

Unweighted Results for the California Regional Exposure Study, Los Angeles County

The [California Regional Exposure \(CARE\) Study](#) measured and compared environmental chemicals in people from selected regions across the state. In 2018, 430 residents of Los Angeles County participated in the first phase of the study, [CARE-LA](#). All study participants donated blood and urine samples and completed surveys to identify potential sources of exposure to chemicals.

Samples from all CARE-LA participants were tested for ten metals, including arsenic, cadmium, lead, and mercury, and twelve perfluoroalkyl and polyfluoroalkyl substances (PFASs). A subset of 153 participant samples were also measured for 1-nitropyrene, a chemical that shows if a person was exposed to diesel exhaust. In addition, a subset of 60 women’s samples were analyzed for nine phenols, a group of chemicals that are often used in personal care and other consumer products, and a related chemical called triclocarban.

This document contains unweighted biomonitoring results for CARE-LA participants. They are called unweighted results because they have not been adjusted to be representative of the underlying LA County population. Some demographic characteristics were underrepresented in the CARE-LA study while others were overrepresented. Weighted results, which more accurately reflect the LA County population, were generated for metals and PFASs. To view these weighted summaries, please visit the [Biomonitoring California website](#).

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Diesel Exhaust

Measured in Urine

Subset: Subsample of 153 CARE-LA participants

Chemical measured	Indicates Exposure to	Units	Number of people tested	Geometric mean (95% Confidence Interval)	Selected Percentiles				Detection Frequency	Limit of Detection (LOD), wet-weight
					25th	50th	75th	95th		
6-Hydroxy-1-nitropyrene	1-Nitropyrene	pg/L [^]	109	110 (89, 130)	60	120	200	660	90.8%	9.4 pg/L
8-Hydroxy-1-nitropyrene	1-Nitropyrene	pg/L [^]	149	88 (76, 100)	51	91	160	400	87.2%	11.4 pg/L

[^]Concentrations were adjusted for specific gravity using a reference value of 1.017 from NHANES 2007-2008Environmental Phenols

Measured in Urine

Subset: Subsample of 60 women among CARE-LA participants

Chemical measured	Indicates Exposure to	Units	Number of people tested	Geometric mean (95% Confidence Interval)	Selected Percentiles				Detection Frequency	Limit of Detection (LOD), wet-weight
					25th	50th	75th	90th		
Benzophenone-3 (Oxybenzone)	Benzophenone-3	µg/L	60	31.6 (18.4, 54.2)	7.52	22.3	152	513	95.0%	1.00 µg/L
Bisphenol A (BPA)	Bisphenol A	µg/L	60	*	<LOD	<LOD	0.756	1.96	46.7%	0.100 µg/L
Bisphenol F (BPF)	Bisphenol F	µg/L	60	*	<LOD	<LOD	<LOD	0.862	23.3%	0.200 µg/L
Bisphenol S (BPS)	Bisphenol S	µg/L	60	0.382 (0.269, 0.544)	0.106	0.342	1.33	2.42	76.7%	0.100 µg/L
Butyl paraben	Butyl paraben	µg/L	60	*	<LOD	<LOD	<LOD	0.885	16.7%	0.100 µg/L
Ethyl paraben	Ethyl paraben	µg/L	60	*	<LOD	<LOD	3.51	71.4	35.0%	0.500 µg/L
Methyl paraben	Methyl paraben	µg/L	60	15.7 (9.39, 26.2)	4.23	12.7	60.1	291	95.0%	0.500 µg/L
Propyl paraben	Propyl paraben	µg/L	60	2.10 (1.11, 3.97)	<LOD	2.57	9.28	81.3	66.7%	0.200 µg/L
Triclocarban	Triclocarban	µg/L	60	*	<LOD	<LOD	<LOD	0.211	16.7%	0.100 µg/L
Triclosan	Triclosan	µg/L	60	1.67 (0.887, 3.15)	0.237	0.908	8.27	103	81.7%	0.200 µg/L

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

Metals

Measured in Blood

Chemical measured	Indicates Exposure to	Units	Number of people tested	Geometric mean (95% Confidence Interval)	Selected Percentiles				Detection Frequency	Limit of Detection (LOD), wet-weight
					25th	50th	75th	95th		
Cadmium	Cadmium	µg/L	425	0.301 (0.283, 0.320)	0.198	0.292	0.447	0.884	99.3%	0.0750 µg/L
Lead	Lead	µg/dL	425	0.783 (0.739, 0.831)	0.524	0.755	1.18	2.16	100%	0.0250 µg/dL
Manganese	Manganese	µg/L	425	10.3 (9.99, 10.6)	8.21	9.94	12.7	18.7	100%	0.750 µg/L
Mercury	Mercury	µg/L	425	1.05 (0.937, 1.17)	0.442	1.12	2.44	6.17	94.8%	0.125 µg/L

Metals

Measured in Urine

Chemical measured	Indicates Exposure to	Units	Number of people tested	Geometric mean (95% Confidence Interval)	Selected Percentiles				Detection Frequency	Limit of Detection (LOD), wet-weight
					25th	50th	75th	95th		
Antimony	Antimony	µg/L	428	*	<LOD	<LOD	<LOD	0.0957	24.5%	0.0300 µg/L
Arsenic	Arsenic	µg/L	428	8.21 (7.29, 9.26)	3.61	8.37	19.4	66.0	100%	0.100 µg/L
Cadmium	Cadmium	µg/g creatinine	426	0.249 (0.231, 0.267)	0.143	0.242	0.425	0.826	100%	0.0100 µg/L
Cobalt	Cobalt	µg/L	428	0.213 (0.192, 0.237)	0.109	0.226	0.417	1.40	100%	0.0100 µg/L
Manganese	Manganese	µg/L	428	*	<LOD	<LOD	<LOD	0.211	15.2%	0.100 µg/L
Mercury	Mercury	µg/L	428	0.181 (0.159, 0.206)	0.0758	0.215	0.459	1.48	97.7%	0.0100 µg/L
Molybdenum	Molybdenum	µg/L	428	29.1 (26.3, 32.3)	14.6	34.0	59.2	152	100%	0.300 µg/L
Thallium	Thallium	µg/L	428	0.161 (0.148, 0.175)	0.0826	0.182	0.318	0.586	99.8%	0.0100 µg/L
Uranium	Uranium	µg/L	428	*	<LOD	<LOD	0.0207	0.103	49.3%	0.0100 µg/L

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Perfluoroalkyl and Polyfluoroalkyl Substances (PFASs)

Measured in Serum

Chemical measured	Indicates Exposure to	Units	Number of people tested	Geometric mean (95% Confidence Interval)	Selected Percentiles				Detection Frequency	Limit of Detection (LOD), wet-weight
					25th	50th	75th	95th		
2-(N-Ethyl-perfluorooctane sulfonamido) acetic acid [Et-PFOSA-AcOH]	Et-PFOSA-AcOH	ng/mL	425	*	<LOD	<LOD	0.0132	0.0457	31.3%	0.0115 ng/mL
2-(N-Methyl-perfluorooctane sulfonamido) acetic acid [Me-PFOSA-AcOH]	Me-PFOSA-AcOH	ng/mL	425	0.0681 (0.0630, 0.0736)	0.0405	0.0562	0.0942	0.341	100%	0.0114 ng/mL
Perfluorobutane sulfonic acid (PFBS)	PFBS	ng/mL	425	*	<LOD	<LOD	<LOD	<LOD	4.9%	0.0303 ng/mL
Perfluorodecanoic acid (PFDA)	PFDA	ng/mL	425	0.0967 (0.0894, 0.105)	<LOD	0.0891	0.163	0.394	69.2%	0.0560 ng/mL
Perfluorododecanoic acid (PFDoA)	PFDoA	ng/mL	425	*	<LOD	<LOD	<LOD	<LOD	1.6%	0.110 ng/mL
Perfluoroheptanoic acid (PFHpA)	PFHpA	ng/mL	425	*	<LOD	0.0270	0.0499	0.0962	52.5%	0.0256 ng/mL
Perfluorohexane sulfonic acid (PFHxS)	PFHxS	ng/mL	425	0.613 (0.559, 0.672)	0.373	0.680	1.13	2.33	98.8%	0.0177 ng/mL
Perfluorononanoic acid (PFNA)	PFNA	ng/mL	425	0.300 (0.278, 0.323)	0.205	0.324	0.492	0.924	97.2%	0.0424 ng/mL
Perfluorooctanoic acid (PFOA)	PFOA	ng/mL	425	1.04 (0.972, 1.12)	0.727	1.13	1.64	3.06	99.3%	0.0606 ng/mL
Perfluorooctane sulfonic acid (PFOS)	PFOS	ng/mL	425	2.13 (1.92, 2.35)	1.27	2.43	3.98	8.33	97.9%	0.0615 ng/mL
Perfluorooctane sulfonamide (PFOSA)	PFOSA	ng/mL	425	*	<LOD	<LOD	0.0145	0.0481	25.4%	0.0144 ng/mL
Perfluoroundecanoic acid (PFUnDA)	PFUnDA	ng/mL	425	0.0829 (0.0756, 0.0909)	0.0412	0.0842	0.164	0.381	82.4%	0.0285 ng/mL

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