

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

OCP <sup>a, b</sup>	Geometric Mean (95% Confidence Interval)	Selected Percentiles				Detection Frequency	Limit of Detection (LOD) range <sup>c</sup>
		25 <sup>th</sup>	50 <sup>th</sup>	75 <sup>th</sup>	95 <sup>th</sup>		
<i>p,p'</i> -DDT	1.34 (1.20 – 1.50)	<LOD	1.43	2.07	3.08	74.3%	0.42 – 1.3
<i>o,p'</i> -DDT	*	<LOD	<LOD	<LOD	<LOD	4.0%	0.42 – 1.3
<i>p,p'</i> -DDE	177 (161 – 196)	125	182	245	394	100%	0.77 – 2.4
HCB	11.8 (11.3 – 12.4)	10.3	11.7	13.2	17.6	100%	0.61 – 1.9
<i>b</i> -HCH	2.19 (2.00 – 2.41)	1.68	2.23	2.83	4.64	97.0%	0.42 – 1.3
<i>t</i> -NC	7.32 (6.57 – 8.15)	5.07	7.32	10.2	16.6	100%	0.42 – 1.3
OXC	4.08 (3.64 – 4.56)	2.73	4.31	5.80	9.63	99.0%	0.42 – 1.3

- a. See page two for [full names of OCPs](#).
- 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, Chemical Abstracts Service Registry Numbers (CASRN), and information on related compounds for analytes measured**

<b>Abbreviation</b>	<b>Full Name of Analyte</b>	<b>CASRN<sup>a</sup></b>	<b>Indicates exposure to</b>
<b><i>p,p'</i>-DDT</b>	<i>p,p'</i> -Dichlorodiphenyltrichloroethane	50-29-3	<i>p,p'</i> -DDT
<b><i>o,p'</i>-DDT</b>	<i>o,p'</i> -Dichlorodiphenyltrichloroethane	789-02-6	<i>o,p'</i> -DDT
<b><i>p,p'</i>-DDE</b>	<i>p,p'</i> -Dichlorodiphenyldichloroethene	101-80-4	<i>p,p'</i> -DDT and/or <i>p,p'</i> -DDE <sup>b</sup>
<b>HCB</b>	Hexachlorobenzene	118-74-1	HCB
<b><i>b</i>-HCH</b>	<i>beta</i> -Hexachlorocyclohexane	319-85-7	<i>b</i> -HCH
<b><i>t</i>-NC</b>	<i>t</i> -Nonachlor	39765-80-5	Chlordane <sup>c</sup>
<b>OXC</b>	Oxychlordane	27304-13-8	Chlordane <sup>d</sup>

- See page three for [explanation of CASRN](#).
- DDE is both a metabolite and environmental breakdown product of DDT. Finding DDE in serum can indicate exposure to DDT and/or DDE.
- The chlordane commercial mixture contained *t*-nonachlor as a component.
- Chlordane is metabolized to oxychlordane.

## Explanation of Terms

<b>Lipid-adjusted concentrations</b>	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).
<b>ng/g lipid</b>	Nanograms of the chemical per gram of blood lipid.
<b>Geometric mean</b>	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 multiplying all ten numbers together and then raising the product to the 1/10th power, giving 4.8. To compare, the arithmetic mean is calculated by adding all ten numbers and dividing by 10, giving 14.
<b>95% confidence interval</b>	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.
<b>Percentiles</b>	Percentiles are best explained by an example: if the 75th percentile is 1.5 µg/L, this means that 75% of participants had levels less than or equal to 1.5 µg/L.
<b>Detection frequency (percent detected)</b>	The percentage of study participants with a measurable level of a chemical in their blood or urine.
<b>Limit of detection (LOD)</b>	The LOD is the lowest level of a chemical that the laboratory can measure in blood or urine.
<b>Limit of detection (LOD) range (for lipid-adjusted levels)</b>	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.
<b>Below the limit of detection (&lt;LOD)</b>	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.
<b>CASRN - Chemical Abstracts Service Registry Number</b>	The CASRN is a unique identification number assigned to individual chemicals by the Chemical Abstracts Service division of the American Chemical Society.
<b>Metabolite</b>	Metabolites are formed when chemicals, such as environmental contaminants or drugs, are broken down or changed through natural processes in the body. Metabolites are measured in biomonitoring studies as indicators of exposure to certain chemicals.