

Biomonitoring

Polybrominated Diphenyl Ethers (PBDEs)

Table B8. PBDEs in women ages 16 to 49 years: Median concentrations in blood serum, by race/ethnicity and family income, 2003-2004

Race / Ethnicity	Median concentration of PBDEs in serum (ng/g lipid)
All Races/Ethnicities (n=540)	44.2
White non-Hispanic (n=233)	48.9
Black non-Hispanic (n=132)	47.6*
Mexican-American (n=131)	41.0*
All Other Races/Ethnicities† (n=44)	NA**
Income	
All Incomes‡ (n=540)	44.2
< Poverty Level (n=156)	41.8
≥ Poverty Level (n=352)	43.9

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics and National Center for Environmental Health, National Health and Nutrition Examination Survey

NOTES:

- Values below the limit of detection are assumed equal to the limit of detection divided by the square root of 2.
- To reflect exposures to women who are pregnant or may become pregnant, the estimates are adjusted for the probability (by age and race/ethnicity) that a woman gives birth. The intent of this adjustment is to approximate the distribution of exposure to pregnant women. Results will therefore differ from a characterization of exposure to adult women without consideration of birth rates.

† The “All Other Races/Ethnicities” category includes all other races or ethnicities not specified, together with those individuals who report more than one race.

‡ Includes sampled individuals for whom income information is missing.

*The estimate should be interpreted with caution because the standard error of the estimate is relatively large: the relative standard error, RSE, is at least 30% but is less than 40% (RSE = standard error divided by the estimate), or the RSE may be underestimated.

** Not available. The estimate is not reported because it has large uncertainty: the relative standard error, RSE, is 40% or greater (RSE = standard error divided by the estimate), or the RSE cannot be reliably estimated.

Table B8a. PBDEs in children ages 12 to 17 years: Median concentrations in blood serum, by race/ethnicity and family income, 2003-2004

Race / Ethnicity	Median concentration of PBDEs in serum (ng/g lipid)
All Races/Ethnicities (n=464)	52.9
White non-Hispanic (n=114)	47.5*
Black non-Hispanic (n=176)	50.4*
Mexican-American (n=145)	62.9*
All Other Races/Ethnicities† (n=29)	NA**
Income	
All Incomes‡ (n=464)	52.9
< Poverty Level (n=147)	62.6
≥ Poverty Level (n=304)	49.8

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics and National Center for Environmental Health, National Health and Nutrition Examination Survey

NOTE: Values below the limit of detection are assumed equal to the limit of detection divided by the square root of 2.

† The "All Other Races/Ethnicities" category includes all other races or ethnicities not specified, together with those individuals who report more than one race.

‡ Includes sampled individuals for whom income information is missing.

*The estimate should be interpreted with caution because the standard error of the estimate is relatively large: the relative standard error, RSE, is at least 30% but is less than 40% (RSE = standard error divided by the estimate), or the RSE may be underestimated.

** Not available. The estimate is not reported because it has large uncertainty: the relative standard error, RSE, is 40% or greater (RSE = standard error divided by the estimate), or the RSE cannot be reliably estimated.

Table B6c. Perfluorochemicals in women ages 16 to 49 years: 95th percentile concentrations in blood serum, by race/ethnicity and family income, 2005-2008

		95 th percentile concentration of PFCs in blood serum (ng/mL)		
Race / Ethnicity		All Incomes‡ (n=1,121)	< Poverty Level (n=278)	≥ Poverty Level (n=780)
PFOS	All Races/Ethnicities (n=1,121)	25.7	22.6	27.8
	White non-Hispanic (n=453)	28.4	23.9*	28.4
	Black non-Hispanic (n=255)	25.7	NA**	25.7
	Mexican-American (n=272)	17.3	17.3*	16.4
	All Other Races/Ethnicities† (n=141)	24.9	NA**	31.0
PFOA	All Races/Ethnicities (n=1,121)	7.5	5.6	7.8
	White non-Hispanic (n=453)	8.1	5.8*	8.1
	Black non-Hispanic (n=255)	6.5	NA**	6.1
	Mexican-American (n=272)	5.5	5.4*	5.6
	All Other Races/Ethnicities† (n=141)	5.8	NA**	5.8
PFHxS	All Races/Ethnicities (n=1,121)	5.1	5.4	5.1
	White non-Hispanic (n=453)	5.6	6.0*	5.6
	Black non-Hispanic (n=255)	4.2	NA**	3.7
	Mexican-American (n=272)	4.6	4.0*	5.2
	All Other Races/Ethnicities† (n=141)	2.1	NA**	2.1
PFNA	All Races/Ethnicities (n=1,121)	2.8	2.7	2.6
	White non-Hispanic (n=453)	2.9	2.0*	2.7
	Black non-Hispanic (n=255)	NA**	NA**	2.3
	Mexican-American (n=272)	2.3	2.3*	2.0
	All Other Races/Ethnicities† (n=141)	2.8	NA**	2.8

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics and National Center for Environmental Health, National Health and Nutrition Examination Survey

NOTES:

- PFOS = perfluorooctane sulfonic acid, PFOA = perfluorooctanoic acid, PFHxS = perfluorohexane sulfonic acid, and PFNA = perfluorononanoic acid.
- To reflect exposures to women who are pregnant or may become pregnant, the estimates are adjusted for the probability (by age and race/ethnicity) that a woman gives birth. The intent of this adjustment is to approximate the distribution of exposure to pregnant women. Results will therefore differ from a characterization of exposure to adult women without consideration of birth rates.

† The “All Other Races/Ethnicities” category includes all other races or ethnicities not specified, together with those individuals who report more than one race.

‡ Includes sampled individuals for whom income information is missing.

*The estimate should be interpreted with caution because the standard error of the estimate is relatively large: the relative standard error, RSE, is at least 30% but is less than 40% (RSE = standard error divided by the estimate), or the RSE may be underestimated.

** Not available. The estimate is not reported because it has large uncertainty: the relative standard error, RSE, is 40% or greater (RSE = standard error divided by the estimate), or the RSE cannot be reliably estimated.