber vegetables except sugar beet	0,01*	233020	Pumpkins (Winter squash)	0,01*
140030	Peaches (Nectarines and similar hybrids)	0,04	162000	(b) Inedible peel, small	0,01*	213010	Beetroot	0,01*	233030	Watermelons	0,01*
140040	Plums (Damson, greengage, mirabelle)	0,01*	162010	Kiwi	0,01*	213020	Carrots	0,01*	233990	Others	0,01*
140990	Others	0,01*							234000	(d) Sweet corn	0,01*
150000	(v) Berries & small fruit								239000	(e) Other fruiting vegetables	0,01*
									240000	(iv) Brassica vegetables	0,01*
									241000	(a) Flowering brassica	0,01*
									241010	Broccoli (Calabrese, Chinese broccoli, Broccoli raab)	0,01*

Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl
241020	Cauliflower	0,01*
241990	Others	0,01*
242000	(b) Head brassica	0,01*
242010	Brussels sprouts	0,01*
242020	Head cabbage (Pointed head cabbage, red cabbage, savoy cabbage, white cabbage)	0,01*
242990	Others	0,01*
243000	(c) Leafy brassica	0,01*
243010	Chinese cabbage (Indian (Chinese) mustard, pak choi, Chinese flat cabbage (tai goo choi), peking cabbage (pe-tsai), cow cabbage)	0,01*
243020	Kale (Borecole (curly kale), collards)	0,01*
243990	Others	0,01*
244000	(d) Kohlrabi	0,01*
250000	(v) Leaf vegetables & fresh herbs	0,01*
251000	(a) Lettuce and other salad plants including Brassicaceae	0,01*
251010	Lamb's lettuce (Italian consalad)	0,01*
251020	Lettuce (Head lettuce, lollo rosso (cutting lettuce), iceberg lettuce, romaine (cos) lettuce)	0,01*
251030	Scarole (broad-leaf endive) (Wild chicory, red-leaved chicory, radicchio, curd leave endive, sugar loaf)	0,01*
251040	Cress	0,01*
251050	Land cress	0,01*
251060	Rocket, Rucola (Wild rocket)	0,01*
251070	Red mustard	0,01*
251080	Leaves and sprouts of Brassica spp (Mizuna)	0,01*
251990	Others	0,01*
252000	(b) Spinach & similar (leaves)	0,01*
252010	Spinach (New Zealand spinach, turnip greens (turnip tops))	0,01*
252020	Purslane (Winter purslane (miner's lettuce), garden purslane, common purslane, sorrel, glasswort)	0,01*
252030	Beet leaves (chard) (Leaves of beetroot)	0,01*
252990	Others	0,01*
253000	(c) Vine leaves (grape leaves)	0,01*
254000	(d) Water cress	0,01*

Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl
255000	(e) Witloof	0,01*
256000	(f) Herbs	0,01*
256010	Chervil	0,01*
256020	Chives	0,01*
256030	Celery leaves (fennel leaves, Coriander leaves, dill leaves, Caraway leaves, lovage, angelica, sweet cicely and other Apiacea)	0,01*
256040	Parsley	0,01*
256050	Sage (Winter savory, summer savory,)	0,01*
256060	Rosemary	0,01*
256070	Thyme (marjoram, oregano)	0,01*
256080	Basil (Balm leaves, mint, peppermint)	0,01*
256090	Bay leaves (laurel)	0,01*
256100	Tarragon (Hyssop)	0,01*
256990	Others	0,01*
260000	(vi) Legume vegetables (fresh)	0,01*
260010	Beans (with pods) (Green bean (french beans, snap beans), scarlet runner bean, slicing bean, yardlong beans)	0,01*
260020	Beans (without pods) (Broad beans, Flageolets, jack bean, lima bean, cowpea)	0,01*
260030	Peas (with pods) (Mangetout (sugar peas))	0,01*
260040	Peas (without pods) (Garden pea, green pea, chickpea)	0,01*
260050	Lentils	0,01*
260990	Others	0,01*
270000	(vii) Stem vegetables (fresh)	0,01*
270010	Asparagus	0,01*
270020	Cardoons	0,01*
270030	Celery	0,01*
270040	Fennel	0,01*
270050	Globe artichokes	0,01*
270060	Leek	0,01*
270070	Rhubarb	0,01*
270080	Bamboo shoots	0,01*
270090	Palm hearts	0,01*
270990	Others	0,01*
280000	(viii) Fungi	0,01*
280010	Cultivated (Common mushroom, Oyster mushroom, Shi-take)	0,01*
280020	Wild (Chanterelle, Truffle, Morel,)	0,01*

Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl
280990	Others	0,01*
290000	(ix) Sea weeds	0,01*
300000	3. PULSES, DRY	0,01*
300010	Beans (Broad beans, navy beans, flageolets, jack beans, lima beans, field beans, cowpeas)	0,01*
300020	Lentils	0,01*
300030	Peas (Chickpeas, field peas, chickling vetch)	0,01*
300040	Lupins	0,01*
300990	Others	0,01*
400000	4. OILSEEDS AND OILFRUITS	0,01*
401000	(i) Oilseeds	0,01*
401010	Linseed	0,01*
401020	Peanuts	0,01*
401030	Poppy seed	0,01*
401040	Sesame seed	0,01*
401050	Sunflower seed	0,01*
401060	Rape seed (Bird rapeseed, turnip rape)	0,01*
401070	Soya bean	0,01*
401080	Mustard seed	0,01*
401090	Cotton seed	0,01*
401100	Pumpkin seeds	0,01*
401110	Safflower	0,01*
401120	Borage	0,01*
401130	Gold of pleasure	0,01*
401140	Hempseed	0,01*
401150	Castor bean	0,01*
401990	Others	0,01*
402000	(ii) Oilfruits	0,01*
402010	Olives for oil production	0,01*
402020	Palm nuts (palmoil kernels)	0,01*
402030	Palmfruit	0,01*
402040	Kapok	0,01*
402990	Others	0,01*
500000	5. CEREALS	0,01*
500010	Barley	0,01*
500020	Buckwheat	0,01*
500030	Maize	0,01*
500040	Millet (Foxtail millet, teff)	0,01*
500050	Oats	0,01*
500060	Rice	0,01*
500070	Rye	0,01*
500080	Sorghum	0,01*
500090	Wheat (Spelt Triticale)	0,01*
500990	Others	0,01*
600000	6. TEA, COFFEE, HERBAL	0,02*

Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl
	INFUSIONS AND COCOA	
610000	(i) Tea (dried leaves and stalks, fermented or otherwise of Camellia sinensis)	0,02*
620000	(ii) Coffee beans	0,02*
630000	(iii) Herbal infusions (dried)	0,02*
631000	(a) Flowers	0,02*
631010	Camomille flowers	0,02*
631020	Hybiscus flowers	0,02*
631030	Rose petals	0,02*
631040	Jasmine flowers	0,02*
631050	Lime (linden)	0,02*
631990	Others	0,02*
632000	(b) Leaves	0,02*
632010	Strawberry leaves	0,02*
632020	Rooibos leaves	0,02*
632030	Maté	0,02*
632990	Others	0,02*
633000	(c) Roots	0,02*
633010	Valerian root	0,02*
633020	Ginseng root	0,02*
633990	Others	0,02*
639000	(d) Other herbal infusions	0,02*
640000	(iv) Cocoa (fermented beans)	0,02*
650000	(v) Carob (st johns bread)	0,02*
700000	7. HOPS (dried) , including hop pellets and unconcentrated powder	15
800000	8. SPICES	0,02*
810000	(i) Seeds	0,02*
810010	Anise	0,02*
810020	Black caraway	0,02*
810030	Celery seed (Lovage seed)	0,02*
810040	Coriander seed	0,02*
810050	Cumin seed	0,02*
810060	Dill seed	0,02*
810070	Fennel seed	0,02*
810080	Fenugreek	0,02*
810090	Nutmeg	0,02*
810990	Others	0,02*
820000	(ii) Fruits and berries	0,02*
820010	Allspice	0,02*
820020	Anise pepper (Japan pepper)	0,02*
820030	Caraway	0,02*
820040	Cardamom	0,02*
820050	Juniper berries	0,02*
820060	Pepper, black and white (Long pepper, pink pepper)	0,02*
820070	Vanilla pods	0,02*
820080	Tamarind	0,02*

Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl
820990	Others	0,02*
830000	(iii) Bark	0,02*
830010	Cinnamon (Cassia)	0,02*
830990	Others	0,02*
840000	(iv) Roots or rhizome	0,02*
840010	Liquorice	0,02*
840020	Ginger	0,02*
840030	Turmeric (Curcuma)	0,02*
840040	Horseradish	0,02*
840990	Others	0,02*
850000	(v) Buds	0,02*
850010	Cloves	0,02*
850020	Capers	0,02*
850990	Others	0,02*
860000	(vi) Flower stigma	0,02*
860010	Saffron	0,02*
860990	Others	0,02*
870000	(vii) Aril	0,02*
870010	Mace	0,02*
870990	Others	0,02*
900000	9. SUGAR PLANTS	0,01*
900010	Sugar beet (root)	0,01*
900020	Sugar cane	0,01*
900030	Chicory roots	0,01*
900990	Others	0,01*
1000000	10. PRODUCTS OF ANIMAL ORIGIN- TERRESTRIAL ANIMALS	0,01*
1010000	(i) Meat, preparations of meat, offals, blood, animal fats fresh	0,01*

Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl
	chilled or frozen, salted, in brine, dried or smoked or processed as flours or meals other processed products such as sausages and food preparations based on these	
1011000	(a) Swine	0,01*
1011010	Meat	0,01*
1011020	Fat free of lean meat	0,01*
1011030	Liver	0,01*
1011040	Kidney	0,01*
1011050	Edible offal	0,01*
1011990	Others	0,01*
1012000	(b) Bovine	0,01*
1012010	Meat	0,01*
1012020	Fat	0,01*
1012030	Liver	0,01*
1012040	Kidney	0,01*
1012050	Edible offal	0,01*
1012990	Others	0,01*
1013000	(c) Sheep	0,01*
1013010	Meat	0,01*
1013020	Fat	0,01*
1013030	Liver	0,01*
1013040	Kidney	0,01*
1013050	Edible offal	0,01*
1013990	Others	0,01*
1014000	(d) Goat	0,01*
1014010	Meat	0,01*
1014020	Fat	0,01*
1014030	Liver	0,01*

Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl
1014040	Kidney	0,01*
1014050	Edible offal	0,01*
1014990	Others	0,01*
1015000	(e) Horses, asses, mules or hinnies	0,01*
1015010	Meat	0,01*
1015020	Fat	0,01*
1015030	Liver	0,01*
1015040	Kidney	0,01*
1015050	Edible offal	0,01*
1015990	Others	0,01*
1016000	(f) Poultry -chicken, geese, duck, turkey and Guinea fowl-, ostrich, pigeon	0,01*
1016010	Meat	0,01*
1016020	Fat	0,01*
1016030	Liver	0,01*
1016040	Kidney	0,01*
1016050	Edible offal	0,01*
1016990	Others	0,01*
1017000	(g) Other farm animals (Rabbit, Kangaroo)	0,01*
1017010	Meat	0,01*
1017020	Fat	0,01*
1017030	Liver	0,01*
1017040	Kidney	0,01*
1017050	Edible offal	0,01*
1017990	Others	0,01*
1020000	(ii) Milk and cream, not concentrated, nor containing added sugar or sweetening	0,01*

Code number	Groups and examples of individual products to which the MRLs apply	Acequinocyl
	matter, butter and other fats derived from milk, cheese and curd	
1020010	Cattle	0,01*
1020020	Sheep	0,01*
1020030	Goat	0,01*
1020040	Horse	0,01*
1020990	Others	0,01*
1030000	(iii) Birds' eggs, fresh preserved or cooked Shelled eggs and egg yolks fresh, dried, cooked by steaming or boiling in water; moulded, frozen or otherwise preserved whether or not containing added sugar or sweetening matter	0,01*
1030010	Chicken	0,01*
1030020	Duck	0,01*
1030030	Goose	0,01*
1030040	Quail	0,01*
1030990	Others	0,01*
1040000	(iv) Honey (Royal jelly, pollen)	0,01*
1050000	(v) Amphibians and reptiles (Frog legs, crocodiles)	0,01*
1060000	(vi) Snails	0,01*
1070000	(vii) Other terrestrial animal products	0,01*

(*) Indicates lower limit of analytical determination

ABBREVIATIONS

ADI	acceptable daily intake
ARfD	acute reference dose
a.s.	active substance
BBCH	growth stages of mono- and dicotyledonous plants
bw	body weight
CF	conversion factor for enforcement residue definition to risk assessment residue definition
CIPAC	Collaborative International Pesticide Analytical Council
CXL	Codex Maximum Residue Limit (Codex MRL)
d	day
DAR	Draft Assessment Report
DE	Germany
DK	Denmark
DT _{90f}	period required for 90 % dissipation (field study)
EC	European Community
EFSA	European Food Safety Authority
EMS	evaluating Member State
EU	European Union
GAP	good agricultural practice
GCPF	Global Crop Protection Federation (former GIFAP)
ha	hectare
hL	hectolitre
HPLC	high performance liquid chromatography
IPCS	International Programme of Chemical Safety
ISO	International Organisation for Standardisation
IUPAC	International Union of Pure and Applied Chemistry
kg	kilogram
L	litre
LOQ	limit of quantification
MRL	maximum residue level
MS/MS	tandem mass spectrometry
NEU	northern European Union
MW	molecular weight
OECD	Organisation for Economic Co-operation and Development
PHI	pre-harvest interval

PRIMo	(EFSA) Pesticide Residues Intake Model
R _{ber}	statistical calculation of the MRL by using a non-parametric method
R _{max}	statistical calculation of the MRL by using a parametric method
RD	residue definition
RMS	rapporteur Member State
TMDI	theoretical maximum daily intake