

DIOXINS AND DIOXIN-LIKE PCBs IN FOODS – EU MONITORING 2003

Dioxins and PCBs were analysed by the Food Standards Agency in 100 retail samples of UK produced foods purchased at locations throughout the UK. The results were compared with the limits and action levels for dioxins set by the European Union under Council Regulation (EC) No 2375/2001. These limits and action levels are presented in Table 1. The samples, which were collected in accordance with Commission Recommendation 2002/201/EC, Commission Directive 2002/69/EC and SANCO 4546/01, were as follows: 3 milk, 3 butter, 3 beef, 3 pork, 7 lamb, 3 chicken, 2 turkey, 1 pheasant, 1 venison, 2 lambs' liver, 2 pigs' liver, 4 eggs from caged hens, 29 free-range eggs, 12 marine fish, 7 farmed fish, 3 animal fats, 3 vegetable oils, 3 fish oil dietary supplements, 3 vegetables, 3 fruit, 1 bread and 2 cereals. The vegetable samples comprised composites of a number of different commodities. All other samples were of individual products. Sampling was carried out by Casella GMSS, and the samples were analysed by Eurofins Scientific Services. Details of the method of analysis can be found in Food Survey Information Sheet No 49/04.

All the results have been reported to the European Commission. The results of the survey are summarised in Tables 2-4. Full details of the individual samples, including brand names, and results are presented in Annex 2. In both the tables and annex the results are expressed on the same basis as the appropriate maximum limit or action level. Thus those for fish, fruit, vegetables and cereals are expressed on a fresh weight basis – these results appear first in Annex 2. Those for meat, eggs, milk and milk products, and fats and oils are expressed on a fat basis.

For the majority of samples, *upper bound* concentrations of dioxins were within both the EU limit and action level appropriate to the sample. Exceptions were one pheasant and one liver sample for which the limit for dioxins was exceeded, and a venison and liver sample for which the action level was exceeded. Action was taken to inform the relevant local authorities.

Note: where individual sample analyses are less than the limit of detection, the result can be expressed as zero (*lower bound*), or as equal to the limit of detection (*upper bound*) and the mean calculated accordingly. The limit of detection (LOD) is the concentration below which a compound cannot be accurately measured.

Table 1: Maximum limits and action levels (ng WHO-TEQ/kg) for dioxins in foods

Foods	MAXIMUM LEVELS APPLICABLE UNTIL 31.12.2005 (ng WHO- TEQ/kg fat basis except for fish and other foods)	ACTION LEVELS (ng WHO-TEQ/kg fat basis except for fish and other foods)
Meat and meat products originating from		
- Ruminants (bovine animals, sheep)	3	2
- Poultry and farmed game	2	1.5
- Pigs	1	0.6
Liver	6	4
Fish and fishery products*	4 (fresh weight)	3 (fresh weight)
Milk and milk products, including butter fat	3	2
Eggs and egg products**	3	2
Oils and fats		
- Animal fat		
- From ruminants	3	2
- From poultry and farmed game	2	1.5
- From pigs	1	0.6
- Mixed animal fat	2	1.5
- Vegetable oil	0.75	0.5
- Fish oil intended for human consumption	2	1.5
Fruits, Vegetables and Cereals	-	0.4 (fresh weight)

Notes: * excluding brown meat of crab and cephalopods with viscera

** excluding free range and semi-intensive eggs until 31 December 2004

There are currently no limits for dioxin-like PCBs.

Table 2: Average concentrations of dioxins and dioxin-like PCBs in animal products

Animal product	Average concentrations (ng WHO-TEQ/kg fat basis)																	
	Lower bound									Upper bound								
	Dioxins			PCBs			Total			Dioxins			PCBs			Total		
<i>Meat:</i>																		
Beef	0.1	±	0.3	0.2	±	0.04	0.3	±	0.06	0.4	±	0.04	0.5	±	0.06	0.9	±	0.08
Pork	<0.01	±	<0.01	0.02	±	<0.01	0.02	±	<0.01	0.1	±	0.02	0.1	±	0.02	0.3	±	0.03
Lamb	0.6	±	0.04	0.3	±	0.05	0.9	±	0.08	0.6	±	0.05	0.3	±	0.05	1.0	±	0.08
Chicken	0.04	±	0.01	0.01	±	<0.01	0.05	±	0.01	0.2	±	0.01	0.2	±	0.03	0.4	±	0.03
Turkey	0.06	±	0.01	0.2	±	0.03	0.2	±	0.02	0.2	±	0.04	0.3	±	0.04	0.5	±	0.06
Pheasant	3.3	±	0.4	0.7	±	0.1	4.0	±	0.5	3.4	±	0.1	0.8	±	0.4	4.1	±	0.4
Venison	1.6	±	0.2	1.0	±	0.2	2.6	±	0.3	2.0	±	0.2	1.3	±	0.2	3.2	±	0.3
Sheeps' liver	5.1	±	1.3	1.9	±	0.6	7.0	±	1.3	7.8	±	1.3	3.2	±	0.6	11	±	1.2
Pigs' liver	0.7	±	0.1	0	±	-	0.7	±	0.1	0.9	±	0.1	0.3	±	0.05	1.2	±	0.1
<i>Eggs:</i>																		
Caged	0.3	±	0.03	0.07	±	0.01	0.4	±	0.04	0.4	±	0.04	0.2	±	0.03	0.5	±	0.06
Free-range	0.3	±	0.04	0.07	±	0.01	0.4	±	0.05	0.4	±	0.05	0.2	±	0.03	0.6	±	0.06
Milk	0.5	±	0.05	0.3	±	0.06	0.8	±	0.09	0.5	±	0.05	0.4	±	0.07	0.9	±	0.09
Butter	0.3	±	0.03	0.2	±	0.04	0.5	±	0.06	0.3	±	0.04	0.3	±	0.05	0.7	±	0.07

Table 3: Average concentrations of dioxins and dioxin-like PCBs in fish

Species	Average concentrations (ng WHO-TEQ/kg fresh weight)																	
	<i>Lower bound</i>									<i>Upper bound</i>								
	Dioxins			PCBs			Total			Dioxins			PCBs			Total		
<i>Farmed fish:</i>																		
Salmon	0.6	±	0.07	1.7	±	0.3	2.3	±	0.3	0.6	±	0.08	1.7	±	0.3	2.3	±	0.2
Trout	0.3	±	0.04	0.7	±	0.1	1.0	±	0.1	0.3	±	0.04	0.7	±	0.1	1.0	±	0.1
Eels	0.7	±	0.07	1.4	±	0.1	2.0	±	0.2	0.7	±	0.07	1.4	±	0.1	1.7	±	0.1
<i>Sea fish:</i>																		
Lemon Sole	0.2	±	0.03	0.2	±	0.04	0.4	±	0.05	0.2	±	0.03	0.2	±	0.04	0.4	±	0.04
Haddock	0.03	±	<0.01	0.02	±	<0.01	0.05	±	<0.01	0.03	±	<0.01	0.03	±	<0.01	0.06	±	<0.01
Coley Fillets	0.01	±	<0.01	0.04	±	<0.01	0.05	±	<0.01	0.01	±	<0.01	0.04	±	<0.01	0.06	±	<0.01
Whiting	0.07	±	<0.01	0.3	±	0.05	0.4	±	0.04	0.07	±	<0.01	0.3	±	0.05	0.4	±	0.04
Skate	0.6	±	0.07	0.4	±	0.05	1.0	±	0.1	0.6	±	0.07	0.4	±	0.05	1.0	±	0.10
Cod	0.02	±	<0.01	0.05	±	<0.01	0.07	±	<0.01	0.02	±	<0.01	0.06	±	<0.01	0.08	±	<0.01
Plaice	0.6	±	0.07	0.6	±	0.1	1.2	±	0.1	0.6	±	0.07	0.6	±	0.1	1.2	±	0.1
Mackerel	0.4	±	0.05	1.1	±	0.2	1.4	±	0.2	0.4	±	0.05	1.1	±	0.2	1.5	±	0.2
Herring	0.9	±	0.1	0.8	±	0.1	1.7	±	0.2	0.9	±	0.1	0.8	±	0.1	1.7	±	0.2
Ling	0.02	±	<0.01	0.02	±	<0.01	0.04	±	<0.01	0.02	±	<0.01	0.02	±	<0.01	0.04	±	<0.01
Haddock	0.01	±	<0.01	0.03	±	<0.01	0.04	±	<0.01	0.02	±	<0.01	0.03	±	<0.01	0.05	±	<0.01
Monkfish	0.03	±	<0.01	0.03	±	<0.01	0.06	±	<0.01	0.03	±	<0.01	0.04	±	<0.01	0.07	±	<0.01

Table 4: Average concentrations of dioxins and dioxin-like PCBs in fats, oils, fruit, vegetables, bread and cereals

Food	Average concentrations (ng WHO-TEQ/kg fat basis or fresh weight)																	
	Lower bound									Upper bound								
	Dioxins			PCBs			Total			Dioxins			PCBs			Total		
<i>Fats & oils:</i>	Results on a fat basis																	
Animal	0.1	±	0.02	0.1	±	0.04	0.3	±	0.03	0.2	±	0.03	0.3	±	0.04	0.5	±	0.05
Vegetable	<0.01	±	<0.01	0	±	-	<0.01	±	<0.01	0.1	±	0.01	0.1	±	0.01	0.2	±	0.02
Fish	0.1	±	0.02	3.0	±	0.5	3.2	±	0.4	0.4	±	0.04	3.0	±	0.5	3.4	±	0.4
	Results on a fresh weight basis																	
Fruit	0.01	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01	0.01	±	<0.01	0.01	±	<0.01	0.03	±	<0.01
Green vegetables	0.03	±	<0.01	<0.01	±	<0.01	0.04	±	<0.01	0.03	±	<0.01	0.02	±	<0.01	0.05	±	<0.01
Other vegetables	0.01	±	<0.01	0	±	-	<0.01	±	<0.01	0.01	±	<0.01	0.01	±	<0.01	0.02	±	<0.01
Potatoes	0	±	-	<0.01	±	<0.01	<0.01	±	<0.01	0.01	±	<0.01	0.01	±	<0.01	0.02	±	<0.01
Bread	0.01	±	<0.01	<0.01	±	<0.01	0.01	±	<0.01	0.02	±	<0.01	0.01	±	<0.01	0.03	±	<0.01
Cereals	0.01	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01	0.03	±	<0.01	0.02	±	<0.01	0.05	±	<0.01

EU monitoring for dioxins and PCBs - full details of samples

Sample code	Description	Retailer (name and address)	Batch code	Purchase Date	Best before date
0758/0036	Lemon Sole	J K Collin Fish Merchants Eyemouth Berwickshire TD14 5BN	N/A	06/09/2003	N/A
0758/0037	Haddock	Ian Wynne, Airds Crossing, Fort William, Scotland	N/A	04/09/2003	N/A
0758/0038	Scottish Farmed Salmon	Taste of Morray, Gollanfield, Inverness, IV2 7QT	1115	04/09/2003	N/A
0758/0039	Trout (frozen)	Drummond Trout Farm, Comrie, Perthshire PH6 2LD Scotland	N/A	01/09/2003	N/A
0758/0040	Farmed Salmon	Mcphersons, Pitlochry Tel:01796 472305	N/A	01/09/2003	N/A
0758/0041	Scottish Loch Trout Fillets	Tesco Inverness	N/A	03/09/2003	04/09/2003
0758/1483	Coley Fillets	Tesco Extra Pontadulais Road, Cadle Fforestfach, Swansea	N/A	09/10/2003	10/10/2003
0759/0006	Marks & Spencer Farmed Salmon	Marks & Spencer Trafford Park Manchester	N/A	30/10/2003	N/A
0759/0908	Rainbow Trout	Waitrose Ltd, 74a High Street, Stevenage Herts SG1 3EH	N/A	10/11/2003	N/A
0759/0921	Whole Whiting	Selfridges, 400 Oxford Street, London W1A 1AB	N/A	13/11/2003	N/A
0759/0928	Skate	W M Morrisons Anlaby Hull	N/A	14/11/2003	16/11/2003
0759/0929	Cod	The Harbour Store, Nautilus Centre, Kilkeel Harbour N. Ireland	N/A	29/10/2003	N/A
0759/0930	Plaice	The Harbour Store, Nautilus Centre, Kilkeel Harbour N. Ireland	N/A	29/10/2003	N/A

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0759/0931	Eels	Louchneagh, Fishermans Co-op Society Ltd Toomebide co-Antrim BT41 3SB	N/A	28/10/2003	N/A
0759/0943	Mackerel	Peterhead Fish Market, Scotland	N/A	02/09/2003	N/A
0759/0944	Herring	Peterhead Fish Market, Scotland	N/A	02/09/2003	N/A
0759/0945	Ling	Peterhead Fish Market, Scotland	N/A	02/09/2003	N/A
0759/0946	Haddock	Peterhead Fish Market, Scotland	N/A	02/09/2003	N/A
0759/0947	Monkfish	Peterhead Fish Market, Scotland	N/A	02/09/2003	N/A
3N251101	Beef	Ian Wynne, Airds Crossing, Fort William	N/A	04/09/2003	N/A
3N251102	Scottish Sheeps Liver (frozen)	Alex Munro (Butcher), 80, High St., Musselburgh, Edinburgh, EH 21 7BX	N/A	06/09/2003	N/A
3N251103	Tesco British Pork Casserole Pork	Tesco Stores Ltd. Cheshunt, EN8 9SL (Perth store)	4175 EEC TAO25920331 (x 3)	01/09/2003	04/09/2003
3N251104	The Healthy Option Quality Fresh Chicken without giblets	Kwik Save store, Airdrie	N/A	05/09/2003	06/09/2003
3N251105	Somerfield Fresh Lamb Neck Fillet	Somerfield Airdre	13491 (x 3)	05/09/2003	06/09/2003
3N251106	Fair & Square Venison Diced Stew	Drummond Trout Farm, Comrie, Perthshire PH6 2LD Scotland	N/A	01/09/2003	13/09/2003
3N251107	Pheasant (Oven Ready)	K & M Falconer, Unit 3a Station Rd Industrial Est, NewtonMore, PH20 1AR	01540 673310	04/09/2003	22/09/2003
3N251114	Scottish Pride 100% Pure Scottish	Asda Edinburgh	217	05/09/2003	BB end Nov 03

	Butter				
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Sample code	Description	Retailer (name and address)	Batch code	Purchase Date	Best before date
3N251115	Columbus Healthier Class A Eggs	Kwik Save Morley, Leeds	204 082708661 91998WBX1 (x 3)	10/11/2003	27/11/2003
3N251116	Free Range Eggs	T J Holdsworth, Flixton Manchester	N/A	29/10/2003	N/A
3N251117	Priestner's Free Range Eggs	Hopkinsons of Lymm Cheshire	N/A	29/10/2003	N/A
3N251118	Slaveleys Free Range Eggs	Birkenhead Market	N/A	13/11/2003	N/A
3N251119	Petre Free Range Eggs	Birkenhead Market	N/A	13/11/2003	N/A
3N251120	Nortech Finest Beef Dripping	Asda Musselburgh	163T2 (x 3)	05/09/2003	BB end Dec 2003
3N251121	Yorkshire Strawberries	Asda, Hessle Road, Hull, HU3 4UB	401214	25/09/2003	Display Until 27th Sep
3N275801	Country Life English Butter	Stoke Market Stall	5010171000018	13/10/2003	N/A
3N275802	Meadows Free Range Eggs	Steve's Choice Meats (Butchers), Lower High Street, Wednesbury, Birmingham	N/A	13/10/2003	N/A
3N275803	Free Range Eggs	A.Warner, Hanley Market, Stoke	N/A	13/10/2003	N/A
3N275804	Morrisons Turkey Diced Thigh	Morrisons store, Birmingham	0204306001680/0204302001424	13/10/2003	16/10/03
3N275805	English Lambs Liver	Jeff Taylor, Harley Market, Stoke	N/A	13/10/2003	N/A
3N285801	Welsh minced beef	A J Morgan, Cardiff Market	N/A	09/10/2003	N/A

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Sample code	Description	Retailer (name and address)	Batch code	Purchase Date	Best before date
3N285802	Marks & Spencer Brecon Hill Lamb Leg Steaks	Marks & Spencer Plc, Baker Street, London WIU 8EP (Swansea store) 270, Oxford Street, Swansea SA1 3BB	N/A	09/10/2003	13/10/2003
3N285803	West Country Lamb Rump	Tesco, Exeter Vale	N/A	09/10/2003	11/10/2003
3N285804	Chicken	Hugh Phillips, Gower Butcher, Swansea Mkt	N/A	09/10/2003	N/A
3N285805	Welsh Pigs Liver	R T Perkins A'IFA Cardiff Market	N/A	09/10/2003	N/A
3N285807	Welsh Fresh Pasteurised Milk	Sainsburys Central 129 -133 Queen St, Cardiff CF10 2BJ	GS003M 15 - 33(46) (x 3)	09/10/2003	17/10/2003
3N285808	Fresh Farm Eggs*	Lowna Kennels Raywell nr Cottingham E. Yorkshire, HU16 5YL	N/A	30/10/2003	N/A
3N285809	Wold View Newbald Free Range Eggs	Southwood Farm Shop Ganton Road Cottingham E. Yorkshire	N/A	11/11/2003	Nov-03
3N285810	Sainsbury's Medium Free Range Eggs	Sainsburys Leeds	N/A	10/11/2003	Nov-03
3N285811	Merevale Free Range Eggs	Aldi, Hessle, E. Yorkshire	N/A	14/11/2003	Nov-03
3N285812	Tesco Organic Free Range Eggs	Tesco Clowne, Derbyshire	See BB Date	10/11/2003	Nov-03
3N285813	James Potter Yorkshire Farmhouse Large Free Range Eggs	Morrisons Rotherham BD8 9AX	See BB Date	10/11/2003	Nov-03

EU monitoring for dioxins and PCBs - full details of samples

Sample code	Description	Retailer (name and address)	Batch code	Purchase Date	Best before date
3N285814	Tesco Value Lard	Tesco Bicester	201T6 (x 3)	13/10/2003	BB end Jul 2004
3N285815	Holland & Barrett Naturally Inspired Salmon Oil 1000 mg	Holland & Barret, Union Street, Swansea	5818403 (x 3)	09/10/2003	Jun-06
3N285816	Andy Allen's Beef Dripping	Butcher, Flixton, Manchester	N/A	29/10/2003	N/A
3N285817	Diced Pork	T J Holdsworth, Flixton Manchester	N/A	29/10/2003	N/A
3N285818	Bread	Bakers Cheadle Hulme		30/10/2003	N/A
3N286801	Liberty Farm's Organic Free Range Eggs	Anthony Coates Butcher, Borrowash	See BB Date	10/11/2003	Nov-03
3N286802	Safeway Large Free Range Eggs	Safeway, Borrowash DE72 3HR	0207 5561 1300 9-1-993A	10/11/2003	Nov-03
3N310101	Lamb	Brand (P14), Market Hall, Birkenhead	N/A	13/11/2003	N/A
3N310102	Co-op Freedom Food RSPCA Monitored Large Free Range Eggs	Co-op, Market Square, Bingham, Notts	C11 1013 5861 DO439 91998N	10/11/2003	Nov-03
3N310103	County Harvest Free Range Eggs	Supavalue Newcastle, N.Ireland		28/10/2003	Nov-03
3n310104	Seven Seas Ocean Gold Cod Liver Oil	Supermarket Trafford Pk, Manchester	332395 (x 3)	14/11/2003	Sep-06
3N310105	Morrisons Minced Lamb	Morrisons, Rotherham BD8 9AX	3123	10/11/2003	13/11/2003

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EU monitoring for dioxins and PCBs - full details of samples

Sample code	Description	Retailer (name and address)	Batch code	Purchase Date	Best before date
3N310106	Somerfield Mega Value Lamb Barnsley Chops	Somerfield store, Royston, Cambs	UK8216 Ref 14012	10/11/2003	11/11/2003
3N310107	Chicken	Anthony Coates, Borrowash, nr.Derby	N/A	10/11/2003	N/A
3N310108	Waitrose Free Range Turkey with giblets air frozen	Waitrose 74a High St, Stevenage Herts SG1 3EH	UK 3019 EEC	10/11/2003	31/10/2004
3N310110	Express Fresh Whole Milk	Beaumont Costcutter 8 Market St,Bingham,Nottingham	21:42:52 UK LV007 EEC (x 3)	10/11/2003	13/11/2003
3N310111	Country Life English Butter Freshly churned	Sainsburys,Hitchin Rd,Stevenage	See BB Date	10/11/2003	09/01/2004
3N310112	Waitrose a) Tomatoes Class C vine b) Parsnips speciality c) Carrots d) British Swede	Waitrose, Queensgate Centre, Peterborough, Cambs PE1 1NR	a), b), c) 181/WK d) 181VG1168	10/11/2003	a) 14/11/2003 b) 13/11/2003 c) 13/11/2003 d) 15/11/2003
3N310113	Iceland Pigs Liver	Iceland Foods, 4, The Pavement, Clapham	L/10	13/11/2003	Feb-04
3N310115	Tesco Gala Crisp Apples	Tesco Metro 22 - 25 Bedford Street, Covent Garden, London	Class 1 65/70mm HL09	13/11/2003	BB 19/11/2003
3N310116	Minced beef	Tim May, 129-131 Hallgate, Cottingham	N/A	14/11/2003	N/A
3N310117	Diced Pork	Charlies Butchers, Morley Market, Nr Leeds	16559/68 (x 3)	10/11/2003	N/A

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EU monitoring for dioxins and PCBs - full details of samples

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3N310118	Lamb	R Glenny, Newcastle St, Kilkeel, N.Ireland	N/A	29/10/2003	N/A
3N310123	Dale Farm Fresh Milk	Iceland, Ballyrachinch, N. Ireland	20:34 (x 3)	28/10/2003	03/11/2003
3N310124	Sainsbury's Broccoli, Round Lettuce, Greens, Brussels Sprouts Pointed Cabbage (sweet hearted), Savoy Cabbage	Sainsburys Savacentre, White Rose Shopping Centre, Beeston, Leeds LS11 8EW	Lettuces: L0784A Sussex; Others: N/A	10/11/2003 ; Lettuces: 27/11/03	Variable Lettuces: Display Until Saturday
3N310125	Potatoes	R.Glenny (Butcher), Newcastle St., Kilkeel, N.Ireland	N/A	20/10.03	N/A
3N310126	Cox's English Apples	Southwood Farm Shop, Ganton Road, Cottingham, East Yorkshire	N/A	11/11/2003	N/A
3N310127	Sainsbury's Taste the difference Scottish Whole Rolled Porridge Oats	Sainsburys Leeds	B3293G	10/11/2003	Apr-05
3N310133	Whitworths Pearl Barley	Asda Hessle Road Hull HU3 4UB	L3203A870	14/11/2003	BB Jul 04
3N316401	Morrisons Fresh Medium Free Range Eggs	Morrisons Tynemouth	PS 9/2/861	06/09/2003	Sep-03
3N316402	Scottish Class A Free Range Eggs	The Taste of Moray, Gollanfield, Inverness, IV2 7QT	PS 97986	04/09/2003	Sep-03

EU monitoring for dioxins and PCBs - full details of samples

Sample code	Description	Retailer (name and address)	Batch code	Purchase Date	Best before date
3N316403	Farmlay Medium Free Range Class A Eggs	Macphersons, Pitlochry Tel:01796 472305	9-7-019 75581242 09	01/09/2003	Sep-03
3N316404	Safeway Fresh Free Range Eggs	Safeway, Yarm	9-1-993A	06/09/2003	Sep-03
3N316405	Westcroft Free Range Eggs	W S Jones & Sons, High Class Butcher, Cardiff Market	See BB Date	09/10/2003	03//11/2003
3N316406	Welsh Farmhouse Free Range Eggs	Tesco Extra, Pontadulais Road,Cadle, Fforestfach Swansea	See BB Date	09/10/2003	Oct-03
3N316407	Heart of England Free Range Eggs	Spar Store, Rodney Road, Backwell, Nr Bristol	See BB Date	10/10/2003	Oct-03
3N316408	Blackacre Farm Traditional Free Range Eggs	JCR Foodstufs, Crescent Gardens, Bath	See BB Date	13/10/2003	Nov-03
3N316409	Sainsbury's Large Fresh Eggs	Sainsburys, Marble Arch Tower,55 Bryanston,London W1H 7AA	00011365761 919985 00439 (x 3)	13/11/2003	28/11/2003
3N316409	Budgens Free Range Eggs	Budgens Supermarket of Faringdon, 357 Malborough Street, SN7 7JE	9.1.993A See BB Date	13/10/2003	Oct-03
3N316410	Clarence Court Old Cotswold Legbar Free Range Eggs	Tesco, Exeter Vale Tel: 0845 677 9263	See BB Date	09/10/2003	Oct-03
3N316411	Iceland Medium Fresh Eggs	Iceland 23 Graham Street Airdre	97947T (x 3)	05/09/2003	21/09/2003

3N316412	Bitteswell Farms Large Free Range Eggs	Elmcott Poultry Farm, The A1 Biggleswade Beds SG18 9BE	See BB Date	10/11/2003	Dec-03
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Annex 1

EU monitoring for dioxins and PCBs - full details of samples

Sample code	Description	Retailer (name and address)	Batch code	Purchase Date	Best before date
3N316413	Somerfield Freedom Food RSPCA Monitored Large Free Range Eggs	Somerfield, Royston, Cambridge	PS 9-2-861	10/11/2003	November 24th
3N316414	Columbus Healthier Eggs Free Range Eggs	Sainsburys, Hitchin Road, Stevenage	206 0718 5561 91998W BX1	10/11/2003	BB 26 Nov 2003
3N316415	Layhams Free Range Eggs	Selfridges, 400 Oxford Street, London W1A 1AB	P.S No 9-6-857	13/11/2003	Nov-03
4N046001	Midsummer Organic Rapeseed Oil	Safeway Willerby E. Yorkshire	L3283 (x 3)	07/01/2004	10/01/2004
4N046002	Again and Again Vegetable Oil	Safeway Willerby E. Yorkshire	L3308 (x 3)	07/01/2004	04/05/2004
4n046003	Harry Ramsden's Cooking Oil	Safeway Willerby E. Yorkshire	L3168 (x 3)	07/01/2004	17/12/2004
4N046004	Healthspan 'Neutral Taste' Cod Liver Oil	Internet sale from Healthspan	a) 44724 b) 44724 c) 44727M	14/01/2004	Sep-05

Concentrations (ng WHO-TEQ/kg freshweight basis) of dioxins and dioxin-like PCBs in UK produced foods

Sample code	Description	Concentrations (ng WHO-TEQ/kg freshweight)																	
		Upper bound									Lower bound								
		Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
0758/0036	Lemon Sole	0.21	±	0.03	0.18	±	0.04	0.39	±	0.04	0.21	±	0.03	0.18	±	0.04	0.39	±	0.05
0758/0037	Haddock	0.03	±	<0.01	0.03	±	<0.01	0.06	±	<0.01	0.03	±	<0.01	0.02	±	<0.01	0.05	±	<0.01
0758/0038	Scottish Farmed Salmon	0.78	±	0.09	1.98	±	0.33	2.76	±	0.33	0.78	±	0.09	1.98	±	0.33	2.76	±	0.33
0758/0039	Trout (frozen)	0.31	±	0.04	0.71	±	0.12	1.02	±	0.12	0.30	±	0.04	0.71	±	0.12	1.01	±	0.12
0758/0040	Farmed Salmon	0.54	±	0.07	1.68	±	0.28	2.22	±	0.28	0.54	±	0.07	1.68	±	0.28	2.22	±	0.27
0758/0041	Scottish Loch Trout Fillets	0.35	±	0.04	0.83	±	0.14	1.18	±	0.14	0.34	±	0.04	0.83	±	0.14	1.17	±	0.14
0758/1483	Coley Fillets	0.01	±	<0.01	0.04	±	0.01	0.05	±	0.01	0.01	±	<0.01	0.04	±	0.01	0.05	±	<0.01
0759/0006	Farmed Salmon	0.54	±	0.07	1.46	±	0.24	2.00	±	0.24	0.53	±	0.06	1.46	±	0.24	1.99	±	0.24
0759/0908	English Rainbow Trout	0.22	±	0.03	0.52	±	0.09	0.74	±	0.09	0.22	±	0.03	0.52	±	0.09	0.74	±	0.09
0759/0921	Whole Whiting	0.07	±	0.01	0.29	±	0.05	0.36	±	0.05	0.07	±	0.01	0.29	±	0.05	0.36	±	0.04
0759/0928	Skate	0.60	±	0.07	0.36	±	0.05	0.96	±	0.05	0.60	±	0.07	0.36	±	0.05	0.96	±	0.12
0759/0929	Cod	0.02	±	<0.01	0.06	±	0.01	0.08	±	0.01	0.02	±	<0.01	0.05	±	<0.01	0.07	±	<0.01
0759/0930	Plaice	0.62	±	0.07	0.60	±	0.10	1.22	±	0.10	0.62	±	0.07	0.60	±	0.10	1.22	±	0.15
0759/0931	Eels	0.66	±	0.08	1.38	±	0.23	2.04	±	0.23	0.66	±	0.08	1.38	±	0.23	2.04	±	0.25
0759/0943	Mackerel	0.39	±	0.05	1.06	±	0.18	1.45	±	0.18	0.38	±	0.05	1.05	±	0.17	1.43	±	0.17
0759/0944	Herring	0.88	±	0.11	0.77	±	0.12	1.65	±	0.12	0.88	±	0.11	0.77	±	0.12	1.65	±	0.20
0759/0945	Ling	0.02	±	<0.01	0.02	±	<0.01	0.04	±	<0.01	0.02	±	<0.01	<0.01	±	<0.01	0.04	±	<0.01
0759/0946	Haddock	0.02	±	<0.01	0.03	±	<0.01	0.05	±	<0.01	0.01	±	<0.01	0.03	±	<0.01	0.04	±	<0.01

0759/0947	Monkfish	0.03	±	<0.01	0.03	±	<0.01	0.06	±	<0.01	0.03	±	<0.01	0.03	±	<0.01	0.06	±	<0.01
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Annex 1

Concentrations(ng WHO-TEQ/kg freshweight basis) of dioxins and dioxin-like PCBs in UK produced foods

Sample code	Description	Concentrations (ng WHO-TEQ/kg freshweight)																	
		Upper bound									Lower bound								
		Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
3N251121	Strawberries	0.01	±	<0.01	0.01	±	<0.01	0.02	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01
3N285818	Bread	0.02	±	<0.01	0.01	±	<0.01	0.03	±	<0.01	0.01	±	<0.01	<0.01	±	<0.01	0.01	±	<0.01
3N310112	a) Tomatoes b) Parsnips c) Carrots d) Swede	0.01	±	<0.01	0.01	±	<0.01	0.02	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01
3N310115	Gala Crisp Apples	0.01	±	<0.01	0.01	±	<0.01	0.02	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01
3N310124	Broccoli (scottish), Lettuce, Greens, Sprouts Pointed Cabbage, Savoy Cabbage, Lettuces	0.03	±	<0.01	0.02	±	<0.01	0.05	±	<0.01	0.03	±	<0.01	0.01	±	<0.01	0.04	±	<0.01
3N310125	Potatoes	0.01	±	<0.01	0.01	±	<0.01	0.02	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01
3N310126	Cox's English Apples	0.01	±	<0.01	0.01	±	<0.01	0.02	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01
3N310127	Scottish Whole Rolled Porridge Oats	0.03	±	<0.01	0.03	±	<0.01	0.06	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01
3N310133	Pearl Barley	0.02	±	<0.01	0.02	±	<0.01	0.04	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01	<0.01	±	<0.01

Concentrations(ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in UK produced foods

		Concentrations (ng WHO-TEQ/kg fat basis)																	
		<i>Upper bound</i>						<i>Lower bound</i>											
Sample code	Description	Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
3N251101	Beef	0.43	±	0.05	0.45	±	0.07	0.88	±	0.07	0.12	±	0.01	0.16	±	0.03	0.28	±	0.03
3N251102	Scottish Sheeps Liver (frozen)	5.13	±	0.62	1.97	±	0.35	7.10	±	0.35	5.12	±	0.62	1.92	±	0.35	7.04	±	0.85
3N251103	Casserole Pork	0.14	±	0.02	0.14	±	0.02	0.28	±	0.02	<0.01	±	<0.01	0.02	±	<0.01	0.02	±	<0.01
3N251104	Chicken	0.17	±	0.02	0.18	±	0.03	0.35	±	0.03	0.01	±	<0.01	0.01	±	<0.01	0.02	±	<0.01
3N251105	Lamb Neck Fillet	0.63	±	0.08	0.34	±	0.06	0.97	±	0.06	0.59	±	0.07	0.28	±	0.05	0.87	±	0.11
3N251106	Venison Diced Stew	1.95	±	0.24	1.27	±	0.21	3.22	±	0.21	1.62	±	0.20	0.96	±	0.17	2.58	±	0.31
3N251107	Pheasant	3.35	±	0.40	0.79	±	0.13	4.14	±	0.13	3.33	±	0.40	0.70	±	0.12	4.03	±	0.49
3N251114	100% Pure Scottish Butter	0.22	±	0.03	0.23	±	0.04	0.45	±	0.04	0.16	±	0.02	0.16	±	0.03	0.32	±	0.04
3N251115	Class A Eggs	0.15	±	0.02	0.11	±	0.01	0.26	±	0.01	0.08	±	0.01	0.01	±	<0.01	0.09	±	0.01
3N251116	Free Range Eggs	0.17	±	0.02	0.13	±	0.02	0.30	±	0.03	0.06	±	<0.01	<0.01	±	0.00	0.06	±	0.01
3N251117	Free Range Eggs	0.29	±	0.04	0.12	±	0.02	0.41	±	0.04	0.25	±	0.03	<0.01	±	0.00	0.25	±	0.03
3N251118	Free Range Eggs	0.14	±	0.02	0.13	±	0.02	0.27	±	0.03	0.01	±	<0.01	<0.01	±	0.00	0.01	±	0.00
3N251119	Free Range Eggs	0.17	±	0.02	0.11	±	0.02	0.28	±	0.03	0.10	±	0.01	<0.01	±	0.00	0.10	±	0.01
3N251120	Lard	0.13	±	0.02	0.13	±	0.02	0.26	±	0.02	0.03	±	<0.01	<0.01	±	0.00	0.03	±	0.00
3N275801	English Butter	0.40	±	0.05	0.33	±	0.05	0.73	±	0.05	0.37	±	0.04	0.26	±	0.05	0.63	±	0.08
3N275802	Free Range Eggs	0.95	±	0.12	0.35	±	0.06	1.30	±	0.14	0.94	±	0.11	0.29	±	0.05	1.23	±	0.15
3N275803	Free Range Eggs	0.17	±	0.02	0.12	±	0.02	0.29	±	0.03	0.12	±	0.01	<0.01	±	0.00	0.13	±	0.02
3N275804	Turkey Diced Thigh	0.22	±	0.03	0.21	±	0.03	0.43	±	0.03	0.06	±	0.01	0.09	±	0.01	0.15	±	0.02

Concentrations(ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in UK produced foods

		Concentrations (ng WHO-TEQ/kg fat basis)																	
		<i>Upper bound</i>						<i>Lower bound</i>											
Sample code	Description	Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
3N275805	English Lambs Liver	10.45	±	1.26	4.35	±	0.78	14.80	±	0.78	10.44	±	1.26	4.30	±	0.77	14.74	±	1.78
3N285801	Welsh minced beef	0.35	±	0.04	0.34	±	0.05	0.69	±	0.05	0.27	±	0.03	0.22	±	0.04	0.49	±	0.06
3N285802	Lamb Leg Steaks	0.34	±	0.04	0.29	±	0.05	0.63	±	0.05	0.26	±	0.03	0.23	±	0.04	0.49	±	0.06
3N285803	West Country Lamb Rump	0.24	±	0.03	0.27	±	0.04	0.51	±	0.04	0.19	±	0.02	0.20	±	0.04	0.39	±	0.05
3N285804	Chicken	0.13	±	0.02	0.19	±	0.03	0.32	±	0.03	0.09	±	0.01	0.13	±	0.02	0.22	±	0.03
3N285805	Welsh Pigs Liver	0.45	±	0.05	0.20	±	0.03	0.65	±	0.03	0.31	±	0.04	<0.01	±	<0.01	0.31	±	0.04
3N285807	Fresh Pasteurised Milk	0.33	±	0.04	0.35	±	0.06	0.68	±	0.06	0.26	±	0.03	0.25	±	0.05	0.51	±	0.06
3N285808	Eggs	0.86	±	0.10	0.34	±	0.06	1.20	±	0.13	0.86	±	0.10	0.27	±	0.05	1.13	±	0.14
3N285809	Free Range Eggs	0.60	±	0.07	0.22	±	0.03	0.82	±	0.09	0.54	±	0.07	0.13	±	0.02	0.67	±	0.08
3N285810	Free Range Eggs	0.23	±	0.03	0.17	±	0.03	0.40	±	0.04	0.18	±	0.02	0.01	±	0.00	0.19	±	0.02
3N285811	Free Range Eggs	0.17	±	0.02	0.14	±	0.02	0.31	±	0.03	0.02	±	0.00	<0.01	±	0.00	0.03	±	0.00
3N285812	Organic Free Range Eggs	0.27	±	0.03	0.21	±	0.03	0.48	±	0.05	0.26	±	0.03	0.12	±	0.02	0.38	±	0.05
3N285813	Large Free Range Eggs	0.14	±	0.02	0.12	±	0.02	0.26	±	0.03	0.12	±	0.01	0.01	±	0.00	0.13	±	0.02
3N285814	Lard	0.13	±	0.02	0.13	±	0.02	0.26	±	0.02	0.02	±	0.00	0.01	±	0.00	0.03	±	0.00
3N285815	Salmon Oil	0.49	±	0.06	5.16	±	0.84	5.65	±	0.84	0.32	±	0.04	5.16	±	0.84	5.48	±	0.66
3N285816	Beef Dripping	0.41	±	0.05	0.48	±	0.08	0.89	±	0.08	0.38	±	0.05	0.39	±	0.07	0.77	±	0.09

3N285817	Diced Pork	0.16	±	0.02	0.16	±	0.02	0.32	±	0.02	<0.01	±	<0.01	0.02	±	<0.01	0.02	±	<0.01
3N286801	Free Range Eggs	0.14	±	0.02	0.12	±	0.02	0.26	±	0.03	0.09	±	0.01	<0.01	±	0.00	0.10	±	0.01

Concentrations(ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in UK produced foods

		Concentrations (ng WHO-TEQ/kg fat basis)																	
		Upper bound									Lower bound								
Sample code	Description	Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
3N286802	Free Range Eggs	0.24	±	0.03	0.18	±	0.03	0.42	±	0.04	0.23	±	0.03	0.11	±	0.02	0.34	±	0.04
3N310101	Lamb	0.62	±	0.07	0.32	±	0.05	0.94	±	0.05	0.60	±	0.07	0.28	±	0.05	0.88	±	0.11
3N310102	Large Free Range Eggs	0.68	±	0.08	0.18	±	0.03	0.86	±	0.09	0.67	±	0.08	<0.01	±	0.00	0.68	±	0.08
3N310103	Free Range Eggs	0.75	±	0.09	0.16	±	0.02	0.91	±	0.10	0.75	±	0.09	0.09	±	0.02	0.84	±	0.10
3n310104	Cod Liver Oil	0.35	±	0.04	2.73	±	0.40	3.08	±	0.40	0	±	0.00	2.73	±	0.40	2.73	±	0.33
3N310105	Minced Lamb	0.34	±	0.04	0.30	±	0.05	0.64	±	0.05	0.30	±	0.04	0.25	±	0.04	0.55	±	0.07
3N310106	Lamb Barnsley Chops	0.38	±	0.05	0.44	±	0.08	0.82	±	0.08	0.34	±	0.04	0.38	±	0.07	0.72	±	0.09
3N310107	Chicken	0.16	±	0.02	0.15	±	0.02	0.31	±	0.02	0.04	±	<0.01	0.01	±	<0.01	0.05	±	0.01
3N310108	Free Range Turkey	0.29	±	0.04	0.34	±	0.05	0.63	±	0.05	0.06	±	0.01	0.18	±	0.04	0.24	±	0.03
3N310110	Fresh Whole Milk	0.54	±	0.07	0.44	±	0.08	0.98	±	0.08	0.52	±	0.06	0.37	±	0.07	0.89	±	0.11
3N310111	English Butter Freshly Churned	0.40	±	0.05	0.36	±	0.06	0.76	±	0.06	0.37	±	0.04	0.28	±	0.05	0.65	±	0.08
3N310113	Pigs Liver	1.30	±	0.16	0.40	±	0.05	1.70	±	0.05	1.04	±	0.13	<0.01	±	<0.01	1.04	±	0.13
3N310116	Minced beef	0.37	±	0.04	0.40	±	0.06	0.77	±	0.06	0.35	±	0.04	0.35	±	0.06	0.70	±	0.08
3N310117	Diced Pork	0.14	±	0.02	0.13	±	0.02	0.27	±	0.02	<0.01	±	<0.01	0.01	±	<0.01	0.01	±	<0.01
3N310118	Lamb	0.43	±	0.05	0.29	±	0.04	0.72	±	0.04	0.36	±	0.04	0.23	±	0.04	0.59	±	0.07
3N310123	Full Fat Milk	0.64	±	0.08	0.37	±	0.06	1.01	±	0.06	0.62	±	0.07	0.30	±	0.06	0.92	±	0.11
3N316401	Fresh Medium	0.36	±	0.04	0.16	±	0.03	0.52	±	0.05	0.34	±	0.04	<0.01	±	0.00	0.35	±	0.04

	Free Range Eggs																		
3N316402	Free Range Eggs	0.17	±	0.02	0.11	±	0.02	0.28	±	0.03	0.03	±	0.00	0.01	±	0.00	0.04	±	0.00

Concentrations(ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in UK produced foods

		Concentrations (ng WHO-TEQ/kg fat basis)																	
		Upper bound									Lower bound								
Sample code	Description	Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
3N316403	Medium Free Range Class A Eggs	0.47	±	0.06	0.15	±	0.02	0.62	±	0.07	0.44	±	0.05	0.03	±	0.00	0.47	±	0.06
3N316404	Fresh Free Range Eggs	0.40	±	0.05	0.22	±	0.04	0.62	±	0.07	0.38	±	0.05	0.13	±	0.02	0.51	±	0.06
3N316405	Free Range Eggs	0.14	±	0.02	0.14	±	0.02	0.28	±	0.03	0.08	±	0.01	0.03	±	0.00	0.11	±	0.01
3N316406	Free Range Eggs	0.47	±	0.06	0.20	±	0.03	0.67	±	0.07	0.46	±	0.06	0.12	±	0.02	0.58	±	0.07
3N316407	Free Range Eggs	0.17	±	0.02	0.12	±	0.02	0.29	±	0.03	0.12	±	0.01	0.01	±	0.00	0.13	±	0.02
3N316408	Traditional Free Range Eggs	0.98	±	0.12	0.17	±	0.03	1.15	±	0.12	0.98	±	0.12	0.09	±	0.02	1.07	±	0.13
3N316409	Large Fresh Caged Hen Eggs	0.18	±	0.02	0.12	±	0.02	0.30	±	0.03	0.01	±	<0.01	<0.01	±	<0.01	0.01	±	<0.01
3N316409	Free Range Eggs	0.24	±	0.03	0.12	±	0.02	0.36	±	0.04	0.19	±	0.02	0.01	±	0.00	0.20	±	0.02
3N316410	Free Range Eggs	0.21	±	0.03	0.19	±	0.03	0.40	±	0.04	0.15	±	0.02	0.14	±	0.02	0.29	±	0.04
3N316411	Medium Fresh Caged Hen Eggs	0.21	±	0.03	0.13	±	0.02	0.34	±	0.02	0.16	±	0.02	<0.01	±	<0.01	0.16	±	0.02
3N316412	Large Free Range Eggs	0.19	±	0.02	0.14	±	0.02	0.33	±	0.03	0.15	±	0.02	0.01	±	0.00	0.16	±	0.02
3N316413	Large Free Range Eggs	1.20	±	0.15	0.24	±	0.04	1.44	±	0.15	1.19	±	0.14	0.16	±	0.03	1.35	±	0.16
3N316414	Free Range Eggs	0.60	±	0.07	0.16	±	0.03	0.76	±	0.08	0.59	±	0.07	0.02	±	0.00	0.61	±	0.07

3N316415	Free Range Eggs	0.18	±	0.02	0.25	±	0.04	0.43	±	0.05	0.13	±	0.02	0.16	±	0.03	0.29	±	0.04
4N046001	Rapeseed Oil	0.14	±	<0.01	0.12	±	0.02	0.26	±	0.03	0	±	-	0	±	-	0	±	-
4N046002	Vegetable Oil	0.11	±	<0.01	0.10	±	0.01	0.21	±	0.02	0	±	-	0	±	-	0	±	-

Concentrations (ng WHO-TEQ/kg fat basis) of dioxins and dioxin-like PCBs in UK produced foods

		Concentrations (ng WHO-TEQ/kg fat basis)																	
		<i>Upper bound</i>									<i>Lower bound</i>								
Sample code	Description	Dioxins			PCBs			DX+PCBs			Dioxins			PCBs			DX+PCBs		
4n046003	Vegetable Oil	0.12	±	<0.01	0.10	±	0.01	0.22	±	0.02	<0.01	±	<0.01	0	±	-	<0.01	±	<0.01
4N046004	Neutral Taste' Cod Liver Oil	0.23	±	0.03	1.24	±	0.19	1.47	±	0.15	0.07	±	<0.01	1.19	±	0.18	1.26	±	0.15