

REASONED OPINION OF EFSA

Review of the existing MRLs for triticonazole¹

Prepared by the Pesticides Unit (PRAPeR)

(Question No EFSA-Q-2008-646)

Issued on 22 April 2009

SUMMARY

Article 12(2) of Regulation (EC) No 396/2005 lays down that EFSA shall provide by 01 September 2009 a reasoned opinion on the review of the existing MRLs for triticonazole as this active substance was included in Annex I to Directive 91/414/EEC before 02 September 2008. In order to collect the pesticide residues data supporting the existing MRLs for that active substance, EFSA asked Austria, as the designated Rapporteur Member State, to complete the Pesticide Residue Overview File (PROFile). The completed PROFile was submitted to EFSA on 08 September 2008. Based on the information provided in the PROFile as well as the EFSA conclusion on triticonazole prepared in the framework of Directive 91/414/EEC, EFSA derives the following conclusions and recommendations.

Metabolism was sufficiently investigated for seed treatment in cereals and the relevant residue for enforcement and risk assessment in both cereal grains and cereal straw is defined as triticonazole. A valid analytical method for the enforcement of this residue definition with an LOQ of 0.01 and 0.05 mg/kg, respectively, is also available. As triticonazole is only authorized for seed treatment in cereal crops, the proposed residue definition covers all crops evaluated in the framework of this review. Additionally, a sufficient number of supervised residues trials supporting the authorized GAPs for triticonazole is available. These trials allow EFSA to estimate the expected residue concentrations in the relevant plant commodities and to derive appropriate MRLs.

As quantifiable residues of triticonazole are not expected in cereal grains, there is no need to investigate the effect of industrial and/or household processing. Specific processing factors for enforcement of processed commodities are therefore not proposed.

Occurrence of triticonazole residues in rotational crops was investigated and it was concluded that metabolic patterns in primary and succeeding crops are similar. Nevertheless, based on the confined rotational crop study and 5 additional field trials, it is concluded that the application of triticonazole according to the authorized GAPs will not lead to quantifiable residues in succeeding crops.

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The dietary burden resulting from the authorised uses of triticonazole was calculated for each type of livestock. As all the calculated intakes represented less than 0.1 mg/kg DM, significant residues in commodities of animal origin are not expected and MRLs are not proposed.

Both chronic and acute consumer exposure resulting from the proposed MRLs were calculated. As the calculated intakes are all below the toxicological reference values, it is concluded that the proposed MRLs are not of concern for the European consumer.

An overview of the resulting MRL recommendations is included in the table below. In view of the future need to set MRLs for feed items, tentative MRLs are also derived for cereal straw which might be included in Annex I to Regulation (EC) No 396/2005. As all the proposed MRLs are fully supported by data, they are recommended for inclusion in Annex II to Regulation (EC) No 396/2005.

Specific areas of concern or data gaps were not identified.

Overview of the recommended EC MRLs

Commodity	Existing EC MRL (mg/kg)	Proposed EC MRL (mg/kg)	Justification for the proposal
Residue definition for enforcement: triticonazole			
Barley grain	0.01*	0.01*	The proposed MRLs are fully supported by data and no risk to consumers is identified. Recommended for inclusion in Annex II.
Buckwheat grain	0.01*	0.01*	
Maize grain	0.01*	0.01*	
Oats grain	0.01*	0.01*	
Rice grain	0.01*	0.01*	
Rye grain	0.01*	0.01*	
Sorghum grain	0.01*	0.01*	
Wheat grain	0.01*	0.01*	
Barley straw	-	0.1	
Oats straw	-	0.1	
Rye straw	-	0.1	
Wheat straw	-	0.1	
Other products of plant origin	see Appendix C	-	No recommendation as there are no authorized uses, import tolerances or CXLs.
Products of animal origin	-	-	No recommendation as the residues intake by livestock is insignificant.

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

Key words: triticonazole, MRL review, Regulation (EC) No 396/2005, consumer risk assessment, conazole fungicides

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BACKGROUND

Regulation (EC) No 396/2005 establishes the rules governing the setting as well as the review of pesticide MRLs at Community level. Article 12(2) of that regulation lays down that EFSA shall provide by 01 September 2009 a reasoned opinion on the review of the existing MRLs for all active substances included in Annex I to Directive 91/414/EEC before 02 September 2008.

According to Article 12(1) of the Regulation, EFSA shall base its reasoned opinion in particular on the relevant assessment report prepared under Directive 91/414/EEC. It should be noted, however, that in the framework of Directive 91/414/EEC only a few representative uses are evaluated while MRLs set out in Regulation (EC) No 396/2005 should accommodate for all uses authorised within the EC as well as uses authorised in third countries having a significant impact on international trade. The information included in the assessment report prepared under Directive 91/414/EEC is therefore insufficient for the assessment of all existing MRLs for a given active substance.

In order to have an overview on the pesticide residues data that have been considered for the setting of the MRLs under the former MRL legislation, EFSA developed the Pesticide Residue Overview File (PROFile). The PROFile is an electronic inventory of all pesticide residues data relevant to the risk assessment as well as the MRL setting for a given active substance. This includes data on:

- the nature and magnitude of residues in primary crops;
- the nature and magnitude of residues in processed commodities;
- the nature and magnitude of residues in rotational crops;
- the nature and magnitude of residues in livestock commodities and;
- the analytical methods for enforcement of the proposed MRLs.

As triticonazole was included in Annex I to Directive 91/414/EEC on 01 February 2007, EFSA initiated the review of all existing MRLs for that active substance and a self-task with the reference number EFSA-Q-2008-646 was included in the EFSA Register of Question.

Austria, the designated Rapporteur Member State (RMS) in the framework of Directive 91/414/EEC, was asked to complete the PROFile for triticonazole. The completed PROFile was submitted to EFSA on 08 September 2008 and subsequently checked for completeness. On 03 March 2009, after having clarified some issues with the RMS, the PROFile was considered complete for assessment.

Based on the PROFile, EFSA prepared a draft reasoned opinion which was circulated to Member States (MS) for commenting on 06 March 2009. All MS comments received by 27 March 2009 were considered by EFSA for finalization of the reasoned opinion.

TERMS OF REFERENCE

According to Article 12(1) of Regulation (EC) No 396/2005, EFSA shall provide a reasoned opinion on:

- the inclusion of the active substance in Annex IV to the Regulation, when appropriate;
- the necessity of setting new MRLs for the active substance or deleting/modifying existing MRLs set out in Annex II or III of the Regulation;
- the inclusion of the recommended MRLs in Annex II or III to the Regulation;
- the setting of specific processing factors as referred to in Article 20(2) of the Regulation.

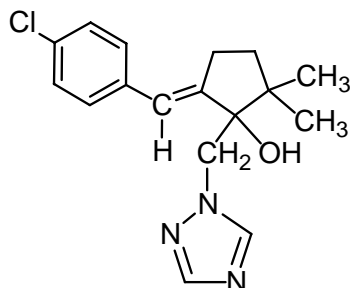
According to Article 12(2) of that Regulation, the reasoned opinion shall be provided within 12 months of the entry into force of this regulation. As the Regulation entered into force on 02 September 2008, the calculated deadline for providing the reasoned opinion is 01 September 2009.

ACKNOWLEDGEMENTS

The European Food Safety Authority wishes to thank the Rapporteur Member State Austria for the good collaboration as well as the completion of the PROFile.

THE ACTIVE SUBSTANCE AND ITS USE PATTERN

Triticonazole is the ISO common name for (\pm) -*(E)*-5-(4-chlorobenzylidene)-2,2-dimethyl-1-(1*H*-1,2,4-triazol-1-ylmethyl)cyclopentanol (IUPAC).



Triticonazole belongs to the class of conazole fungicides. Triticonazole can be used only as fungicide and it is used for the control a broad range of fungi belonging to several groups of plant pathogens (*Ascomycetes*, *Adelomycetes*, *Basidiomycetes*) in wheat seeds. Triticonazole is taken up slowly by the seedlings via the seed, teguments and roots and act as a C-14 demethylation inhibitor in the sterol biosynthesis pathway. The soil around the roots acts as a reservoir to feed the plant with triticonazole for several months after sowing.

Triticonazole was evaluated in the framework of Directive 91/414/EEC in stage 2 with Austria being the designated Rapporteur Member State (RMS). The representative use supported for the peer review process was a seed treatment of wheat grains with an application rate of 50 g a.s./ton seed. The use was supported for both the Northern and Southern European region. Following the peer review a decision on inclusion of the active substance in Annex I to Directive 91/414/EEC was taken and published in Directive 2006/39/EC. The Annex I inclusion entered into force on 01 February 2007. Member States are now required to review their national authorizations by 31 January 2011 in accordance with the uniform principles of Annex VI. Particular attention should be given to the operator safety, the potential of groundwater contamination as well as the protection of granivorous birds.

EC MRLs for triticonazole in products of plant origin have been set for the first time in 2007 by means of Directive 2007/27/EC. These MRLs were based on the uses authorised within the EC at that time and are still valid since they were transferred to Annex II of Regulation (EC) No 396/2005 without any amendments. Additional MRLs for commodities that were not covered by the former European MRL legislation are established in Annex III B of the Regulation. These temporary MRLs were derived from the MRLs that have been set at national level before the Regulation entered into force. All existing EC MRLs for triticonazole are summarized in Appendix C to this document. There are no CXLs for triticonazole.

For the purpose of this MRL review the critical uses of triticonazole currently authorized within the EC have been reported by the RMS. A detailed overview of the critical GAPs is available in Appendix A to this document. They include seed treatments in Northern Europe and Southern Europe with application rates of 30-50 g a.s./ton seed for most cereal crops. Application rates for sorghum and maize, 120 and 1200 g a.s./ton respectively, are much higher due to the lower seed density of these crops. As Member States are still required to

review their national approvals by 31 January 2011, modification of these GAPs might occur in the near future.

ASSESSMENT

1. Methods of analysis

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

During the peer review under Directive 91/414/EC, two analytical methods based on GC-TSD and LC-MS/MS have been evaluated (EFSA, 2005). Both methods were sufficiently validated for determination of triticonazole in cereal grains (dry commodities) as well as cereal straw with an LOQ of 0.01 and 0.05 mg/kg, respectively. These two methods were also reported by the RMS in the PROFile.

It is noted that under the peer review the German multi-residue method (DFG S19) was validated as well with an LOQ of 0.005 mg/kg in cereal grains and 0.01 mg/kg in cereal straws. Nevertheless, from an enforcement point of view there doesn't seem to be the need for achieving these lower LOQs.

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

As the dietary burden of livestock resulting from triticonazole residues is not significant (see also section 3.2.1) an analytical method for enforcement of residues in animal commodities is not required.

Nevertheless, an analytical method based on GC-ECD was reported by the RMS and is sufficiently validated for determination of triticonazole in meat, fat, milk and eggs. The derived LOQ amounts to 0.01 mg/kg in milk and to 0.05 mg/kg in meat, fat and eggs.

2. Mammalian toxicology

The toxicological assessment of triticonazole was peer reviewed under Directive 91/414/EEC and toxicological reference values were published by the EFSA (2005). These toxicological reference values are summarized in the table below.

Table 2-1. Overview of the toxicological reference values

	Source	Year	Value (mg/kg bw/d)	Study relied upon	Safety factor
Triticonazole					
ADI	EFSA	2005	0.025	1 year dog study	100
ARfD	EFSA	2005	0.05	developmental rabbit study	-

3. Residues

3.1. Nature and magnitude of residues in plant

3.1.1. Primary crops

3.1.1.1. Nature of residues

Metabolism of triticonazole was studied in wheat and barley after seed treatment, both using phenyl-labelled and triazole-labelled triticonazole (EFSA, 2005). Triticonazole is metabolised in growing cereal plants via hydroxylation following separation and destruction of the triazole moiety with incorporation of triazole derived material into natural products to form polar residues. As the toxicity of the identified hydroxylated compounds is not considered to be relevant compared to that of triticonazole and due to the application regime (seed dressing), the residue of concern for risk assessment and enforcement in cereal grains and straw is defined as triticonazole. These conclusions of EFSA are also reflected in the PROFILE provided by the RMS and a valid analytical method for enforcement of the proposed residue definition is available (see section 1.1).

It is noted that several triazole containing pesticides generate significant amounts of free triazole, triazole alanine or triazole acetic acid. For triticonazole, however, none of these metabolites were identified in significant amounts. A specific risk assessment for triazole metabolites is therefore not required in this particular case.

3.1.1.2. Magnitude of residues

A large number of supervised residues field trials supporting the authorized seed treatments in cereals were reported by the RMS. The results of the residues trials are summarized in Table 3-1. For most of the supported cereal crops a sufficient number of trials complying with the authorized GAPs were reported. For sorghum grain, only 1 representative trial is available but further trials are not required considering that even for maize, where much higher application rates are authorized, residue levels were found to be below the LOQ of 0.01 mg/kg. Moreover, the TRR levels in the cereal metabolism studies were found to be far below the LOQ as well.

Storage stability of triticonazole was demonstrated for a period of 12 months at -20 °C in dry commodities and in straw, hereby covering all cereal crops evaluated in the framework of this review. As all the residues trial samples were stored in accordance with these conditions, degradation of residues during storage of the trial samples is not expected.

Consequently, the available residues data are considered sufficient to derive MRL proposals as well as risk assessment values for all commodities under evaluation (see also Table 3-1). In view of the future need to set MRLs for feed items, tentative MRLs are also derived for cereal straw which might be included in Annex I to Regulation (EC) No 396/2005.

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

Commodity	Region (a)	Outdoor /Indoor	Individual trial results (mg/kg)		STMR (mg/kg) (b)	HR (mg/kg) (c)	MRL proposal (mg/kg)	Median CF ^(d)	Comments
			Enforcement	Risk assessment					
Residue definition for enforcement and risk assessment: triticonazole									
Barley grain Buckwheat grain Maize grain Oats grain Rice grain Rye grain Wheat grain	NEU	Outdoor	20 x <0.01	20 x <0.01	0.01	0.01	0.01*	1.0	Combined dataset on barley (10), rye (2) and wheat (8) with an application rate of 50 g a.s./ton.
	SEU	Outdoor	31 x <0.01	31 x <0.01	0.01	0.01	0.01*	1.0	Combined dataset on barley (9), sorghum (1) and wheat (20) with an application rate of 50 g a.s./ton.
Maize grain	NEU	Outdoor	6 x <0.01	6 x <0.01	0.01	0.01	0.01*	1.0	Combined dataset on maize (2) and sweet corn (4) with application rates of 1000-1500 g a.s./ton.
	SEU	Outdoor	8 x <0.01	8 x <0.01	0.01	0.01	0.01*	1.0	Combined dataset on maize (5) and sweet corn (3) with application rates of 990-1500 g a.s./ton.
Sorghum grain	SEU	Outdoor	<0.01	<0.01	0.01	0.01	0.01*	1.0	Only 1 trial available on sorghum with an application rate of 100 g a.s./ton. Further trials are however not required because residue levels are expected to be far below 0.01 mg/kg.

Commodity	Region (a)	Outdoor /Indoor	Individual trial results (mg/kg)		STMR (mg/kg) (b)	HR (mg/kg) (c)	MRL proposal (mg/kg)	Median CF ^(d)	Comments
			Enforcement	Risk assessment					
Barley straw Oats straw Rye straw Wheat straw	NEU	Outdoor	20 x <0.05	20 x <0.05	0.05	0.05	0.05*	1.0	Combined dataset on barley (10), rye (2) and wheat (8) with application rates of 50 g a.s./ton, supporting application rates of 60 g a.s./ton.
	SEU	Outdoor	22 x <0.05; 0.056; 0.058; 0.065; 0.076; 0.083	22 x <0.05; 0.056; 0.058; 0.065; 0.076; 0.083	0.05	0.08	0.1	1.0	Combined dataset on barley (8) and wheat (19) with application rates of 50 g a.s./ton, supporting application rates of 60 g a.s./ton. MRL proposal based on southern data as they are more critical (in bold) R _{ber} = 0.10 R _{max} = 0.07

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

(a): NEU, SEU, EU or Import (country code). In the case of indoor uses there is no necessity to differentiate between NEU and SEU.

(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 residues trial. The individual conversion factor for each trial is defined as the ratio of the trial result according to the risk assessment residue definition and the result according to the enforcement residue definition.

3.1.1.3. Effect of industrial processing and/or household preparation

As quantifiable residues of triticonazole are not expected in cereal grains, there is no need to investigate the effect of industrial and/or household processing.

3.1.2. Rotational crops

3.1.2.1. Preliminary considerations

The cereal crops evaluated in the framework of this MRL review might be grown in rotation with other crops. During the peer review under Directive 91/414/EEC, it was also demonstrated in several degradation studies that triticonazole is persistent in soil and that DT90 values exceed the trigger value of 100 days (EFSA, 2005). A detailed assessment of the nature and magnitude of triticonazole residues is therefore considered relevant.

3.1.2.2. Nature of residues

The EFSA conclusion on triticonazole (EFSA, 2005) reports a confined rotational crop study, which was performed on representative crops for the root and tuber vegetables, leafy vegetables and cereals. The major part of the radioactivity in this study was attributed to the parent compound, concluding that the relevant residue defined for primary crops may be applied to rotational crops as well. The information provided by the RMS in the PROFile is in line with conclusions reached by EFSA in the framework of Directive 91/414/EEC.

3.1.2.3. Magnitude of residues

Based on the confined rotational crop study and 5 additional field trials, EFSA (2005) concluded that the application of triticonazole at a rate of 50 g a.s./ton cereal seeds will not lead to quantifiable residues in succeeding crops. These conclusions can also be applied to the seed treatments supported in the framework of this review, considering that application rates are comparable.

It is noted that for sorghum and maize, the respective application rates of 120 g a.s./ton and 1200 g a.s./ton are significantly higher than the application rate evaluated in the peer review. This is however not considered to be of concern as the amount of sorghum/maize seeds used per hectare is significantly lower than for the other cereal grains.

3.2. Nature and magnitude of residues in livestock

Both cereal grains and cereal straw might be fed to livestock. The dietary burden for the different types of livestock was therefore calculated using the EFSA livestock dietary burden calculator. The input values for the calculation are summarized in Table 3-4. For cereal grain and bran the STMR was used for calculating the maximum dietary burden as these commodities are considered to be bulked. Also considering that no processing factor is available for cereal bran and that from a theoretical point of view residues might concentrate in the bran, a default processing factor of 8 was used for these commodities.

According to the results of the calculations reported in Table 3-5, the trigger value of 0.1 mg/kg DM is not exceeded for any of the relevant livestock species. Further investigation of triticonazole residues in commodities of animal origin is therefore not required.

Table 3-4. Input values for the dietary burden calculation

Commodity	Median dietary burden		Maximum dietary burden	
	Input value (mg/kg)	Comment	Input value (mg/kg)	Comment
Residue definition for risk assessment: triticonazole				
Barley grain	0.01	STMR	0.01	HR
Maize grain	0.01	STMR	0.01	HR
Oats grain	0.01	STMR	0.01	HR
Rye grain	0.01	STMR	0.01	HR
Wheat grain	0.01	STMR	0.01	HR
Rye bran	0.08	STMR*8	0.08	STMR*8
Wheat bran	0.08	STMR*8	0.08	STMR*8
Barley straw	0.05	STMR	0.08	HR
Oats straw	0.05	STMR	0.08	HR
Rye straw	0.05	STMR	0.08	HR
Wheat straw	0.05	STMR	0.08	HR

Table 3-5. Results of the dietary burden calculation

	Maximum dietary burden (mg/kg bw/d)	Median dietary burden (mg/kg bw/d)	Highest contributing commodity	Max dietary burden (mg/kg DM)	Trigger exceeded ?
Residue definition for risk assessment: triticonazole					
Dairy ruminants	0.00136	0.00108	Wheat bran	0.04	No
Meat ruminants	0.00284	0.00202	Wheat straw	0.07	No
Poultry	0.00085	0.00085	Wheat bran	0.01	No
Pigs	0.00072	0.00072	Wheat bran	0.02	No

4. Consumer risk assessment

Chronic and acute intake calculations considering the MRLs proposed in the framework of this review were performed using revision 2 of the EFSA PRIMo. The input values for the proposed MRLs are summarized in Table 4-1. The contributions of other commodities, for which MRLs are currently established at the LOQ, were not included in the calculation.

The detailed results of the chronic and acute intake calculations are reported in Appendix B to this document. For all European diets chronic exposure represented less than 0.5% of the ADI and acute intakes were below 0.3% of the ARfD for all commodities with authorized uses. As the calculated intakes are all below the toxicological reference values, it can be concluded that the supported uses are not of concern for the European consumer.

Table 4-1. Input values for the consumer risk assessment

Commodity	Chronic risk assessment		Acute risk assessment	
	Input value (mg/kg)	Comment	Input value (mg/kg)	Comment
Residue definition for risk assessment: triticonazole				
Barley grain	0.01	STMR	0.01	HR
Buckwheat grain	0.01	STMR	0.01	HR
Maize grain	0.01	STMR	0.01	HR
Oats grain	0.01	STMR	0.01	HR
Rice grain	0.01	STMR	0.01	HR
Rye grain	0.01	STMR	0.01	HR
Sorghum grain	0.01	STMR	0.01	HR
Wheat grain	0.01	STMR	0.01	HR

CONCLUSIONS AND RECOMMENDATIONS

Article 12(2) of Regulation (EC) No 396/2005 lays down that EFSA shall provide by 01 September 2009 a reasoned opinion on the review of the existing MRLs for triticonazole as this active substance was included in Annex I to Directive 91/414/EEC before 02 September 2008. In order to collect the pesticide residues data supporting the existing MRLs for that active substance, EFSA asked Austria, as the designated Rapporteur Member State, to complete the Pesticide Residue Overview File (PROFile). The completed PROFile was submitted to EFSA on 08 September 2008. Based on the information provided in the PROFile as well as the EFSA conclusion on triticonazole prepared in the framework of Directive 91/414/EEC, EFSA derives the following conclusions and recommendations.

Metabolism was sufficiently investigated for seed treatment in cereals and the relevant residue for enforcement and risk assessment in both cereal grains and cereal straw is defined as triticonazole. A valid analytical method for the enforcement of this residue definition with an LOQ of 0.01 and 0.05 mg/kg, respectively, is also available. As triticonazole is only authorized for seed treatment in cereal crops, the proposed residue definition covers all crops evaluated in the framework of this review. Additionally, a sufficient number of supervised residues trials supporting the authorized GAPs for triticonazole is available. These trials allow EFSA to estimate the expected residue concentrations in the relevant plant commodities and to derive appropriate MRLs.

As quantifiable residues of triticonazole are not expected in cereal grains, there is no need to investigate the effect of industrial and/or household processing. Specific processing factors for enforcement of processed commodities are therefore not proposed.

Occurrence of triticonazole residues in rotational crops was investigated and it was concluded that metabolic patterns in primary and succeeding crops are similar. Nevertheless, based on the confined rotational crop study and 5 additional field trials, it is concluded that the application of triticonazole according to the authorized GAPs will not lead to quantifiable residues in succeeding crops.

The dietary burden resulting from the authorised uses of triticonazole was calculated for each type of livestock. As all the calculated intakes represented less than 0.1 mg/kg DM, significant residues in commodities of animal origin are not expected and MRLs are not proposed.

Both chronic and acute consumer exposure resulting from the proposed MRLs were calculated. As the calculated intakes are all below the toxicological reference values, it is concluded that the proposed MRLs are not of concern for the European consumer.

An overview of the resulting MRL recommendations is included in the table below. In view of the future need to set MRLs for feed items, tentative MRLs are also derived for cereal straw which might be included in Annex I to Regulation (EC) No 396/2005. As all the proposed MRLs are fully supported by data, they are recommended for inclusion in Annex II to Regulation (EC) No 396/2005.

Specific areas of concern or data gaps were not identified.

Overview of the recommended EC MRLs

Commodity	Existing EC MRL (mg/kg)	Proposed EC MRL (mg/kg)	Justification for the proposal
Residue definition for enforcement: triticonazole			
Barley grain	0.01*	0.01*	The proposed MRLs are fully supported by data and no risk to consumers is identified. Recommended for inclusion in Annex II.
Buckwheat grain	0.01*	0.01*	
Maize grain	0.01*	0.01*	
Oats grain	0.01*	0.01*	
Rice grain	0.01*	0.01*	
Rye grain	0.01*	0.01*	
Sorghum grain	0.01*	0.01*	
Wheat grain	0.01*	0.01*	
Barley straw	-	0.1	
Oats straw	-	0.1	
Rye straw	-	0.1	
Wheat straw	-	0.1	
Other products of plant origin	see Appendix C	-	No recommendation as there are no authorized uses, import tolerances or CXLs.
Products of animal origin	-	-	No recommendation as the residues intake by livestock is insignificant.

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

DOCUMENTATION PROVIDED TO EFSA

1. Pesticide Residues Overview File (PROFile) on triticonazole prepared by the Rapporteur Member State Austria. Submitted to EFSA on 08 September 2008. Updated on 03 March 2009.

2. Proposal for harmonised MRLs after Annex 1 inclusion of triticonazole prepared by the Rapporteur Member State Austria. Submitted to EFSA on 08 September 2008.
3. Additional data on triticonazole with respect to Article 12.2 of Regulation 396/2005 prepared by the Rapporteur Member State Austria. Submitted to EFSA on 08 September 2008.
4. Risk assessment for triticonazole according to EFSA_acute_chronic_RA_model_rev2 prepared by the Rapporteur Member State Austria. Submitted to EFSA on 08 September 2008.

REFERENCES

- EFSA, 2005. Conclusion of EFSA prepared by the Pesticides Unit (PRAPeR) on the peer review of the pesticide risk assessment of the active substance triticonazole. *EFSA Scientific Report* (2005) 33, 1-69.

APPENDIX A – GOOD AGRICULTURAL PRACTICES (GAPs)

Active substance: Triticonazole

Critical Outdoor GAPs for Northern Europe																				
Crop		Region	Outdoor/Indoor	Member state or Country	Pests controlled	Formulation		Method	Application				Application rate			PHI or waiting period (days)	Comments (max. 250 characters)			
Common name	Scientific name					Type	Content		From BBCH	Until BBCH	Number		Interval (days)		Min. rate			Max. rate	Rate Unit	
							Conc.				Unit	Min.	Max.	Min.						Max.
Barley	<i>Hordeum spp.</i>	NEU	Outdoor	FR				seed treatment	0	0	1	1			50.00	50.00	g a.i./ton	n.a.	seed treatment	
Buckwheat	<i>Fagopyrum esculentum</i>	NEU	Outdoor	FR				seed treatment	0	0	1	1			50.00	50.00	g a.i./ton	n.a.	seed treatment	
Maize	<i>Zea mays</i>	NEU	Outdoor	FR				seed treatment	0	0	1	1			600.00	1200.00	g a.i./ton	n.a.	seed treatment	
Oats	<i>Avena fatua</i>	NEU	Outdoor	FR				seed treatment	0	0	1	1			50.00	50.00	g a.i./ton	n.a.	seed treatment	
Rye	<i>Secale cereale</i>	NEU	Outdoor	FR				seed treatment	0	0	1	1			50.00	50.00	g a.i./ton	n.a.	seed treatment	
Wheat	<i>Triticum aestivum</i>	NEU	Outdoor	FR				seed treatment	0	0	1	1			50.00	50.00	g a.i./ton	n.a.	seed treatment	

n.a.: not applicable

Critical Outdoor GAPs for Southern Europe																				
Crop		Region	Outdoor/Indoor	Member state or Country	Pests controlled	Formulation		Method	Application				Application rate			PHI or waiting period (days)	Comments (max. 250 characters)			
Common name	Scientific name					Type	Content		From BBCH	Until BBCH	Number		Interval (days)		Min. rate			Max. rate	Rate Unit	
							Conc.				Unit	Min.	Max.	Min.						Max.
Barley	<i>Hordeum spp.</i>	SEU	Outdoor	FR, IT				seed treatment	0	0	1	1			50.00	50.00	g a.i./ton	n.a.	seed treatment	
Buckwheat	<i>Fagopyrum esculentum</i>	SEU	Outdoor	FR, IT				seed treatment	0	0	1	1			50.00	50.00	g a.i./ton	n.a.	seed treatment	
Maize	<i>Zea mays</i>	SEU	Outdoor	FR				seed treatment	0	0	1	1			600.00	1200.00	g a.i./ton	n.a.	seed treatment	
Oats	<i>Avena fatua</i>	SEU	Outdoor	FR, IT				seed treatment	0	0	1	1			50.00	50.00	g a.i./ton	n.a.	seed treatment	
Rice	<i>Oryza sativa</i>	SEU	Outdoor	IT				seed treatment	0	0	1	1			30.00	30.00	g a.i./ton	n.a.	seed treatment	
Rye	<i>Secale cereale</i>	SEU	Outdoor	FR, IT				seed treatment	0	0	1	1			50.00	50.00	g a.i./ton	n.a.	seed treatment	
Sorghum	<i>Sorghum bicolor</i>	SEU	Outdoor	IT				seed treatment	0	0	1	1			120.00	120.00	g a.i./ton	n.a.	seed treatment	
Wheat	<i>Triticum aestivum</i>	SEU	Outdoor	FR, IT				seed treatment	0	0	1	1			50.00	50.00	g a.i./ton	n.a.	seed treatment	

n.a.: not applicable

Critical Indoor GAPs for Northern and Southern Europe (incl. post-harvest treatments)																				
Crop		Region	Outdoor/Indoor	Member state or Country	Pests controlled	Formulation		Method	Application				Application rate			PHI or waiting period (days)	Comments (max. 250 characters)			
Common name	Scientific name					Type	Content		From BBCH	Until BBCH	Number		Interval (days)		Min. rate			Max. rate	Rate Unit	
							Conc.				Unit	Min.	Max.	Min.						Max.

n.a.: not applicable

Critical GAPs for Import Tolerances (non-European indoor, outdoor or post-harvest treatments)																				
Crop		Region	Outdoor/Indoor	Member state or Country	Pests controlled	Formulation		Method	Application				Application rate			PHI or waiting period (days)	Comments (max. 250 characters)			
Common name	Scientific name					Type	Content		From BBCH	Until BBCH	Number		Interval (days)		Min. rate			Max. rate	Rate Unit	
							Conc.				Unit	Min.	Max.	Min.						Max.

n.a.: not applicable

APPENDIX B – PESTICIDE RESIDUES INTAKE MODEL (PRIMO)

Triticonazole			
Status of the active substance:	Included	Code no.	
LOQ (mg/kg bw):	0.01	proposed LOQ:	
Toxicological end points			
ADI (mg/kg bw/day):	0.025	ARfD (mg/kg bw):	0.05
Source of ADI:	EFSA	Source of ARfD:	EFSA
Year of evaluation:	2005	Year of evaluation:	2005

Chronic risk assessment

		TMDI (range) in % of ADI minimum - maximum						
		No of diets exceeding ADI:		---				
Highest calculated TMDI values in % of ADI	MS Diet	Highest contributor to MS diet (in % of ADI)		2nd contributor to MS diet (in % of ADI)		3rd contributor to MS diet (in % of ADI)		pTMRs at LOQ (in % of ADI)
		Commodity / group of commodities		Commodity / group of commodities		Commodity / group of commodities		
0.5	WHO Cluster diet B	0.3	Wheat	0.1	Maize	0.0	Rice	0.5
0.4	DK child	0.2	Wheat	0.2	Rye	0.0	Oats	0.4
0.3	WHO cluster diet D	0.3	Wheat	0.0	Rice	0.0	Maize	0.3
0.3	IT kids/toddler	0.3	Wheat	0.0	Rice	0.0	Maize	0.3
0.3	IE adult	0.1	Maize	0.1	Maize	0.0	Barley	0.3
0.2	WHO cluster diet E	0.2	Wheat	0.0	Barley	0.0	Maize	0.2
0.2	NL child	0.2	Wheat	0.0	Rice	0.0	Rye	0.2
0.2	DE child	0.2	Wheat	0.0	Rye	0.0	Rice	0.2
0.2	WHO Cluster diet F	0.1	Wheat	0.0	Rye	0.0	Barley	0.2
0.2	PT General population	0.2	Wheat	0.0	Rice	0.0	Maize	0.2
0.2	ES child	0.2	Wheat	0.0	Rice	0.0	Maize	0.2
0.2	UK Toddler	0.2	Wheat	0.0	Rice	0.0	Oats	0.2
0.2	UK Infant	0.1	Wheat	0.0	Maize	0.0	Rice	0.2
0.2	IT adult	0.2	Wheat	0.0	Rice	0.0	Maize	0.2
0.2	SE general population 90th percentile	0.1	Wheat	0.0	Rice	0.0	Rye	0.2
0.1	WHO regional European diet	0.1	Wheat	0.0	Barley	0.0	Rice	0.1
0.1	FR all population	0.1	Wheat	0.0	Rice	0.0	Barley	0.1
0.1	ES adult	0.1	Wheat	0.0	Barley	0.0	Rice	0.1
0.1	FR toddler	0.1	Wheat	0.0	Rice	0.0	FRUIT (FRESH OR FROZEN)	0.1
0.1	DK adult	0.1	Wheat	0.0	Rye	0.0	Oats	0.1
0.1	NL general	0.1	Wheat	0.0	Barley	0.0	Rice	0.1
0.1	LT adult	0.0	Rye	0.0	Wheat	0.0	Rice	0.1
0.1	UK vegetarian	0.1	Wheat	0.0	Rice	0.0	Oats	0.1
0.1	UK Adult	0.1	Wheat	0.0	Rice	0.0	Barley	0.1
0.1	FI adult	0.0	Wheat	0.0	Rye	0.0	Rice	0.1
0.0	FR infant	0.0	Wheat	0.0	Rice	0.0	FRUIT (FRESH OR FROZEN)	0.0
0.0	PL general population	0.0	Maize	0.0	FRUIT (FRESH OR FROZEN)	0.0	FRUIT (FRESH OR FROZEN)	0.0

Conclusion:

The estimated Theoretical Maximum Daily Intakes (TMDI), based on pTMRs were below the ADI. A long-term intake of residues of Triticonazole is unlikely to present a public health concern.

Acute risk assessment /children	Acute risk assessment / adults / general population
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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): ---		
	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)
	0.3	Wheat	0.01 / -	0.3	Wheat	0.01 / -	0.2	Wheat	0.01 / -	0.2	Wheat	0.01 / -
	0.3	Rice	0.01 / -	0.3	Rice	0.01 / -	0.2	Rice	0.01 / -	0.2	Rice	0.01 / -
	0.1	Maize	0.01 / -	0.1	Maize	0.01 / -	0.1	Barley	0.01 / -	0.1	Barley	0.01 / -
0.1	Rye	0.01 / -	0.1	Rye	0.01 / -	0.1	Rye	0.01 / -	0.1	Rye	0.01 / -	
0.1	Oats	0.01 / -	0.1	Oats	0.01 / -	0.1	Buckwheat	0.01 / -	0.1	Buckwheat	0.01 / -	
No of critical MRLs (IESTI 1) ---			No of critical MRLs (IESTI 2) ---			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: ---		
	***)			***)		
	Highest % of ARfD/ADI	Processed commodities	pTMRL/ threshold MRL (mg/kg)	Highest % of ARfD/ADI	Processed commodities	pTMRL/ threshold MRL (mg/kg)
	0.2	Wheat flour	0.01 / -	0.1	Bread/pizza	0.01 / -
0.1	Maize flour	0.01 / -	0.0	Maize flour	0.01 / -	

*) 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 Triticonazole 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.

APPENDIX C – EXISTING EC MRLs

Pesticides - Web Version - EUMRLs (File created on 27/03/2009 16:07)		
Code number	Groups and examples of individual products to which the MRLs apply (a)	Triticonazole
10000	1. FRUIT FRESH OR FROZEN;	001*
11000	(i) Citrus fruit	001*
11010	Grapefruit (Shaddock), pomelos, sweeties, tangelo, ugli and other hybrids	001*
11020	Oranges (Bergamot, bitter orange, chinotto and other hybrids)	001*
11030	Lemons (Citron, lemon)	001*
11040	Limes	001*
11050	Mandarins (Clementine, tangerine and other hybrids)	001*
11090	Others	001*
12000	(ii) Dicotyledons (shelled or unshelled)	001*
12010	Almonds	001*
12020	Brazil nuts	001*
12030	Cashew nuts	001*
12040	Chestnuts	001*
12050	Coconuts	001*
12060	Hazelnuts (Filbert)	001*
12070	Macadamia	001*
12080	Pecans	001*
12090	Peanuts	001*
120100	Pistachios	001*
120110	Walnuts	001*
120990	Others	001*
13000	(iii) Pome fruit	001*
13010	Apples (Cabapple)	001*
13020	Pears (Oriental pear)	001*
13030	Quinces	001*
13040	Medlar	001*
13050	Loquat	001*
13090	Others	001*
14000	(iv) Stone fruit	001*
14010	Apricots	001*
14020	Cherries (sweet cherries, sour cherries)	001*
14030	Peaches (Nectarines and similar hybrids)	001*
14040	Plums (Damson, greengage, mirabelle)	001*
14090	Others	001*
15000	(v) Berries & small fruit	001*
15100	(a) Table and wine grapes	001*

151010	Table grapes	001*
151020	Wine grapes	001*
152000	(b) Strawberries	001*
153000	(c) Cane fruit	001*
153010	Blackberries	001*
153020	Dewberries (Loganberries, Boysenberries, and cloudberries)	001*
153030	Raspberries (Wineberries)	001*
153990	Others	001*
154000	(d) Other small fruit & berries	001*
154010	Blueberries (Bilberries, cowberries (red bilberries))	001*
154020	Cranberries	001*
154030	Currants (red, black and white)	001*
154040	Gooseberries (including hybrids with other berries, species)	001*
154050	Rosehips	001*
154060	Mulberries (arbutus berry)	001*
154070	Azorele (medicanean medlar)	001*
154080	Elderberries (Black chokeberry (appleberry), mountain ash, azorele, buckthorn (seasallow thorn), hawthorn, service berries, and other elderberries)	001*
154990	Others	001*
160000	(vi) Miscellaneous fruit	001*
161000	(a) Edible peel	001*
161010	Dates	001*
161020	Figs	001*
161030	Table olives	001*
161040	Kumquats (Maunikumquats, negamikumquats)	001*
161050	Carabroka (Bilimbi)	001*
161060	Persimmon	001*
161070	Jambolan (jambolan) (Java apple (water apple), pomeac, rose apple, Bazila and cherry (gumichama), Sunnam cherry)	001*
161990	Others	001*
162000	(b) Inedible peel, small	001*
162010	Kivi	001*
162020	Lychee (Lichi) (Pukasan, ambutan (hairy lichi))	001*
162030	Passion fruit	001*
162040	Prickly pear (cactus fruit)	001*
162050	Strawapple	001*
162060	American persimmon (Virginia kaki) (Black sapote, white sapote, green sapote, canistel (yellow sapote), and mammy sapote)	001*
162990	Others	001*
163000	(c) Inedible peel, large	001*

163010	Avocados	001*
163020	Bananas (Dwarf banana, plantain, apple banana)	001*
163030	Mangos	001*
163040	Papaya	001*
163050	Portuguese	001*
163060	Chaiyoya (Custard apple, sugar apple (sweetsop), lilkam and other medium sized Annonaceae)	001*
163070	Guava	001*
163080	Pineapples	001*
163090	Breadfruit (Jackfruit)	001*
163100	Durian	001*
163110	Soursop (guanabana)	001*
163990	Others	001*
200000	2. VEGETABLES FRESH OR FROZEN	001*
210000	(i) Root and tuber vegetables	001*
211000	(a) Potatoes	001*
212000	(b) Tuber root and tuber vegetables	001*
212010	Cassava (Dahlen, eddoe (Japanese taro), tania)	001*
212020	Sweet potatoes	001*
212030	Yams (Pinaro bean (yambean), Mexican yambean)	001*
212040	Arrowroot	001*
212990	Others	001*
213000	(c) Other root and tuber vegetables except sugar beet	001*
213010	Beetroot	001*
213020	Carrots	001*
213030	Celery	001*
213040	Horseradish	001*
213050	Jerusalem artichokes	001*
213060	Parsnips	001*
213070	Parsley root	001*
213080	Radishes (Black radish, Japanese radish, small radish and similar varieties)	001*
213090	Salsify (Scorzenera, Spanish salsify (Spanish oyster plant))	001*
213100	Swedes	001*
213110	Tunip	001*
213990	Others	001*
220000	(ii) Bulb vegetables	001*
220010	Garlic	001*
220020	Onions (Silver skin onions)	001*
220030	Shallots	001*
220040	Spring onions (Welsh onion and similar varieties)	001*
220990	Others	001*
230000	(iii) Fruiting vegetables	001*

231000	(a) Solanacea	001*
231010	Tomatoes (Cherry tomatoes)	001*
231020	Peppers (Chilli peppers)	001*
231030	Aubergines (eggplants) (Pepino)	001*
231040	Okra, ladyfinger	001*
231990	Others	001*
232000	(b) Cucurbit - edible peel	001*
232010	Cucumbers	001*
232020	Cheekins	001*
232030	Cougettes (Summer squash minnow (potison))	001*
232990	Others	001*
233000	(c) Cucurbit - inedible peel	001*
233010	Melons (Kiwano)	001*
233020	Pumpkins (Winter squash)	001*
233030	Watermelons	001*
233990	Others	001*
234000	(d) Sweetcom	001*
239000	(e) Other fruiting vegetables	001*
240000	(iv) Basic vegetables	001*
241000	(a) Flowering brassica	001*
241010	Broccoli (Cakheese, Chinese broccoli, Broccoli rab)	001*
241020	Cauliflower	001*
241990	Others	001*
242000	(b) Head brassica	001*
242010	Brussels sprouts	001*
242020	Head cabbage (Pointed head cabbage, red cabbage, savoy cabbage, white cabbage)	001*
242990	Others	001*
243000	(c) Leafy brassica	001*
243010	Chinese cabbage (Indian (Chinese) mustard, pak choy, Chinese flat cabbage (tai go choy), peking cabbage (peitsai), cow cabbage)	001*
243020	Kale (Borecole (curly kale), collards)	001*
243990	Others	001*
244000	(d) Kohlrabi	001*
250000	(v) Leaf vegetables & fresh herbs	001*
251000	(a) Lettuce and other salad plants including Brassicacea	001*
251010	Lamb's lettuce (Italian corn salad)	001*
251020	Lettuce (Head lettuce, lollo rosso (cutting lettuce), iceberg lettuce, romaine (cos) lettuce)	001*
251030	Scorale (brock leaf endive) (Wild chioray, red headed chioray, radichio, cudi leaver endive, sugar leaf)	001*
251040	Cress	001*
251050	Landcress	001*

25100	Rocket,Rucola(Wildrocket)	001*
25107	Redmustard	001*
	Leaves and sprouts of Brassica spp (Mizuna)	001*
25108	Others	001*
25199	Others	001*
25200	(b) Spinach & similar (leaves)	001*
25201	Spinach (New Zealand spinach, tumip greens (tumip tops))	001*
	Purslane (Winter purslane (miner's lettuce), garden purslane, common purslane, sand glasswort)	001*
25202	Beet leaves (chard) (Leaves of beetroot)	001*
25299	Others	001*
25300	(c) Vine leaves (grape leaves)	001*
25400	(d) Watercress	001*
25500	(e) Witlof	001*
25600	(f) Herbs	001*
25601	Chervil	001*
25602	Chives	001*
	Celery leaves (fennel leaves, Coriander leaves, dill leaves, Caraway leaves, lovage, angelica, sweet celery and other Apiacea)	001*
25603	Parsley	001*
25605	Sage (Winter savory, summer savory,)	001*
25606	Rosemary	001*
25670	Thyme (marjoram, oregano)	001*
25680	Basil (Balm leaves, mint, peppermint)	001*
25690	Bay leaves (laurel)	001*
25610	Tarragon (Hyssop)	001*
25699	Others	001*
26000	(vi) Legume vegetables (flesh)	001*
	Beans (with pods) (Green bean (french beans, snap beans), scarlet runner bean, string bean, yard long beans)	001*
26001	Beans (without pods) (Broad beans, Figeolets, jack bean, lima bean, cow pea)	001*
26002	Peas (with pods) (Mangout (sugar peas))	001*
26003	Peas (without pods) (Garden pea, green pea, chick pea)	001*
26004	Lentils	001*
26050	Others	001*
26099	Others	001*
27000	(vii) Stem vegetables (flesh)	001*
27001	Asparagus	001*
27002	Cardoons	001*
27003	Celery	001*
27004	Fennel	001*
27005	Globe artichokes	001*
27006	Leek	001*
27007	Rhubarb	001*
27008	Bamboo shoots	001*

27009	Palm hearts	001*
27099	Others	001*
28000	(viii) Fungi	001*
	Cultivated (Common mushroom, Oyster mushroom, Shiitake)	001*
28001	Wild (Chanterelle, Truffle, Morel)	001*
28002	Others	001*
28099	Others	001*
29000	(ix) Seaweeds	001*
30000	3. PULSES, DRY	001*
	Beans (Broad beans, navy beans, ffigeoles, jack beans, lima beans, field beans, cow peas)	001*
30001	Lentils	001*
30002	Peas (Chick peas, field peas, chickling vetch)	001*
30003	Lupins	001*
30099	Others	001*
40000	4. OIL SEEDS AND OIL FRUITS	002*
40100	(i) Oilseeds	002*
40101	Linseed	002*
40102	Peanut	002*
40103	Poppy seed	002*
40104	Sesame seed	002*
40105	Sunflower seed	002*
40106	Rapeseed (Bird rapeseed, turnip rape)	002*
40107	Soyabean	002*
40108	Mustard seed	002*
40109	Cottonseed	002*
40110	Pumpkin seeds	002*
40111	Safflower	002*
40112	Borage	002*
40113	Gold of pleasure	002*
40114	Hemp seed	002*
40115	Castor bean	002*
40199	Others	002*
40200	(ii) Oil fruits	001*
40201	Olive for oil production	001*
40202	Palm nuts (palm oil kernels)	002*
40203	Palm fruit	002*
40204	Kapok	002*
40299	Others	002*
50000	5. CEREALS	001*
50001	Barley	001*
50002	Buckwheat	001*
50003	Maize	001*
50004	Millet (Foxtail millet, teff)	001*
50005	Oats	001*
50006	Rice	001*
50007	Rye	001*
50008	Sorghum	001*
50009	Wheat (Soft Triticale)	001*

50099	Others	001*
60000	6. TEA, COFFEE, HERBAL INFUSIONS AND COCOA	002*
	(i) Tea (dried leaves and stalks, fermented or otherwise of Camellia sinensis)	002*
60001	(ii) Coffee beans	002*
60002	(iii) Herbal infusions (dried)	002*
60100	(a) Flowers	002*
60101	Camomille flowers	002*
60102	Hydrangea flowers	002*
60103	Rose petals	002*
60104	Jasmine flowers	002*
60105	Lime (linden)	002*
60199	Others	002*
60200	(b) Leaves	002*
60201	Strawberry leaves	002*
60202	Rooibos leaves	002*
60203	Mate	002*
60299	Others	002*
60300	(c) Roots	002*
60301	Valerian root	002*
60302	Ginger root	002*
60399	Others	002*
60400	(d) Other herbal infusions	002*
60401	(iv) Cocoa (fermented beans)	002*
60402	(v) Carob (stjohns bread)	002*
70000	7. HOPS (dried), including hop pellets and uncentrifuged powder	002*
80000	8. SPICES	002*
81000	(i) Seeds	002*
81001	Anise	002*
81002	Black caraway	002*
81003	Celery seed (Lovage seed)	002*
81004	Coriander seed	002*
81005	Cumin seed	002*
81006	Dill seed	002*
81007	Fennel seed	002*
81008	Fenugreek	002*
81009	Nutmeg	002*
81099	Others	002*
82000	(ii) Fruits and berries	002*
82001	Allspice	002*
82002	Anise pepper (Japan pepper)	002*
82003	Caraway	002*
82004	Cardamom	002*
82005	Juniper berries	002*
82006	Pepper, black and white (Long pepper, pink pepper)	002*
82007	Vanilla pods	002*
82008	Tamarind	002*
82099	Others	002*

83000	(iii) Bark	002*
83001	Cinnamon (Cassia)	002*
83099	Others	002*
84000	(iv) Roots/rhizome	002*
84001	Liquorice	002*
84002	Ginger	002*
84003	Turmeric (Curcuma)	002*
84004	Horse radish	002*
84099	Others	002*
85000	(v) Buds	002*
85001	Cloves	002*
85002	Capas	002*
85099	Others	002*
86000	(vi) Flower stigma	002*
86001	Saffron	002*
86099	Others	002*
87000	(vii) Ail	002*
87001	Mace	002*
87099	Others	002*
90000	9. SUGAR PLANTS	001*
90001	Sugar beet (root)	001*
90002	Sugarcane	001*
90003	Chicory roots	001*
90099	Others	001*
100000	10. PRODUCTS OF ANIMAL ORIGIN - TERRESTRIAL ANIMALS	
	(i) Meat, preparations of meat, offals, blood, animal fats, fresh, chilled or frozen, salted, in brine, dried or smoked or processed as flours or meals and other processed products such as sausages and food preparations based on these	
101000	(a) Swine	
101010	Meat	
101020	Fat free of lean meat	
101030	Liver	
101040	Kidney	
101050	Edible offal	
101099	Others	
101200	(b) Bovine	
101210	Meat	
101220	Fat	
101230	Liver	
101240	Kidney	
101250	Edible offal	
101299	Others	
101300	(c) Sheep	
101310	Meat	
101320	Fat	
101330	Liver	
101340	Kidney	

101300	Edible offal	
101390	Others	
101400	(d) Goat	
101401	Meat	
101402	Fat	
101403	Liver	
101404	Kidney	
101405	Edible offal	
101490	Others	
101500	(e) Horses, asses, mules or hinnies	
101501	Meat	
101502	Fat	
101503	Liver	
101504	Kidney	
101505	Edible offal	
101590	Others	
101600	(f) Poultry - chicken, geese, duck, turkey and Guinea fowl, ostrich, pigeon	
101601	Meat	
101602	Fat	
101603	Liver	
101604	Kidney	
101605	Edible offal	
101690	Others	
101700	(g) Other farm animals (Rabbit, Kangaroo)	
101701	Meat	
101702	Fat	
101703	Liver	
101704	Kidney	
101705	Edible offal	
101790	Others	
102000	(h) Milk and cream, not concentrated, nor containing added sugars or sweetening matter, butter and other fats derived from milk, cheese and curd	
102010	Cattle	
102020	Sheep	
102030	Goat	
102040	Horse	
102090	Others	
103000	(i) 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	
103010	Chicken	
103020	Duck	
103030	Goose	
103040	Quail	

103090	Others	
104000	(iv) Honey (Royal jelly, pollen)	
105000	(v) Amphibians and reptiles (Frog legs, crocodiles)	
106000	(vi) Straits	
107000	(vii) Other terrestrial animal products	

(*) Indicates lower limit of analytical determination

GLOSSARY / ABBREVIATIONS

a.s.	active substance
ADI	acceptable daily intake
ARfD	acute reference dose
BBCH	Federal Biological Research Centre for Agriculture and Forestry (Germany)
bw	body weight
CF	conversion factor for enforcement residue definition to risk assessment residue definition
CXL	codex maximum residue limit
d	day
DM	dry matter
DT ₉₀	period required for 90 percent dissipation (define method of estimation)
EC	European Community
EFSA	European Food Safety Authority
EU	European Union
GAP	good agricultural practice
GC-ECD	gas chromatography with electron capture detector
GC-TSD	gas chromatography with thermoionic specific detector
ha	hectare
hL	hectolitre
HR	highest residue
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC-MS/MS	liquid chromatography with tandem mass spectrometry
LOQ	limit of quantification
MRL	maximum residue limit
MS	Member States
NEU	Northern European Union
PF	processing factor
PHI	pre harvest interval
PRIMo	Pesticide Residues Intake Model
RMS	Rapporteur Member State

SEU	Southern European Union
STMR	supervised trials median residue
TRR	total radioactive residue