A. HBCD ISOMER SPECIFIC ANALYSIS IN DIFFERENT TISSUES[1]

Liver (All ppb ww)	alpha	beta	gamma	% Lipid, n
Cormarant (ug/kg ww)	21	3	2	% Lipid not stated
	6	1	2	
	33	1	1	
	7	0.3	0	
	2	0	0	
H. Porpoise (ng/g ww)	2400	0	0	36% lipid, n=1
H. Seal (ng/g ww)	0	0	0	2% lipid, n=2 or 3
Muscle or Fillet (All ppb ww)				
Fish				
Whiting, UK (ug/kg ww)				
	506	247	283	% Lipid not staed
	81	61	149	
	0	0	0	
Whiting, Netherlands (ng/g ww)				
	0	0	0	0.6% Lipid, n=3
Whitefish, Switzerland, (ng/g lw)				
	210	0	0	2.6%., pool of 10
	100	0	0	3.8%, pool of 10
	66	0	0	1.5%, pool of 10
	54	0	0	7.2%, pool of 10
Avian				
Sparrow Hawk (ug/kg ww)				
	61	0	0	2.6% Lipid
	0	8.1	19	1.3
	0	9.4	11	2.2
	2.6	0	0	3.1
	13	26	150	1
	0	7.1	0	0.8
	4.8	0	0	1
	2.6	0	0	1.1
	0	9.2	0	1
	0	0	0	0 – 8.5% LIPID, n=60
Egg, Avian (ug/kg ww)				

[1] Data from draft EU Risk Assessment 2003, de Boer's bird study 2004, Gerecke 2003

Falcon				
	38	0	0	7
	72	0	0	11.1
	22	0	0	7.7
	0	9.2	0	0.8
	13	0	0	7.3
	5.1	0	0	7.2
	0	3.4	4.6	6.4
	28	0	0	5.5
	30	13	12	7.1
	0	8.9	0	6.3
	15	0	5.5	6.3
	27	0	0	4.2
	20	0	0	5.0
	0	0	0	0.8-17.1; n=40
Blubber (All ppb ww)				
Porpoise (ug/kg ww)	298	302	317	% Lipid not stated, n=5 f
	315	2	5	
	53	1	0	
	89	0.4	0	
	0	0	0	
H. Porpoise (ng/g ww)	3500	0	0	90% Lipid, n=4
	410	0	0	
	6400	0	0	
	800	0	0	
H. Seal (ng/g ww)	2000	0	0	70% Lipid, n=2
	0	0	0	
Eel (whole body) (ug/kg ww)				
	0	0	0	
	0	0	0	
	0	0	0	
	0	0	0	
	0	0	0	
	0	0	0	
	0	0	0	
	0	0	0	
	25	5	11	
	25	0	8	

5	0	0
0	0	0
22	21	1
2	0	0
5	0	0
3	0	0
0	0	0
0	0	0
52	0	12
36	0	8
28	0	7
8	0	0
14	0	0.4
17	0	15
2	0	0
4	0	0
8	0	10

B. HBCD ISOMER SPECIFIC ANALYSIS OF WHOLE ORGANISMS[2]

	Alpha	Beta	Gamma	%Lipid, n
Lake Trout, Lake Ontario, whole fish (ng/g ww), n=5				
	1	0	0.3	11 % lipid
	0.4	0	0.07	14% lipid
	1.2	0	0.26	9 % lipid
	0.6	0	0.1	15 % lipid
	3.8	0	0.7	14% lipid
Rainbow Smelt, Lake Ontario, composites of whole fish (ng/g ww)				
	0.3	0	0.04	1.4% lipid, n=5 fish
	0.2	0	0.04	1.6% lipid, n=5 fish
	0.2	0	0.03	1% lipid, n=20 fish
Slimy sculpin, Lake Ontario, composites of whole fish (ng/g ww)				
	0.1	0	0.02	0.9, n=15
	0.4	0	0.1	3%, n=10
	0.4	0	0.1	2%, n=10
Alewife, Lake Ontario, composites of whole fish (ng/g ww)				
	0.15	0	0.02	3.5% lipid, n=5
	0.12	0	0.01	5.5% lipid, n=5
	0.08	0	0.01	1.5% lipid, n=5

[2] Data from Tomy et al 2004 re Lake Ontario, and de Boer re North Sea.

Mysis, Lake Ontario, composite of whole organisms (ng/g ww)				
	0.07	0	0.02	3.1 % lipid, n>100
	0.04	0	0.01	3.8% lipid, n>100
Diporeia, Lake Ontario, composite of whole organisms (ng/g ww)				
	0.06	0	0.03	1.7%lipid, n>100
	0.05	0	0.02	1%lipid, n>100
Plankton, Lake Ontario, composite of whole organisms (ng/g ww)				
	0.04	0	0.03	0.6% lipid
	0.02	0	0	0.2% lipid
Whelk, North Sea (ng/g ww)				
	0	0	0	2.4%
	0	0	0	1.8
	0	0	0	1.5
Sea Star, North Sea (ng/g ww)				
	0	0	0	3.5%
	0	0	0	7.5
	0	0	0	7.6
Hermit Crab, North Sea (ng/g ww)				
	0	0	0	7.4%
	0	0	0	6.7
	0	0	0	8.5
	0	0	0	10.6
	0	0	0	9
	0	0	0	7.3
	0	0	0	9.5
	0	0	0	14.1
	0	0	0	9.8

C. HBCD Isomer Specific Analysis: Sewage Treatment Plants[3]

	Alpha	Beta	Gamma	
Burnham, UK				
Influent dissolved phase	7.9	12.5	3.2	ng/L
Influent particulate phase	0	29.4	0	ug/kg dw
Sludge	132	458	666	ug/kg dw
Effluent dissolved phase	0	0	0	ng/L
Effluent particulate phase	0	0	0	ug/kg dw
Latchingdon, UK				
Influent dissolved phase	0	0	9.1	
Influent particulate phase	0	0	2.3	
Sludge	205	321	432	
Effluent dissolved phase	0	0	0	
Effluent particulate phase	0	0	0	

[3] All data from draft EU Risk Assessment.

Wickford, UK				
Influent dissolved phase	0	0	4.6	
Influent particulate phase	0	0	0	
Sludge	89.6	112	329	
Effluent dissolved phase	0	0	0	
Effluent particulate phase	0	0	0	
S. Woodham Ferrers, UK				
Influent dissolved phase	0	0	0	
Influent particulate phase	0	0	0	
Sludge	233	547	798	
Effluent dissolved phase	0	0	0	
Effluent particulate phase	0	0	0	
Chelmsford, UK				
Influent dissolved phase	0	0	4.3	
Influent particulate phase	0	0	0	
Sludge	541	897	1245	
Effluent dissolved phase	0	0	0	
Effluent particulate phase	0	0	0	
STP1, Netherlands				
Influent	670	0	0	ng/L
Sludge	0	0	0	ug/kg dw
Effluent	0	0	0	ng/L
STP2, Netherlands				
Influent	3800	0	0	
Sludge	0	0	48	
Effluent	9	0	8.7	
STP3, Netherlands				
Influent	40	0	0	
Sludge	15	0	5.4	
Effluent	0	0	5.1	
STP4, Netherlands				
Influent	75	0	180	
Sludge	440	120	760	
Effluent	0	0	0	
STP5, Netherlands				
Influent	0	0	0	
Sludge	-	-	-	
Effluent	1.4	0	0	
STP6, Netherlands				
Sludge	7.6	0	20	
STP7, Netherlands				
Sludge	3.5	0	3.6	
STP8, Netherlands				
Sludge	7.4	0	13	
STP9, Netherlands				
Sludge	0	0	0	
STP10, Netherlands				
Sludge	0	0	0	
Portlaoise, Ireland				
Sludge	280	349	604	
Sludge	372	523	750	
Clonmel, Ireland				
Sludge	3.9	0	149	
Sludge	10.1	0.13	258	
Cork, Ireland				
Sludge	2300	1800	3410	

Data from (de Boer *et al.*, 2002) as reported in draft EU Risk Assessment

Population equivalents:

STP 1-4, 7 and 10 high treatment capacity, 200 000 - 750 000

STP 5, 6 and 8 100 000 – 150 000

UK varying from 4 750, Latchingdon, to 143 000, Chelmsford.

D. HBCD ISOMER SPECIFIC ANALYSIS OF SEDIMENT[4] (ug/kg ww)

Scheldt Basin (Europe)

	Alpha	Beta	Gamma
Warmebeek Achel-kluis	0	0	0
Moervaart Daknam	0	0	0
Benede Nete Duffel	0	0	0.5
Grote Beverdijk Lo-R.	0	0	0
Ijzer Nieuwpoort	0	0	0.9
Durne Lokeren	0	0	0
Leie Wervik	0	0	0
Leie Wevelgem	0	0	0
Leie Oselgem	0	0	0
Leie St Martens	7	0	31
Scheldt Doel	0	0	0
Scheldt Grens	0	0	82
Scheldt Oudenaarde	180	60	710
Antwerp Kruisschansbr.	0	0	0
Scheldt Kastelt	0	0	5
Scheldt Kennedyt.	0.3	0	0
Dender Appels	0.3	0	0
Dender Ninovet	0	0	0.2

Dutch Rivers (Europe)

Waal Tiel	0	0	0
Rhine Lobith	0	4	4
Hollans Diep	0	0	10
Haringvliet West	0	0	6
Haringvliet East	0	0	0
Nieuwe Mervede	2	0	1
Meuse Eijsden	0	0	0

[4] All data from draft EU Risk Assessment.

Meuse Keizersveer	3	0	0
Roer Vlodrop	0	0	0

Data from (de Boer *et al.*, 2002) as reported in draft EU RA

UK	42	16-980	12-550	ppb dw
Ireland	0.3	0	0-30	
Dublin Bay, Ireland	0	0-1	0-11	
	0	0	0	
Norway	0-9	0-4	0-79	ng/kg ww

E. HBCD ISOMER SPECIFIC ANALYSIS OF LANDFIL LEACHATE[5]

	Alpha	Beta	Gamma	
UK	0	0	0 ng/L	(dissolved)
UK	0	0	0 ng/L	(particulate)
Netherlands	0-7000	0-13	0-36000 ug/kg dw	
Ireland	0	0	0 ng/L	(dissolved)
Ireland	0	0	0 ng/L	(particulate)