

Non-dioxin-like Polychlorinated Biphenyls

(The coplanar and mono-ortho-substituted PCBs are reported and specifically discussed in the section titled “Polychlorinated Dibenzo-p-dioxins, Polychlorinated Dibenzofurans, and Coplanar and Mono-ortho-substituted Polychlorinated Biphenyls.”)

General Information

Polychlorinated biphenyls (PCBs) are a class of chlorinated aromatic hydrocarbon chemicals that once were used as electrical insulating and heat-exchange fluids. Peak production occurred in the early 1970s, and production was banned in the United States after 1979. The continued concern about these chemicals is because of their release into and persistence in the environment.

Food is the main source of exposure for the general population. PCBs enter the food chain by a variety of routes, including migration into food from packaging materials, contamination of animal feeds, and accumulation in the fatty tissues of animals. PCBs are found at higher concentrations in fatty foods. Diets that contain PCB-contaminated fats (e.g., milk and dairy products; fish, including whales) will increase exposure to PCBs. The transfer of PCBs from mother to infants via breast milk is another source of exposure. Other sources for the general population include the

release of these chemicals from PCB-containing waste sites and fires involving transformers and capacitors. Additionally, the heat from fires can result in the production of polychlorinated Dibenzo furans from PCBs. In certain occupational settings workers can be exposed to PCBs, including when repairing or manufacturing transformers, capacitors, and hydraulic systems, and when remediating hazardous-waste sites. Both U.S. FDA and OSHA have developed criteria on the allowable levels of these chemicals in foods and the workplace. The U.S. EPA has also set criteria for water and for storing and removing waste that contains PCBs. The Stockholm Treaty, signed in May 2001, will put into effect the most stringent guidelines to date regarding elimination, restriction and unintentional production of PCBs and selected pesticides (Porta and Zumeta, 2002).

Exposure to these chemicals nearly always occurs from mixtures rather than from individual PCBs. The different types of PCB chemicals are known as congeners, compounds that are distinguished by the number of

Table 139. Non-dioxin-like Polychlorinated Biphenyls (PCBs) and their classification

Non-dioxin-like polychlorinated biphenyls (IUPAC number)	CAS number
Polychlorinated biphenyls (general class)	1336-36-3
2,2',5,5'-Tetrachlorobiphenyl (PCB 52)	35693-99-3
2,2',3,4,5'-Pentachlorobiphenyl (PCB 87)	38380-02-8
2,2',4,4',5'-Pentachlorobiphenyl (PCB 99)	38380-01-7
2,2',4,5,5'-Pentachlorobiphenyl (PCB 101)	37680-73-2
2,3,3',4',6'-Pentachlorobiphenyl (PCB 110)	38380-03-9
2,2',3,3',4,4'-Hexachlorobiphenyl (PCB 128)	38380-07-3
2,2',3,4,4',5'-Hexachlorobiphenyl (PCB 138)	35065-28-2
2,3,3',4,4',6'-Hexachlorobiphenyl (PCB 158)	74472-42-7
2,2',3,4',5,5'-Hexachlorobiphenyl (PCB 146)	51908-16-8
2,2',3,4',5',6'-Hexachlorobiphenyl (PCB 149)	38380-04-0
2,2',3,5,5',6'-Hexachlorobiphenyl (PCB 151)	52663-63-5
2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)	35065-27-1
2,2',3,3',4,4',5'-Heptachlorobiphenyl (PCB 170)	35065-30-6
2,2',3,3',4,5,5'-Heptachlorobiphenyl (PCB 172)	52663-74-8
2,2',3,3',4,5',6'-Heptachlorobiphenyl (PCB 177)	52663-70-4
2,2',3,3',5,5',6'-Heptachlorobiphenyl (PCB 178)	52663-67-9
2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180)	35065-29-3
2,2',3,4,4',5',6'-Heptachlorobiphenyl (PCB 183)	52663-69-1
2,2',3,4',5,5',6'-Heptachlorobiphenyl (PCB 187)	52663-68-0
2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)	35694-08-7
2,2',3,3',4,4',5,6'-Octachlorobiphenyl (PCB 195)	52663-78-2
2,2',3,3',4,4',5,6'-Octachlorobiphenyl (PCB 196)	42740-50-1
2,2',3,3',4,5,5',6'-Octachlorobiphenyl (PCB 199)	52663-75-9
2,2',3,4,4',5,5',6'-Octachlorobiphenyl (PCB 203)	52663-76-0
2,2',3,3',4,4',5,5',6'-Nonachlorobiphenyl (PCB 206)	40186-72-9

chlorine atoms and their location on the biphenyl structure. PCB congeners can be divided into the coplanar, the mono-ortho-substituted PCBs, and other PCBs. The significance of this designation is that the coplanar and the mono-ortho-substituted PCBs have dioxin-like toxicologic effects. The coplanar and mono-ortho-substituted PCBs are discussed in the section titled “Polychlorinated Dibenzo-p-dioxins, Polychlorinated Dibenzofurans, and the Coplanar and Mono-ortho-substituted Polychlorinated Biphenyls.” Table 138 gives the nomenclature for the PCBs in this section.

Human health effects that have been reported after investigations of occupational and accidental exposures to PCBs include elevations of serum hepatic enzymes, dermal changes, and inconsistent evidence for altered serum lipid levels and some types of cancer (e.g., breast, liver, biliary) (ATSDR, 2000; Negri et al., 2003; Pavuk, et al., 2003; Charles et al., 2001; Lucena et al., 2001; Charlier et al., 2003; Warner et al., 2002). Reproductive and developmental effects demonstrated in animals may also be of concern. Background levels of PCBs from transplacental transfer after environmental exposure have been reported to be associated with impaired neurological development in newborns and children (Koopman-Essenboom et al., 1997; Jacobson and Jacobson, 1996; Longnecker et al., 2003; Sala et al., 2001), though several other studies have reported that these effects do not persist into school age (Gladen and Rogan, 1991; Gray et al., 2005). PCBs are classified as probable human carcinogens by IARC and are classified by NTP as reasonably anticipated to be carcinogens. Information about external exposure (i.e., environmental levels) and health effects is available from the U.S. EPA’s IRIS Web site at <http://www.epa.gov/iris> and from ATSDR’s Toxicological Profiles at <http://www.atsdr.cdc.gov/toxprofiles>.

Interpreting Levels of Lipid-Adjusted Serum Non-dioxin-like PCBs Reported in the Tables

Lipid-adjusted serum levels of PCBs were measured in a subsample of NHANES participants aged 12 years and older. Participants were randomly selected within the specified age range to be a representative sample of the U.S. population. Measurement of serum PCBs can reflect either recent or past exposure to PCBs. Some PCBs can persist in the body for years after exposure. The contribution of individual PCB congeners to the sum of PCB measurements in the body may vary by exposure source and differences in pharmacokinetics. Some of the PCBs measured may represent exposure to the breakdown of other PCBs in a person’s environment.

The most frequently detected di-ortho-chlorine-substituted PCBs in general populations are 138, 153, and 180 (Patterson et al., 1994; Heudorf et al., 2002). These congeners also were found to contribute a substantial portion of the total PCB concentration observed in pooled specimens representative of a New Zealand population (Bates et al., 2004b) and in a smaller population of Swedish men (Glynn et al., 2000). Because of its predominance, PCB 153 has been used as a marker of exposure for the other PCBs. In 1994, levels of PCBs 138, 153, and 180 in pooled, banked serum were generally three to four times lower than levels reported in 1988 (Longnecker et al., 2000; Patterson et al., 1994). The concentrations of the di-ortho-substituted PCBs are generally higher than the mono-ortho-substituted PCBs, which in turn are higher than the coplanar PCBs (Glynn et al., 2000; Longnecker et al., 2000; Patterson et al., 1994). In a convenience sample of 624 urban Germans aged 0-65 years conducted during 1998 (Heudorf et al., 2002), 95th percentile levels for PCBs 138, 153, and 180 were similar or up to two-fold higher than 95th percentile levels in this *Report*. A representative pooled sampling of New Zealanders showed slightly lower levels than those in this *Report* (Bates et al., 2004b). Heavy fish consumption is considered to contribute to about a two-fold increase in the concentration of these PCB congeners (Patterson et al., 1994).

The tri-ortho-chlorine-substituted PCBs are 177, 178, 183, and 187. The levels for PCB 187 shown in this *Report* are similar to the levels measured in a convenience sample of the general Canadian population in 1994 (Longnecker et al., 2000).

Comparing Adjusted Geometric Means

For comparison of demographic groups in the NHANES 2001-2002 subsample, geometric means of whole weight-based serum measurements were adjusted for age, gender, race/ethnicity, serum cotinine, and lipid level (data not shown). Due to improved limits of detection in NHANES 2001-2002, PCB 138 & 158, PCB 153, and PCB 180 had sufficient detection rates to allow comparison of adjusted geometric means of the demographic groups, which were not possible in the 1999-2000 subsample. For PCB 138 & 158, no differences between the demographic groups were found. For PCB 153, males had slightly higher levels than females, and Mexican Americans had two-fold lower levels than either non-Hispanic blacks or non-Hispanic whites. For PCB 180, males had slightly higher adjusted geometric mean levels than females. It is unknown whether these differences associated with gender or race/ethnicity represent differences in exposure,

pharmacokinetics, or the relationship of dose per body weight.

Finding a measurable amount of one or more PCBs in the blood does not indicate that the levels of the PCBs cause an adverse health effect. These data provide physicians with a reference range so that they can determine whether or not people have been exposed to higher levels of PCBs than levels found in the general population. Whether PCBs at the levels reported here are cause for health concern is not known; more research is needed.

Table 140. 2,2',5,5'-Tetrachlorobiphenyl (PCB 52) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1912
	01-02	*	< LOD	< LOD	< LOD	16.2 (14.3-17.2)	1537
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	664
	01-02	*	< LOD	< LOD	16.2 (<LOD-23.8)	22.9 (16.9-32.3)	291
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1248
	01-02	*	< LOD	< LOD	< LOD	16.0 (13.5-16.9)	1246
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	908
	01-02	*	< LOD	< LOD	< LOD	16.0 (<LOD-17.5)	716
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	1004
	01-02	*	< LOD	< LOD	< LOD	16.5 (14.0-18.2)	821
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	631
	01-02	*	< LOD	< LOD	< LOD	16.9 (<LOD-20.6)	366
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	408
	01-02	*	< LOD	< LOD	< LOD	16.1 (<LOD-20.9)	282
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	716
	01-02	*	< LOD	< LOD	< LOD	16.5 (14.3-17.5)	773

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 141. 2,2',5,5'-Tetrachlorobiphenyl (PCB 52) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1912
	01-02	*	< LOD	< LOD	< LOD	.089 (.081-.097)	1537
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	664
	01-02	*	< LOD	< LOD	.079 (.048-.101)	.104 (.083-.135)	291
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1248
	01-02	*	< LOD	< LOD	< LOD	.086 (.076-.092)	1246
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	908
	01-02	*	< LOD	< LOD	< LOD	.085 (.071-.104)	716
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	1004
	01-02	*	< LOD	< LOD	< LOD	.088 (.083-.094)	821
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	631
	01-02	*	< LOD	< LOD	< LOD	.083 (.051-.102)	366
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	408
	01-02	*	< LOD	< LOD	< LOD	.092 (.068-.112)	282
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	716
	01-02	*	< LOD	< LOD	< LOD	.088 (.081-.099)	773

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 142. 2,2',3,4,5'-Pentachlorobiphenyl (PCB 87) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2298
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1540
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1069
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1229
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	564
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1056

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 143. 2,2',3,4,5'-Pentachlorobiphenyl (PCB 87) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2298
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1540
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1069
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1229
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	564
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1056

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 144. 2,2',4,4',5-Pentachlorobiphenyl (PCB 99) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	13.1 (<LOD-14.6)	19.1 (16.2-20.6)	1897
	01-02	*	< LOD	< LOD	17.6 (15.3-20.8)	26.3 (22.1-30.5)	2281
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	654
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	13.9 (<LOD-16.0)	19.9 (17.0-21.1)	1243
	01-02	*	< LOD	10.8 (<LOD-12.3)	19.4 (16.6-22.3)	28.8 (23.2-32.1)	1523
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	16.7 (13.8-20.5)	905
	01-02	*	< LOD	< LOD	16.7 (13.8-21.0)	24.9 (19.8-30.1)	1061
Females	99-00	*	< LOD	< LOD	13.9 (<LOD-16.2)	20.0 (17.3-23.5)	992
	01-02	*	< LOD	< LOD	18.0 (15.8-22.2)	28.5 (22.5-33.2)	1220
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	624
	01-02	*	< LOD	< LOD	< LOD	13.4 (10.7-17.4)	562
Non-Hispanic blacks	99-00	*	< LOD	< LOD	20.3 (17.0-31.1)	31.5 (22.9-57.4)	400
	01-02	*	< LOD	11.6 (10.6-13.1)	22.4 (18.8-25.8)	28.8 (23.0-37.2)	510
Non-Hispanic whites	99-00	*	< LOD	< LOD	12.5 (<LOD-14.5)	18.1 (14.3-20.8)	715
	01-02	*	< LOD	< LOD	18.5 (15.3-22.3)	28.5 (22.1-32.4)	1046

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 145. 2,2',4,4',5-Pentachlorobiphenyl (PCB 99) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	.085 (.075-.098)	.114 (.102-.145)	1897
	01-02	*	< LOD	< LOD	.117 (.100-.139)	.183 (.149-.208)	2281
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	654
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	.093 (.082-.104)	.126 (.106-.151)	1243
	01-02	*	< LOD	.070 (.063-.079)	.131 (.109-.157)	.193 (.161-.212)	1523
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	.107 (.086-.127)	905
	01-02	*	< LOD	< LOD	.107 (.090-.137)	.161 (.120-.197)	1061
Females	99-00	*	< LOD	< LOD	.098 (.078-.108)	.133 (.102-.165)	992
	01-02	*	< LOD	< LOD	.129 (.106-.157)	.200 (.159-.212)	1220
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	624
	01-02	*	< LOD	< LOD	< LOD	.100 (.068-.120)	562
Non-Hispanic blacks	99-00	*	< LOD	< LOD	.135 (.106-.175)	.213 (.151-.395)	400
	01-02	*	< LOD	.071 (.063-.084)	.129 (.106-.151)	.187 (.139-.232)	510
Non-Hispanic whites	99-00	*	< LOD	< LOD	.085 (.070-.098)	.111 (.094-.145)	715
	01-02	*	< LOD	< LOD	.124 (.098-.159)	.187 (.156-.211)	1046

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 146. 2,2',4,5,5'-Pentachlorobiphenyl (PCB 101) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1929
	01-02	*	< LOD	< LOD	< LOD	< LOD	2307
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	669
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1260
	01-02	*	< LOD	< LOD	< LOD	< LOD	1549
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	918
	01-02	*	< LOD	< LOD	< LOD	< LOD	1075
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	1011
	01-02	*	< LOD	< LOD	< LOD	< LOD	1232
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	634
	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	413
	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	724
	01-02	*	< LOD	< LOD	< LOD	< LOD	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 147. 2,2',4,5,5'-Pentachlorobiphenyl (PCB 101) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1929
	01-02	*	< LOD	< LOD	< LOD	< LOD	2307
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	669
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1260
	01-02	*	< LOD	< LOD	< LOD	< LOD	1549
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	918
	01-02	*	< LOD	< LOD	< LOD	< LOD	1075
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	1011
	01-02	*	< LOD	< LOD	< LOD	< LOD	1232
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	634
	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	413
	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	724
	01-02	*	< LOD	< LOD	< LOD	< LOD	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 148. 2,3,3',4',6-Pentachlorobiphenyl (PCB 110) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2298
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1540
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1069
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1229
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	564
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1056

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 149. 2,3,3',4',6-Pentachlorobiphenyl (PCB 110) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2298
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1540
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1069
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1229
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	564
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1056

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 150. 2,2',3,3',4,4'-Hexachlorobiphenyl (PCB 128) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1927
	01-02	*	< LOD	< LOD	< LOD	< LOD	2298
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	668
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1259
	01-02	*	< LOD	< LOD	< LOD	< LOD	1540
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	917
	01-02	*	< LOD	< LOD	< LOD	< LOD	1069
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	1010
	01-02	*	< LOD	< LOD	< LOD	< LOD	1229
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	636
	01-02	*	< LOD	< LOD	< LOD	< LOD	564
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	409
	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	725
	01-02	*	< LOD	< LOD	< LOD	< LOD	1056

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 151. 2,2',3,3',4,4'-Hexachlorobiphenyl (PCB 128) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1927
	01-02	*	< LOD	< LOD	< LOD	< LOD	2298
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	668
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1259
	01-02	*	< LOD	< LOD	< LOD	< LOD	1540
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	917
	01-02	*	< LOD	< LOD	< LOD	< LOD	1069
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	1010
	01-02	*	< LOD	< LOD	< LOD	< LOD	1229
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	636
	01-02	*	< LOD	< LOD	< LOD	< LOD	564
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	409
	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	725
	01-02	*	< LOD	< LOD	< LOD	< LOD	1056

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 152. 2,2',3,4,4',5' and 2,3,3',4,4',6-Hexachlorobiphenyl (PCB 138 & 158) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	49.2 (42.9-55.8)	70.8 (59.8-82.7)	1930
	01-02	19.9 (18.0-22.0)	20.0 (18.0-22.8)	40.4 (35.3-44.9)	70.1 (61.8-78.8)	94.6 (82.5-107)	2293
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	669
	01-02	*	< LOD	< LOD	17.0 (13.7-20.2)	23.1 (17.7-41.2)	748
20 years and older	99-00	*	< LOD	< LOD	54.7 (47.4-60.8)	72.8 (66.0-88.9)	1261
	01-02	23.3 (21.1-25.8)	23.9 (21.4-26.8)	44.6 (40.4-49.2)	73.8 (66.2-83.0)	99.5 (88.7-109)	1545
Gender							
Males	99-00	*	< LOD	< LOD	47.2 (<LOD-55.7)	68.2 (55.7-83.8)	918
	01-02	20.1 (17.9-22.6)	20.4 (17.5-23.5)	39.2 (32.2-46.0)	68.6 (58.1-82.5)	94.5 (77.8-109)	1066
Females	99-00	*	< LOD	< LOD	52.8 (44.7-61.2)	72.0 (61.1-88.4)	1012
	01-02	19.7 (17.8-21.7)	20.2 (18.2-23.1)	41.8 (37.5-45.9)	69.6 (63.4-78.5)	93.9 (80.2-109)	1227
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	636
	01-02	*	< LOD	18.6 (13.6-23.4)	33.3 (26.5-44.2)	51.6 (42.3-57.6)	559
Non-Hispanic blacks	99-00	*	< LOD	< LOD	72.1 (61.7-89.4)	122 (86.5-185)	412
	01-02	22.3 (19.3-25.6)	21.8 (18.4-27.1)	46.5 (38.0-55.6)	91.5 (70.1-112)	122 (91.5-169)	513
Non-Hispanic whites	99-00	*	< LOD	< LOD	49.3 (41.4-55.8)	70.1 (55.7-85.2)	727
	01-02	21.5 (19.2-24.0)	21.9 (19.4-24.8)	43.0 (37.7-48.0)	70.6 (62.3-79.7)	96.1 (79.1-110)	1057

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 153. 2,2',3,4,4',5' and 2,3,3',4,4',6-Hexachlorobiphenyl (PCB 138 & 158) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	.338 (.301-.369)	.457 (.385-.532)	1930
	01-02	.122 (.110-.135)	.124 (.112-.139)	.265 (.231-.292)	.457 (.405-.508)	.649 (.558-.698)	2293
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	669
	01-02	*	< LOD	< LOD	.085 (.064-.107)	.113 (.086-.205)	748
20 years and older	99-00	*	< LOD	< LOD	.357 (.323-.385)	.489 (.399-.556)	1261
	01-02	.148 (.133-.163)	.152 (.136-.166)	.292 (.264-.323)	.505 (.453-.554)	.676 (.605-.718)	1545
Gender							
Males	99-00	*	< LOD	< LOD	.323 (.286-.370)	.422 (.371-.528)	918
	01-02	.125 (.112-.140)	.125 (.111-.139)	.262 (.228-.292)	.456 (.374-.542)	.627 (.509-.711)	1066
Females	99-00	*	< LOD	< LOD	.344 (.303-.373)	.485 (.385-.540)	1012
	01-02	.119 (.107-.132)	.123 (.111-.143)	.265 (.231-.294)	.457 (.418-.496)	.656 (.588-.703)	1227
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	636
	01-02	*	< LOD	.114 (.089-.151)	.233 (.173-.334)	.349 (.267-.431)	559
Non-Hispanic blacks	99-00	*	< LOD	< LOD	.473 (.362-.666)	.828 (.525-1.22)	412
	01-02	.125 (.108-.146)	.129 (.093-.157)	.286 (.231-.347)	.546 (.424-.675)	.764 (.564-1.06)	513
Non-Hispanic whites	99-00	*	< LOD	< LOD	.339 (.296-.371)	.438 (.372-.532)	727
	01-02	.133 (.119-.149)	.136 (.119-.156)	.280 (.254-.303)	.464 (.420-.527)	.647 (.548-.717)	1057

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 154. 2,2',3,4',5,5'-Hexachlorobiphenyl (PCB 146) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	13.3 (<LOD-15.2)	1923
	01-02	*	< LOD	< LOD	11.0 (<LOD-12.4)	15.3 (13.6-16.9)	2299
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	667
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	< LOD	14.2 (<LOD-17.1)	1256
	01-02	*	< LOD	< LOD	11.8 (10.7-13.5)	16.5 (14.6-17.9)	1541
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	915
	01-02	*	< LOD	< LOD	11.0 (<LOD-12.9)	15.3 (12.9-17.2)	1069
Females	99-00	*	< LOD	< LOD	< LOD	13.4 (<LOD-16.3)	1008
	01-02	*	< LOD	< LOD	11.0 (<LOD-12.2)	15.2 (13.2-17.3)	1230
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	633
	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	99-00	*	< LOD	< LOD	16.9 (13.4-22.9)	28.1 (20.2-42.2)	412
	01-02	*	< LOD	< LOD	16.6 (12.7-21.4)	23.8 (16.9-31.6)	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	723
	01-02	*	< LOD	< LOD	10.8 (<LOD-12.0)	15.2 (12.8-16.8)	1054

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 155. 2,2',3,4',5,5'-Hexachlorobiphenyl (PCB 146) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	.082 (.074-.101)	1923
	01-02	*	< LOD	< LOD	.073 (.067-.082)	.104 (.092-.118)	2299
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	667
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	< LOD	.090 (.077-.116)	1256
	01-02	*	< LOD	< LOD	.079 (.071-.087)	.112 (.100-.123)	1541
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	915
	01-02	*	< LOD	< LOD	.071 (.061-.083)	.102 (.090-.123)	1069
Females	99-00	*	< LOD	< LOD	< LOD	.085 (.074-.114)	1008
	01-02	*	< LOD	< LOD	.073 (.066-.083)	.112 (.089-.121)	1230
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	633
	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	99-00	*	< LOD	< LOD	.101 (.082-.129)	.175 (.117-.274)	412
	01-02	*	< LOD	< LOD	.103 (.079-.133)	.148 (.114-.195)	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	723
	01-02	*	< LOD	< LOD	.071 (.066-.081)	.100 (.087-.115)	1054

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 156. 2,2',3,4',5',6-Hexachlorobiphenyl (PCB 149) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2307
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1549
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1075
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1232
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 158. 2,2',3,4',5',6-Hexachlorobiphenyl (PCB 149) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2307
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1549
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1075
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1232
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 159. 2,2',3,5,5',6-Hexachlorobiphenyl (PCB 151) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2307
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1549
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1075
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1232
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 160. 2,2',3,5,5',6-Hexachlorobiphenyl (PCB 151) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2307
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1549
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1075
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1232
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 161. 2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	77.8 (70.2-87.3)	112 (91.8-130)	1926
	01-02	27.2 (24.7-30.1)	30.1 (26.1-34.1)	57.7 (52.1-63.2)	94.7 (86.5-104)	126 (107-142)	2306
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	668
	01-02	*	< LOD	12.4 (11.1-14.1)	21.2 (17.4-26.7)	30.3 (23.1-64.7)	757
20 years and older	99-00	*	< LOD	< LOD	83.2 (75.9-91.8)	122 (98.7-139)	1258
	01-02	32.6 (29.5-36.1)	35.0 (31.1-39.0)	62.8 (57.6-68.0)	99.5 (90.7-110)	132 (116-146)	1549
Gender							
Males	99-00	*	< LOD	< LOD	75.0 (66.7-86.2)	111 (87.7-128)	917
	01-02	28.5 (25.5-32.0)	31.5 (26.7-35.2)	57.7 (48.2-65.5)	97.5 (82.1-110)	124 (104-146)	1074
Females	99-00	*	< LOD	< LOD	79.0 (70.2-92.0)	118 (91.4-142)	1009
	01-02	26.1 (23.6-28.8)	29.0 (25.1-33.4)	57.8 (51.9-62.6)	94.2 (87.8-98.2)	126 (105-145)	1232
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	67.5 (59.5-71.8)	634
	01-02	12.5 (10.8-14.4)	10.9 (<LOD-13.0)	24.2 (18.2-33.9)	47.4 (35.7-58.1)	66.7 (55.2-72.3)	567
Non-Hispanic blacks	99-00	*	< LOD	59.1 (<LOD-82.0)	121 (90.3-159)	176 (130-287)	412
	01-02	30.0 (26.2-34.4)	31.0 (25.8-36.4)	64.5 (54.2-82.7)	126 (97.1-152)	170 (126-246)	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	76.4 (69.3-83.9)	102 (87.7-125)	725
	01-02	29.9 (26.8-33.4)	32.9 (28.7-36.8)	61.2 (55.8-66.7)	96.3 (86.5-109)	126 (104-142)	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 162. 2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	.530 (.493-.561)	.749 (.613-.843)	1926
	01-02	.167 (.151-.185)	.186 (.166-.207)	.378 (.337-.407)	.621 (.563-.693)	.851 (.754-.954)	2306
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	668
	01-02	*	< LOD	.064 (.054-.072)	.104 (.084-.138)	.147 (.111-.311)	757
20 years and older	99-00	*	< LOD	< LOD	.561 (.505-.605)	.786 (.670-.879)	1258
	01-02	.206 (.187-.228)	.218 (.197-.250)	.407 (.379-.446)	.667 (.595-.742)	.898 (.815-1.04)	1549
Gender							
Males	99-00	*	< LOD	< LOD	.531 (.474-.562)	.691 (.576-.846)	917
	01-02	.177 (.159-.198)	.194 (.166-.214)	.380 (.333-.429)	.611 (.506-.726)	.851 (.704-1.04)	1074
Females	99-00	*	< LOD	< LOD	.530 (.480-.592)	.759 (.612-.875)	1009
	01-02	.158 (.142-.175)	.176 (.150-.205)	.375 (.335-.395)	.626 (.565-.712)	.860 (.756-.954)	1232
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	.468 (.384-.543)	634
	01-02	.075 (.063-.089)	.064 (.050-.078)	.153 (.118-.207)	.330 (.269-.415)	.466 (.374-.541)	567
Non-Hispanic blacks	99-00	*	< LOD	.368 (.273-.514)	.749 (.619-.894)	1.27 (.816-1.64)	412
	01-02	.169 (.146-.195)	.179 (.144-.202)	.392 (.331-.486)	.776 (.578-.954)	1.04 (.831-1.43)	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	.519 (.480-.563)	.702 (.583-.846)	725
	01-02	.185 (.165-.207)	.207 (.182-.231)	.393 (.367-.425)	.637 (.563-.720)	.838 (.738-.987)	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 163. 2,2',3,3',4,4',5-Heptachlorobiphenyl (PCB 170) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	23.6 (22.0-25.4)	30.9 (28.1-35.1)	1798
	01-02	*	< LOD	17.5 (15.6-19.3)	26.7 (24.9-29.0)	35.0 (32.4-37.3)	2301
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	645
	01-02	*	< LOD	< LOD	< LOD	< LOD	756
20 years and older	99-00	*	< LOD	< LOD	24.9 (23.3-26.4)	33.9 (29.6-37.5)	1153
	01-02	*	11.1 (<LOD-12.0)	19.1 (17.2-20.9)	28.2 (26.2-30.9)	36.8 (33.4-39.4)	1545
Gender							
Males	99-00	*	< LOD	< LOD	23.8 (22.0-26.3)	32.6 (28.1-37.0)	863
	01-02	*	10.7 (<LOD-11.9)	18.4 (16.3-20.9)	27.9 (24.7-31.9)	36.1 (32.1-38.3)	1073
Females	99-00	*	< LOD	< LOD	22.4 (20.7-25.4)	29.7 (25.8-36.3)	935
	01-02	*	< LOD	16.4 (15.0-17.9)	25.9 (24.0-28.4)	34.0 (30.4-38.1)	1228
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	23.2 (20.3-26.5)	606
	01-02	*	< LOD	< LOD	15.4 (11.1-18.6)	21.1 (17.1-25.1)	565
Non-Hispanic blacks	99-00	*	< LOD	< LOD	30.9 (23.1-36.3)	39.6 (33.7-59.1)	382
	01-02	*	< LOD	18.7 (14.8-23.1)	32.4 (25.5-43.9)	44.1 (32.5-61.7)	514
Non-Hispanic whites	99-00	*	< LOD	< LOD	24.0 (22.0-25.8)	31.0 (26.8-37.3)	658
	01-02	*	10.9 (<LOD-11.8)	18.4 (16.8-20.4)	27.7 (25.4-30.2)	35.0 (32.3-38.1)	1059

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 164. 2,2',3,3',4,4',5-Heptachlorobiphenyl (PCB 170) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	.158 (.141-.183)	.212 (.199-.225)	1798
	01-02	*	< LOD	.114 (.104-.122)	.183 (.167-.202)	.246 (.214-.271)	2301
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	645
	01-02	*	< LOD	< LOD	< LOD	< LOD	756
20 years and older	99-00	*	< LOD	< LOD	.172 (.154-.192)	.221 (.204-.252)	1153
	01-02	*	.070 (.065-.077)	.122 (.114-.133)	.197 (.177-.213)	.254 (.227-.286)	1545
Gender							
Males	99-00	*	< LOD	< LOD	.169 (.140-.200)	.215 (.199-.254)	863
	01-02	*	.067 (.057-.074)	.119 (.107-.134)	.194 (.166-.207)	.245 (.206-.281)	1073
Females	99-00	*	< LOD	< LOD	.149 (.130-.167)	.205 (.186-.229)	935
	01-02	*	< LOD	.110 (.100-.117)	.175 (.157-.196)	.245 (.211-.281)	1228
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	.166 (.126-.187)	606
	01-02	*	< LOD	< LOD	.104 (.082-.125)	.154 (.116-.188)	565
Non-Hispanic blacks	99-00	*	< LOD	< LOD	.188 (.147-.205)	.258 (.194-.372)	382
	01-02	*	< LOD	.112 (.094-.141)	.211 (.151-.271)	.276 (.209-.394)	514
Non-Hispanic whites	99-00	*	< LOD	< LOD	.164 (.139-.197)	.214 (.197-.242)	658
	01-02	*	.067 (.058-.074)	.119 (.112-.129)	.187 (.171-.204)	.247 (.207-.274)	1059

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 165. 2,2',3,3',4,5,5'-Heptachlorobiphenyl (PCB 172) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1901
	01-02	*	< LOD	< LOD	< LOD	< LOD	2199
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	660
	01-02	*	< LOD	< LOD	< LOD	< LOD	679
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1241
	01-02	*	< LOD	< LOD	< LOD	< LOD	1520
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	911
	01-02	*	< LOD	< LOD	< LOD	< LOD	1027
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	990
	01-02	*	< LOD	< LOD	< LOD	< LOD	1172
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	630
	01-02	*	< LOD	< LOD	< LOD	< LOD	519
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	409
	01-02	*	< LOD	< LOD	< LOD	< LOD	494
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	706
	01-02	*	< LOD	< LOD	< LOD	< LOD	1027

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 166. 2,2',3,3',4,5,5'-Heptachlorobiphenyl (PCB 172) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1901
	01-02	*	< LOD	< LOD	< LOD	< LOD	2199
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	660
	01-02	*	< LOD	< LOD	< LOD	< LOD	679
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1241
	01-02	*	< LOD	< LOD	< LOD	< LOD	1520
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	911
	01-02	*	< LOD	< LOD	< LOD	< LOD	1027
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	990
	01-02	*	< LOD	< LOD	< LOD	< LOD	1172
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	630
	01-02	*	< LOD	< LOD	< LOD	< LOD	519
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	409
	01-02	*	< LOD	< LOD	< LOD	< LOD	494
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	706
	01-02	*	< LOD	< LOD	< LOD	< LOD	1027

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 167. 2,2',3,3',4,5',6'-Heptachlorobiphenyl (PCB 177) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1873
	01-02	*	< LOD	< LOD	< LOD	< LOD	2287
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	653
	01-02	*	< LOD	< LOD	< LOD	< LOD	756
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1220
	01-02	*	< LOD	< LOD	< LOD	< LOD	1531
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	887
	01-02	*	< LOD	< LOD	< LOD	< LOD	1065
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	986
	01-02	*	< LOD	< LOD	< LOD	< LOD	1222
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	622
	01-02	*	< LOD	< LOD	< LOD	< LOD	562
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	399
	01-02	*	< LOD	< LOD	< LOD	10.6 (<LOD-12.3)	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	698
	01-02	*	< LOD	< LOD	< LOD	< LOD	1048

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 168. 2,2',3,3',4,5',6'-Heptachlorobiphenyl (PCB 177) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1873
	01-02	*	< LOD	< LOD	< LOD	< LOD	2287
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	653
	01-02	*	< LOD	< LOD	< LOD	< LOD	756
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1220
	01-02	*	< LOD	< LOD	< LOD	< LOD	1531
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	887
	01-02	*	< LOD	< LOD	< LOD	< LOD	1065
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	986
	01-02	*	< LOD	< LOD	< LOD	< LOD	1222
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	622
	01-02	*	< LOD	< LOD	< LOD	< LOD	562
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	399
	01-02	*	< LOD	< LOD	< LOD	.064 (.042-.099)	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	698
	01-02	*	< LOD	< LOD	< LOD	< LOD	1048

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 169. 2,2',3,3',5,5',6-Heptachlorobiphenyl (PCB 178) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1932
	01-02	*	< LOD	< LOD	< LOD	< LOD	2299
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	669
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1263
	01-02	*	< LOD	< LOD	< LOD	< LOD	1541
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	919
	01-02	*	< LOD	< LOD	< LOD	< LOD	1069
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	1013
	01-02	*	< LOD	< LOD	< LOD	< LOD	1230
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	635
	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	415
	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	724
	01-02	*	< LOD	< LOD	< LOD	< LOD	1054

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 170. 2,2',3,3',5,5',6-Heptachlorobiphenyl (PCB 178) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1932
	01-02	*	< LOD	< LOD	< LOD	< LOD	2299
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	669
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1263
	01-02	*	< LOD	< LOD	< LOD	< LOD	1541
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	919
	01-02	*	< LOD	< LOD	< LOD	< LOD	1069
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	1013
	01-02	*	< LOD	< LOD	< LOD	< LOD	1230
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	635
	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	415
	01-02	*	< LOD	< LOD	< LOD	< LOD	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	724
	01-02	*	< LOD	< LOD	< LOD	< LOD	1054

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 171. 2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	37.4 (32.7-41.8)	62.0 (56.6-66.6)	79.0 (72.1-89.2)	1924
	01-02	19.2 (17.4-21.1)	21.8 (19.0-24.6)	42.2 (38.3-47.5)	69.7 (63.7-75.9)	87.0 (83.3-93.0)	2302
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	667
	01-02	*	< LOD	< LOD	12.2 (<LOD-14.8)	21.3 (14.2-26.0)	755
20 years and older	99-00	*	< LOD	41.0 (37.6-45.2)	65.5 (60.6-69.4)	83.8 (75.6-96.1)	1257
	01-02	23.0 (20.8-25.5)	26.4 (22.7-28.5)	46.7 (41.4-51.1)	74.0 (66.7-79.8)	90.7 (85.0-99.5)	1547
Gender							
Males	99-00	*	< LOD	40.5 (34.5-45.0)	65.1 (58.6-71.4)	83.8 (75.8-96.3)	919
	01-02	21.1 (18.8-23.7)	25.1 (21.2-30.0)	46.7 (39.8-51.8)	73.8 (63.2-79.8)	86.9 (78.0-99.4)	1073
Females	99-00	*	< LOD	34.4 (29.8-39.3)	56.7 (52.2-62.6)	74.6 (66.6-90.5)	1005
	01-02	17.5 (15.9-19.3)	18.3 (16.0-21.6)	39.6 (34.8-43.9)	64.0 (57.9-72.0)	87.9 (79.1-98.1)	1229
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	41.7 (33.2-50.5)	56.6 (49.7-63.8)	633
	01-02	*	< LOD	18.0 (11.4-22.2)	36.9 (28.2-45.7)	54.2 (42.2-60.0)	566
Non-Hispanic blacks	99-00	*	< LOD	39.1 (32.2-48.4)	78.4 (64.3-93.7)	117 (89.6-144)	414
	01-02	19.5 (16.5-23.1)	20.7 (16.9-23.8)	48.4 (36.7-57.9)	89.6 (73.7-101)	116 (96.1-167)	514
Non-Hispanic whites	99-00	*	< LOD	39.9 (34.5-45.3)	62.0 (56.5-68.6)	79.0 (71.3-91.4)	719
	01-02	21.4 (19.1-23.9)	24.8 (21.4-27.9)	45.6 (40.2-51.0)	72.3 (63.8-78.0)	87.9 (83.8-94.3)	1059

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 172 2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	.245 (.224-.266)	.414 (.373-.452)	.535 (.493-.604)	1924
	01-02	.118 (.106-.130)	.140 (.120-.155)	.278 (.253-.304)	.458 (.401-.508)	.605 (.541-.692)	2302
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	667
	01-02	*	< LOD	< LOD	.061 (.053-.075)	.092 (.068-.135)	755
20 years and older	99-00	*	< LOD	.266 (.244-.296)	.441 (.407-.482)	.558 (.503-.617)	1257
	01-02	.146 (.131-.162)	.168 (.150-.188)	.302 (.275-.337)	.490 (.429-.555)	.637 (.572-.738)	1547
Gender							
Males	99-00	*	< LOD	.257 (.224-.300)	.459 (.365-.506)	.568 (.501-.648)	919
	01-02	.131 (.117-.147)	.165 (.137-.197)	.296 (.258-.339)	.479 (.405-.554)	.616 (.526-.716)	1073
Females	99-00	*	< LOD	.231 (.195-.266)	.377 (.344-.413)	.510 (.430-.557)	1005
	01-02	.106 (.096-.117)	.113 (.100-.135)	.261 (.228-.281)	.415 (.375-.470)	.604 (.519-.701)	1229
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	.275 (.198-.324)	.390 (.316-.452)	633
	01-02	*	< LOD	.110 (.079-.157)	.259 (.198-.307)	.353 (.279-.419)	566
Non-Hispanic blacks	99-00	*	< LOD	.245 (.188-.298)	.497 (.349-.656)	.727 (.534-1.04)	414
	01-02	.110 (.092-.131)	.119 (.091-.142)	.287 (.215-.345)	.560 (.436-.651)	.719 (.523-1.01)	514
Non-Hispanic whites	99-00	*	< LOD	.263 (.234-.299)	.430 (.377-.470)	.537 (.483-.604)	719
	01-02	.132 (.118-.148)	.160 (.142-.180)	.292 (.262-.327)	.471 (.405-.532)	.617 (.526-.730)	1059

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 173. 2,2',3,4,4',5',6-Heptachlorobiphenyl (PCB 183) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1928
	01-02	*	< LOD	< LOD	< LOD	< LOD	2306
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	668
	01-02	*	< LOD	< LOD	< LOD	< LOD	757
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1260
	01-02	*	< LOD	< LOD	< LOD	< LOD	1549
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	919
	01-02	*	< LOD	< LOD	< LOD	< LOD	1074
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	1009
	01-02	*	< LOD	< LOD	< LOD	< LOD	1232
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	635
	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	413
	01-02	*	< LOD	< LOD	< LOD	12.7 (<LOD-14.9)	514
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	722
	01-02	*	< LOD	< LOD	< LOD	< LOD	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 174. 2,2',3,4,4',5',6-Heptachlorobiphenyl (PCB 183) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1928
	01-02	*	< LOD	< LOD	< LOD	< LOD	2306
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	668
	01-02	*	< LOD	< LOD	< LOD	< LOD	757
20 years and older	99-00	*	< LOD	< LOD	< LOD	< LOD	1260
	01-02	*	< LOD	< LOD	< LOD	< LOD	1549
Gender							
Males	99-00	*	< LOD	< LOD	< LOD	< LOD	919
	01-02	*	< LOD	< LOD	< LOD	< LOD	1074
Females	99-00	*	< LOD	< LOD	< LOD	< LOD	1009
	01-02	*	< LOD	< LOD	< LOD	< LOD	1232
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	< LOD	635
	01-02	*	< LOD	< LOD	< LOD	< LOD	567
Non-Hispanic blacks	99-00	*	< LOD	< LOD	< LOD	< LOD	413
	01-02	*	< LOD	< LOD	< LOD	.082 (.057-.105)	514
Non-Hispanic whites	99-00	*	< LOD	< LOD	< LOD	< LOD	722
	01-02	*	< LOD	< LOD	< LOD	< LOD	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 175. 2,2',3,4',5,5',6-Heptachlorobiphenyl (PCB 187) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	17.7 (15.6-20.0)	24.6 (22.0-27.6)	1930
	01-02	*	< LOD	12.1 (10.5-13.7)	21.7 (19.6-23.7)	27.9 (26.8-29.7)	2307
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	667
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	19.2 (16.8-21.8)	25.9 (24.1-29.0)	1263
	01-02	*	< LOD	13.3 (12.0-15.2)	23.0 (20.9-24.7)	29.2 (27.3-32.0)	1549
Gender							
Males	99-00	*	< LOD	< LOD	17.7 (15.7-19.6)	25.9 (21.6-29.0)	917
	01-02	*	< LOD	12.7 (<LOD-15.8)	22.3 (19.4-24.1)	27.7 (25.1-30.1)	1075
Females	99-00	*	< LOD	< LOD	17.7 (15.1-21.7)	24.2 (21.6-27.0)	1013
	01-02	*	< LOD	11.9 (<LOD-13.0)	21.3 (18.5-23.5)	28.5 (26.2-31.3)	1232
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	17.3 (15.1-19.1)	636
	01-02	*	< LOD	< LOD	10.5 (<LOD-13.4)	15.7 (12.5-18.0)	567
Non-Hispanic blacks	99-00	*	< LOD	15.3 (<LOD-21.1)	31.1 (26.0-39.0)	47.1 (36.6-72.1)	412
	01-02	*	< LOD	16.3 (12.3-21.0)	30.0 (22.9-40.6)	43.5 (30.3-61.9)	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	16.8 (14.9-18.6)	22.0 (19.1-25.2)	727
	01-02	*	< LOD	12.5 (10.7-14.5)	21.7 (18.9-23.7)	27.4 (25.2-29.2)	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 176. 2,2',3,4',5,5',6-Heptachlorobiphenyl (PCB 187) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 1999-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	99-00	*	< LOD	< LOD	.120 (.108-.134)	.166 (.143-.181)	1930
	01-02	*	< LOD	.080 (.072-.090)	.140 (.128-.159)	.198 (.177-.218)	2307
Age group							
12-19 years	99-00	*	< LOD	< LOD	< LOD	< LOD	667
	01-02	*	< LOD	< LOD	< LOD	< LOD	758
20 years and older	99-00	*	< LOD	< LOD	.128 (.112-.141)	.176 (.155-.191)	1263
	01-02	*	< LOD	.090 (.077-.100)	.149 (.132-.174)	.210 (.186-.231)	1549
Gender							
Males	99-00	*	< LOD	< LOD	.123 (.099-.139)	.178 (.141-.198)	917
	01-02	*	< LOD	.082 (.072-.098)	.144 (.130-.163)	.187 (.165-.230)	1075
Females	99-00	*	< LOD	< LOD	.116 (.106-.130)	.162 (.136-.179)	1013
	01-02	*	< LOD	.076 (.067-.086)	.134 (.119-.150)	.202 (.178-.217)	1232
Race/ethnicity							
Mexican Americans	99-00	*	< LOD	< LOD	< LOD	.118 (.100-.134)	636
	01-02	*	< LOD	< LOD	.078 (.058-.098)	.104 (.091-.121)	567
Non-Hispanic blacks	99-00	*	< LOD	.090 (.070-.132)	.203 (.164-.226)	.290 (.207-.531)	412
	01-02	*	< LOD	.102 (.074-.119)	.192 (.149-.258)	.286 (.187-.382)	515
Non-Hispanic whites	99-00	*	< LOD	< LOD	.112 (.099-.127)	.147 (.134-.168)	727
	01-02	*	< LOD	.081 (.072-.092)	.136 (.123-.157)	.191 (.167-.217)	1061

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 177. 2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	11.1 (<LOD-11.9)	18.1 (16.5-19.5)	23.7 (20.9-27.0)	2279
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	746
20 years and older	01-02	*	< LOD	11.9 (11.0-13.2)	18.9 (17.7-20.5)	25.3 (22.7-28.0)	1533
Gender							
Males	01-02	*	< LOD	12.2 (10.6-13.9)	19.1 (17.1-21.1)	25.2 (21.2-28.3)	1059
Females	01-02	*	< LOD	< LOD	17.0 (14.7-18.8)	21.7 (19.3-26.2)	1220
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	13.9 (10.5-17.6)	561
Non-Hispanic blacks	01-02	*	< LOD	12.2 (<LOD-15.3)	22.6 (18.0-27.5)	29.8 (23.7-41.1)	508
Non-Hispanic whites	01-02	*	< LOD	11.9 (10.9-13.1)	18.7 (17.1-20.2)	24.1 (20.9-28.0)	1048

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 178. 2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	.070 (.064-.078)	.123 (.104-.139)	.162 (.146-.187)	2279
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	746
20 years and older	01-02	*	< LOD	.079 (.070-.086)	.132 (.109-.147)	.174 (.149-.197)	1533
Gender							
Males	01-02	*	< LOD	.078 (.069-.087)	.132 (.106-.152)	.169 (.147-.206)	1059
Females	01-02	*	< LOD	< LOD	.109 (.094-.132)	.147 (.133-.176)	1220
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	.099 (.080-.114)	561
Non-Hispanic blacks	01-02	*	< LOD	.079 (.059-.089)	.138 (.101-.175)	.195 (.138-.253)	508
Non-Hispanic whites	01-02	*	< LOD	.076 (.069-.085)	.129 (.109-.146)	.165 (.146-.193)	1048

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 179. 2,2',3,3',4,4',5,6-Octachlorobiphenyl (PCB 195) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2230
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	716
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1514
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1035
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1195
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	544
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	490
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1037

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 180. 2,2',3,3',4,4',5,6-Octachlorobiphenyl (PCB 195) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2230
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	716
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1514
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1035
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1195
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	544
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	490
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1037

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 181. 2,2',3,3',4,4',5,6' and 2,2',3,4,4',5,5',6-Octachlorobiphenyl (PCB 196 & 203) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	14.1 (13.0-15.7)	19.2 (17.4-20.9)	2299
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	755
20 years and older	01-02	*	< LOD	< LOD	15.0 (13.7-16.9)	19.9 (18.2-21.4)	1544
Gender							
Males	01-02	*	< LOD	< LOD	14.6 (13.3-16.5)	19.4 (16.3-21.2)	1071
Females	01-02	*	< LOD	< LOD	13.8 (11.9-15.9)	19.0 (17.0-21.3)	1228
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	11.1 (<LOD-12.5)	565
Non-Hispanic blacks	01-02	*	< LOD	< LOD	17.5 (14.0-21.0)	22.8 (19.6-30.2)	513
Non-Hispanic whites	01-02	*	< LOD	< LOD	14.6 (13.5-16.2)	19.5 (18.1-21.3)	1058

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 182. 2,2',3,3',4,4',5,6' and 2,2',3,4,4',5,5',6-Octachlorobiphenyl (PCB 196 & 203) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	.095 (.086-.105)	.127 (.113-.140)	2299
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	755
20 years and older	01-02	*	< LOD	< LOD	.103 (.092-.111)	.133 (.114-.150)	1544
Gender							
Males	01-02	*	< LOD	< LOD	.100 (.086-.115)	.126 (.110-.150)	1071
Females	01-02	*	< LOD	< LOD	.092 (.078-.101)	.126 (.110-.138)	1228
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	.071 (.060-.089)	565
Non-Hispanic blacks	01-02	*	< LOD	< LOD	.108 (.086-.135)	.148 (.108-.208)	513
Non-Hispanic whites	01-02	*	< LOD	< LOD	.099 (.090-.110)	.131 (.112-.143)	1058

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 183. 2,2',3,3',4,5,5',6'-Octachlorobiphenyl (PCB 199) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	17.0 (15.4-18.1)	22.4 (19.9-25.9)	2292
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	756
20 years and older	01-02	*	< LOD	10.5 (<LOD-11.8)	17.8 (16.2-19.2)	24.4 (20.7-27.4)	1536
Gender							
Males	01-02	*	< LOD	< LOD	17.3 (15.4-18.7)	21.2 (19.2-24.5)	1066
Females	01-02	*	< LOD	< LOD	16.1 (14.5-17.9)	22.7 (19.4-27.3)	1226
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	12.1 (<LOD-14.2)	565
Non-Hispanic blacks	01-02	*	< LOD	12.4 (<LOD-15.2)	21.9 (17.0-28.1)	30.7 (22.4-37.4)	513
Non-Hispanic whites	01-02	*	< LOD	< LOD	17.2 (15.9-18.9)	22.6 (19.8-26.3)	1051

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 184. 2,2',3,3',4,5,5',6'-Octachlorobiphenyl (PCB 199) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	.108 (.100-.126)	.151 (.135-.168)	2292
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	756
20 years and older	01-02	*	< LOD	.069 (.060-.079)	.122 (.105-.136)	.158 (.139-.184)	1536
Gender							
Males	01-02	*	< LOD	< LOD	.108 (.098-.133)	.150 (.133-.179)	1066
Females	01-02	*	< LOD	< LOD	.111 (.098-.125)	.151 (.132-.167)	1226
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	.087 (.066-.107)	565
Non-Hispanic blacks	01-02	*	< LOD	.069 (.054-.087)	.135 (.104-.179)	.182 (.133-.301)	513
Non-Hispanic whites	01-02	*	< LOD	< LOD	.114 (.102-.130)	.150 (.132-.170)	1051

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 185. 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (PCB 206) (lipid adjusted)

Geometric mean and selected percentiles of serum concentrations (in ng/g of lipid or parts per billion on a lipid-weight basis) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2208
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	723
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1485
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1033
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1175
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	533
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	483
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1034

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Table 186. 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (PCB 206) (whole weight)

Geometric mean and selected percentiles of serum concentrations (in ng/g of serum or parts per billion) for the U.S. population aged 12 years and older, National Health and Nutrition Examination Survey, 2001-2002.

	Survey years	Geometric mean (95% conf. interval)	Selected percentiles (95% confidence interval)				Sample size
			50th	75th	90th	95th	
Total, age 12 and older	01-02	*	< LOD	< LOD	< LOD	< LOD	2208
Age group							
12-19 years	01-02	*	< LOD	< LOD	< LOD	< LOD	723
20 years and older	01-02	*	< LOD	< LOD	< LOD	< LOD	1485
Gender							
Males	01-02	*	< LOD	< LOD	< LOD	< LOD	1033
Females	01-02	*	< LOD	< LOD	< LOD	< LOD	1175
Race/ethnicity							
Mexican Americans	01-02	*	< LOD	< LOD	< LOD	< LOD	533
Non-Hispanic blacks	01-02	*	< LOD	< LOD	< LOD	< LOD	483
Non-Hispanic whites	01-02	*	< LOD	< LOD	< LOD	< LOD	1034

< LOD means less than the limit of detection, which may vary for some chemicals by year and by individual sample. See Appendix A for LODs.

* Not calculated. Proportion of results below limit of detection was too high to provide a valid result.

Results by Chemical Group

Phthalates

