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**► B DIRECTIVE 2002/32/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**  
**of 7 May 2002**  
**on undesirable substances in animal feed**  
(OJ L 140, 30.5.2002, p. 10)

Amended by:

		Official Journal		
		No	page	date
► <u>M1</u>	Commission Directive 2003/57/EC of 17 June 2003	L 151	38	19.6.2003
► <u>M2</u>	Commission Directive 2003/100/EC of 31 October 2003	L 285	33	1.11.2003
► <u>M3</u>	Commission Directive 2005/8/EC of 27 January 2005	L 27	44	29.1.2005
► <u>M4</u>	Commission Directive 2005/86/EC of 5 December 2005	L 318	16	6.12.2005
► <u>M5</u>	Commission Directive 2005/87/EC of 5 December 2005	L 318	19	6.12.2005
► <u>M6</u>	Commission Directive 2006/13/EC of 3 February 2006	L 32	44	4.2.2006
► <u>M7</u>	Commission Directive 2006/77/EC of 29 September 2006	L 271	53	30.9.2006
► <u>M8</u>	Commission Directive 2008/76/EC of 25 July 2008	L 198	37	26.7.2008
► <u>M9</u>	Commission Directive 2009/8/EC of 10 February 2009	L 40	19	11.2.2009
► <u>M10</u>	Regulation (EC) No 219/2009 of the European Parliament and of the Council of 11 March 2009	L 87	109	31.3.2009
► <u>M11</u>	Commission Directive 2009/124/EC of 25 September 2009	L 254	100	26.9.2009
► <u>M12</u>	Commission Directive 2009/141/EC of 23 November 2009	L 308	20	24.11.2009
► <u>M13</u>	Commission Directive 2010/6/EU of 9 February 2010	L 37	29	10.2.2010
► <u>M14</u>	Commission Regulation (EU) No 574/2011 of 16 June 2011	L 159	7	17.6.2011
► <u>M15</u>	Commission Regulation (EU) No 277/2012 of 28 March 2012	L 91	1	29.3.2012
► <u>M16</u>	Commission Regulation (EU) No 744/2012 of 16 August 2012	L 219	5	17.8.2012
► <u>M17</u>	Commission Regulation (EU) No 107/2013 of 5 February 2013	L 35	1	6.2.2013
► <u>M18</u>	Commission Regulation (EU) No 1275/2013 of 6 December 2013	L 328	86	7.12.2013
► <u>M19</u>	Commission Regulation (EU) 2015/186 of 6 February 2015	L 31	11	7.2.2015
► <u>M20</u>	Commission Regulation (EU) 2017/2229 of 4 December 2017	L 319	6	5.12.2017
► <u>M21</u>	Regulation (EU) 2019/1243 of the European Parliament and of the Council of 20 June 2019	L 198	241	25.7.2019
► <u>M22</u>	Commission Regulation (EU) 2019/1869 of 7 November 2019	L 289	32	8.11.2019



**DIRECTIVE 2002/32/EC OF THE EUROPEAN PARLIAMENT  
AND OF THE COUNCIL**

**of 7 May 2002**

**on undesirable substances in animal feed**

*Article 1*

1. This Directive deals with undesirable substances in products intended for animal feed.
  
2. This Directive shall apply without prejudice to the provisions in:
  - (a) Council Directive 70/524/EEC of 23 November 1970 concerning additives in feedingstuffs <sup>(1)</sup>;
  
  - (b) Council Directive 96/25/EC and Council Directive 79/373/EEC of 2 April 1979 on the marketing of compound feedingstuffs <sup>(2)</sup>;
  
  - (c) Council Directive 76/895/EEC of 23 November 1976 relating to the fixing of maximum levels for pesticide residues in and on fruit and vegetables <sup>(3)</sup>, Council Directive 86/362/EEC of 24 July 1986 on the fixing of maximum levels for pesticide residues in and on cereals <sup>(4)</sup>, Council Directive 86/363/EEC of 24 July 1986 on the fixing of maximum levels for pesticide residues in and on foodstuffs of animal origin <sup>(5)</sup> and Council Directive 90/642/EEC of 27 November 1990 on the fixing of maximum levels for pesticide residues in and on certain products of plant origin, including fruit and vegetables <sup>(6)</sup>, where these residues are not listed in Annex I to this Directive;
  
  - (d) Community legislation concerning veterinary matters relating to public health and animal health;
  
  - (e) Council Directive 82/471/EEC of 30 June 1982 concerning certain products used in animal nutrition <sup>(7)</sup>;
  
  - (f) Council Directive 93/74/EEC of 13 September 1993 on feedingstuffs intended for particular nutritional purposes <sup>(8)</sup>.

<sup>(1)</sup> OJ L 270, 14.12.1970, p. 1. Directive as last amended by Commission Regulation (EC) No 2205/2001 (OJ L 297, 15.11.2001, p. 3).

<sup>(2)</sup> OJ L 86, 6.4.1979, p. 30. Directive as last amended by the European Parliament and Council Directive 2002/2/EC (OJ L 63, 6.3.2002, p. 23).

<sup>(3)</sup> OJ L 340, 9.12.1976, p. 26. Directive as last amended by Commission Directive 2000/57/EC (OJ L 244, 29.9.2000, p. 76).

<sup>(4)</sup> OJ L 221, 7.8.1986, p. 37. Directive as last amended by Commission Directive 2002/23/EC (OJ L 64, 7.3.2002, p. 13).

<sup>(5)</sup> OJ L 221, 7.8.1986, p. 43. Directive as last amended by Directive 2002/23/EC.

<sup>(6)</sup> OJ L 350, 14.12.1990, p. 71. Directive as last amended by Directive 2002/23/EC.

<sup>(7)</sup> OJ L 213, 21.7.1982, p. 8. Directive as last amended by Directive 1999/20/EC (OJ L 80, 25.3.1999, p. 20).

<sup>(8)</sup> OJ L 237, 22.9.1993, p. 23. Directive as last amended by Directive 1999/29/EC (OJ L 115, 4.5.1999, p. 32).

**▼B***Article 2*

For the purposes of this Directive:

- (a) ‘feedingstuffs’ shall mean products of vegetable or animal origin, in their natural state, fresh or preserved, and products derived from the industrial processing thereof, and organic or inorganic substances, used singly or in mixtures, whether or not containing additives, for oral animal feeding;
- (b) ‘feed materials’ shall mean various products of vegetable or animal origin, in their natural state, fresh or preserved, and products derived from the industrial processing thereof, and organic or inorganic substances, whether or not containing additives, which are intended for use in oral animal feeding either directly as such or, after processing, in the preparation of compound feedingstuffs or as substrates for premixtures;
- (c) ‘additives’ shall mean additives as defined in Article 2(a) of Council Directive 70/524/EEC;
- (d) ‘premixtures’ shall mean mixtures of additives or mixtures of one or more additives with substances used as carriers, intended for the manufacture of feedingstuffs;
- (e) ‘compound feedingstuffs’ shall mean mixtures of feed materials, whether or not containing additives, which are intended for oral animal feeding as complete or complementary feedingstuffs;
- (f) ‘complementary feedingstuffs’ shall mean mixtures of feedingstuffs which have a high content of certain substances and which, by reason of their composition, are sufficient for a daily ration only if used in combination with other feedingstuffs;
- (g) ‘complete feedingstuffs’ shall mean mixtures of feedingstuffs which, by reason of their composition, are sufficient for a daily ration;
- (h) ‘products intended for animal feed’ shall mean feed materials, premixtures, additives, feedingstuffs and all other products intended for use or used in animal feed;
- (i) ‘daily ration’ shall mean the average total quantity of feedingstuffs, calculated on a moisture content of 12 %, required daily by an animal of a given species, age class and yield, to satisfy all its needs;
- (j) ‘animals’ shall mean animals belonging to species normally fed and kept or consumed by man as well as animals living freely in the wild in cases where they are fed with feedingstuffs;
- (k) ‘putting into circulation’ or ‘circulation’ shall mean the holding of products intended for animal feed for the purposes of sale, including offering for sale, or any other form of transfer, whether free or not, to third parties, and the sale or other forms of transfer themselves;
- (l) ‘undesirable substance’ shall mean any substance or product, with the exception of pathogenic agents, which is present in and/or on the product intended for animal feed and which presents a potential danger to animal or human health or to the environment or could adversely affect livestock production.

**▼B***Article 3*

1. Products intended for animal feed may enter for use in the Community from third countries, be put into circulation and/or used in the Community only if they are sound, genuine and of merchantable quality and therefore when correctly used do not represent any danger to human health, animal health or to the environment or could adversely affect livestock production.

2. In particular, products intended for animal feed shall be deemed not to be in conformity with paragraph 1 if the level of undesirable substances they contain does not comply with the maximum levels laid down in Annex I.

*Article 4*

1. Member States shall prescribe that the undesirable substances listed in Annex I may be tolerated in products intended for animal feed only subject to the conditions laid down therein.

2. In order to reduce or eliminate sources of undesirable substances of products intended for animal feed, Member States, in cooperation with economic operators, shall carry out investigations to identify the sources of undesirable substances, in cases where the maximum levels are exceeded and in cases where increased levels of such substances are detected, taking into account background levels. For a uniform approach in cases of increased levels it may be necessary to set action thresholds to trigger such investigations. These may be laid down in Annex II.

Member States shall transmit to the Commission and the other Member States all relevant information and findings of the source and the measures taken to reduce the level or elimination of the undesirable substances. This information shall be transmitted in the frame of the annual report to be transmitted to the Commission according to the provisions of Article 22 of Directive 95/53/EC except in those cases where the information is of immediate relevance for the other Member States. In this latter case, the information shall be transmitted immediately.

*Article 5*

Member States shall prescribe that products intended for animal feed containing levels of an undesirable substance that exceed the maximum level fixed in Annex I may not be mixed for dilution purposes with the same, or other, products intended for animal feed.

*Article 6*

In so far as there are no special provisions for complementary feedingstuffs, Member States shall prescribe that complementary feedingstuffs may not, taking into account the proportion prescribed for their use in a daily ration, contain levels of the undesirable substances listed in Annex I that exceed those fixed for complete feedingstuffs.

**▼ B***Article 7*

1. Where a Member State has grounds, based on new information or a reassessment of existing information made since the provisions in question were adopted, demonstrating that a maximum level fixed in Annex I or an undesirable substance not listed therein present a danger to animal or human health or to the environment, that Member State may provisionally reduce the existing maximum level, fix a maximum level or prohibit the presence of that undesirable substance in products intended for animal feed. It shall immediately inform the other Member States and the Commission thereof, stating the grounds for its decision.

**▼ M21**

2. An immediate decision shall be taken as to whether Annexes I and II should be amended. The Commission is empowered to adopt delegated acts in accordance with Article 10a amending those Annexes.

Where, in the case of those amendments, imperative grounds of urgency so require, the procedure provided for in Article 10b shall apply to delegated acts adopted pursuant to this Article.

The Member State may maintain the measures it has implemented as long as the Commission has not taken any decision.

**▼ B**

The Member State must ensure that the decision taken is made public.

*Article 8***▼ M21**

1. The Commission is empowered to adopt delegated acts in accordance with Article 10a amending Annexes I and II to adapt them to the scientific and technical developments.

Where, in the case of those amendments, imperative grounds of urgency so require, the procedure provided for in Article 10b shall apply to delegated acts adopted pursuant to this Article.

**▼ M10**

2. Furthermore the Commission:

— shall periodically adopt consolidated versions of Annexes I and II incorporating any adaptations made pursuant to paragraph 1, in accordance with the regulatory procedure referred to in Article 11(2),

**▼ M21**

— is empowered to adopt delegated acts in accordance with Article 10a in order to supplement this Directive by defining acceptability criteria for detoxification processes as a complement to the criteria provided for products intended for animal feed which have undergone such processes.

**▼ B**

3. Member States shall ensure that measures are taken to guarantee the correct application of any acceptable processes pursuant to paragraph 2 and the conformity of the detoxified products intended for animal feed with the provisions of Annex I.

**▼B***Article 9*

Member States shall ensure that products intended for animal feed which comply with this Directive are not subject to any other restrictions on circulation as regards the presence of undesirable substances other than those provided for in this Directive and Directive 95/53/EC.

*Article 10*

Provisions that may have an effect upon public or animal health or on the environment shall be adopted after consultation with the appropriate Scientific Committee(s).

**▼M21***Article 10a*

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.
2. The power to adopt delegated acts referred to in Article 7(2) and Article 8(1) and (2) shall be conferred on the Commission for a period of five years from 26 July 2019. The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the five-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.
3. The delegation of power referred to in Article 7(2) and Article 8(1) and (2) may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.
4. Before adopting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making <sup>(1)</sup>.
5. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.
6. A delegated act adopted pursuant to Article 7(2) and Article 8(1) and (2) shall enter into force only if no objection has been expressed either by the European Parliament or by the Council within a period of two months from the notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

*Article 10b*

1. Delegated acts adopted under this Article shall enter into force without delay and shall apply as long as no objection is expressed in

<sup>(1)</sup> OJ L 123, 12.5.2016, p. 1.

**▼ M21**

accordance with paragraph 2. The notification of a delegated act to the European Parliament and to the Council shall state the reasons for the use of the urgency procedure.

2. Either the European Parliament or the Council may object to a delegated act in accordance with the procedure referred to in Article 10a(6). In such case, the Commission shall repeal the act immediately following the notification of the decision to object by the European Parliament or by the Council.

**▼ M10***Article 11*

1. The Commission shall be assisted by the Standing Committee for Feedingstuffs set up by Article 1 of Council Decision 70/372/EEC <sup>(1)</sup>.

2. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

**▼ M21**

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**▼ M10**

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**▼ B***Article 13*

1. The Member States shall apply at least the provisions of this Directive to products intended for animal feed produced in the Community to be exported to third countries.

2. Paragraph 1 shall not affect the right of Member States to authorise re-exportation under the conditions laid down in Article 12 of Regulation (EC) No 178/2002 <sup>(2)</sup>. The provisions of Article 20 thereof shall apply *mutatis mutandis*.

*Article 14*

1. Directive 1999/29/EC is hereby repealed as from 1 August 2003, without prejudice to the obligations of the Member States to comply with the deadlines set out in Part B of Annex III thereto for the transposition of the Directives listed in Part A of that Annex.

2. References to Directive 1999/29/EC shall be construed as references to this Directive and should be read in accordance with the correlation table in Annex III.

<sup>(1)</sup> ► **M10** OJ L 170, 3.8.1970, p. 1. ◀

<sup>(2)</sup> Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (OJ L 31, 1.2.2002, p. 1).

**▼B***Article 15*

Member States shall adopt and publish the laws, regulations and administrative provisions necessary to comply with this Directive before 1 May 2003. They shall forthwith inform the Commission thereof.

The measures adopted shall apply as from 1 August 2003.

When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. The procedure for making such reference shall be adopted by Member States.

Member States shall communicate to the Commission the texts of the provisions of national law which they adopt in the field covered by this Directive.

*Article 16*

This Directive shall enter into force on the day of its publication in the *Official Journal of the European Communities*.

*Article 17*

The Directive is addressed to the Member States.





▼ **M18**

Undesirable substance	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
	with the exception of:	
	— phosphates.	10
	Feed additives belonging to the functional group of compounds of trace elements	10
	with the exception of:	
	— cupric oxide, manganous oxide, zinc oxide and manganous sulphate monohydrate.	30
	Feed additives belonging to the functional groups of binders and anti-caking agents	2
	Premixtures <sup>(6)</sup>	15
	Complementary feed	0,5
	with the exception of:	
	— mineral feed	
	— containing < 7 % phosphorus <sup>(8)</sup>	5
	— containing ≥ 7 % phosphorus <sup>(8)</sup>	0,75 per 1 % phosphorus <sup>(8)</sup> , with a maximum of 7,5
	— complementary feed for pet animals	2
	— long-term supply formulations of feed for particular nutritional purposes with a concentration of trace elements higher than 100 times the established maximum content in complete feed;	15
	Complete feed	0,5
	with the exception of:	
	— complete feed for cattle (except calves), sheep (except lambs), goats (except kids) and fish;	1
	— complete feed for pet animals.	2
	Feed materials	150
	with the exception of:	
	— feed materials of animal origin except marine crustaceans such as marine krill; calcareous marine shells;	500
	— marine crustaceans such as marine krill;	3 000
	— phosphates;	2 000
	— calcium carbonate; calcium and magnesium carbonate <sup>(10)</sup>	350
	— magnesium oxide;	600
	— calcareous marine algae.	► <b>M22</b> 1 250 ◀
	Vermiculite (E 561).	3 000
	Complementary feed:	
	— containing ≤ 4 % phosphorus <sup>(8)</sup> ;	500
	— containing > 4 % phosphorus <sup>(8)</sup> .	125 per 1 % phosphorus <sup>(8)</sup>

▼ **M19**3. Fluorine <sup>(7)</sup>

▼ M19

Undesirable substance	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
	Complete feed	150
	with the exception of:	
	— complete feed for pigs;	100
	— complete feed for poultry (except chicks) and fish;	350
	— complete feed for chicks;	250
	— complete feed for cattle, sheep and goats	
	— — in lactation;	30
	— — other.	50

▼ M224. Lead <sup>(12)</sup>

	Feed materials	10
	with the exception of:	
	— forage <sup>(3)</sup> ;	30
	— phosphates, calcareous marine algae and calcareous marine shells;	15
	— calcium carbonate; calcium and magnesium carbonate <sup>(10)</sup> ;	20
	— yeasts.	5
	Feed additives belonging to the functional group of compounds of trace elements	100
	with the exception of:	
	— zinc oxide;	400
	— manganous oxide, ferrous carbonate, cupric carbonate, copper (I) oxide.	200
	Feed additives belonging to the functional groups of binders and anti-caking agents	30
	with the exception of:	
	— clinoptilolite of volcanic origin; natrolite-phonolite.	60
	Premixtures <sup>(6)</sup>	200
	Complementary feed	10
	with the exception of:	
	— mineral feed;	15
	— long-term supply formulations of feed for particular nutritional purposes with a concentration of trace elements higher than 100 times the established maximum content in complete feed.	60
	Complete feed.	5

5. Mercury <sup>(4)</sup>

	Feed materials	0,1
	with the exception of:	
	— fish, other aquatic animals and products derived thereof intended for the production of compound feed for food producing animals;	0,5
	— fish, other aquatic animals and products derived thereof intended for the production of compound feed for dogs, cats, ornamental fish and fur animals;	1,0 <sup>(13)</sup>
	— fish, other aquatic animals and products derived thereof as canned wet feed material for direct feeding of dogs and cats	0,3

▼ **M22**

Undesirable substance	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
	— calcium carbonate; calcium and magnesium carbonate <sup>(10)</sup> .	0,3
	Compound feed	0,1
	with the exception of:	
	— mineral feed;	0,2
	— compound feed for fish;	0,2
	— compound feed for dogs, cats, ornamental fish and fur animals.	0,3
	Feed materials	15
	with the exception of:	
	— fishmeal;	30
	— silage;	—
	— products and by-products from sugar beet and sugarcane and from starch and alcoholic drink production.	—
	Complete feed	15
	with the exception of:	
	— complete feed for dogs and cats with a moisture content exceeding 20 %.	—
	Feed	2,5
	with the exception of:	
	— canned pet food	2,5 <sup>(11)</sup>
	— the following feed additives:	
	— guanidino acetic acid (GAA);	20
	— urea;	—
	— biuret.	—

▼ **M18**6. Nitrite <sup>(5)</sup>▼ **M20**7. Melamine <sup>(9)</sup>▼ **M14**<sup>(1)</sup> The maximum levels refer to total arsenic.<sup>(2)</sup> Upon request of the competent authorities, the responsible operator must perform an analysis to demonstrate that the content of inorganic arsenic is lower than 2 ppm. This analysis is of particular importance for the seaweed species *Hizikia fusiforme*.<sup>(3)</sup> Forage includes products intended for animal feed such as hay, silage, fresh grass, etc.<sup>(4)</sup> The maximum levels refer to total mercury.<sup>(5)</sup> The maximum levels are expressed as sodium nitrite.<sup>(6)</sup> The maximum level established for premixtures takes into account the additives with the highest level of lead and cadmium and not the sensitivity of the different animal species to lead and cadmium. As provided in Article 16 of Regulation (EC) No 1831/2003 of the European Parliament and of the Council of 22 September 2003 on additives for use in animal nutrition (OJ L 268, 18.10.2003, p. 29), in order to protect animal and public health, it is the responsibility of the producer of premixtures to ensure that, in addition to compliance with the maximum levels for premixtures, the instructions for use on the premixture are in accordance with the maximum levels for complementary and complete feed.<sup>(7)</sup> Maximum levels refer to an analytical determination of fluorine, whereby extraction is performed with hydrochloric acid 1 N for 20 minutes at ambient temperature. Equivalent extraction procedures can be applied for which it can be demonstrated that the used extraction procedure has an equal extraction efficiency.<sup>(8)</sup> The % of phosphorus is relative to a feed with a moisture content of 12 %.<sup>(9)</sup> The maximum level refers to melamine only. The inclusion of the structurally related compounds cyanuric acid, ammeline and ammelide in the maximum level will be considered at a later stage.► **M16** <sup>(10)</sup> Calcium and magnesium carbonate refers to the natural mixture of calcium carbonate and magnesium carbonate as described in Commission Regulation (EU) No 575/2011 of 16 June 2011 on the Catalogue of feed materials (OJ L 159, 17.6.2011, p. 25). ◀► **M17** <sup>(11)</sup> The maximum level is applicable to canned pet food as sold. ◀► **M18** <sup>(12)</sup> For the determination of lead in kaolinitic clay and in feed containing kaolinitic clay, the maximum level refers to an analytical determination of lead, whereby extraction is performed in nitric acid (5 % w/w) for 30 minutes at boiling temperature. Equivalent extraction procedures can be applied for which it can be demonstrated that the used extraction procedure has an equal extraction efficiency. ◀<sup>(13)</sup> ► **M20** The maximum level is applicable on wet weight basis. ◀

▼ **M14**

## SECTION II: MYCOTOXINS

Undesirable substance	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
1. Aflatoxin B <sub>1</sub>	Feed materials	0,02
	Complementary and complete feed	0,01
	with the exception of:	
	— compound feed for dairy cattle and calves, dairy sheep and lambs, dairy goats and kids, piglets and young poultry animals,	0,005
	— compound feed for cattle (except dairy cattle and calves), sheep (except dairy sheep and lambs), goats (except dairy goats and kids), pigs (except piglets) and poultry (except young animals).	0,02
2. Rye ergot ( <i>Claviceps purpurea</i> )	Feed materials and compound feed containing unground cereals.	1 000

## SECTION III: INHERENT PLANT TOXINS

Undesirable substance	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
1. Free gossypol	Feed materials	20
	with the exception of:	
	— cottonseed,	► <b>M22</b> 6 000 ◀
	— cottonseed cakes and cottonseed meal.	1 200
	Complete feed	20
	with the exception of:	
	— complete feed for cattle (except calves),	500
	— complete feed for sheep (except lambs) and goats (except kids),	300
	— complete feed for poultry (except laying hens) and calves,	100
	— complete feed for rabbits, lambs, kids and pigs (except piglets).	60
2. Hydrocyanic acid	Feed materials	50
	with the exception of:	
	— linseed,	250
	— linseed cakes,	350
	— manioc products and almond cakes.	100

▼ **M14**

Undesirable substance	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
3. Theobromine	Complete feed	50
	with the exception of: — complete feed for young chickens (< 6 weeks).	10
4. vinyl thiooxazolidone (5-vinyloxazolidine-2-thione)	Complete feed	300
	with the exception of: — complete feed for pigs,	200
	— complete feed for dogs, rabbits, horses and fur animals.	50
5. Volatile mustard oil <sup>(1)</sup>	Complete feed for poultry	1 000
	with the exception of: — complete feed for laying hens.	500
5. Volatile mustard oil <sup>(1)</sup>	Feed materials	100
	with the exception of: — Camelina seed and products derived thereof <sup>(2)</sup> , products derived from mustard seed <sup>(2)</sup> , rape seed and products derived thereof.	4 000
	Complete feed	150
	with the exception of: — complete feed for cattle (except calves), sheep (except lambs) and goats (except kids);	1 000
	— complete feed for pigs (except piglets) and poultry.	500

▼ **M14**

<sup>(1)</sup> The maximum levels are expressed as allyl isothiocyanate.

► **M18** <sup>(2)</sup> Upon request of the competent authorities, the responsible operator must perform an analysis to demonstrate that the content of total glucosinolates is lower than 30 mmol/kg. The method of analysis of reference is EN-ISO 9167-1:1995. ◀

## SECTION IV: ORGANOCHLORINE COMPOUNDS (EXCEPT DIOXINS AND PCBs)

Undesirable substance	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
1. Aldrin <sup>(1)</sup>	Feed materials and compound feed	0,01 <sup>(2)</sup>
2. Dieldrin <sup>(1)</sup>	with the exception of:	
	— fats and oils,	0,1 <sup>(2)</sup>
	— compound feed for fish.	0,02 <sup>(2)</sup>

▼ **M14**

Undesirable substance	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
3. Camphechlor (toxaphene) – sum of indicator congeners CHB 26, 50 and 62 (3)	Fish, other aquatic animals and products derived thereof	0,02
	with the exception of — fish oil.	0,2
	Complete feed for fish.	0,05
4. Chlordane (sum of cis- and trans-isomers and of oxychlordane, expressed as chlordane)	Feed materials and compound feed	0,02
	with the exception of: — fats and oils.	0,05
5. DDT (sum of DDT-, DDD- (or TDE-) and DDE-isomers, expressed as DDT)	Feed materials and compound feed	0,05
	with the exception of: — fats and oils.	0,5
<b>▼ M19</b>		
6. Endosulfan (sum of alpha- and beta-isomers and of endosulfansulphate expressed as endosulfan)	Feed materials and compound feed	0,1
	with the exception of: — cotton seed and products derived from the processing thereof, except crude cotton seed oil	0,3
	— soybean and products derived from the processing thereof, except crude soybean oil	0,5
	— crude vegetable oil	1,0
	— complete feed for fish except for <i>Salmonids</i>	0,005
	— complete feed for <i>Salmonids</i>	0,05
<b>▼ M14</b>		
7. Endrin (sum of endrin and of delta-ketoi-endrin, expressed as endrin)	Feed materials and compound feed	0,01
	with the exception of: — fats and oils.	0,05
8. Heptachlor (sum of heptachlor and of heptachlorepo-oxide, expressed as heptachlor)	Feed materials and compound feed	0,01
	with the exception of: — fats and oils.	0,2
9. Hexachloro-benzene (HCB)	Feed materials and compound feed	0,01
	with the exception of: — fats and oils.	0,2

▼ **M14**

Undesirable substance	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
10. Hexachlorocyclohexane (HCH)		
— alpha-isomers	Feed materials and compound feed with the exception of: — fats and oils.	0,02  0,2
— beta-isomers	Feed materials with the exception of: — fats and oils. Compound feed with the exception of: — compound feed for dairy cattle.	0,01  0,1  0,01  0,005
— gamma-isomers	Feed materials and compound feed with the exception of: — fats and oils.	0,2  2,0

(<sup>1</sup>) Singly or combined expressed as dieldrin.

(<sup>2</sup>) Maximum level for aldrin and dieldrin, singly or combined, expressed as dieldrin.

(<sup>3</sup>) Numbering system according to Parlar, prefixed by either CHB or 'Parlar':

CHB 26: 2-endo,3-exo,5-endo,6-exo,8,8,10,10-octochlorobornane,

CHB 50: 2-endo,3-exo,5-endo,6-exo,8,8,9,10,10-nonachlorobornane,

CHB 62: 2,2,5,5,8,9,9,10,10-nonachlorobornane.

▼ **M15**

## SECTION V: DIOXINS AND PCBs

Undesirable substance	Products intended for animal feed	Maximum content in ng WHO-PCDD/F-TEQ/kg (ppt) ( <sup>1</sup> ) relative to a feed with a moisture content of 12 %
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▼ **M16**

1. Dioxins [sum of polychlorinated dibenzo- <i>para</i> -dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) expressed in World Health Organisation (WHO) toxic equivalents, using the WHO-TEFs (toxic equivalency factors, 2005) ( <sup>2</sup> )]	Feed materials of plant origin with the exception of: — vegetable oils and their by-products. Feed materials of mineral origin Feed materials of animal origin: — Animal fat, including milk fat and egg fat, — Other land animal products including milk and milk products and eggs and egg products. — Fish oil, — Fish, other aquatic animals, and products derived thereof with the exception of fish oil, hydrolysed fish protein containing more than 20 % fat ( <sup>3</sup> ) and crustacea meal,	0,75  0,75  0,75  1,50  0,75  5,0  1,25
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▼ **M16**

Undesirable substance	Products intended for animal feed	Maximum content in ng WHO-PCDD/F-TEQ/kg (ppt) <sup>(1)</sup> relative to a feed with a moisture content of 12 %
	— Hydrolysed fish protein containing more than 20 % fat; crustacea meal.	1,75
	► <b>M22</b> Feed additives belonging to the functional groups of binders and anti-caking agents (*) ◀	0,75
	Feed additives belonging to the functional group of compounds of trace elements.	1,0
	Premixtures	1,0
	Compound feed	0,75
	with the exception of:	
	— compound feed for pet animals and fish,	1,75
	— compound feed for fur animals.	—

▼ **M15**

Undesirable substance	Products intended for animal feed	Maximum content in ng WHO-PCDD/F-PCB-TEQ/kg (ppt) <sup>(1)</sup> relative to a feed with a moisture content of 12 %
2. Sum of dioxins and dioxin-like PCBs (sum of polychlorinated dibenzo- <i>para</i> -dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs) and polychlorinated biphenyls (PCBs) expressed in World Health Organisation (WHO) toxic equivalents, using the WHO-TEFs (toxic equivalency factors), 2005 <sup>(2)</sup> )	Feed materials of plant origin with the exception of:	1,25
	— vegetable oils and their by-products	1,5
	Feed materials of mineral origin	1,0
	Feed materials of animal origin:	
	— Animal fat, including milk fat and egg fat	2,0
	— Other land animal products including milk and milk products and eggs and egg products	1,25
	— Fish oil	20,0
	— Fish, other aquatic animals, and products derived thereof with the exception of fish oil and fish protein, hydrolysed, containing more than 20 % fat <sup>(3)</sup>	4,0
	— Fish protein, hydrolysed, containing more than 20 % fat	9,0
	► <b>M22</b> Feed additives belonging to the functional groups of binders and anti-caking agents (*) ◀	1,5
	Feed additives belonging to the functional group of compounds of trace elements	1,5

▼ **M15**

Undesirable substance	Products intended for animal feed	Maximum content in ng WHO-PCDD/F-PCB-TEQ/kg (ppt) <sup>(1)</sup> relative to a feed with a moisture content of 12 %
	Premixtures  Compound feed with the exception of: — compound feed for pet animals and fish — compound feed for fur animals	1,5  1,5  5,5  —
Undesirable substance	Products intended for animal feed	Maximum content in µg/kg (ppb) relative to a feed with a moisture content of 12 % <sup>(1)</sup>
3. Non-dioxin-like PCBs (sum of PCB 28, PCB 52, PCB 101, PCB 138, PCB 153 and PCB 180 (ICES – 6) <sup>(1)</sup> )	Feed materials of plant origin  Feed materials of mineral origin  Feed materials of animal origin: — Animal fat, including milk fat and egg fat  — Other land animal products including milk and milk products and eggs and egg products  — Fish oil  — Fish, other aquatic animals and products derived thereof with the exception of fish oil and fish protein, hydrolysed, containing more than 20 % fat <sup>(4)</sup>  — Fish protein, hydrolysed, containing more than 20 % fat  ► <b>M22</b> Feed additives belonging to the functional groups of binders and anti-caking agents (*) ◀  Feed additives belonging to the functional group of compounds of trace elements  Premixtures  Compound feed with the exception of: — compound feed for pet animals and fish — compound feed for fur animals	10  10  10  10  175  30  50  10  10  10  10  40  —

▼ **M15**

- (<sup>1</sup>) Upper-bound concentrations; upper-bound concentrations are calculated on the assumption that all values of the different congeners below the limit of quantification are equal to the limit of quantification.
- (<sup>2</sup>) Table of TEF (= toxic equivalency factors) for dioxins, furans and dioxin-like PCBs:  
WHO-TEFs for human risk assessment based on the conclusions of the World Health Organisation (WHO) – International Programme on Chemical Safety (IPCS) expert meeting which was held in Geneva in June 2005 (Martin van den Berg et al., The 2005 World Health Organisation Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. Toxicological Sciences 93(2), 223–241 (2006))

Congener	TEF value	Congener	TEF value
<b>Dibenzo-para-dioxins ('PCDDs') and Dibenzo-para-furans (PCDFs)</b>		<b>'Dioxin-like' PCBs: Non-ortho PCBs + Mono-ortho PCBs</b>	
2,3,7,8-TCDD	1		
1,2,3,7,8-PeCDD	1	<b>Non-ortho PCBs</b>	
1,2,3,4,7,8-HxCDD	0,1	PCB 77	0,0001
1,2,3,6,7,8-HxCDD	0,1	PCB 81	0,0003
1,2,3,7,8,9-HxCDD	0,1	PCB 126	0,1
1,2,3,4,6,7,8-HpCDD	0,01	PCB 169	0,03
OCDD	0,0003		
		<b>Mono-ortho PCBs</b>	
2,3,7,8-TCDF	0,1	PCB 105	0,00003
1,2,3,7,8-PeCDF	0,03	PCB 114	0,00003
2,3,4,7,8-PeCDF	0,3	PCB 118	0,00003
1,2,3,4,7,8-HxCDF	0,1	PCB 123	0,00003
1,2,3,6,7,8-HxCDF	0,1	PCB 156	0,00003
1,2,3,7,8,9-HxCDF	0,1	PCB 157	0,00003
2,3,4,6,7,8-HxCDF	0,1	PCB 167	0,00003
1,2,3,4,6,7,8-HpCDF	0,01	PCB 189	0,00003
1,2,3,4,7,8,9-HpCDF	0,01		
OCDF	0,0003		

Abbreviations used: 'T' = tetra; 'Pe' = penta; 'Hx' = hexa; 'Hp' = hepta; 'O' = octa; 'CDD' = chlorodibenzodioxin; 'CDF' = chlorodibenzofuran; 'CB' = chlorobiphenyl.

- (<sup>3</sup>) Fresh fish and other aquatic animals directly delivered and used without intermediate processing for the production of feed for fur animals are not subject to the maximum levels, while maximum levels of 3,5 ng WHO-PCDD/F-TEQ/kg product and 6,5 ng WHO-PCDD/F-PCB-TEQ/kg product are applicable to fresh fish and 20,0 ng WHO-PCDD/F-PCB-TEQ/kg product is applicable to fish liver used for the direct feeding of pet animals, zoo and circus animals or used as feed material for the production of pet food. The products or processed animal proteins produced from these animals (fur animals, pet animals, zoo and circus animals) cannot enter the food chain and cannot be fed to farmed animals which are kept, fattened or bred for the production of food.
- (<sup>4</sup>) Fresh fish and other aquatic animals directly delivered and used without intermediate processing for the production of feed for fur animals are not subject to the maximum levels, while maximum levels of 75 µg/kg product are applicable to fresh fish and 200 µg/kg product are applicable to fish liver used for the direct feeding of pet animals, zoo and circus animals or used as feed material for the production of pet food. The products or processed animal proteins produced from these animals (fur animals, pet animals, zoo and circus animals) cannot enter the food chain and cannot be fed to farmed animals which are kept, fattened or bred for the production of food.
- **M22** (\*) The maximum level is also applicable to the feed additives belonging to the functional groups of substances for the control of radionuclide contamination and substances for reduction of the contamination of feed by mycotoxins which are also belonging to the functional groups of binders and anti-caking agents. ◀

▼ **M19**

## SECTION VI: HARMFUL BOTANICAL IMPURITIES

Undesirable substance	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
1. Weed seeds and unground and uncrushed fruits containing alkaloids, glucosides or other toxic substances separately or in combination including  — <i>Datura</i> sp.	Feed materials and compound feed	3 000  1 000
2. <i>Crotalaria</i> spp.	Feed materials and compound feed	100
3. Seeds and husks from <i>Ricinus communis</i> L., <i>Croton tiglium</i> L. and <i>Abrus precatorius</i> L. as well as their processed derivatives <sup>(1)</sup> , separately or in combination	Feed materials and compound feed	10 <sup>(2)</sup>
4. Unhusked beech mast — <i>Fagus sylvatica</i> L.	Feed materials and compound feed	Seeds and fruit as well as their processed derivatives may only be present in feed in trace amounts not quantitatively determinable
5. Purghera — <i>Jatropha curcas</i> L.	Feed materials and compound feed	Seeds and fruit as well as their processed derivatives may only be present in feed in trace amounts not quantitatively determinable
6. Seeds from <i>Ambrosia</i> spp.	Feed materials <sup>(3)</sup> with the exception of  – Millet (grains of <i>Panicum miliaceum</i> L.) and sorghum (grains of <i>Sorghum bicolor</i> (L) Moench s.l.) not directly fed to animals <sup>(3)</sup>	50  200
	Compound feed containing unground grains and seeds	50
7. Seeds from — Indian mustard — <i>Brassica juncea</i> (L.) Czern. and Coss. ssp. <i>integrifolia</i> (West.) Thell. — Sareptian mustard — <i>Brassica juncea</i> (L.) Czern. and Coss. ssp. <i>juncea</i> — Chinese mustard — <i>Brassica juncea</i> (L.) Czern. and Coss. ssp. <i>juncea</i> var. <i>lutea</i> Batalin — Black mustard — <i>Brassica nigra</i> (L.) Koch — Ethiopian mustard — <i>Brassica carinata</i> A. Braun	Feed materials and compound feed	Seeds may only be present in feed in trace amounts not quantitatively determinable

<sup>(1)</sup> In so far determinable by analytical microscopy.<sup>(2)</sup> Includes also seed husk fragments.<sup>(3)</sup> In case unequivocal evidence is provided that the grains and seeds are intended for milling or crushing, there is no need to perform a cleaning of the grains and seeds containing con-compliant levels of seeds of *Ambrosia* spp. before milling or crushing on the condition that:— the consignment is transported as a whole to the milling or crushing plant, and — the milling or crushing plant is informed in advance of the presence of high level of *Ambrosia* spp. seeds in order take additional prevention measures to avoid dissemination into the environment, and— solid evidence is provided that prevention measures are taken to avoid dissemination of *Ambrosia* spp. seeds into the environment during transport to the crushing or milling plant, and

— the competent authority agrees to the transport, after having ensured that the abovementioned conditions are fulfilled.

In case these conditions are not fulfilled, the consignment must be cleaned before any transport into the EU and the screenings must be appropriately destroyed.

▼ **M14**

## SECTION VII: AUTHORISED FEED ADDITIVES IN NON-TARGET FEED FOLLOWING UNAVOIDABLE CARRY-OVER

Coccidiostat	Products intended for animal feed <sup>(1)</sup>	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
▼ <b>M20</b>	1. Decoquinate  Feed materials  Compound feed for — laying birds and chickens reared for laying (> 16 weeks); — other animal species  Premixtures for use in feed in which the use of decoquinate is not authorised.	0,4   0,4 1,2  (2)
▼ <b>M16</b>	2. Diclazuril  Feed materials  Compound feed for — laying birds and chickens reared for laying (> 16 weeks), — rabbits for fattening and breeding for the period before slaughter in which the use of diclazuril is prohibited (withdrawal feed), — other animal species other than chickens reared for laying (< 16 weeks), chickens for fattening, guinea fowl and turkeys for fattening.  Premixtures for use in feed in which the use of diclazuril is not authorised.	0,01   0,01 0,01 0,03  (2)
▼ <b>M14</b>	3. Halofuginone hydrobromide  Feed materials  Compound feed for — laying birds, chickens reared for laying and turkeys (> 12 weeks), — chickens for fattening and turkeys (< 12 weeks) for the period before slaughter in which the use of halofuginone hydrobromide is prohibited (withdrawal feed), — other animal species.  Premixtures for use in feed in which the use of halofuginone hydrobromide is not authorised.	0,03   0,03 0,03 0,09  (2)

▼ **M14**

Coccidiostat	Products intended for animal feed <sup>(1)</sup>	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
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▼ **M16**

4. Lasalocid A sodium	Feed materials	1,25
	Compound feed for	
	— dogs, calves, rabbits, equine species, dairy animals, laying birds, turkeys (> 16 weeks) and chickens reared for laying (> 16 weeks),	1,25
	— chickens for fattening, chickens reared for laying (< 16 weeks) and turkeys (< 16 weeks) for the period before slaughter in which the use of lasalocid A sodium is prohibited (withdrawal feed),	1,25
	— pheasants, guinea fowl, quails and partridges (except laying birds) for the period before slaughter in which the use of lasalocid A sodium is prohibited (withdrawal feed),	1,25
	— other animal species.	3,75
	Premixtures for use in feed in which the use of lasalocid A sodium is not authorised.	(2)

▼ **M14**

5. Maduramicin ammonium alpha	Feed materials	0,05
	Compound feed for	
	— equine species, rabbits, turkeys (> 16 weeks), laying birds and chickens reared for laying (> 16 weeks),	0,05
	— chickens for fattening and turkeys (< 16 weeks) for the period before slaughter in which the use of maduramicin ammonium alpha is prohibited (withdrawal feed),	0,05
	— other animal species.	0,15
	Premixtures for use in feed in which the use of maduramicin ammonium alpha is not authorised.	(2)
6. Monensin sodium	Feed materials	1,25
	Compound feed for	
	— equine species, dogs, small ruminants (sheep and goat), ducks, bovine, dairy cattle, laying birds, chickens reared for laying (> 16 weeks) and turkeys (> 16 weeks),	1,25
	— chickens for fattening, chickens reared for laying (< 16 weeks) and turkeys (< 16 weeks) for the period before slaughter in which the use of monensin sodium is prohibited (withdrawal feed),	1,25
	— other animal species.	3,75
	Premixtures for use in feed in which the use of monensin sodium is not authorised.	(2)
7. Narasin	Feed materials	0,7
	Compound feed for	
	— turkeys, rabbits, equine species, laying birds and chickens reared for laying (> 16 weeks),	0,7
	— other animal species.	2,1
	Premixtures for use in feed in which the use of narasin is not authorised.	(2)

▼ **M14**

Coccidiostat	Products intended for animal feed <sup>(1)</sup>	Maximum content in mg/kg (ppm) relative to a feed with a moisture content of 12 %
8. Nicarbazin	Feed materials Compound feed for — equine species, laying birds and chickens reared for laying (> 16 weeks), — other animal species. Premixtures for use in feed in which the use of nicarbazin (alone or in combination with narasin) is not authorised.	1,25   1,25 3,75 (2)
9. Robenidine hydrochloride	Feed materials Compound feed for — laying birds and chickens reared for laying (> 16 weeks), — chickens for fattening, rabbits for fattening and breeding and turkeys for the period before slaughter in which the use of robenidine hydrochloride is prohibited (withdrawal feed), — other animal species. Premixtures for use in feed in which the use of robenidine hydrochloride is not authorised.	0,7  0,7 0,7 2,1 (2)
10. Salinomycin sodium	Feed materials Compound feed for — equine species, turkeys, laying birds and chickens reared for laying (> 12 weeks), — chickens for fattening, chickens reared for laying (< 12 weeks) and rabbits for fattening for the period before slaughter in which the use of salinomycin sodium is prohibited (withdrawal feed), — other animal species. Premixtures for use in feed in which the use of salinomycin sodium is not authorised	0,7  0,7 0,7 2,1 (2)
11. Semduramicin sodium	Feed materials Compound feed for — laying birds and chickens reared for laying (> 16 weeks), — chickens for fattening for the period before slaughter in which the use of semduramicin sodium is prohibited (withdrawal feed), — other animal species. Premixtures for use in feed in which the use of semduramicin sodium is not authorised.	0,25  0,25 0,25 0,75 (2)

<sup>(1)</sup> Without prejudice to the authorised levels in the frame of Regulation (EC) No 1831/2003 of the European Parliament and of the Council (OJ L 268, 18.10.2003, p. 29).

<sup>(2)</sup> The maximum level of the substance in the premixture is the concentration which shall not result in a level of the substance higher than 50 % of the maximum levels established in the feed when the instructions for use of the premixture are followed.

▼ M15

## ANNEX II

## ACTION THRESHOLDS TRIGGERING INVESTIGATIONS BY MEMBER STATES, AS REFERRED TO IN ARTICLE 4(2)

## SECTION: DIOXINS AND PCBs

Undesirable substances	Products intended for animal feed	Action threshold in ng WHO-PCDD/F TEQ/kg (ppt) <sup>(2)</sup> relative to a feedingstuff with a moisture content of 12 %	Comments and additional information (e.g. nature of investigations to be performed)
▼ <u>M16</u>	<p>1. Dioxins [sum of polychlorinated dibenzo-<i>para</i>-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs) expressed in World Health Organisation (WHO) toxic equivalents, using the WHO-TEFs (toxic equivalency factors, 2005) <sup>(1)</sup>]</p>	<p>Feed materials of plant origin</p> <p>with the exception of:</p> <p>— vegetable oils and their by-products.</p> <p>Feed materials of mineral origin</p> <p>Feed materials of animal origin:</p> <p>— Animal fat, including milk fat and egg fat,</p> <p>— Other land animal products including milk and milk products and eggs and egg products,</p> <p>— Fish oil,</p> <p>— Fish, other aquatic animals and products derived thereof with the exception of fish oil, hydrolysed fish protein containing more than 20 % fat and crustacea meal,</p> <p>— Hydrolysed fish protein containing more than 20 % fat; crustacea meal.</p> <p>Feed additives belonging to the functional groups of binders and anti-caking agents</p> <p>Feed additives belonging to the functional group of compounds of trace elements</p> <p>Premixtures</p> <p>Compound feed with the exception of:</p> <p>— compound feed for pet animals and fish,</p> <p>— compound feed for fur animals.</p>	<p>0,5</p> <p>0,5</p> <p>0,5</p> <p>0,75</p> <p>0,5</p> <p>4,0</p> <p>0,75</p> <p>1,25</p> <p>0,5</p> <p>0,5</p> <p>0,5</p> <p>0,5</p> <p>1,25</p> <p>—</p> <p><sup>(3)</sup></p> <p><sup>(3)</sup></p> <p><sup>(3)</sup></p> <p><sup>(3)</sup></p> <p><sup>(4)</sup></p> <p><sup>(4)</sup></p> <p><sup>(4)</sup></p> <p><sup>(4)</sup></p> <p><sup>(3)</sup></p> <p><sup>(3)</sup></p> <p><sup>(3)</sup></p> <p><sup>(3)</sup></p> <p><sup>(4)</sup></p> <p><sup>(4)</sup></p>



## ▼ M15

Undesirable substances	Products intended for animal feed	Action threshold in ng WHO-PCDD/F TEQ/kg (ppt) <sup>(2)</sup> relative to a feedingstuff with a moisture content of 12 %	Comments and additional information (e.g. nature of investigations to be performed)
2. Dioxin-like PCBs (sum of polychlorinated biphenyls (PCBs) expressed in World Health Organisation (WHO) toxic equivalents, using the WHO-TEFs (toxic equivalency factors, 2005) <sup>(1)</sup> )	Feed materials of plant origin with the exception of:	0,35	<sup>(3)</sup>
	— vegetable oils and their by-products	0,5	<sup>(3)</sup>
	Feed materials of mineral origin	0,35	<sup>(3)</sup>
	Feed materials of animal origin:		
	— Animal fat, including milk fat and egg fat	0,75	<sup>(3)</sup>
	— Other land animal products including milk and milk products and eggs and egg products	0,35	<sup>(3)</sup>
	— Fish oil	11,0	<sup>(4)</sup>
	— Fish, other aquatic animals and products derived thereof with the exception of fish oil and fish protein, hydrolysed, containing more than 20 % fat <sup>(3)</sup>	2,0	<sup>(4)</sup>
	— Fish protein, hydrolysed, containing more than 20 % fat	5,0	<sup>(4)</sup>
	Feed additives belonging to the functional groups of binders and anti-caking agents	0,5	<sup>(3)</sup>
	Feed additives belonging to the functional group of compounds of trace elements	0,35	<sup>(3)</sup>
	Premixtures	0,35	<sup>(3)</sup>
	Compound feed with the exception of:	0,5	<sup>(3)</sup>
	— compound feed for pet animals and fish	2,5	<sup>(4)</sup>
— compound feed for fur animals	—		

<sup>(1)</sup> Table of TEF (= toxic equivalency factors) for dioxins, furans and dioxin-like PCBs: WHO-TEFs for human risk assessment based on the conclusions of the World Health Organisation (WHO) – International Programme on Chemical Safety (IPCS) expert meeting which was held in Geneva in June 2005 (Martin van den Berg et al., The 2005 World Health Organisation Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. Toxicological Sciences 93(2), 223–241 (2006))

## ▼ M15

Congener	TEF value	Congener	TEF value
<b>Dibenzo-para-dioxins ('PCDDs') and Dibenzo-para-furans (PCDFs)</b>		<b>'Dioxin-like' PCBs: Non-ortho PCBs + Mono-ortho PCBs</b>	
2,3,7,8-TCDD	1		
1,2,3,7,8-PeCDD	1	<b>Non-ortho PCBs</b>	
1,2,3,4,7,8-HxCDD	0,1	PCB 77	0,0001
1,2,3,6,7,8-HxCDD	0,1	PCB 81	0,0003
1,2,3,7,8,9-HxCDD	0,1	PCB 126	0,1
1,2,3,4,6,7,8-HpCDD	0,01	PCB 169	0,03
OCDD	0,0003		
		<b>Mono-ortho PCBs</b>	
2,3,7,8-TCDF	0,1	PCB 105	0,00003
1,2,3,7,8-PeCDF	0,03	PCB 114	0,00003
2,3,4,7,8-PeCDF	0,3	PCB 118	0,00003
1,2,3,4,7,8-HxCDF	0,1	PCB 123	0,00003
1,2,3,6,7,8-HxCDF	0,1	PCB 156	0,00003
1,2,3,7,8,9-HxCDF	0,1	PCB 157	0,00003
2,3,4,6,7,8-HxCDF	0,1	PCB 167	0,00003
1,2,3,4,6,7,8-HpCDF	0,01	PCB 189	0,00003
1,2,3,4,7,8,9-HpCDF	0,01		
OCDF	0,0003		

Abbreviations used: 'T' = tetra; 'Pe' = penta; 'Hx' = hexa; 'Hp' = hepta; 'O' = octa; 'CDD' = chlorodibenzodioxin; 'CDF' = chlorodibenzofuran; 'CB' = chlorobiphenyl.

- (<sup>2</sup>) Upper-bound concentrations; upper-bound concentrations are calculated on the assumption that all values of the different congeners below the limit of quantification are equal to the limit of quantification.
- (<sup>3</sup>) Identification of source of contamination. Once source is identified, take appropriate measures, where possible, to reduce or eliminate source of contamination.
- (<sup>4</sup>) In many cases it might not be necessary to perform an investigation into the source of contamination as the background level in some areas is close to or above the action level. However, in cases where the action level is exceeded, all information, such as sampling period, geographical origin, fish species etc., shall be recorded with a view to future measures to manage the presence of dioxins and dioxin-like compounds in these materials for animal nutrition.



## ANNEX III

## CORRELATION TABLE

Directive 1999/29/EC	This Directive
Article 1	Article 1
Article 2(a)	Article 2(a)
Article 2(b)	Article 2(b)
Article 2(c)	Article 2(g)
Article 2(d)	Article 2(f)
Article 2(e)	Article 2(e)
Article 2(f)	Article 2(i)
Article 2(g)	Article 2(j)
Article 2(h)	—
—	Article 2(c)
—	Article 2(d)
—	Article 2(h)
—	Article 2(k)
—	Article 2(l)
Article 3	Article 3
Article 4(1)	Article 4(1)
Article 4(2)	—
—	Article 4(2)
Article 5	—
Article 6	—
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