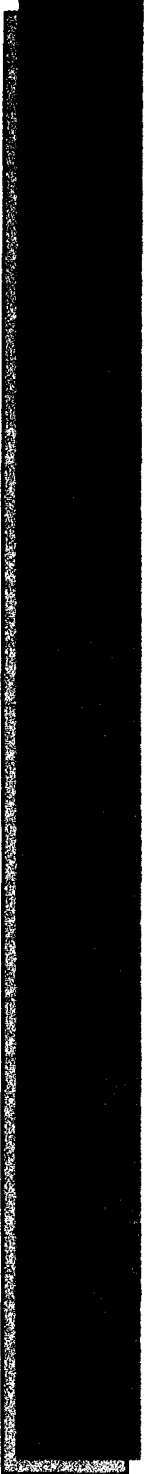


우리나라의 다이옥신 오염 현황

장 윤 석 교수
(포항공대 환경공학부)





대 상 시 설 (소각시설 4 Ton/hr 이하)	Stack #1	Stack #2	Stack #3
	Ng-TEQ/Nm3		
수광산업	71.736	120.832	143.661
마산 한미산업	23.949	30.545	31.010
케이티피	0.009		
새한산업	0.469		
수광산업	3.417		
유천환경개발	34.842		
고화	0.021		
진주특종제지	3.050		
성원제지	5.615		
삼성정밀화학 - ECH	0.013		
동서식품	0.019		
송화제지	1.781		
한창제지	4.150		
고령군청	49.209		
두명제지	9.690		
명성환경	0.465		
우진환경개발	0.273		
공진제 3196부대	0.378		
영석환경개발	5.003		
영양군청	3.497		
삼성정밀화학 - ECH	0.011		
삼성정밀화학 - MC	0.018		
양산 한미산업	12.817		
천제지	1.768		
진주산업	25.966		
평균	20.145		

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PCDD/Fs Levels in municipal waste incinerator (2001)

대상시설 (대형소각시설)	Stack #1	Stack #2	Stack #3
	Ng-TEQ/Nm ³		
양천자원회수시설	0.009		
광명시자원화수시설	0.003	0.004	
부천시삼정동소각시설1	0.004		
부천시삼정동소각시설2	0.012	0.004	0.002
고양시생활소각시설	0.149		
울산시생활소각시설	0.017		
평균	0.023		



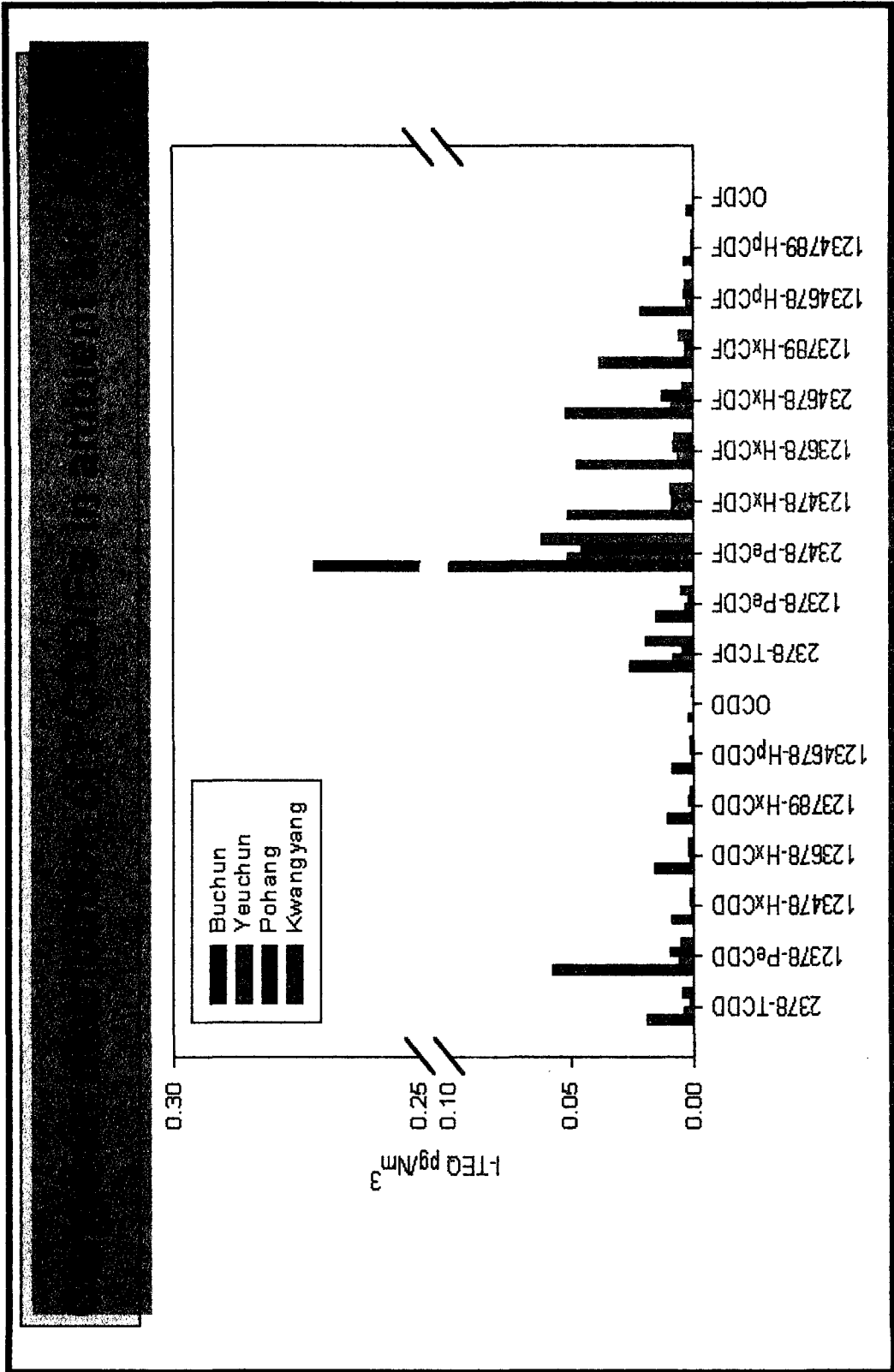
측정 장소	측정 기간				평균 농도 (I-TEQ pg/Nm ³)	측정 기관
	년도	분	여름	가을		
	1999		0.526		0.696	포항공대
	2000	0.561	0.221		0.482	포항공대
	1999			0.121	0.121	포항공대
	2000	0.079			0.079	포항공대
	1999		0.099		0.101	포항공대
	2002				0.065	포항공대
	1999			0.160	0.160	포항공대
	2000	0.082			0.082	포항공대
	2002		0.215		0.215	포항공대
	1999	0.602			0.602	포항공대
	1999		0.522		0.522	포항공대
	1998			0.055	0.055	서울시립대
	1999	0.036		0.030	0.033	서울시립대
	1998			0.203	0.203	서울시립대
	1999	0.286		0.136	0.211	서울시립대

** Reference

Japan ; 0.6 I-TEQ pg/Nm³

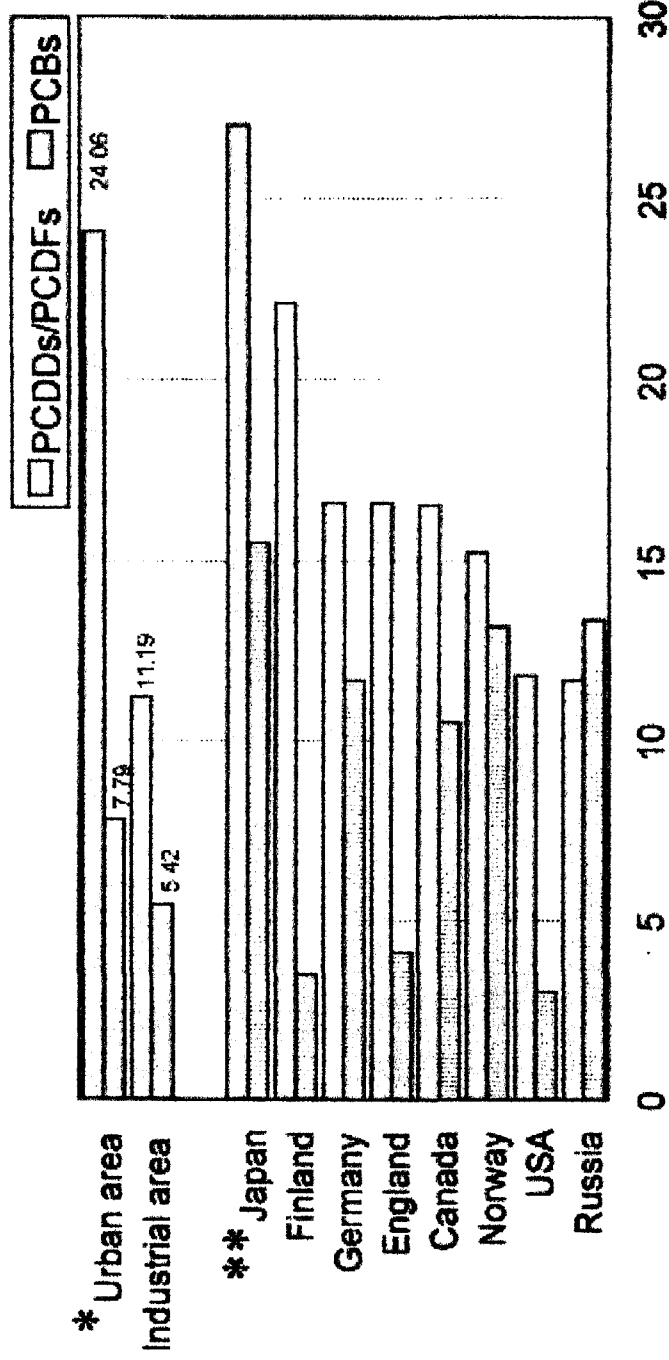
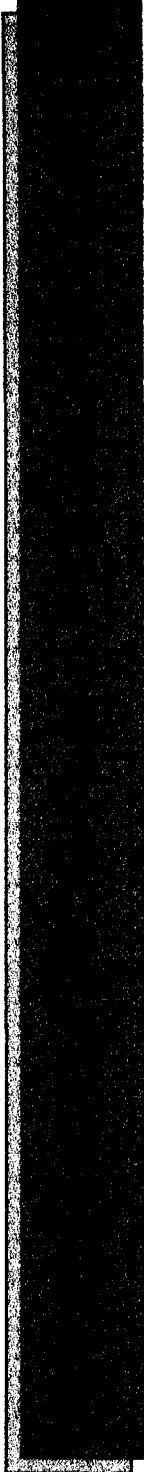
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Sample	Site	Specialty	Number	PCDD/Fs (pg TEQ/g lipid)	Year
* Breast Milk	Seoul	primipara	6	24.05	1998
		mutipara	2	11.19	
	Incheon	primipara	7	8.6	
		mutipara	7	8.6	
Blood	** Sihwa	worker	10	40.26	1999
		resident	10	16.62	
	MSWI	worker	13	10.4	2001
		resident	22	12.04	
	MSWI	worker	9	7.12	2002
		resident	28	11.04	
	IWI	worker	5	45.9	2002
		resident	5	54.66	
		cancer patient	5	52.18	
	*** Adipose tissue	Kyungnam	male	18	19
female			14	16.5	
POSTECH SEAL					
* Chemosphere 47; 1087-1095 (2002)					
** 분식과학회지 14(2):147-158 (2001)					
*** Chemosphere 35(10); 2107-2117					

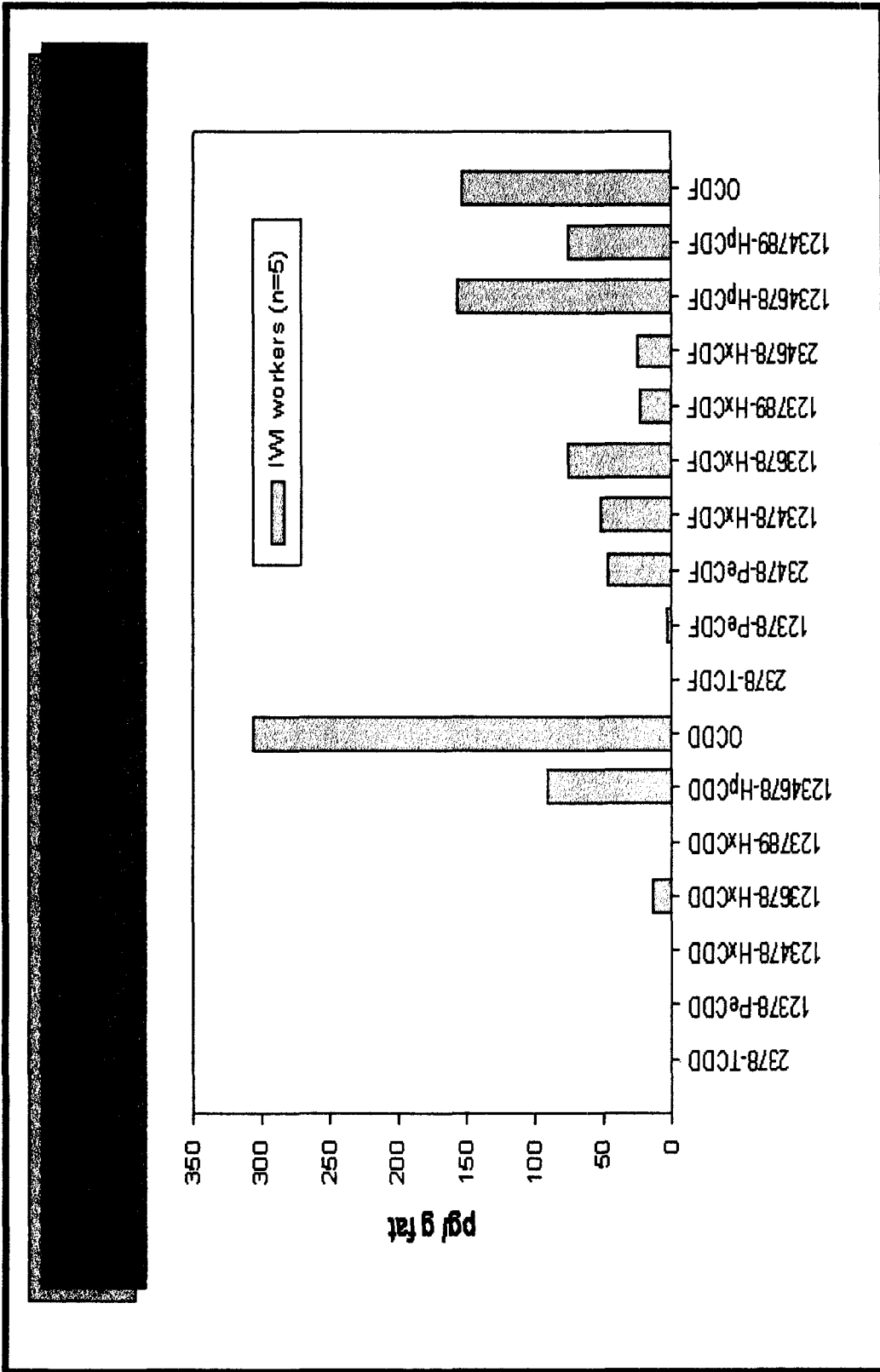
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Dioxin-like compounds conc. in breast milk (TEQ pg/g fat)

* Chemosphere 47;1087-1095 (2002)
** Reg. Toxic. Pharm, 13;228- (1991)

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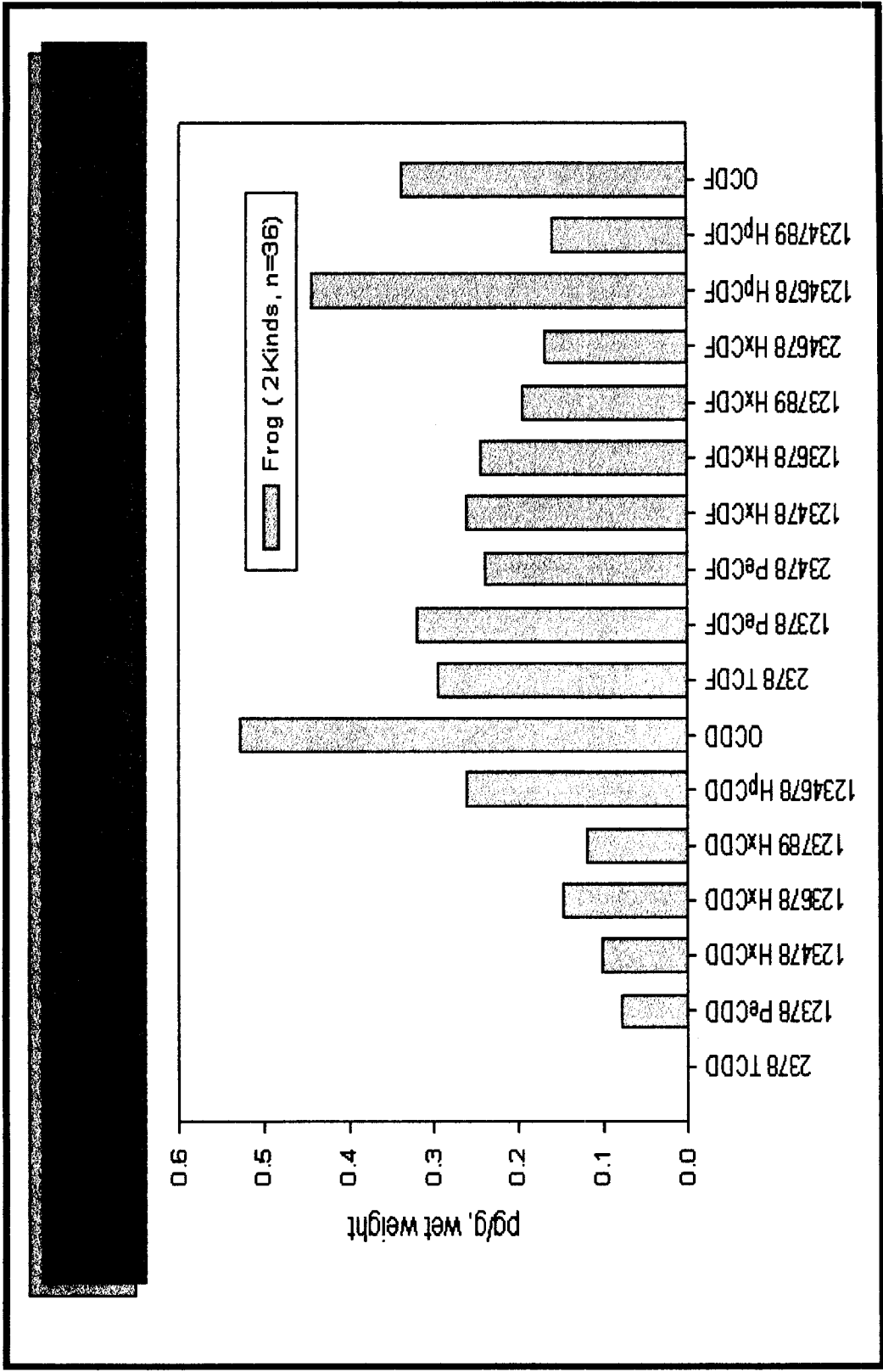


	No	M n	Max	AVG.	
Fish	A	28	0	1.309	0.331
	B	10	0.004	0.743	0.244
	C	8	0.004	0.592	0.198
	D	3	0.187	0.400	0.287
	E	6	0.164	0.410	0.303
	F	2	0.105	0.516	0.310
	G	1	0.082	0.082	0.082
	H	1	0.100	0.100	0.100
	I	1	0.995	0.995	0.995
	J	2	0.451	0.812	0.631
	K	1	0	0	0
Frog	A	29	0	1.258	0.346
	B	7	0	0.474	0.185
Total	99	0	1.309	0.307	

pg-TEQ/9

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	Pigs (n=6)	Poultry(n=6)	Cattle(n=12)	Avg
2,3,7,8-TCDD	0.000	0.000	0.000	0.000
1,2,3,7,8-PeCDD	0.000	0.000	0.030	0.010
1,2,3,4,7,8-HxCDD	0.010	0.030	0.010	0.017
1,2,3,6,7,8-HxCDD	0.020	0.030	0.020	0.023
1,2,3,7,8,9-HxCDD	0.010	0.010	0.010	0.010
1,2,3,4,6,7,8-HpCDD	0.030	0.010	0.010	0.017
OCDD	0.010	0.000	0.000	0.003
2,3,7,8-TCDF	0.010	0.030	0.010	0.017
1,2,3,7,8-PeCDF	0.010	0.010	0.010	0.010
2,3,4,7,8-PeCDF	0.150	0.100	0.060	0.103
1,2,3,4,7,8-HxCDF	0.020	0.030	0.020	0.023
1,2,3,6,7,8-HxCDF	0.100	0.020	0.020	0.047
1,2,3,7,8,9-HxCDF	0.130	0.040	0.030	0.067
2,3,4,6,7,8-HxCDF	0.010	0.040	0.030	0.027
1,2,3,4,6,7,8-HpCDF	0.030	0.010	0.010	0.017
1,2,3,4,7,8,9-HpCDF	0.000	0.000	0.000	0.000
OCDF	0.000	0.000	0.000	0.000
pg I-TEQ/g,wet	0.54	0.36	0.27	0.39

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	pg-TEQ/g	domestic			foreign	
		Kim, J.K.	POSTECH	Choi, D.M.		Kim, Y.J.
Fish	Pollack	0.001				0.270
	Oyster	0.202				
	Anchovy	0.315				
Beef	Mackerel		0.866			
	Imported Domestic	0.014 0.010				0.130 0.272
Pork	Imported	0.098				
	Domestic cooked	0.001	0.058 0.017	0.001		0.110 0.234
Chicken	Imported					
	Domestic	0.043				0.204
Dairy	Milk	0.003		0.024		0.180 0.131
	Cheese		0.845	0.002		0.341
Cereal	Bean(Imported)	0.013				
	Corn(Imported)	0.011				0.250
	Rice	0.012	ND			
	Wheat(Imported)	0.019				
Fruit	Potato	0.006				
	Tangerine	0.006				0.090
	Apples	0.007				
Vegetable	Orange	0.005				
	Radish	0.007				0.140
	Chinese cabbage	0.042				
fast foods	hamburger				0.006	
	fried chicken				0.340	0.160

* Kim J.K. : 1999, * Choi D.M. : 2002, * Kim Y.J. : 2001, * POSTECH : 2002

* J.L. Domingo : Chemosphere, Vol.38, 1999, * A. Schechter : J. Toxicol. Environ. Health, Part A, 2001 pg-TEQ/g

Unit :

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No.	제 조 회 사	농도 (pg I-TEQ/g)	비 고
1	I Com.	3.717	1회구름 (2002.3)
2		2.964	1회구름 (2002.5)
3		4.225	3회구름 (2002.5)
4		2.808	3회구름 (수출용)
5		0.022	9회구름 (2002.5)
6		0.085	일반 (죽염원료)
7	D Com.	0.318	1주일 이상 구름
8		1.275	1주일 이내 구름
9		2.036	일반
10	C Com.	0.042	생활
11		0.056	9회구름
12	H Com.	0.015	9회구름
	평균	1.464	