

Unweighted Results for the Biomonitoring Exposures Study - Expanded

The <u>Biomonitoring Exposures Study (BEST) - Expanded</u> is a continued joint effort between Biomonitoring California and the Kaiser Permanente Northern California (KPNC) Division of Research. Expanded BEST builds upon <u>BEST - Pilot</u> to measure environmental chemical exposures in KPNC members living in California's Central Valley. The summary tables in this document describe the biomonitoring results for participants who took part in the study. These unweighted summaries are not directly applicable to the wider population of Central California due to special emphasis on sampling Hispanics and Asian/Pacific Islanders in the study. To view the weighted summaries, please visit the <u>Biomonitoring California website</u>.

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Environmental Phenols

Measured in Urine

	Indicates		Number of	mber of Geometric mean (95%		Selected F	Percentile	S	Detection	Limit of Detection
Chemical measured	Exposure to	Units	people tested	Confidence Interval)	25th	50th	75th	95th	Frequency	(LOD), wet-weight
Benzophenone-3										
(Oxybenzone)	Benzophenone-3	μg/L	218	73.4 (51.9, 103)	12.5	64.4	479	6870	92.2%	1.00 μg/L
Bisphenol A (BPA)	Bisphenol A	μg/L	218	1.40 (1.19, 1.64)	0.728	1.55	3.25	7.18	96.3%	0.100 μg/L
Butyl paraben	Butyl Paraben	μg/L	218	*	<lod< td=""><td><lod< td=""><td>0.542</td><td>12.7</td><td>33.5%</td><td>0.200 μg/L</td></lod<></td></lod<>	<lod< td=""><td>0.542</td><td>12.7</td><td>33.5%</td><td>0.200 μg/L</td></lod<>	0.542	12.7	33.5%	0.200 μg/L
Ethyl paraben	Ethyl Paraben	μg/L	218	*	<lod< td=""><td><lod< td=""><td>18.0</td><td>183</td><td>47.7%</td><td>1.00 μg/L</td></lod<></td></lod<>	<lod< td=""><td>18.0</td><td>183</td><td>47.7%</td><td>1.00 μg/L</td></lod<>	18.0	183	47.7%	1.00 μg/L
Methyl paraben	Methyl Paraben	μg/L	218	77.4 (59.7, 100)	26.2	95.3	334	994	94.5%	1.00 μg/L
Propyl paraben	Propyl Paraben	μg/L	218	10.9 (8.26, 14.5)	1.19	11.6	56.1	319	76.1%	1.00 μg/L
Triclosan	Triclosan	μg/L	218	12.4 (9.05, 17.0)	2.25	9.11	67.1	851	98.6%	0.100 μg/L

*Geometric mean was not calculated because the chemical was found in less than 65% of the study group

<u>Herbicides</u>

Measured in Urine

					s	elected P	ercentile	5		Limit of Detection
Chemical measured	Indicates Exposure to	Units	Number of people tested	Geometric mean (95% Confidence Interval)	25th	50th	75th	95th	Detection Frequency	(LOD), wet- weight
2,4-Dichlorophenoxyacetic acid (2,4-D)	2 4-D	μg/L	218	0.186 (0.159, 0.217)	0.0828	0.166	0.389	1.53	82.6%	0.0500 μg/L

<u>Metals</u>

Measured in Blood

			Number of	Geometric mean (95%	Selected Percentiles		Detection	Limit of Detection		
Chemical measured	Indicates Exposure to	Units	people tested	Confidence Interval)	25th	50th	75th	95th	Frequency	(LOD), wet-weight
Cadmium	Cadmium	μg/L	315	0.266 (0.249, 0.285)	0.175	0.249	0.393	0.927	100%	0.0111 μg/L
Lead	Lead	µg/dL	315	0.841 (0.776, 0.911)	0.484	0.825	1.38	2.61	100%	0.0109 μg/dL
Manganese	Manganese	μg/L	315	9.55 (9.24, 9.87)	7.91	9.57	11.7	15.9	100%	1.00 μg/L
Mercury	Mercury	μg/L	315	0.826 (0.731, 0.933)	0.437	0.814	1.77	4.88	99.7%	0.0294 μg/L

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Metals

Measured in Urine

	Indicates		Number of	Geometric mean (95%	9	Selected Pe	ercentiles		Detection	Limit of Detection
Chemical measured	Exposure to	Units	people tested	Confidence Interval)	25th	50th	75th	95th	Frequency	(LOD), wet-weight
Arsenic	Arsenic	μg/L	218	11.2 (9.74, 13.0)	5.68	11.4	20.8	73.1	100%	0.0493 μg/L
		µg/g								
Cadmium	Cadmium	creatinine	218	0.242 (0.219, 0.267)	0.151	0.233	0.396	0.901	93.1%	0.0420 μg/L
Cobalt	Cobalt	μg/L	218	0.192 (0.166, 0.223)	0.100	0.182	0.343	1.35	99.1%	0.0113 μg/L
Manganese	Manganese	μg/L	218	*	<lod< td=""><td>0.0655</td><td>0.115</td><td>0.416</td><td>59.6%</td><td>0.0499 μg/L</td></lod<>	0.0655	0.115	0.416	59.6%	0.0499 μg/L
Mercury	Mercury	μg/L	218	0.201 (0.168, 0.241)	0.100	0.222	0.478	1.59	93.6%	0.0163 μg/L
Molybdenum	Molybdenum	μg/L	218	46.7 (41.2, 53.1)	25.2	51.2	90.6	207	100%	0.0736 μg/L
Thallium	Thallium	μg/L	218	0.177 (0.159, 0.196)	0.129	0.199	0.295	0.465	99.1%	0.00982 μg/L
Tungsten	Tungsten	μg/L	218	0.0787 (0.0667, 0.0929)	0.0401	0.0789	0.168	0.563	96.3%	0.00493 μg/L
Uranium	Uranium	μg/L	218	0.00770 (0.00642, 0.00923)	0.00323	0.00775	0.0161	0.0807	86.2%	0.00134 μg/L

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*Geometric mean was not calculated because the chemical was found in less than 65% of the study group

Organochlorine Pesticides

Measured in Serum

	Indicates		Number of	Geometric mean (95%	Se	lected P	ercentil	es	Detection	Limit of Detection
Chemical measured	Exposure to	Units	people tested	Confidence Interval)	25th	50th	75th	95th	Frequency	(LOD), wet-weight
beta-Hexachlorocyclohexane (beta-		ng/g								
HCH)	b-HCH	lipid	217	*	<lod< td=""><td><lod< td=""><td>8.73</td><td>62.9</td><td>47.5%</td><td>0.00800 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>8.73</td><td>62.9</td><td>47.5%</td><td>0.00800 ng/mL</td></lod<>	8.73	62.9	47.5%	0.00800 ng/mL
	para,para-DDT									
Dichlorodiphenyldichloroethane (DDE)	and/or	ng/g								
[para,para isomer]	para,para-DDE	lipid	217	271 (235, 312)	128	234	561	1970	100%	0.0160 ng/mL
Dichlorodiphenyltrichloroethane (DDT)	ortho,para-	ng/g								
[ortho,para isomer]	DDT	lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>4.1%</td><td>0.00800 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>4.1%</td><td>0.00800 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>4.1%</td><td>0.00800 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>4.1%</td><td>0.00800 ng/mL</td></lod<>	4.1%	0.00800 ng/mL
Dichlorodiphenyltrichloroethane (DDT)		ng/g								
[para,para isomer]	para,para-DDT	lipid	217	2.16 (1.96, 2.38)	<lod< td=""><td>1.88</td><td>3.28</td><td>8.86</td><td>70.0%</td><td>0.00800 ng/mL</td></lod<>	1.88	3.28	8.86	70.0%	0.00800 ng/mL
		ng/g								
Hexachlorobenzene (HCB)	НСВ	lipid	217	8.93 (8.50, 9.37)	6.99	8.75	11.3	17.5	100%	0.0106 ng/mL
		ng/g								
Oxychlordane	Chlordane	lipid	217	4.08 (3.61, 4.61)	1.98	4.33	8.01	20.3	85.3%	0.00800 ng/mL
		ng/g								
trans-Nonachlor	Chlordane	lipid	217	7.40 (6.40, 8.55)	3.69	8.11	15.7	38.1	88.0%	0.00800 ng/mL



Organophosphate Pesticides

Measured in Urine

					Selected Percentiles			s		Limit of Detection
Chemical measured	Indicates Exposure to	Units	Number of people tested	Geometric mean (95% Confidence Interval)	25th	50th	75th	95th	Detection Frequency	(LOD), wet- weight
2-Isopropyl-4-methyl-6-										
hydroxypyrimidine (IMPY)	Diazanon	μg/L	218	*	<lod< td=""><td><lod< td=""><td>0.107</td><td>0.849</td><td>38.5%</td><td>0.0500 μg/L</td></lod<></td></lod<>	<lod< td=""><td>0.107</td><td>0.849</td><td>38.5%</td><td>0.0500 μg/L</td></lod<>	0.107	0.849	38.5%	0.0500 μg/L
	Chlorpyrifos									
3,5,6-Trichloro-2-pyridinol (TCPy)	(Chlorpyrifos methyl)	μg/L	218	0.974 (0.878, 1.08)	<lod< td=""><td>1.02</td><td>1.54</td><td>3.44</td><td>75.7%</td><td>0.500 μg/L</td></lod<>	1.02	1.54	3.44	75.7%	0.500 μg/L

*Geometric mean was not calculated because the chemical was found in less than 65% of the study group

Other Pesticides

Measured in Urine

	Indicates		Number of	Geometric mean (95%	Selected Percentiles			S	Detection	Limit of Detection
Chemical measured	Exposure to	Units	people tested	Confidence Interval)	25th	50th	75th	95th	Frequency	(LOD), wet-weight
N,N-Diethyl-3-										
methylbenzamide (DEET)	DEET	μg/L	218	*	<lod< td=""><td><lod< td=""><td>0.122</td><td>0.332</td><td>41.3%</td><td>0.0500 μg/L</td></lod<></td></lod<>	<lod< td=""><td>0.122</td><td>0.332</td><td>41.3%</td><td>0.0500 μg/L</td></lod<>	0.122	0.332	41.3%	0.0500 μg/L

*Geometric mean was not calculated because the chemical was found in less than 65% of the study group

<u>Perchlorate</u>

Measured in Urine

	Indicates		Number of	Geometric mean (95%	Geometric mean (95% Selected Percentiles				Detection	Limit of Detection
Chemical measured	Exposure to	Units	people tested	Confidence Interval)	25th	50th	75th	95th	Frequency	(LOD), wet-weight
Perchlorate	Perchlorate	μg/L	218	2.87 (2.52, 3.28)	1.69	3.00	4.79	16.8	100%	0.0100 μg/L



Perfluoroalkyl and Polyfluoroalkyl Substances (PFASs)

Measured in Serum

					Se	elected Pe	ercentile	s		Limit of Detection (LOD),
Chemical measured	Indicates Exposure to	Units	Number of people tested	Geometric mean (95% Confidence Interval)	25th	50th	75th	95th	Detection	wet- weight
2-(N-Ethyl-perfluorooctane sulfonamido)	Et-PFOSA-	Units	people tested	confidence intervalj	2501	500	7501	3501	Frequency	0.00682
acetic acid [Et-PFOSA-AcOH]	AcOH	ng/mL	337	*	<lod< td=""><td><lod< td=""><td>0.0208</td><td>0.0865</td><td>49.0%</td><td>ng/mL</td></lod<></td></lod<>	<lod< td=""><td>0.0208</td><td>0.0865</td><td>49.0%</td><td>ng/mL</td></lod<>	0.0208	0.0865	49.0%	ng/mL
2-(N-Methyl-perfluorooctane sulfonamido)	Me-PFOSA-						0.0100	0.0000		0.0114
acetic acid [Me-PFOSA-AcOH]	AcOH	ng/mL	337	0.116 (0.104, 0.129)	0.0591	0.117	0.217	0.595	97.6%	ng/mL
· · ·										0.0877
Perfluorodecanoic acid (PFDeA)	PFDeA	ng/mL	337	0.188 (0.173, 0.205)	0.106	0.188	0.305	0.662	82.5%	ng/mL
										0.148
Perfluorododecanoic acid (PFDoA)	PFDoA	ng/mL	337	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>3.3%</td><td>ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>3.3%</td><td>ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>3.3%</td><td>ng/mL</td></lod<></td></lod<>	<lod< td=""><td>3.3%</td><td>ng/mL</td></lod<>	3.3%	ng/mL
										0.0121
Perfluoroheptanoic acid (PFHpA)	PFHpA	ng/mL	337	*	<lod< td=""><td>0.0228</td><td>0.0545</td><td>0.144</td><td>64.7%</td><td>ng/mL</td></lod<>	0.0228	0.0545	0.144	64.7%	ng/mL
										0.0538
Perfluorohexane sulfonic acid (PFHxS)	PFHxS	ng/mL	337	1.03 (0.937, 1.13)	0.615	1.12	1.78	3.57	99.1%	ng/mL
										0.0282
Perfluorononanoic acid (PFNA)	PFNA	ng/mL	337	0.787 (0.726, 0.853)	0.535	0.846	1.26	2.46	99.1%	ng/mL
	2504	, .			1.00	4.65			00.40/	0.0426
Perfluorooctanoic acid (PFOA)	PFOA	ng/mL	337	1.49 (1.36, 1.63)	1.02	1.65	2.42	4.57	99.1%	ng/mL
	DEOC		227		2.24	F 24	0.70	17.0	00.4%	0.0943
Perfluorooctane sulfonic acid (PFOS)	PFOS	ng/mL	337	5.21 (4.77, 5.69)	3.34	5.31	8.70	17.6	99.4%	ng/mL
Perfluorooctane sulfonamide (PFOSA)	PFOSA	ng/ml	337	*	<lod< td=""><td><lod< td=""><td>0.0228</td><td>0.0054</td><td>28.2%</td><td>0.0212 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>0.0228</td><td>0.0054</td><td>28.2%</td><td>0.0212 ng/mL</td></lod<>	0.0228	0.0054	28.2%	0.0212 ng/mL
Fernuorooctane sunonannue (PFOSA)	Prusa	ng/mL	557			<lud< td=""><td>0.0228</td><td>0.0954</td><td>20.270</td><td>0.0371</td></lud<>	0.0228	0.0954	20.270	0.0371
Perfluoroundecanoic acid (PFUA)	PFUA	ng/mL	337	0.106 (0.0958, 0.117)	0.0567	0.112	0.205	0.502	83.4%	ng/mL

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<u>Phthalates</u>

Measured in Urine

			Number of	Geometric mean (95%	Se	Selected Percentiles		Detection	Limit of Detection	
Chemical measured	Indicates Exposure to	Units	people tested	Confidence Interval)	25th	50th	75th	95th	Frequency	(LOD), wet-weight
Mono-benzyl phthalate	Benzylbutyl phthalate									
(MBzP)	(BzBP)	μg/L	218	6.00 (5.13, 7.02)	3.00	6.03	11.9	54.8	100%	0.200 μg/L
Mono-cyclohexyl phthalate	Dicyclohexyl phthalate									
(MCHP)	(DCHP)	μg/L	218	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>0.46%</td><td>0.100 μg/L</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>0.46%</td><td>0.100 μg/L</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>0.46%</td><td>0.100 μg/L</td></lod<></td></lod<>	<lod< td=""><td>0.46%</td><td>0.100 μg/L</td></lod<>	0.46%	0.100 μg/L
Mono-(3-carboxypropyl)										
phthalate [MCPP]	Di-n-octyl phthalate (DnOP)	μg/L	218	1.91 (1.62, 2.24)	0.943	1.77	4.19	16.0	99.1%	0.100 μg/L
Mono-(2-ethyl-5-										
carboxypentyl) phthalate	Di-2-ethylhexyl phthalate									
[MECPP]	(DEHP)	μg/L	218	9.72 (8.51, 11.1)	5.56	10.2	18.6	47.9	100%	0.190 μg/L
Mono-(2-ethyl-5-										
hydroxyhexyl) phthalate	Di-2-ethylhexyl phthalate									
(MEHHP)	(DEHP)	μg/L	218	6.19 (5.37, 7.13)	3.58	6.81	11.8	31.3	99.5%	0.190 μg/L
Mono-2-ethylhexyl	Di-2-ethylhexyl phthalate									
phthalate (MEHP)	(DEHP)	μg/L	218	1.89 (1.60, 2.23)	0.909	2.08	4.31	13.7	93.6%	0.190 μg/L
Mono-(2-ethyl-5-oxohexyl)	Di-2-ethylhexyl phthalate									
phthalate (MEOHP)	(DEHP)	μg/L	218	4.43 (3.86, 5.09)	2.45	4.66	7.96	19.7	99.5%	0.100 µg/L
Mono-ethyl phthalate (MEP)	Diethyl phthalate (DEP)	μg/L	218	52.4 (43.9, 62.6)	21.2	46.1	110	826	100%	0.460 μg/L
Mono-isobutyl phthalate										
(MIBP)	Di-isobutyl phthalate (DIBP)	μg/L	218	7.12 (6.21, 8.16)	3.84	6.71	12.0	38.0	94.0%	1.60 μg/L
	Dibutyl phthalate (DBP),									
Mono-n-butyl phthalate	Benzylbutyl phthalate									
(MnBP)	(BzBP)	μg/L	218	14.3 (12.4, 16.6)	7.74	16.2	27.8	79.7	98.2%	0.910 μg/L





Polybrominated Diphenyl Ethers (PBDEs)

Measured in Serum

				Geometric	Selected Percentiles					
			Number of	mean (95%						
	Indicates		people	Confidence					Detection	Limit of Detection
Chemical measured	Exposure to	Units	tested	Interval)	25th	50th	75th	95th	Frequency	(LOD), wet-weight
BDE 017 (2,2',4-Tribromodiphenyl ether)	BDE 17	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>0%</td><td>0.00770 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>0%</td><td>0.00770 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>0%</td><td>0.00770 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>0%</td><td>0.00770 ng/mL</td></lod<>	0%	0.00770 ng/mL
BDE 028 (2,4,4'-Tribromodiphenyl ether)	BDE 28	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td>2.41</td><td>5.38</td><td>48.8%</td><td>0.00800 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>2.41</td><td>5.38</td><td>48.8%</td><td>0.00800 ng/mL</td></lod<>	2.41	5.38	48.8%	0.00800 ng/mL
BDE 047 (2,2',4,4'-Tetrabromodiphenyl ether)	BDE 47	ng/g lipid	217	20.3 (17.8, 23.2)	9.77	21.7	37.0	119	98.6%	0.0165 ng/mL
BDE 066 (2,3',4,4'-Tetrabromodiphenyl ether)	BDE 66	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>1.4%</td><td>0.00800 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>1.4%</td><td>0.00800 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>1.4%</td><td>0.00800 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>1.4%</td><td>0.00800 ng/mL</td></lod<>	1.4%	0.00800 ng/mL
BDE 085 (2,2',3,4,4'-Pentabromodiphenyl ether)	BDE 85	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td>2.34</td><td>9.2%</td><td>0.00800 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>2.34</td><td>9.2%</td><td>0.00800 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>2.34</td><td>9.2%</td><td>0.00800 ng/mL</td></lod<>	2.34	9.2%	0.00800 ng/mL
BDE 099 (2,2',4,4',5-Pentabromodiphenyl ether)	BDE 99	ng/g lipid	217	4.31 (3.77, 4.92)	2.03	3.84	8.55	27.0	89.4%	0.00898 ng/mL
BDE 100 (2,2',4,4',6-Pentabromodiphenyl ether)	BDE 100	ng/g lipid	217	4.31 (3.76, 4.94)	1.85	4.11	8.89	26.2	86.6%	0.00800 ng/mL
BDE 153										
(2,2',4,4',5,5'-Hexabromodiphenyl ether)	BDE 153	ng/g lipid	217	11.1 (9.73, 12.8)	5.72	10.3	20.0	65.6	93.1%	0.0160 ng/mL
BDE 154										
(2,2',4,4',5,6'-Hexabromodiphenyl ether)	BDE 154	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>3.7%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>3.7%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>3.7%</td><td>0.0160 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>3.7%</td><td>0.0160 ng/mL</td></lod<>	3.7%	0.0160 ng/mL
BDE 183										
(2,2',3,4,4',5',6-Heptabromodiphenyl ether)	BDE 183	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<>	0.5%	0.0160 ng/mL
BDE 196										
(2,2',3,3',4,4',5,6'-Octabromodiphenyl ether)	BDE 196	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<>	0.5%	0.0160 ng/mL
BDE 197										
(2,2',3,3',4,4',6,6'-Octabromodiphenyl ether)	BDE 197	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td>3.81</td><td>9.7%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>3.81</td><td>9.7%</td><td>0.0160 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>3.81</td><td>9.7%</td><td>0.0160 ng/mL</td></lod<>	3.81	9.7%	0.0160 ng/mL
BDE 201										
(2,2',3,3',4,5',6,6'-Octabromodiphenyl ether)	BDE 201	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<>	0.5%	0.0160 ng/mL
BDE 202										
(2,2',3,3',5,5',6,6'-Octabromodiphenyl ether)	BDE 202	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<>	0.5%	0.0160 ng/mL
BDE 203										
(2,2',3,4,4',5,5',6-Octabromodiphenyl ether)	BDE 203	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>0.5%</td><td>0.0160 ng/mL</td></lod<>	0.5%	0.0160 ng/mL
BDE 206										
(2,2',3,3',4,4',5,5',6-Nonabromodiphenyl ether)	BDE 206	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>0.9%</td><td>0.0200 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>0.9%</td><td>0.0200 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>0.9%</td><td>0.0200 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>0.9%</td><td>0.0200 ng/mL</td></lod<>	0.9%	0.0200 ng/mL
BDE 207										
(2,2',3,3',4,4',5,6,6'-Nonabromodiphenyl ether)	BDE 207	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td>4.30</td><td>5.1%</td><td>0.0200 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>4.30</td><td>5.1%</td><td>0.0200 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>4.30</td><td>5.1%</td><td>0.0200 ng/mL</td></lod<>	4.30	5.1%	0.0200 ng/mL
BDE 208										
(2,2',3,3',4,5,5',6,6'-Nonabromodiphenyl ether)	BDE 208	ng/g lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>0.9%</td><td>0.0200 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>0.9%</td><td>0.0200 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>0.9%</td><td>0.0200 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>0.9%</td><td>0.0200 ng/mL</td></lod<>	0.9%	0.0200 ng/mL
BDE 209										
(2,2',3,3',4,4',5,5',6,6'-Decabromodiphenyl ether)	BDE 209	ng/g lipid	190	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.257 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>0.5%</td><td>0.257 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>0.5%</td><td>0.257 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>0.5%</td><td>0.257 ng/mL</td></lod<>	0.5%	0.257 ng/mL



Polycyclic Aromatic Hydrocarbons (PAHs)

Measured in Urine

	Indicates		Number of	of Geometric mean (95% Selected Percentiles				S	Detection	Limit of Detection
Chemical measured	Exposure to	Units	people tested	Confidence Interval)	25th	50th	75th	95th	Frequency	(LOD), wet-weight
1-Hydroxynaphthalene (1-NAP)	Naphthalene	pg/mL	218	1100 (919, 1320)	472	1050	2670	12400	99.1%	25 pg/mL
1-Hydroxyphenanthrene (1-PHEN)	Phenanthrene	pg/mL	218	99.6 (87.0, 114)	60.7	104	182	445	97.7%	10 pg/mL
1-Hydroxypyrene (1-PYR)	Pyrene	pg/mL	218	100 (86.4, 116)	52.0	100	201	556	91.3%	20 pg/mL
2-Hydroxyfluorene (2-FLUO)	Fluorene	pg/mL	218	191 (166, 220)	102	193	357	1150	98.6%	20 pg/mL
2-Hydroxynaphthalene (2-NAP)	Naphthalene	pg/mL	218	3830 (3260, 4500)	1680	4040	10000	22200	100%	20 pg/mL
2-Hydroxyphenanthrene (2-PHEN)	Phenanthrene	pg/mL	218	35.1 (31.0, 39.6)	20.0	37.2	63.6	164	89.9%	10 pg/mL
3-Hydroxyfluorene (3-FLUO)	Fluorene	pg/mL	218	87.9 (75.5, 102)	43.9	77.5	156	844	90.4%	20 pg/mL
3-Hydroxyphenanthrene (3-PHEN)	Phenanthrene	pg/mL	218	53.6 (46.7, 61.6)	31.6	55.9	97.9	278	93.1%	10 pg/mL
9-Hydroxyfluorene (9-FLUO)	Fluorene	pg/mL	218	248 (218, 283)	138	249	459	1210	97.2%	37 pg/mL



Polychlorinated Biphenyls (PCBs)

Measured in Serum

					Se	elected F	Percentil	es			
	Indicates		Number of	Geometric mean (95%					Detection	Limit of Detection	
Chemical measured	Exposure to	Units	people tested	Confidence Interval)	25th	50th	75th	95th	Frequency	(LOD), wet-weight	
PCB 066 (2,3',4,4'-		ng/g									
Tetrachlorobiphenyl)	PCB 066	lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td>1.90</td><td>8.3%</td><td>0.00800 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>1.90</td><td>8.3%</td><td>0.00800 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>1.90</td><td>8.3%</td><td>0.00800 ng/mL</td></lod<>	1.90	8.3%	0.00800 ng/mL	
PCB 074 (2,4,4',5-		ng/g									
Tetrachlorobiphenyl)	PCB 074	lipid	217	*	<lod< td=""><td>1.67</td><td>4.27</td><td>11.6</td><td>52.5%</td><td colspan="2">0.00800 ng/mL</td></lod<>	1.67	4.27	11.6	52.5%	0.00800 ng/mL	
PCB 099 (2,2',4,4',5-		ng/g									
Pentachlorobiphenyl)	PCB 099	lipid	217	2.05 (1.87, 2.25)	<lod< td=""><td>1.83</td><td>3.17</td><td>6.62</td><td>65.4%</td><td colspan="2">0.00800 ng/mL</td></lod<>	1.83	3.17	6.62	65.4%	0.00800 ng/mL	
PCB 101 (2,2',4,5,5'-		ng/g									
Pentachlorobiphenyl)	PCB 101	lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td><lod< td=""><td>3.2%</td><td colspan="2">0.00800 ng/mL</td></lod<></td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td><lod< td=""><td>3.2%</td><td colspan="2">0.00800 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>3.2%</td><td colspan="2">0.00800 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>3.2%</td><td colspan="2">0.00800 ng/mL</td></lod<>	3.2%	0.00800 ng/mL	
PCB 105 (2,3,3',4,4'-		ng/g									
Pentachlorobiphenyl)	PCB 105	lipid	217	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td>2.74</td><td>22.1%</td><td>0.00800 ng/mL</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>2.74</td><td>22.1%</td><td>0.00800 ng/mL</td></lod<></td></lod<>	<lod< td=""><td>2.74</td><td>22.1%</td><td>0.00800 ng/mL</td></lod<>	2.74	22.1%	0.00800 ng/mL	
PCB 118 (2,3',4,4',5-		ng/g									
Pentachlorobiphenyl)	PCB 118	lipid	217	3.17 (2.85, 3.54)	1.82	2.90	5.21	12.0	84.3%	0.00800 ng/mL	
PCB 138 (2,2',3,4,4',5'-		ng/g									
Hexachlorobiphenyl)	PCB 138	lipid	217	6.01 (5.30 <i>,</i> 6.83)	2.92	5.69	13.5	30.2	94.9%	0.00800 ng/mL	
PCB 153 (2,2',4,4',5,5'-		ng/g									
Hexachlorobiphenyl)	PCB 153	lipid	217	12.5 (10.7, 14.4)	5.30	12.0	29.5	73.1	98.2%	0.00800 ng/mL	
PCB 156 (2,3,3',4,4',5-		ng/g									
Hexachlorobiphenyl)	PCB 156	lipid	217	*	<lod< td=""><td>1.98</td><td>4.18</td><td>9.90</td><td>57.1%</td><td>0.00800 ng/mL</td></lod<>	1.98	4.18	9.90	57.1%	0.00800 ng/mL	
PCB 170 (2,2',3,3',4,4',5-		ng/g									
Heptachlorobiphenyl)	PCB 170	lipid	217	4.25 (3.71, 4.86)	1.72	4.28	9.57	21.9	80.6%	0.00800 ng/mL	
PCB 180 (2,2',3,4,4',5,5'-		ng/g									
Heptachlorobiphenyl)	PCB 180	lipid	217	11.8 (10.1, 13.9)	4.43	12.7	31.4	73.8	97.2%	0.00800 ng/mL	
PCB 183 (2,2',3,4,4',5',6-		ng/g									
Heptachlorobiphenyl)	PCB 183	lipid	217	*	<lod< td=""><td>1.63</td><td>2.94</td><td>6.67</td><td>52.1%</td><td>0.00800 ng/mL</td></lod<>	1.63	2.94	6.67	52.1%	0.00800 ng/mL	
PCB 187 (2,2',3,4',5,5',6-		ng/g									
Heptachlorobiphenyl)	PCB 187	lipid	217	3.96 (3.45, 4.54)	1.64	3.70	9.11	21.0	77.4%	0.00800 ng/mL	
PCB 194 (2,2',3,3',4,4',5,5'-		ng/g									
Octachlorobiphenyl)	PCB 194	lipid	217	2.93 (2.58, 3.32)	<lod< td=""><td>2.78</td><td>6.19</td><td>13.6</td><td>66.4%</td><td>0.00800 ng/mL</td></lod<>	2.78	6.19	13.6	66.4%	0.00800 ng/mL	
PCB 203 (2,2',3,4,4',5,5',6-		ng/g									
Octachlorobiphenyl)	PCB 203	lipid	217	2.98 (2.63, 3.37)	<lod< td=""><td>2.70</td><td>6.29</td><td>13.4</td><td>68.2%</td><td>0.00800 ng/mL</td></lod<>	2.70	6.29	13.4	68.2%	0.00800 ng/mL	



Pyrethroid Pesticides

Measured in Urine

					Selected Percentiles			es		Limit of
			Number of	Geometric mean						Detection
			people	(95% Confidence					Detection	(LOD), wet-
Chemical measured	Indicates Exposure to	Units	tested	Interval)	25th	50th	75th	95th	Frequency	weight
	Cyhalothrin, cypermethrin,									
	deltamethrin, fenpropathrin,									
	permethrin, and/or									
3-Phenoxybenzoic acid (3-PBA)	tralomethrin	μg/L	218	0.741 (0.620, 0.886)	0.331	0.800	1.61	5.92	94.0%	0.0500 μg/L
4-Fluoro-3-phenoxybenzoic acid										
(4F-3-PBA)	Cyfluthrin	μg/L	218	*	<lod< td=""><td><lod< td=""><td><lod< td=""><td>0.0936</td><td>15.6%</td><td>0.0500 μg/L</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>0.0936</td><td>15.6%</td><td>0.0500 μg/L</td></lod<></td></lod<>	<lod< td=""><td>0.0936</td><td>15.6%</td><td>0.0500 μg/L</td></lod<>	0.0936	15.6%	0.0500 μg/L
Trans-3-(2,2-dichlorovinyl)-2,2-										
dimethylcyclopropane carboxylic	Cyfluthrin, cypermethrin,			0.488 (0.405,						
acid (Trans-DCCA)	permethrin	μg/L	218	0.588)	0.213	0.434	1.22	6.00	93.1%	0.0500 μg/L