

Maximum levels for dioxins/furans, dioxin-like PCBs and non dioxin-like PCBs in foodstuffs

Commission Regulation (EU) No 1259/2011

	Foodstuffs	maximum levels for the sum of		
		dioxins/furans (WHO-PCDD/F-TEQ) ⁽³²⁾	dioxins/furans and dioxin-like PCBs (WHO-PCDD/F-PCB-TEQ) ⁽³²⁾	PCB 28, PCB 52, PCB 101, PCB 138, PCB 153 und PCB 180 (ICES – 6) ⁽³²⁾
1	Meat and meat products (excluding edible offal) of the following animals ⁽⁶⁾ : - bovine animals and sheep - poultry - pigs	2,5 pg/g fat ⁽³³⁾ 1,75 pg/g fat ⁽³³⁾ 1,0 pg/g fat ⁽³³⁾	4,0 pg/g fat ⁽³³⁾ 3,0 pg/g fat ⁽³³⁾ 1,25 pg/g fat ⁽³³⁾	40 ng/g fat ⁽³³⁾ 40 ng/g fat ⁽³³⁾ 40 ng/g fat ⁽³³⁾
2	Liver of terrestrial animals referred to in 1 ⁽⁶⁾ , and derived products thereof	4,5 pg/g fat ⁽³³⁾	10,0 pg/g fat ⁽³³⁾	40,0 ng/g fat ⁽³³⁾
3	Muscle meat of fish and fishery products and products thereof ^{(25) (34)} , with the exemption of: - wild caught eel - wild caught fresh water fish, with the exception of diadromous fish species caught in fresh water - fish liver and derived products - marine oils The maximum level for crustaceans applies to muscle meat from appendages and abdomen ⁽⁴⁾ . In case of crabs and crab-like crustaceans (<i>Brachyura</i> and <i>Anomura</i>) it applies to muscle meat from appendages.	3,5 pg/g wet weight	6,5 pg/g wet weight	75 ng/g wet weight
4	Muscle meat of wild caught fresh water fish, with the exception of diadromous fish species caught in fresh water, and products thereof ⁽²⁵⁾	3,5 pg/g wet weight	6,5 pg/g wet weight	125 ng/g wet weight
5	Muscle meat of wild caught eel (<i>Anguilla anguilla</i>) and products thereof	3,5 pg/g wet weight	10 pg/g wet weight	300 ng/g wet weight
6	Fish liver and derived products thereof, with the exception of marine oils referred to in point 7	---	20 pg/g wet weight ⁽³⁸⁾	200 ng/g wet weight ⁽³⁸⁾
7	Marine oils (fish body oil, fish liver oil and oils of other marine organisms intended for human consumption)	1,75 pg/g fat	6,0 pg/g fat	200 ng/g fat
8	Raw Milk ⁽⁶⁾ and dairy products ⁽⁶⁾ , including butter fat	2,5 pg/g fat ⁽³³⁾	5,5 pg/g fat ⁽³³⁾	40 ng/g fat ⁽³³⁾
9	Hen eggs and egg products ⁽⁶⁾	2,5 pg/g fat ⁽³³⁾	5,0 pg/g fat ⁽³³⁾	40 ng/g fat ⁽³³⁾
10	Fat of the following animals: - bovine animals and sheep - poultry - pigs	2,5 pg/g fat 1,75 pg/g fat 1,0 pg/g fat	4,0 pg/g fat 3,0 pg/g fat 1,25 pg/g fat	40 ng/g fat 40 ng/g fat 40 ng/g fat
11	Mixed animal fats	1,5 pg/g fat	2,5 pg/g fat	40 ng/g fat
12	Vegetable oils and fats	0,75 pg/g fat	1,25 pg/g fat	40 ng/g fat
13	Foods for infants and for young children ⁽⁴⁾	0,1 pg/g wet weight	0,2 pg/g wet weight	1,0 ng/g wet weight

Methods of sampling and performance criteria for method analysis according to the Commission Directive 2002/69/EC.⁽⁴⁾

- (4) The maximum level refers to the product ready to use (marketed as such or after reconstitution as instructed by the manufacturer).
- (6) Foodstuffs listed in this category as defined in Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin (OJ L 226, 25 June 2004, p. 22).
- (25) Where fish are intended to be eaten whole, the maximum level shall apply to the whole fish.
- (31) Dioxins (sum of polychlorinated dibenzo-para-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs), expressed as World Health Organisation (WHO) toxic equivalents using the WHO-toxic equivalency factors (WHO-TEFs)) and sum of dioxins and dioxin-like polychlorinated biphenyls PCBs (sum of PCDDs, PCDFs and polychlorinated biphenyls (PCBs), expressed as WHO toxic equivalent using the WHO-TEFs). WHO-TEFs for human risk assessment based on the conclusions of the World Health Organization (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 Organization 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
Dibenzo-p-dioxins („PCDDs“)		Dioxin-like PCBs: Non-ortho-PCBs + Monoortho-PCBs	
2,3,7,8-TCDD	1	Non-ortho PCBs	
1,2,3,7,8-PeCDD	1	PCB 77	0.0001
1,2,3,4,7,8-HxCDD	0.1	PCB 81	0.0003
1,2,3,6,7,8-HxCDD	0.1	PCB 126	0.1
1,2,3,7,8,9-HxCDD	0.1	PCB 169	0.03
1,2,3,4,6,7,8-HpCDD	0.01		
OCDD	0.0003		
Dibenzofurans („PCDFs“)		Mono-ortho PCBs	
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.

- (32) 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.
- (33) The maximum level expressed on fat is not applicable for foods containing < 2 % of fat. For goods containing less than 2 % fat, the maximum level applicable is the level on product basis corresponding to the level on product basis for food containing 2 % fat, calculated from the maximum level established on fat basis, making use of following formula:
Maximum level expressed on product basis for foods containing less than 2 % fat = maximum level expressed on fat for food x 0.02.
- (34) Foodstuffs listed in this category as defined in categories (a), (b), (c), (e) and (f) of the list in Article 1 of Regulation (EC) No 104/2000 with the exclusion of fish liver falling under code CN 0302 70 00.

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