

SCOOP 3.2.11 – Intake of As, Cd, Pb and Hg

Table 5.24. Mercury in Alcoholic beverages, incl. alcohol-free and low-alcoholic (Cat. 14.2)

Member State	Consumption (g/day)		Mean level in food (µg/g)	Intake (µg/day)		% of total dietary intake
	Mean level	High level		Mean l.	High l.	
FRANCE*	159.9	628.6	0.00141	0.23	0.88	2.7
GERMANY*	46.95	222.2	<0.005	0.117	0.556	2.6

* only wine

Table 5.25. Mercury in Ready to eat (Cat. 15)

Member State	Consumption (g/day)		Mean level in food (µg/g)	Intake (µg/day)		% of total dietary intake
	Mean level	High level		Mean l.	High l.	
U. K.	2		0.003	0.01		<1

Table 5.26. Mercury in composite foods (Cat 16)

Member State	Consumption (g/day)		Mean level in food (µg/g)	Intake (µg/day)		% of total dietary intake
	Mean level	High level		Mean l.	High l.	
the NETHERLANDS	282		0.0002	0.04		2
NORWAY				4.061*	18.474	100

5.8 Estimated daily intake of total mercury by other population groups

The UK is the only Member State that has complete intake studies for other population groups. The data from the UK and the available data from other Member States are presented in tables 5.27 – 5.30.

Table 5.27. Mercury Daily Intake (µg/day) by the Mean Adult Population. High Level.

Food group	BE	FR	DE	HE	IR	NO
Milk and Dairy Products	0.36		0.445			
Fats and oils			0.30			
Fruit vegetable		4.43 – 8.34	33.15			
Cereals and Bakery Ware		3.04	2.52			
Meat and offal			3.65		0.96	
Fish	9.02	4.96 – 8.16	10.64	17.80	3.5	16.08
Bivalves, cephalopods and crustaceans	0.83	0.4 - 0.58	0.06	4.59	0.28	2.40
Eggs			0.405			
Sweeteners			0.07			
Salt and spices		1.23	0.05			
Beverages		0.09 – 0.46 – 0.88				

Table 5.28. Mercury Daily Intake (µg/day) by Consumers Only. Mean level.

Food group	BE	FR	DE	HE	IR	IT	NO	UK
Milk and milk products	0.132							0.09
Condensed, powder milk, cheese, yoghurt			0.17					0.11
Fats and oils			0.12					0.05
Fruit and vegetables		2.22 – 6.41	17.2					0.30
Confectionary								0.05
Cereals and bakery wares		1.26	1.32					0.71
Meat			1.64		0.42			0.3
Offal			0.07		0.2			0.09
Fish and fish products	4.46	2.18 – 5.77	5.14	10.30	1.41	8.6	11.0	1.44
Bivalves, cephalopods and crustaceans	0.60	0.31 – 0.61	0.42	9.44	0.7		1.35	0.6
Eggs								0.04
Sweeteners	0.03							0.08
Salts and spices	0.52	0.52	0.02					
Beverages	0.05	0.04 – 0.18 – 0.32						0.27
Ready to eat								0.02
Total consumer intake								3.1

Table 5.29. Mercury Daily Intake (µg/day) by Consumers Only. High level.

Food group	BE	FR	DE	HE	IR	NO	UK
Milk, milk products	0.365						0.25
Condensed, powder milk, cheese, yoghurt			0.45				0.34
Fats and oils			0.30				0.13
Fruits and vegetables		4.43 – 14.3	34.55				0.59
Confectionary							0.21
Cereals and bakery wares		3.07	2.40				1.64
Meat			3.58		0.95		0.71
Offal			0.18		0.57		0.32
Fish and fish products	10.36	5.4 – 16.3	13.25	23.82	4.1	34.06	4.23
Bivalve, crustaceans and cephalopods	1.90	0.74 – 1.37	1.07	24.24	1.94	4.25	2.37
Eggs							0.1
Sweeteners							0.29
Salts and spices		1.25	0.05				
Beverages		0.10 – 0.46 – 1.05					0.66
Ready to eat							0.07
Total Consumer Intake							6.4

Table 5.30. Mercury. Daily intake (µg/day) by children in different age groups.

	Mean population High level		Consumers only Mean level		Consumers only High level	
	4-6 years	10-12 years	4-6 years	10-12 years	4-6 years	10-12 years
FOOD	DE	DE	DE	DE	DE	DE
Milk, milk products						
Condensed, powder milk, cheese, yoghurt	0.25	0.27	0.09	0.10	0.27	0.29
Fats and oils	0.19	0.275	0.08	0.11	0.19	0.275
Fruits and vegetables	19.50	23.27	9.49	12.63	20.17	24.42
Cereals and bakery wares	1.57	2.18	0.91	1.24	1.58	2.18
Meat	1.86	2.64	0.82	1.27	1.86	2.64
Offal	0.035	0.08	0.04	0.06	0.11	0.18
Fish and fish products	4.95	6.73	2.73	3.78		9.64
Bivalve, crustaceans, cephalopods	0	0	0.21	0.30		
Eggs	0.26	0.29	0.11	0.13	0.26	0.29
Sweeteners	0.05	0.04	0.02	0.03	0.07	0.09
Salts and spices	0.03	0.04	0.01	0.02	0.03	0.04
Beverages						

5.9 Occurrence summary table for total mercury

This table contain summaries of occurrence data that has been used in the intake calculation. It provides information on the mean concentration level, median levels where available and min and max values.

Table 5.31.

Mercury. Occurrence summary data for individual food samples. Unit: mg/kg.

Food group code	Food name	No. of samples	Reference	Year of sampling	Type of water	Mean level of total Hg	Median level of total Hg	Min	Max
Belgium									
1	Dairy product 1	125				0.000533		< 0.001	0.0038
2	Dairy product 2	91						< 0.004	0.0044
8	wild muscle	2		2001				< 0.01	
9	fish	188				0.188743		< 0.01	2.121
10	bivalves/cephalopods	42						< 0.01	0.221
11	crustaceans	40				0.065054		< 0.01	0.159
15	Dietetic formulae	5		2002		0.034		0.015	0.1
Denmark									
	Meat	566	DK-002	1993-97		<0,007	<0,007	<0,007	0.391
	Fish	225	DK-002	1993-97		0.052	0.051	0.011	0.201
	Eggs	30	DK-002	1993-97		0.002	0.002	0.000	0.007
Finland									
9.1.1	pike	8	FI 007	2002		0.412		0.152	0.849
9.1.1	perch	15	FI 007	2002		0.255		0.078	1.35
9.1.1	sprat	6	FI 007	2002		0.024		0.005	0.030
9.1.1	pike perch	10	FI 007	2002		0.203		0.057	0.369
9.1.1	bream	2	FI 007	2002		0.083		0.08	0.085
9.1.1	salmon	15	FI 007	2002		0.068		0.046	0.096
9.1.1	Rainbow trout	18	FI 007	2002		0.031		<0.005	0.048
9.1.1	vendace	7	FI 007	2002		0.084		0.019	0.137
9.1.1	burbot	7	FI 007	2002		0.240		0.019	0.349
9.1.1	powan	3	FI 007	2002		0.083		0.061	0.096
9.1.1	Baltic herring	32	FI 007	2002		0.035		<0.005	0.107
9.4	Canned tuna	13	FI 104	2002		0.16		<0.05	0.48
France									
4	Fruits and vegetables, excl. Mushrooms	57	FR 006	2000-2001		0.006		< 0.001	0.099
4 bis	Mushrooms	65	FR 006	2000-2001		0.334		0.002	2.40
6	Cereals and cereal products	68	FR 006	2000-2001		0.019		0.003	0.115
9	Fish and fish products	617	FR 004-FR 006	2000-2001		0.060		< 0.0003	0.857
10	3.3.1.1.of regulation 466/2001	142	FR 004-FR 006	2000-2001		0.381		< 0.004	4.30
11	Molluscs and cephalopods	145	FR 004-FR 006	2000-2001		0.024		< 0.0013	0.325
12	Crustaceans and echinoderm	6	FR 006	2000		0.041		0.030	0.065
15	Salts, spices, sauces, excl. Soups	149	FR 006	2000-2001		0.053		< 0.000075	0.590

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Food group code	Food name	No. of samples	Reference	Year of sampling	Type of water ¹	Mean level of total Hg	Median level of total Hg	Min	Max
France cont.									
17	Waters	133	FR 006	2000-2001		< 0.000075		< 0.000075	< 0.00008
18	Soft beverages	33	FR 006	2000-2001		0.00048		< 0.000075	0.0025
19	Alcoholic beverages	43	FR 006	2000-2001		0.00141		< 0.000075	0.009
Germany									
1.1 &1.3	milk	89		1997-2002		0.004		<0.002	<0.01
1.5	Milk powder	9		1998		0.003		<0.005	
1.6	cheese	155		1997-2000		0.004		<0.001	0.02
2	oil	36		1998-2002		0.006		<0.002	0.065
4.1	fruits	104		1997-2001		0.002		<0.0002	0.018
4.1.2.2	dried fruits	28		1997-2001		0.002		<0.001	0.023
4.2	nuts and seeds	483		1997-2002		0.004		<0.001	0.06
4.2	vegetable	626		1997-2002		0.011		<0.0002	1.77
4.2	fungi	203		1997-2002		0.103		<0.001	1.31
4.2.2.2	dried vegetables	53		2000-2002		0.736		<0.002	4.7
4.2.2.2	dried algae	13		2000		0.009		<0.01	0.14
4.2.2.2	dried fungi	36		1998-2002		1.22		0.01	4.45
4.2.2.6	cocentrated tomato	36		2000-2001		0.002		<0.001	<0.01
6 and 7	cereals, cereal products, bakery wares	191		1998-2002		0.007		<0.001	0.49
8.1	fresh meat	574		1997-2002		0.012		<0.001	1
8.1	game	328		1997-2002		0.004		<0.0008	0.05
8.4	offal	1935		1997-2002		0.005		<0.0008	0.1
8.5, 8.3 and 8.2	processed meat	246		1998-2002		0.006		<0.0008	0.25
9.1 without 9.1.2 to 9.1.4	fish	3296		1997-2002		0.173		<0.0008	5.8
9.1.2 to 9.1.4	bivalves, crustaceans, squids	687		1997-2002		0.029		<0.0008	0.66
10.1	eggs	26		1997-2000		0.005		<0.01	0.01
11.1	sugar	12		1998-2001		0.004		<0.01	
11.3	honey	99		1997-2002		0.004		<0.001	0.045
11.4	sweeteners	2		1998-2000		0.002		<0.002	
12.1	salt	5		2001-2002		0.011		<0.002	0.024
12.2	herbs and spices	226		1997-2002		0.003		<0.001	0.051
13.1 & 13.2	infant food	267		1997-2002		0.004		<0.001	0.02
13.6	food supplements	37		1998-2002		0.03		<0.001	0.317
14.1.1	water	2092		1997-2002		0.00019		<0.0001	<0.05
14.1.2 & 14.1.3	fruit juice	21		1998-2000		0.003		<0.002	<0.005
14.1.5	tea and coffee	148		1997-2002		0.01		<0.002	0.041
14.2.3	wine	13		2000		0.003		<0.005	
Greece									
9.1.1	Fresh fish	18		1999-2000		0.1387		0.0250	0.8230
9.1.1.5	Grey mullet	4		2002		0.1275	0.1300	0.1200	0.1300
9.1.1.13	bass	6		1999-2000		0.0478		0.0300	0.0800
9.1.1.28	swordfish	3		2000-2002		0.3773		0.2680	0.4320

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Food group code	Food name	No. of samples	Reference	Year of sampling	Type of water	Mean level of total Hg	Median level of total Hg	Min	Max
Greece cont.									
9.1.1.30X1	Chrysophrys auratus	40		1998-2002		0.0619		0.0040	0.1140
9.1.1.30X2	Common Pantora	1		2000		0.1650	0.1650	0.1650	
9.1.1.30X3	bogue	5		1999-2001		0.0577		0.0205	0.0900
9.1.1.30 X5	Cuttlefish	3		2001		0.1000	0.0520	0.0170	0.2320
9.1.1.30 X6	Perch	3		2001		0.1627	0.1290	0.1140	0.2450
9.1.1.30 X7	Seabream	3		2001		0.1470	0.1300	0.0800	0.2310
9.1.1.30 X8	Small fish eaten whole	10		2001		0.0830	0.0570	0.0350	0.2050
9.1.2.1	Mussels	2		2001		0.0285	0.0285	0.0160	0.0410
9.1.3.2	Squid	2		2001		0.0365	0.0365	0.0350	0.0380
9.1.3.3	Octopus	2		2001		0.0515	0.0515	0.0250	0.0780
9.1.2	Fresh bivalve molluscs	15		2000-2002		0.0231		0.0052	0.0490
9.1.2.1	Mussels	54		2001-2002		0.0215		0.0015	0.0310
9.1.2.2	Oysters	1		2002		0.0120	0.0120	0.0120	
9.1.3	Fresh cephalopodes	1		2001		<0.01			
9.1.3.2	Octopus	2		2000		0.0450	0.0450	0.0200	0.0700
9.1.4	Fresh crustaceans	2		1998		0.2500	0.2500	0.2000	0.3000
9.1.4.2	Lobsters	1		2000		0.1010	0.1010	0.1010	0.1010
9.1.4.3	shrimp	6		1999		0.2476	0.2300	0.1657	0.3900
	Frozen fish, fish fillets and fish products incl. MCE	580		1999-2002		0.1200		<0.003	3.7020
9.4	canned fish	17		1999		0.2721		0.0100	0.4700
9.4.1	Fish canned in oil	28		1999-2002		0.1020		0.0030	0.4500
9.4.2	Fish canned in brine	22		1999-2002		0.0992		<0.003	0.6150
9.4.3	Fermented fish	136		1999-2002		0.0652		<0.003	0.5450
9.4.4.X1	Smoked herring	3		2000-2002		0.0457		0.0370	0.0630
Ireland									
	acid casein powder	43		1995		0.0050		< 0.01	< 0.01
	rennet casein powder	33		1995		0.0050		< 0.01	< 0.01
	skim milk powder	71		1995		0.0050		< 0.01	< 0.01
	Beef	125		1997		0.0050		< 0.01	< 0.01
	Beef (Muscle, Liver, Kidney)	89		2000 - 2001		0.0037		< 0.001	< 0.02
	Lamb (Muscle, Liver, Kidney)	22		2000 - 2001		0.0053		< 0.001	< 0.02
	Pork	100		1997		0.0050		< 0.01	< 0.01
	Pork (Muscle, Liver, Kidney)	10		2000		0.0005		< 0.001	< 0.001
	Poultry	28		2000 - 2001		0.0088		< 0.015	< 0.02
	FARM GAME LIVER	7		2001		0.0100		< 0.02	< 0.02
	Anchovies	1		2001		0.0500		0.0500	0.0500
	Black jack	10		1998		0.0400		0.0400	0.0400
	Black sole	99		1996 - 2000		0.0830		0.0300	0.2100
	Butterfish/Bass	1		2001		1.0500		1.0500	1.0500
	C.Gigas	724		1996 - 2000		0.0279		0.0200	0.0500
	Cod	193		1996 - 2001		0.0634		0.0100	0.1900