

## Number of survey sites for dioxins and their concentrations by fiscal year

Unit: Air: pg-TEQ/m<sup>3</sup>  
Water: pg-TEQ/L  
Sediment: pg-TEQ/g  
Soil: pg-TEQ/g

environmental mediums	type of survey or site category (water groups)		FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	
Air	all sites	average	0.55	0.23	0.18	0.15	0.13	0.093	0.068	0.059	0.052	
		concentration	0.010	0.0	0.0065	0.0073	0.0090	0.0066	0.0066	0.0083	0.0039	
		range	~ 1.4	~ 0.96	~ 1.1	~ 1.0	~ 1.7	~ 0.84	~ 0.72	~ 0.55	~ 0.61	
		(number of sites)	( 68 )	( 458 )	( 463 )	( 920 )	( 979 )	( 966 )	( 913 )	( 892 )	( 825 )	
	in general	average	0.55	0.23	0.18	0.14	0.14	0.093	0.064	0.058	0.051	
		(number of sites)	( 63 )	( 381 )	( 353 )	( 705 )	( 762 )	( 731 )	( 691 )	( 694 )	( 628 )	
	vicinity of sources	average	0.58	0.20	0.18	0.15	0.13	0.092	0.078	0.063	0.055	
		(number of sites)	( 2 )	( 61 )	( 96 )	( 189 )	( 190 )	( 206 )	( 188 )	( 161 )	( 165 )	
	along roads	average	0.47	0.19	0.23	0.17	0.16	0.091	0.076	0.055	0.054	
		(number of sites)	( 3 )	( 16 )	( 14 )	( 26 )	( 27 )	( 29 )	( 34 )	( 37 )	( 32 )	
Public Water	Water	all sites	average	-	0.50	0.24	0.31	0.25	0.24	0.22	0.21	
			concentration	-	0.065	0.054	0.012	0.0028	0.010	0.020	0.0069	0.0070
			range	-	~ 13	~ 14	~ 48	~ 27	~ 2.7	~ 11	~ 4.6	~ 5.6
			(number of sites)	-	( 204 )	( 568 )	( 2,116 )	( 2,213 )	( 2,207 )	( 2,126 )	( 2,057 )	( 1,912 )
		River	average	-	-	0.40	0.36	0.28	0.29	0.27	0.25	0.24
			(number of sites)	-	-	( 186 )	( 1,612 )	( 1,674 )	( 1,663 )	( 1,615 )	( 1,591 )	( 1,464 )
		Lakes and Reservoirs	average	-	-	0.25	0.22	0.21	0.18	0.20	0.17	0.18
			(number of sites)	-	-	( 63 )	( 104 )	( 95 )	( 102 )	( 99 )	( 100 )	( 89 )
		Sea area	average	-	-	0.14	0.13	0.13	0.092	0.094	0.095	0.082
	(number of sites)		-	-	( 319 )	( 400 )	( 444 )	( 442 )	( 412 )	( 366 )	( 359 )	
	Bottom Sediment	all sites	average	-	8.3	5.4	9.6	8.5	9.8	7.4	7.5	6.4
			concentration	-	0.10	0.066	0.0011	0.012	0.0087	0.057	0.050	0.045
			range	-	~ 260	~ 230	~ 1,400	~ 540	~ 640	~ 420	~ 1,300	~ 510
			(number of sites)	-	( 205 )	( 542 )	( 1,836 )	( 1,813 )	( 1,784 )	( 1,825 )	( 1,740 )	( 1,623 )
		River	average	-	-	5.0	9.2	7.3	8.5	6.3	7.1	5.6
			(number of sites)	-	-	( 171 )	( 1,367 )	( 1,360 )	( 1,338 )	( 1,377 )	( 1,336 )	( 1,241 )
Lakes and Reservoirs		average	-	-	9.8	11	18	13	11	9.4	8.4	
		(number of sites)	-	-	( 52 )	( 102 )	( 85 )	( 86 )	( 89 )	( 90 )	( 79 )	
Sea area		average	-	-	4.9	11	11	14	11	9.0	9.2	
	(number of sites)	-	-	( 319 )	( 367 )	( 368 )	( 360 )	( 359 )	( 314 )	( 303 )		
Ground Water		average	-	0.17	0.096	0.092	0.074	0.066	0.059	0.063	0.047	
		concentration	-	0.046	0.062	0.00081	0.00020	0.011	0.00032	0.0079	0.0088	
		range	-	~ 5.5	~ 0.89	~ 0.92	~ 2.0	~ 2.0	~ 3.2	~ 0.72		
		(number of sites)	-	( 188 )	( 296 )	( 1,479 )	( 1,473 )	( 1,310 )	( 1,200 )	( 1,101 )	( 922 )	
Soil	Total	average	-	6.5	-	6.9	6.2	3.8	4.4	3.1	5.9	
		concentration	-	0.0015	-	0	0	0	0	0	0	
		range	-	~ 61	-	~ 1,200	~ 4,600	~ 250	~ 1,400	~ 250	~ 2,800	
		(number of sites)	-	( 286 )	-	( 3,031 )	( 3,735 )	( 3,300 )	( 3,059 )	( 2,618 )	( 1,782 )	
	in general	average	-	-	-	4.6	3.2	3.4	2.6	2.2	2.0	
		(number of sites)	-	-	-	( 1,942 )	( 2,313 )	( 2,282 )	( 2,128 )	( 1,983 )	( 1,314 )	
	vicinity of sources	average	-	-	-	11	11	4.7	8.4	6.0	17	
		(number of sites)	-	-	-	( 1,089 )	( 1,422 )	( 1,018 )	( 931 )	( 635 )	( 468 )	

(Air)

Note1 This is the result of air environmental monitor investigation result of the execution of the governments under the Air Pollution Control Law (The investigation result of old Environment Agency is included) in fiscal year 1999 from 1997.

Note2 It limits to the sites surveyed twice or more a year including the investigation in summer and winter.

Note3 I-TEF(1988) had been used for the calculation of toxicity equivalent before fiscal year 1998 and WHO-TEF(1998) has been used after fiscal year 1999.

Note4 As a rule, before fiscal year 1998, when the concentration measurement of each isomer is less than minimum determination level of detection, the toxicity equivalent has been calculated as zero.  
After fiscal year 1999, when the concentration measurement of each isomer is less than minimum determination level of detection and it is more than the detection lower bound, toxicity equivalent is calculated as it is. When it is less than the detection lower bound, the toxicity equivalent has been calculated by using the value of 1/2 of the detection lower bound for each isomer.

(Water quality of public waters and groundwater)

Note1 WHO-TEF(1998) has been used for the calculation of toxicity equivalent.

Note2 When the concentration measurement of each isomer is less than minimum determination level of detection and it is more than the detection lower bound, toxicity equivalent is calculated as it is. When it is less than the detection lower bound, the toxicity equivalent has been calculated by using the value of 1/2 of the detection lower bound for each isomer.

(Soil)

Note1 WHO-TEF(1998) has been used for the calculation of toxicity equivalent.

Note2 When the concentration measurement of each isomer is less than minimum determination level of detect, the toxicity equivalent has been calculated as zero.

Note3 The survey has been conducting for about 5 years. Number of survey sites for each year is not same.