

ANNEX I

Undesirable substances	Products intended for animal feed	Maximum content in mg/kg (ppm) relative to a feedingstuff with a moisture content of 12 %
(1)	(2)	(3)
[^{F5} 1. Arsenic ^h	Feed materials with the exception of:	2
	— meal made from grass, from dried lucerne and from dried clover, and dried sugar beet pulp and dried molasses sugar beet pulp	4
	— palm kernel expeller	4 ⁱ
	— phosphates and calcareous marine algae	10
	— calcium carbonate	15
	— magnesium oxide	20
	— feedingstuffs obtained from the processing of fish or other marine animals	15 ⁱ

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	— seaweed meal and feed materials derived from seaweed	40 ⁱ
	Complete feedingstuffs with the exception of:	2
	— complete feedingstuffs for fish and complete feedingstuffs for fur animals	6 ⁱ
	Complementary feedingstuffs with the exception of:	4
	— mineral feedingstuffs	12
2.	Lead	Feed materials with the exception of:
	— green fodder ^j	40
	— phosphates and calcareous marine algae	15
	— calcium carbonate	20
	— yeasts	5
	Complete feedingstuffs	5
	Complementary feedingstuffs with the exception of:	10

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	— mineral feedingstuffs	15
3. Fluorine	Feed materials with the exception of:	150
	— feedingstuffs of animal origin with the exception of marine crustaceans such as marine krill	500
	— phosphates and marine crustaceans such as marine krill	2 000
	— calcium carbonate	350
	— magnesium oxide	600
	— calcareous marine algae	1 000
	Complete feedingstuffs with the exception of:	150
	— complete feedingstuffs for cattle, sheep and goats	
	— in lactation	30
	— other	50
— complete feedingstuffs for pigs	100	

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	— complete feedingstuffs for poultry	350
	— complete feedingstuffs for chicks	250
	[^{F6} Complementary feedingstuffs containing ≤ 4 % phosphorus]	[^{F6} 500]
	[^{F6} Complementary feedingstuffs containing > 4 % phosphorus]	[^{F6} 125 per 1 % phosphorus]]
[^{F6} 4. Mercury	Feed materials with the exception of:	0,1
	— feedingstuffs produced by the processing of fish or other marine animals	0,5
	— calcium carbonate	0,3
	Complete feedingstuffs with the exception of:	0,1
	— complete feedingstuffs for dogs and cats	0,4
	Complementary feedingstuffs except — complementary feedingstuffs for dogs and cats	0,2]
5. Nitrites	Fish meal	60 (expressed as sodium nitrite)

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	Complete feedingstuffs excluding:	15 (expressed as sodium nitrite)
	— feedingstuffs intended for pets except birds and aquarium fish	
6. Cadmium	Feed materials of vegetable origin	1
	Feed materials of animal origin, except:	2
	— feedingstuffs for pets	
	Phosphates	10 ^c
	Complete feedingstuffs for cattle sheep and goats except:	1
	— complete feedingstuffs for calves, lambs and kids	
	Other complete feedingstuffs except:	0,5
	— feedingstuffs for pets	
	Mineral feedingstuffs	5 ^d
	Other complementary feedingstuffs for cattle, sheep and goats	0,5
[^{F57} Aflatoxin B1	All feed materials	0,02
	Complete feedingstuffs for cattle, sheep and goats with the exception of:	0,02
	— complete feedingstuffs for dairy animals	0,005
	— complete feedingstuffs	0,01

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	for calves and lambs	
	Complete feedingstuffs for pigs and poultry (except young animals)	0,02
	Other complete feedingstuffs	0,01
	Complementary feedingstuffs for cattle, sheep and goats (except complementary feedingstuffs for dairy animals, calves and lambs)	0,02
	Complementary feedingstuffs for pigs and poultry (except young animals)	0,02
	Other complementary feedingstuffs	0,005]
8. Hydrocyanic acid	Feed materials with the exception of:	50
	— linseed	250
	— linseed cakes	350
	— manioc products and almond cakes	100
	Complete feedingstuffs with the exception of:	50
	— complete feedingstuffs for chicks	10
[^{F59} . Free gossypol	Feed materials with the exception of:	20
	— cottonseed	5 000
	— cottonseed cakes and cottonseed meal	1 200

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	Complete feedingstuffs with the exception of:	20
	— complete feedingstuffs for cattle, sheep and goats	500
	— complete feedingstuffs for poultry (except laying hens) and calves	100
	— complete feedingstuffs for rabbits and pigs (except piglets)	60]
10. Theobromine	Complete feedingstuffs with the exception of:	300
	— complete feedingstuffs for adult cattle	700
11. Volatile mustard oil	Feed materials with the exception of:	100
	— rapeseed cakes	4 000(expressed as allyl isothiocyanate)
	Complete feedingstuffs with the exception of:	150 (expressed as allyl isothiocyanate)
	— complete feedingstuffs for cattle, sheep and goats (except young animals)	1 000(expressed as allyl isothiocyanate)
	— complete feedingstuffs for pigs (except piglets) and poultry	500 (expressed as allyl isothiocyanate)
12. Vinal thioxazolidone (Vinyloxazolidine thione)	Complete feedingstuffs for	1 000

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		poultry with the exception of:	
		— complete feedingstuffs for laying hens	500
13. Rye ergot (<i>Claviceps purpurea</i>)		All feedingstuffs containing unground cereals	1 000
14. Weed seeds and unground and uncrushed fruits containing alkaloids, glucosides or other toxic substances separately or in combination including		All feedingstuffs	3 000
(a) <i>Lolium temulentum</i> L.,			1 000
(b) <i>Lolium remotum</i> Schrank,			1 000
(c) <i>Datura stramonium</i> L.			1 000
15. Castor oil plant — <i>Ricinus communis</i> L.		All feedingstuffs	10 (expressed in terms of castor-oil plants husks)
16. <i>Crotalaria</i> spp.		All feedingstuffs	100
17. Aldrin	singly or combined expressed as dieldrin	All feedingstuffs with the exception of: — fats	0,01
18. Dieldrin			0,2
19. Camphechlor (toxaphene)		All feedingstuffs	0,1
20. Chlordane (sum of cis- and transisomers and of oxychlordane, expressed as chlordane)		All feedingstuffs with the exception of:	0,02
		— fats	0,05
21. DDT (sum of DDT-, TDE- and DDE-isomers, expressed as DDT)		All feedingstuffs with the exception of:	0,05
		— fats	0,5
[^{F5} 22. Endosulfan (sum of alpha- and beta-isomers and of endosulfansulphate expressed as endosulfan)		All feedingstuffs with the exception of:	0,1
		— maize and products derived from the processing thereof	0,2
		— oilseeds and products derived from the	0,5

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	processing thereof	
	— complete feedingstuffs for fish	0,005]
23. Endrin (sum of endrin and of delta-keto-endrin, expressed as endrin)	All feedingstuffs with the exception of:	0,01
	— fats	0,05
24. Heptachlor (sum of heptachlor and of heptachlorepoxyde, expressed as heptachlor)	All feedingstuffs with the exception of:	0,01
	— fats	0,2
25. Hexachlorobenzene (HCB)	All feedingstuffs with the exception of:	0,01
	— fats	0,2
26. Hexachlorocyclo-hexane (HCH)		
26.1 alpha-isomers	All feedingstuffs with the exception of:	0,02
	— fats	0,2
26.2 beta-isomers	Compound feedingstuffs with the exception of:	0,01
	— feedingstuffs for dairy cattle	0,005
	Feed materials with the exception of:	0,01
	— fats	0,1
26.3 gamma-isomers	All feedingstuffs with the exception of:	0,2
	— fats	2,0
[^{F2} 27. Dioxin (sum of polychlorinated dibenzo-para-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) expressed in World Health Organisation (WHO) toxic equivalents, using the WHO-TEFs (toxic equivalency factors, 1997))	(a) All feed materials of plant origin including vegetable oils and by-products	0,75 ng WHO-PCDD/F-TEQ/kg ^{ef}
	(b) Minerals in the meaning of the Annex to Council	1,0 ng WHO-PCDD/F-TEQ/kg ^{ef}

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	Directive 96/25/EC of 29 April 1996 on the circulation and use of feed materials	
(c)	Kaolinitic clay, calcium sulphate dihydrate, vermiculite, natrolite-phonolite, synthetic calcium aluminates and clinoptilolite of sedimentary origin belonging to the group 'binders, anti-caking agents and coagulants' authorised under Council Directive 70/524/EEC	0,75 ng WHO-PCDD/F-TEQ/kg ^{ef}
(d)	Animal fat, including milk fat and egg fat	2,0 ng WHO-PCDD/F-TEQ/kg ^{ef}
(e)	Other land animal products including milk and milk products and eggs and egg products	0,75 ng WHO-PCDD/F-TEQ/kg ^{ef}

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	(f) Fish oil	6 ng WHO-PCDD/F-TEQ/kg ^{ef}
	(g) Fish, other aquatic animals, their products and by-products with the exception of fish oil and fish protein hydrolysates containing more than 20 % fat ^g	1,25 ng WHO-PCDD/F-TEQ/kg ^{ef}
	(h) Compound feedingstuffs, with the exception of feedingstuffs for fur animals, pet foods and feedingstuffs for fish	0,75 ng WHO-PCDD/F-TEQ/kg ^{ef}
	(i) Feedingstuffs for fish. Pet foods	2,25 ng WHO-PCDD/F-TEQ/kg ^{ef}
	(j) Fish protein hydrolysates containing more than 20 % fat	2,25 ng WHO-PCDD/F-TEQ/kg ^{ef}
28. Apricots — <i>Prunus armeniaca</i> L.	All feedingstuffs	Seeds and fruit of the plant species listed opposite as well as their processed derivatives may only be present in feedingstuffs in trace amounts not quantitatively determinable
29. Bitter almond — <i>Prunus dulcis</i> (Mill.) D.A. Webb var. <i>amara</i> (DC.) Focke (= <i>Prunus amygdalus</i> Batsch var. <i>amara</i> (DC.) Focke)		
30. Unhusked beech mast — <i>Fagus sylvatica</i> L.		
31. Camelina — <i>Camelina sativa</i> (L.) Crantz		
32. Mowrah, Bassia, Madhuca — <i>Madhuca longifolia</i> (L.) Macbr. (= <i>Bassia</i>		

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<i>longifolia</i> L. = <i>Illiped malabrorum</i> Engl.) <i>Madhuca indica</i> Gmelin (= <i>Bassia latifolia</i> Roxb.) = <i>Illipe latifolia</i> (Roscb.) F. Mueller)	
33. Purguera — <i>Jatropha curcas</i> L.	
34. Croton — <i>Croton tiglium</i> L.	
35. Indian mustard — <i>Brassica juncea</i> (L.) Czern. And Coss. ssp. <i>intergrifolia</i> (West.) Thell.	
36. Sareptian mustard — <i>Brassica juncea</i> (L.) Czern. And Coss. ssp. <i>juncea</i>	
37. Chinese mustard — <i>Brassica juncea</i> (L.) Czern. And Coss. ssp. <i>juncea</i> var. <i>lutea</i> Batalin	
38. Black mustard — <i>Brassica nigra</i> (L.) Koch	
39. Ethiopian mustard — <i>Brassica carinata</i> A. Braun	
a [F1	
b F1]	
c Member States may also prescribe a maximum cadmium content of 0,5 mg per 1 % phosphorus.	
d Member States may also prescribe a maximum cadmium content of 0,75 mg per 1 % phosphorus.	
e [F2Upper-bound concentrations; upper-bound concentrations are calculated assuming that all values of the different congeners less than the limit of quantification are equal to the limit of quantification.	
f These maximum limits shall be reviewed for the first time before 31 December 2004 in the light of new data on the presence of dioxins and dioxin-like PCBs, in particular with a view to the inclusion of dioxin-like PCBs in the levels to be set and will be further reviewed before 31 December 2006 with the aim of significantly reducing of the maximum levels.	
g Fresh fish directly delivered and used without intermediate processing for the production of feedingstuffs for fur animals is exempted from the maximum limit and a maximum level of 4,0 ng WHO-PCDD/F-TEQ/kg product is applicable to fresh fish used for the direct feeding of pet animals, zoo and circus animals. The products, processed animal proteins produced from these animals (fur animals, pet animals, zoo and circus animals) cannot enter the food chain and the feeding thereof is prohibited to farmed animals which are kept, fattened or bred for the production of food.]	
h [F3The maximum levels refer to total arsenic.	
i 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 <i>Hizikia fusiforme</i> .]	
j [F4Green fodder includes products intended for animal feed such as hay, silage, fresh grass, etc ...]	

Textual Amendments

- F1** Deleted by [Commission Directive 2005/8/EC of 27 January 2005 amending Annex I to Directive 2002/32/EC of the European Parliament and of the Council on undesirable substances in animal feed \(Text with EEA relevance\)](#).
- F2** Substituted by [Commission Directive 2003/57/EC of 17 June 2003 amending Directive 2002/32/EC of the European Parliament and of the Council on undesirable substances in animal feed \(Text with EEA relevance\)](#).

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- F3** Inserted by Commission Directive 2003/100/EC of 31 October 2003 amending Annex I to Directive 2002/32/EC of the European Parliament and of the Council on undesirable substances in animal feed (Text with EEA relevance).
- F4** Inserted by Commission Directive 2005/8/EC of 27 January 2005 amending Annex I to Directive 2002/32/EC of the European Parliament and of the Council on undesirable substances in animal feed (Text with EEA relevance).
- F5** Substituted by Commission Directive 2003/100/EC of 31 October 2003 amending Annex I to Directive 2002/32/EC of the European Parliament and of the Council on undesirable substances in animal feed (Text with EEA relevance).
- F6** Substituted by Commission Directive 2005/8/EC of 27 January 2005 amending Annex I to Directive 2002/32/EC of the European Parliament and of the Council on undesirable substances in animal feed (Text with EEA relevance).