

Lipid-adjusted concentrations (ng/g lipid) of [polybrominated diphenyl ethers \(PBDEs\)](#) in serum samples collected from 101 firefighters in 2010 - 2011 for the [Firefighter Occupational Exposures \(FOX\) Project](#)

PBDE ^{a, b}	Geometric Mean (95% Confidence Interval)	Selected Percentiles				Detection Frequency	Limit of Detection (LOD) range ^c
		25 th	50 th	75 th	95 th		
BDE 17	*	<LOD	<LOD	<LOD	<LOD	1.0%	0.27 – 0.84
BDE 28	1.70 (1.50 – 1.93)	1.17	1.63	2.38	5.09	97.0%	0.24 – 0.76
BDE 47	32.2 (27.8 – 37.5)	19.3	29.9	47.9	150	99.0%	3.22 – 10.1
BDE 66	*	<LOD	<LOD	<LOD	0.635	5.9%	0.29 – 0.90
BDE 85	*	<LOD	<LOD	0.655	1.82	34.7%	0.29 – 0.90
BDE 99	6.19 (5.35 – 7.17)	3.54	5.79	9.12	22.6	90.1%	1.44 – 4.51
BDE 100	5.68 (4.77 – 6.75)	3.31	5.14	8.14	32.7	98.0%	0.43 – 1.3
BDE 153	15.4 (12.9 – 18.2)	9.01	12.9	21.1	63.1	100%	0.44 – 1.4
BDE 154	*	<LOD	<LOD	<LOD	2.71	19.8%	0.57 – 1.8
BDE 183	*	<LOD	<LOD	<LOD	<LOD	5.0%	0.57 – 1.8
BDE 196	*	<LOD	<LOD	<LOD	<LOD	2.0%	0.57 – 1.8
BDE 197	*	<LOD	1.25	1.93	3.84	62.4%	0.57 – 1.8
BDE 201	*	<LOD	<LOD	<LOD	<LOD	5.0%	0.57 – 1.8
BDE 202	*	<LOD	<LOD	<LOD	<LOD	1.0%	0.57 – 1.8
BDE 203	*	<LOD	<LOD	<LOD	<LOD	1.0%	0.57 – 1.8
BDE 206	*	<LOD	<LOD	<LOD	1.99	11.9%	0.72 – 2.2
BDE 207	*	<LOD	1.31	1.72	4.53	50.5%	0.72 – 2.2
BDE 208	*	<LOD	<LOD	<LOD	1.59	7.9%	0.72 – 2.2
BDE 209	*	<LOD	<LOD	28.3	93.7	28.7%	12.6 – 39.4

- a. See page two for [full names of PBDEs](#).
- b. See page three for [explanation of terms](#).
- c. LOD range is reported for lipid-adjusted values.

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

Abbreviations, full chemical names, and Chemical Abstracts Service Registry Numbers (CASRN^a) for [polybrominated diphenyl ethers \(PBDEs\)](#)

Abbreviation	Full Name	CASRN^a
BDE 17	2,2',4-Tribromodiphenyl ether	147217-75-2
BDE 28	2,4,4'-Tribromodiphenyl ether	41318-75-6
BDE 47	2,2',4,4'-Tetrabromodiphenyl ether	5436-43-1
BDE 66	2,3',4,4'-Tetrabromodiphenyl ether	189084-61-5
BDE 85	2,2',3,4,4'-Pentabromodiphenyl ether	182346-21-0
BDE 99	2,2',4,4',5-Pentabromodiphenyl ether	60348-60-9
BDE 100	2,2',4,4',6-Pentabromodiphenyl ether	189084-64-8
BDE 153	2,2',4,4',5,5'-Hexabromodiphenyl ether	68631-49-2
BDE 154	2,2',4,4',5,6'-Hexabromodiphenyl ether	207122-15-4
BDE 183	2,2',3,4,4',5,6-Heptabromodiphenyl ether	207122-16-5
BDE 196	2,2',3,3',4,4',5,6-Octabromodiphenyl ether	446255-38-5
BDE 197	2,2',3,3',4,4',6,6'-Octabromodiphenyl ether	117964-21-3
BDE 201	2,2',3,3',4,5,6,6'-Octabromodiphenyl ether	69887-11-2
BDE 202	2,2',3,3',5,5',6,6'-Octabromodiphenyl ether	67797-09-5
BDE 203	2,2',3,4,4',5,5',6-Octabromodiphenyl ether	337513-72-1
BDE 206	2,2',3,3',4,4',5,5',6'-Nonabromodiphenyl ether	63387-28-0
BDE 207	2,2',3,3',4,4',5,6,6'-Nonabromodiphenyl ether	437701-79-6
BDE 208	2,2',3,3',4,5,5',6,6'-Nonabromodiphenyl ether	437701-78-5
BDE 209	2,2',3,3',4,4',5,5',6,6'-Decabromodiphenyl ether	1163-19-5

a. See page three for [explanation of CASRN](#).

Explanation of Terms

Lipid-adjusted concentrations	Some chemicals measured in an individual's blood are affected by his or her levels of cholesterol and related substances (known collectively as lipids). A lipid-adjusted concentration takes this effect into account and is reported as, for example, nanograms per gram of blood lipid (ng/g).
ng/g lipid	Nanograms of the chemical per gram of blood lipid.
Geometric mean	The geometric mean is an estimated middle value of a set of numbers. This is different than the average, also called the "arithmetic mean." A geometric mean is sometimes calculated when the set of numbers contains some extreme values. For example, the geometric mean of the set of numbers "1, 2, 2, 3, 4, 5, 5, 6, 10, 100" is calculated by <i>multiplying</i> all ten numbers together and then <i>raising the product to the 1/10th power</i> , giving 4.8. To compare, the arithmetic mean is calculated by <i>adding</i> all ten numbers and <i>dividing by 10</i> , giving 14.
95% confidence interval	A <i>sample</i> is a subset of a larger <i>population</i> . A confidence interval for a statistical measure is a range of values estimated from <i>sample</i> data. This interval is likely to include the true value of the statistical measure, such as a geometric mean, for the larger <i>population</i> . A 95% confidence interval for a statistical measure implies that we are 95% confident that the range includes the true <i>population</i> value for this measure.
Percentiles	Percentiles are best explained by an example: if the 75 th percentile is 1.5 µg/L, this means that 75% of participants had levels less than or equal to 1.5 µg/L.
Detection frequency (percent detected)	The percentage of study participants with a measurable level of a chemical in their blood or urine.
Limit of detection (LOD)	The LOD is the lowest level of a chemical that the laboratory can measure in blood or urine.
Limit of detection (LOD) range (for lipid-adjusted levels)	For lipid-adjusted chemicals, there is a range of LODs rather than a single value. This is because the laboratory LOD is divided by each participant's blood lipid level. Since the participants' blood lipid levels differ from one another, these calculations produce a range of LODs.
Below the limit of detection (<LOD)	Below the LOD means that the laboratory could not detect the chemical. This may have been because the chemical was not present at all or because it was present at such a low level that the laboratory could not measure it.
CASRN - Chemical Abstracts Service Registry Number	The CASRN is a unique identification number assigned to individual chemicals by the Chemical Abstracts Service division of the American Chemical Society.