

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD
HEALTH
ORGANIZATION



JOINT OFFICE: Viale delle Terme di Caracalla 00100 ROME Tel: 39 06 57051 www.codexalimentarius.net Email: codex@fao.org Facsimile: 39 06 5705 4593

Agenda Item 16 G

CX/FAC 03/32-Add. 1
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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FOOD ADDITIVES AND CONTAMINANTS

Thirty-fifth Session

Arusha, United Republic of Tanzania, 17 - 21 March 2003

POSITION PAPER ON DIOXINS AND DIOXIN LIKE PCBS, INCLUDING INFORMATION SUBMITTED ON ACTUAL LEVELS AND METHODS OF ANALYSIS FOR DIOXIN AND DIOXIN-LIKE PCBS IN RESPONSE TO CL 2002/10-FAC

COMMENTS

The following comments have been received from Canada:

CANADA:

In response to Circular Letter 2002/10-FAC (April 2002), Canada is pleased to offer the following information in connection with Item 14, Part C:

Canada has previously supplied data published in scientific journals by researchers in the Food Research Division of the Bureau of Chemical Safety, Food Directorate, Health Products and Food Branch, Health Canada. Please find additional data below concerning dioxins, furans and PCBs in processed seafood products, gleaned a few years ago as part of the Bureau of Chemical Safety's monitoring program.

Dioxin (PCDD), Furan (PCDF) and coplanar-PCB Data Generated by the Organic Residues Laboratory, Health Canada (Ontario Region) for Samples Gathered in 1995-1996

Commodity	Lipid	Sum of	Sum of	Sum of	Total TEQs**
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	Content (%)	PCDF_i ' TEF_i*	PCDD_j ' TEF_j*	PCB_k ' TEF_k*	
Tuna, canned	0.5	0.016315	0.0001220	0.0162340	0.0326710
Tuna, canned	0.5	0	0.0000709	0.0130200	0.0072069
Tuna, canned	0.3	0.0165000	0.0000709	0.0130200	0.0295909
Tuna, canned	0.5	0.0244000	0.0000725	0.0236290	0.0481015
Tuna, canned	0.7	0.0343700	0.0001424	0.0100250	0.0445374
Tuna, canned	1.1	0.0415000	0.0001424	0.0163450	0.0579874
Salmon, canned	3.5	0.0382000	0.0001236	0.0067090	0.0450326
Salmon, canned	2.9	0.0200600	0.0000122	0.0494690	0.0695412
Salmon, canned	6.3	0.0187000	0.0000420	0.0544090	0.0731510
Salmon, canned	6.2	0.0200000	0.0000069	0.0523690	0.0723759
Salmon, filet	12.0	0.5461000	0.9936000	2.3619912	3.9016912
Perch, filet	2.0	0.1499500	0.1094230	1.0142902	1.2736632
Perch, whole	1.1	0.0832300	0.0404280	0.1497020	0.2733600
Perch, whole	1.0	0.1285500	0.1319125	0.7815902	1.0420527
Perch, filet	1.1	0.0645500	0.0299030	0.1614200	0.2558730
Pickarel, whole	3.2	0.3142600	0.5643385	3.5559902	4.4345887
Pickarel, whole	4.2	0.7553241	0.9970465	5.2979902	7.0503608
Boston Blue, filet	0.4	0.0039000	0	0.0755302	0.0794302
Shrimp, whole	0.6	0.0065000	0.0000720	0.0100610	0.0166330
Shrimp, cut-up	1.0	0.0055130	0.0003840	0.0007402	0.0066372
Shrimp, cut-up	0.6	0.0049000	0.0001306	0.0325682	0.0375988
Shrimp, whole	0.7	0.0719100	0.0004246	0.0301862	0.1025208
Shrimp, whole	0.8	0.0207000	0.0001616	0.0333052	0.0541668
Shrimp, cooked	1.1	0.0156000	0.1983046	0.1849952	0.3988998
Crab, whole	0.7	0.1841500	0.1045456	0.2375952	0.5262908
Shrimp, whole	0.6	0.0443500	0.1009236	0.0099952	0.1552688

Crab, cut-up	0.8	0.0150000	0.0000012	0.0222445	0.0372457
Crab, whole	0.7	0	0	0.0000585	0.0000585
Crab, whole	0.3	0.0373000	0.0019017	0.1232045	0.1624062
Crab, whole	0.5	0	0	0.0004550	0.0004550
Lobster, whole	0.5	0.0778500	0.0000078	0.1306645	0.2085223
Lobster, whole	0.5	0.0848300	0.0032928	0.1209345	0.2090573
Lobster, whole	0.5	0.1120000	0.0008348	0.0980745	0.2109093
Lobster, whole	0.6	0.0240000	0.0000138	0.0654845	0.0894983
Lobster, whole	0.5	0.1084500	0.0000098	0.1307945	0.1392543
Sardine, canned	9.8	0.0059510	0.0218400	0.0257966	0.1071466
Mackerel, filet	16.0	0.4250000	0.2500800	1.6269966	2.3020766
Eel, whole	27.0	5.2518200	14.4750730	0.0099966	19.7368896
Trout, whole	11.0	0.3139000	0.4671070	1.2294966	2.0105036
Crab, legs	1.0	0.1335000	0	0.1351966	0.2686966
Sardine, canned	8.2	0.1992000	0.1079690	0.3702966	0.6774656
Lobster, whole	0.7	0.1079500	0.0989020	0.1330466	0.3398986
Sardine, canned	7.6	0.0000085	0.0043506	0.0424163	0.0467754
Sardine, canned	18.0	0.0390044	0.0551506	0.3149630	0.4091180
Sardine, canned	6.8	0.0380000	0	0.0965663	0.1345663
Sardine, canned	18.0	0.0255000	0.0021700	0.0919163	0.1195863
Sardine, canned	4.1	0.0150000	0	0.0525263	0.0675263
Sardine, canned	14.0	0.0090000	0.0254006	0.0714863	0.1058869
Eel, whole	22.0	1.1028150	2.9566445	0.2132902	4.2727497
Salmon, whole	2.4	4.2201800	11.0364455	0	15.2566255

* Concentrations of PCDFs, PCDDs and PCBs (#77, 126, 169) were expressed in parts per trillion (pg/g). Toxic Equivalents (TEQs) calculated using Toxic Equivalency Factors (TEFs) as adopted at the 1997 WHO Meeting (Van den Berg *et al.*, 1998).

** Total TEQs = Sum of PCDF_i × TEF_i + Sum of PCDD_j × TEF_j + Sum of PCB_k × TEF_k.

Please find below a table summarising the results of more recent monitoring conducted by the Canadian Food Inspection Agency.

Also, please find below, monitoring results obtained recently by the Canadian Food Inspection Agency for dioxins, furans and PCBs in various foodstuffs.

Canadian Food Inspection Agency Dioxin Monitoring Program, 2000-2001
PCDD/PCDF/PCB TEQs (pg/g on a lipid basis) in Food Samples
Calculated using WHO I-TEF Values

“Non-Detects” set to 0 pg/g

Description (a)	Total number samples	TEQ D/F	Std Dev	TEQ PCBs (77,126, 169)	Std Dev	TEQ PCBs (co-planar)	Std Dev	Total TEQ (b) (c)	Std Dev	Total TEQ (d)	Std Dev
Dairy (cheese)	76	1.36	2.4	0.56	0.75	0.74	0.85	1.92	2.4	2.11	2.5
Eggs	157	1.45	3.8	0.49	1.8	0.65	1.9	1.94	4.3	2.10	4.3
Beef Fat	91	0.95	1.3	0.26	0.66	0.52	2.4	1.21	1.5	1.47	2.8
Chicken Fat	42	0.096	0.15	0.086	0.11	0.17	0.21	0.15	0.19	0.20	0.24
Pork Fat	153	0.66	1.8	0.51	3.8	0.56	3.9	1.17	4.6	1.22	4.6

“Non-Detects” set to the Analytical Limit of Detection

Description (a)	Total number samples	TEQ D/F	Std Dev	TEQ PCBs (77,126, 169)	Std Dev	TEQ PCBs (co-planar)	Std Dev	Total TEQ (b) (c)	Std Dev	Total TEQ (d)	Std Dev
Dairy (cheese)	76	2.08	2.6	0.78	0.86	1.02	1.1	2.86	2.7	3.10	2.8
Eggs	157	2.21	4.1	0.83	1.9	1.01	1.9	3.05	4.7	3.22	4.7
Beef Fat	91	1.21	1.3	0.28	0.65	2.34	3.2	1.49	1.5	3.56	3.6
Chicken Fat	42	0.39	0.22	0.089	0.11	0.18	0.22	0.44	0.22	0.50	0.28
Pork Fat	153	1.20	1.9	0.66	3.8	0.72	3.9	1.86	4.7	1.92	4.7

(a) Fat samples were adipose tissue from slaughter houses.

(b) Total TEQ D/F+PCB is the average of individual D/F+PCB TEQ values; not a sum of average D/F and average PCB TEQ.

(c) PCB congeners 77, 126, and 169 only are included in this calculation.

(d) All co-planar dioxin-like PCB congeners are included in these averages.