ANNEX

(1) In Annex I to Directive 2002/32/EC, Section V: Dioxins and PCBs is replaced by the following:

SECTION V:

DIOXINS AND PCBS

Undesirable substance		**Products intended for animal feed**	**Maximum content in ng WHO-PCDD/F-TEQ/kg (ppt)[a] relative to a feed with a moisture content of 12 %**
1.	Dioxins (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), 2005[b])	Feed materials of plant origin with the exception of:	0,75
		— vegetable oils and their by-products	0,75
		Feed materials of mineral origin	0,75
		Feed materials of animal origin:	
		— Animal fat, including milk fat and egg fat	1,5
		— Other land animal products including milk and milk products and eggs and egg products	0,75
		— Fish oil	5,0
		— Fish, other aquatic animals, and products derived thereof with the exception of fish oil and fish protein, hydrolysed,	1,25

	containing more than 20 % fat[c]	
	— Fish protein, hydrolysed, containing more than 20 % fat	1,75
	The feed additives kaolinitic clay, vermiculite, natrolite-phonolite, synthetic calcium aluminates and clinoptilolite of sedimentary origin 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 with the exception of:	0,75
	— compound feed for pet animals and fish	1,75
	— compound feed for fur animals	—
Undesirable substance	**Products intended for animal feed**	**Maximum content in ng WHO-PCDD/F-PCB-TEQ/kg (ppt)[a] relative to a feed with a moisture content of 12 %**
2. Sum of dioxins and dioxin-like PCBs (sum of polychlorinated dibenzo-*para*-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs) and	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

polychlorinated biphenyls (PCBs) expressed in World Health Organisation (WHO) toxic equivalents, using the WHO-TEFs (toxic equivalency factors), 2005[b])	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[c]	4,0
	— Fish protein, hydrolysed, containing more than 20 % fat	9,0
	The feed additives kaolinitic clay, vermiculite, natrolite-phonolite, synthetic calcium aluminates and clinoptilolite of sedimentary origin 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
	Premixtures	1,5

	Compound feed with the exception of:	1,5
	— compound feed for pet animals and fish	5,5
	— compound feed for fur animals	—
Undesirable substance	**Products intended for animal feed**	**Maximum content in µg/kg (ppb) relative to a feed with a moisture content of 12 %[a]**
3. Non-dioxin-like PCBs (sum of PCB 28, PCB 52, PCB 101, PCB 138, PCB 153 and PCB 180 (ICES – 6)[a])	Feed materials of plant origin	10
	Feed materials of mineral origin	10
	Feed materials of animal origin:	
	— Animal fat, including milk fat and egg fat	10
	— Other land animal products including milk and milk products and eggs and egg products	10
	— Fish oil	175
	— Fish, other aquatic animals and products derived thereof with the exception of fish oil and fish protein, hydrolysed, containing more than 20 % fat[d]	30
	— Fish protein, hydrolysed,	50

containing more than 20 % fat	
The feed additives kaolinitic clay, vermiculite, natrolite-phonolite, synthetic calcium aluminates and clinoptilolite of sedimentary origin belonging to the functional groups of binders and anti-caking agents	10
Feed additives belonging to the functional group of compounds of trace elements	10
Premixtures	10
Compound feed with the exception of:	10
— compound feed for pet animals and fish	40
— compound feed for fur animals	—

a 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.

b 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**
Dibenzo-para-dioxins (“PCDDs”) and Dibenzo-para-furans (PCDFs)	
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	1
1,2,3,4,7,8-HxCDD	0,1
1,2,3,6,7,8-HxCDD	0,1
1,2,3,7,8,9-HxCDD	0,1
1,2,3,4,6,7,8-HpCDD	0,01
OCDD	0,0003

Abbreviations used: “T” = tetra; “Pe” = penta; “Hx” = hexa; “Hp” = hepta; “O” = octa; “CDD” = chlorodibenzodioxin; “CDF” = chlorodibenzofuran; “CB” = chlorobiphenyl.

2,3,7,8-TCDF	0,1
1,2,3,7,8-PeCDF	0,03
2,3,4,7,8-PeCDF	0,3
1,2,3,4,7,8-HxCDF	0,1
1,2,3,6,7,8-HxCDF	0,1
1,2,3,7,8,9-HxCDF	0,1
2,3,4,6,7,8-HxCDF	0,1
1,2,3,4,6,7,8-HpCDF	0,01
1,2,3,4,7,8,9-HpCDF	0,01
OCDF	0,0003
"Dioxin-like" PCBs: Non-ortho PCBs + Mono-ortho PCBs	
Non-ortho PCBs	
PCB 77	0,0001
PCB 81	0,0003
PCB 126	0,1
PCB 169	0,03
Mono-ortho PCBs	
PCB 105	0,00003
PCB 114	0,00003
PCB 118	0,00003
PCB 123	0,00003
PCB 156	0,00003
PCB 157	0,00003
PCB 167	0,00003
PCB 189	0,00003
Abbreviations used: "T" = tetra; "Pe" = penta; "Hx" = hexa; "Hp" = hepta; "O" = octa; "CDD" = chlorodibenzodioxin; "CDF" = chlorodibenzofuran; "CB" = chlorobiphenyl.	

c 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.

d 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.

(2) Annex II to Directive 2002/32/EC is replaced by the following:

‘ANNEX II ACTION THRESHOLDS TRIGGERING INVESTIGATIONS BY MEMBER STATES, AS REFERRED TO IN ARTICLE 4(2)SECTION: DIOXINS AND PCBsTable 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))Abbreviations used: “T” = tetra; “Pe” = penta; “Hx” = hexa; “Hp” = hepta; “O” = octa; “CDD” = chlorodibenzodioxin; “CDF” = chlorodibenzofuran; “CB” = chlorobiphenyl.CongenerTEF valueDibenzo-para-dioxins (“PCDDs”) and Dibenzo-para-furans (PCDFs)2,3,7,8-TCDD11,2,3,7,8-PeCDD11,2,3,4,7,8-HxCDD0,11,2,3,6,7,8-HxCDD0,11,2,3,7,8,9-HxCDD0,11,2,3,4,6,7,8-HpCDD0,01OCDD0,00032,3,7,8-TCDF0,11,2,3,7,8-PeCDF0,032,3,4,7,8-PeCDF0,31,2,3,4,7,8-HxCDF0,11,2,3,6,7,8-HxCDF0,11,2,3,7,8,9-HxCDF0,12,3,4,6,7,8-HxCDF0,11,2,3,4,6,7,8-HpCDF0,011,2,3,4,7,8,9-HpCDF0,01OCDF0,0003“Dioxin-like” PCBs: Non-ortho PCBs + Mono-ortho PCBsNon-ortho PCBsPCB 770,0001PCB 810,0003PCB 1260,1PCB 1690,03Mono-ortho PCBsPCB 1050,00003PCB 1140,00003PCB 1180,00003PCB 1230,00003PCB 1560,00003PCB 1570,00003PCB 1670,00003PCB 1890,00003Upper-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.Identification of source of contamination. Once source is identified, take appropriate measures, where possible, to reduce or eliminate source of contamination.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.’Undesirable substancesProducts intended for animal feedAction threshold in ng WHO-PCDD/F TEQ/kg (ppt) relative to a feedingstuff with a moisture content of 12 %Comments and additional information (e.g. nature of investigations to be performed)1. Dioxins (sum of polychlorinated dibenzo-*para*-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs) expressed in World Health Organisation (WHO) toxic equivalents, using the WHO-TEFs (toxic equivalency factors), 2005[a])
Feed materials of plant origin with the exception of:0,5—
vegetable oils and their by-products
0,5Feed materials of mineral origin0,5Feed materials of animal origin:—
Animal fat, including milk fat and egg fat
0,75—
Other land animal products including milk and milk products and eggs and egg products
0,5—
Fish oil
4,0—

Fish, other aquatic animals and products derived thereof with the exception of fish oil and fish protein, hydrolysed, containing more than 20 % fat[c]
0,75—
Fish protein, hydrolysed, containing more than 20 % fat
1,25Feed additives belonging to the functional groups of binders and anti-caking agents0,5Feed additives belonging to the functional group of compounds of trace elements0,5Premixtures0,5Compound feed with the exception of:—
compound feed for pet animals and fish
1,25—
compound feed for fur animals
—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)[a])
Feed materials of plant origin with the exception of:0,35—
vegetable oils and their by-products
0,5Feed materials of mineral origin0,35Feed materials of animal origin:—
Animal fat, including milk fat and egg fat
0,75—
Other land animal products including milk and milk products and eggs and egg products
0,35—
Fish oil
11,0—
Fish, other aquatic animals and products derived thereof with the exception of fish oil and fish protein, hydrolysed, containing more than 20 % fat[c]
2,0—
Fish protein, hydrolysed, containing more than 20 % fat
5,0Feed additives belonging to the functional groups of binders and anti-caking agents0,5Feed additives belonging to the functional group of compounds of trace elements0,35Premixtures0,35Compound feed with the exception of:0,5—
compound feed for pet animals and fish
2,5—
compound feed for fur animals
—

Changes to legislation:
There are currently no known outstanding effects for the Commission Regulation (EU) No 277/2012, ANNEX.