Biomonitoring

Bisphenol A (BPA)

Table B11: Bisphenol A in women ages 16 to 49 years: Median and 95th percentile concentrations in urine, 2003-2010

	Concentration of BPA in urine (µg/L)			
	2003-2004	2005-2006	2007-2008	2009-2010
Median	3.1	2.0	2.5	2.1
95th percentile	15.9	9.8	15.1	9.7

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:

- 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.
- BPA does not appear to accumulate in bodily tissues; thus the distribution of NHANES urinary BPA levels may overestimate high-end exposures as a result of collecting one-time urine samples rather than collecting urine for a longer time period.[6-8]

Table B11a: Bisphenol A in women ages 16 to 49 years: Median concentrations in urine, by race/ethnicity and family income, 2007-2010

	Median concentration of BPA in urine (µg/L)		
Race / Ethnicity	**All Incomes‡** *(n=1,179)*	**< Poverty Level** *(n=329)*	**≥ Poverty Level** *(n=755)*
All Races/Ethnicities *(n=1,179)*	2.3	3.0	2.1
White non-Hispanic *(n=499)*	2.1	3.3	2.0
Black non-Hispanic *(n=242)*	3.7	3.3*	4.2
Mexican-American *(n=227)*	2.3	2.2*	2.3
All Other Races/Ethnicities† *(n=211)*	2.1	3.1*	1.8

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:

- 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 reported measurements of BPA in urine include both BPA itself and biologically inactive metabolites of BPA.

† 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.

Table B11b: Bisphenol A in women ages 16 to 49 years: 95th percentile concentrations in urine, by race/ethnicity and family income, 2007-2010

	95th percentile concentration of BPA in urine (µg/L)		
Race / Ethnicity	**All Incomes‡** *(n=1,179)*	**< Poverty Level** *(n=329)*	**≥ Poverty Level** *(n=755)*
All Races/Ethnicities *(n=1,179)*	12.2	14.5	10.6
White non-Hispanic *(n=499)*	9.7	NA**	8.1
Black non-Hispanic *(n=242)*	15.1	14.8*	15.1
Mexican-American *(n=227)*	14.7	NA**	17.8
All Other Races/Ethnicities† *(n=211)*	NA**	23.0*	NA**

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:

- 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 reported measurements of BPA in urine include both BPA itself and biologically inactive metabolites of BPA.
- BPA does not appear to accumulate in bodily tissues; thus the distribution of NHANES urinary BPA levels may overestimate high-end exposures as a result of collecting one-time urine samples rather than collecting urine for a longer time period.[6-8]

† 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 B12: Bisphenol A in children ages 6 to 17 years: Median and 95th percentile concentrations in urine, 2003-2010

	Concentration of BPA in urine (µg/L)			
	2003-2004	2005-2006	2007-2008	2009-2010
Median	4.0	2.4	2.4	2.0
95th percentile	16.0	16.5	12.2	9.7

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: BPA does not appear to accumulate in bodily tissues; thus the distribution of NHANES urinary BPA levels may overestimate high-end exposures as a result of collecting one-time urine samples rather than collecting urine for a longer time period.[6-8]

Table B12a: Bisphenol A in children ages 6 to 17 years: Median concentrations in urine, by race/ethnicity and family income, 2007-2010

	Median concentration of BPA in urine (µg/L)		
Race / Ethnicity	**All Incomes‡** *(n=1,417)*	**< Poverty Level** *(n=426)*	**≥ Poverty Level** *(n=873)*
All Races/Ethnicities *(n=1,417)*	2.2	2.4	2.1
White non-Hispanic *(n=425)*	2.1	2.7*	2.0
Black non-Hispanic *(n=343)*	2.8	3.1*	2.7
Mexican-American *(n=379)*	2.1	2.0	2.2
All Other Races/Ethnicities† *(n=270)*	1.8	1.9*	2.0

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: The reported measurements of BPA in urine include both BPA itself and biologically inactive metabolites of BPA.

† 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.

Table B12b: Bisphenol A in children ages 6 to 17 years: 95th percentile concentrations in urine, by race/ethnicity and family income, 2007-2010

	95th percentile concentration of BPA in urine (µg/L)		
Race / Ethnicity	**All Incomes‡** *(n=1,417)*	**< Poverty Level** *(n=426)*	**≥ Poverty Level** *(n=873)*
All Races/Ethnicities *(n=1,417)*	11.9	10.4	12.2
White non-Hispanic *(n=425)*	12.2	10.4*	12.2
Black non-Hispanic *(n=343)*	12.6	NA**	12.4
Mexican-American *(n=379)*	12.3	6.9	15.6*
All Other Races/Ethnicities† *(n=270)*	9.1	4.7*	9.1

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:

- The reported measurements of BPA in urine include both BPA itself and biologically inactive metabolites of BPA.
- BPA does not appear to accumulate in bodily tissues; thus the distribution of NHANES urinary BPA levels may overestimate high-end exposures as a result of collecting one-time urine samples rather than collecting urine for a longer time period.[6-8]

† 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 B12c: Bisphenol A in children ages 6 to 17 years: Median and 95th percentile concentrations by age group, 2007-2010

	Concentration of BPA in urine (µg/L)			
	Ages 6 to 17 years	**Ages 6 to 10 years**	**Ages 11 to 15 years**	**Ages 16 to 17 years**
Median	2.2	2.1	2.2	2.2
95th percentile	11.9	10.4	12.2	12.2

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:

- The reported measurements of BPA in urine include both BPA itself and biologically inactive metabolites of BPA.
- BPA does not appear to accumulate in bodily tissues; thus the distribution of NHANES urinary BPA levels may overestimate high-end exposures as a result of collecting one-time urine samples rather than collecting urine for a longer time period.[6-8]