

## Monomethyl phthalate (MMP)

Surface Water												
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Average	SD	Median		Low	High				
<b>Europe</b>												
Spain, Barcelona - Llobregat River	N/A	1	2.2			<4.4			1	Alzaga et al., 2003		
		1	2.2				<4.4			Mean represents one half detection limit		
<b>Canada</b>												
Alberta - N. Sask. River - downstream of WWTP effluent	2002 (Dec)	1	0.0025			<0.005			1	Alberta Environment, 2005		
Alberta - Bow River - downstream of WWTP effluent	2003 (Jan)	1	0.0025			<0.005			1	Alberta Environment, 2005		
Alberta - S. Sask. River - upstream of Medicine Hat	2003 (Jan)	1	0.0025			<0.005			1	Alberta Environment, 2005		
Alberta - Red Deer River - downstream of WWTP effluent	2003 (Jan)	4	0.0025			<0.005			1	Alberta Environment, 2005		
			0.0025				<0.005			Mean represents one half detection limit		
<b>Japan/Asia</b>												
Tokyo - Tama River site #1 (upstream)	1999-2000						<0.03	0.070	1	Suzuki, et al. 2001	Detected in 4 of 12 monthly samples	
Tokyo - Tama River site #2	1999-2000						<0.03	0.170	1	Suzuki, et al. 2001	Detected in 5 of 12 samples	
Tokyo - Tama River site #3	1999-2000						<0.03	0.190	1	Suzuki, et al. 2001	Detected in 5 of 12 samples	
Tokyo - Tama River site #4 (downstream)	1999-2000						<0.03	0.340	1	Suzuki, et al. 2001	Detected in 4 of 12 samples	
Tokyo - Aki River	1999-2000						<0.03	0.110	1	Suzuki, et al. 2001	Detected in 3 of 12 samples	
Tokyo - Asa River	1999-2000						<0.03	0.061	1	Suzuki, et al. 2001	Detected in 6 of 12 samples	
			N/A				<0.03	0.34				
<b>Landfill Leachate</b>												
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Average	SD	Median		Low	High				
<b>Europe</b>												
Spain - landfill leachate	N/A	3	2.2		<4.4		<4.4	<4.4	1	Alzaga et al., 2003		
Sweden - landfill leachate	N/A	1	2.2		<4.4	<4.4			1	Alzaga et al., 2003		
Sweden, Denmark, Germany, Italy- Landfill leachate	1998-1999	17	1	3	<1	<1	6	6	2	Jonsson et al., 2003	Leachate collected from 17 engineered landfills	
Denmark - MSW, no leachate collection system	spring 1999	1	1			1			4	Baun et al., 2004		
		22	1.2				<1	6				
<b>Wastewater</b>												
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Average	SD	Median		Low	High				
<b>Europe</b>												
Spain, Barcelona - untreated urban wastewater	N/A	1	2.2			<4.4			1	Alzaga et al., 2003		
Spain, Barcelona - treated urban wastewater	N/A	2	2.2			<4.4			1	Alzaga et al., 2003		
			2.2				<4.4			Mean represents one half detection limit		
<b>Canada</b>												
Alberta - effluent from 7 WWTPs	Dec 02-Jun 03	7	0.0025		<0.005		<0.005	<0.005	1	Alberta Environment, 2005		
		7	0.0025				<0.005			Mean represents one half detection limit		
<b>Urine</b>												
	Date	N	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments	
			Geo.Mean/Ave.	SD	Median		Low	High				
<b>USA</b>												
U.S. - adult	NA	1	1.5			1.5			1	Silva et al., 2004c		
U.S. - New England area; 369 adult males	NA	369	3.84		4.37		0.36	29.9	1	Hauser et al., 2004b	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey aged 6 y and older	2001-2002	2782	1.15		1.50			9.80	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 6-11 y	2001-2002	393	1.45		1.80			11.6	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 12-19 y	2001-2002	742	1.59		2.10			12.7	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey of adults age 20 y and older	2001-2002	1647	1.06		1.40			9.10	1	CDC, 2005	High value is 95th percentile	
U.S. - Boston; adult males 20 to 54 y	2000-2003	337	11.0	31.6	4.5		<0.71	31.3	1	Duty et al., 2005a	Low & high are 5th & 95th perc; geo mean = 4.1; unadj for spec. grav.	
U.S. - Boston; adult males 18 to 54 y	1999-2003	294	3.9		4.6		0.4	32.1	1	Duty et al., 2005b	Low & high are 5th & 95th perc; Subset of Duty et al 2005a; unadj for spec. grav.	
U.S. - Boston; adult males 22 to 54 y attending fertility clinic	2000-2004	463	3.6		3.8		<0.71	27.8	1	Hauser et al., 2006	Det. limit = 0.71 ug/L; 95th perc = 28.6 ug/L	
U.S. - 43 adults	NA				0.45		<0.15	1.33	4	Kato et al., 2005	Det. in 5 of 43 samples; det. limit = 0.15 ug/L	
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	24.1	2.5	23.4		3.0	821.0	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 90.6 ug/L	
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				<1.0		<1.0	4.5	1	Hines et al., 2009b	Det. in 18% samples; low and high are 10th and 95th perc., respectively	
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				<1.0		<1.0	4.8	1	Hines et al., 2009b	Det. in 7% samples; low and high are 10th and 95th perc., respectively	
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	0.5		<1.00		<1.00	15.6	1	Wolff et al., 2007	Detected in 18 of 90 samples; det. limit = 1.00 ug/L	
U.S. - New York City; children age 6 to 10 y; N = 159	2004-2005				1.6		0.7	430.3	1	Teitelbaum et al., 2008	Det. in 57.9% samples; 95th perc = 20.6 ug/L; LOD = 1 ug/L	
		7298	2.6				<0.15	821.0				
<b>Europe</b>												
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006				<1.0		<1.0	76.9	1	Ye et al., 2008	N=100; det. in 36% samples; 95th perc = 20.1 ug/L	
Spain, Barcelona - adult males	NA	4	79		84		18	131	1	Alzaga et al., 2003	Detection limit = 4.4 ng/mL	
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	2.3	3.0	1.2		<1.0	15	4	Hogberg et al., 2008	Detected in 20 of 38 samples; det. limit = 1.0 ug/L; 75th perc = 2.8 ug/L	
		42	9.6				<1.0	131				
<b>Japan/Asia</b>												
Japan, Tokyo-Yokohama; 35 adults, 1 child (4-70 y)	2004 (May)				33				1	Itoh et al., 2007		
Taiwan - adults 21 to 67 y; 41 women, 19 men	NA	60	31.2	2.5	32.3			115.4	4	Chen et al., 2008	Detected in 98% of samples; high value is 95th perc.; 25th perc = 18.2 ug/L	
Taiwan - pregnant women (2nd trimester) (N = 28)	NA				5.4				4	Huang et al., 2008	Detected in 46.4% of samples	
		60	31.2				5.4	115.4			Low value is referenced median	
U.S. - national survey, adult users of medicine, mesalamine	1999-2004	6	2.9						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, didanosine	1999-2004	2	4.2						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, omeprazole	1999-2004	54	5.0						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, theophylline	1999-2004	16	2.1						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - worker, phthalate manu.; 9 men - mid-shift	2003-2005	9	842	2.97	856		135	5140	1	Hines et al., 2009a	Detected in 100% samples	
U.S. - worker, phthalate manu.; 9 men - end shift	2003-2005	9	2300	3.92	2877		198	20500	1	Hines et al., 2009a	Detected in 100% samples	
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	1.21	4.97	1.30		<1.0	32.2	1	Hines et al., 2009a	Detected in 52% samples	
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	2.51	2.91	2.60		<1.0	19.3	1	Hines et al., 2009a	Detected in 80% samples	
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005				<1.0		<1.0	2.20	1	Hines et al., 2009a	Detected in 11% samples	

## Legend

Yellow Data, changes or comments added in 2009

Grey Excluded from calculated summary

Pink Indicates average based on detection limit

BOLD Calculated category summary

## Data Quality

1 - Reliable without restrictions

2 - Reliable with restrictions

3 - Not reliable

4 - Unassignable

U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005				<1.0	<1.0	2.10	1	Hines et al., 2009a	Detected in 22% samples
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005				<1.0	<1.0	<1.0	1	Hines et al., 2009a	Detected in 0% samples
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005				<1.0	<1.0	<1.0	1	Hines et al., 2009a	Detected in 0% samples
U.S. - worker, rubber hose; 24 men, 1 woman - mid-shift	2003-2005	25	2.64	2.56	2.60	<1.0	34.1	1	Hines et al., 2009a	Detected in 64% samples
U.S. - worker, rubber hose; 24 men, 1 woman - end-shift	2003-2005	25	3.14	2.33	3.50	<1.0	19.0	1	Hines et al., 2009a	Detected in 64% samples
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005				<1.0	<1.0	15.8	1	Hines et al., 2009a	Detected in 5% samples
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005				<1.0	<1.0	<1.0	1	Hines et al., 2009a	Detected in 0% samples
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	1.36	3.21	1.05	<1.0	23.2	1	Hines et al., 2009a	Detected in 65% samples
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	1.88	2.37	1.75	<1.0	19.8	1	Hines et al., 2009a	Detected in 80% samples
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	4.39	5.70	3.70	<1.0	152	1	Hines et al., 2009a	Detected in 80% samples
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	5.01	5.63	3.55	<1.0	133	1	Hines et al., 2009a	Detected in 81% samples

	Date	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Median	Low			
<b>USA</b>										
U.S. - national survey aged 6 y and older	2001-2002	2772	1.08		1.33		7.97	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6-11 y	2001-2002	392	1.65		2.32		12.5	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	1.23		1.51		7.72	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	2001-2002	1638	1.00		1.21		7.72	1	CDC, 2005	High value is 95th percentile
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	24.7	2.3	21.5	6.2	7672.9	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 79.5 ug/g
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005					<2.2	97.1	1	Hines et al., 2009b	Det. in 18% samples; low and high are 10th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005					<3.5	6.4	1	Hines et al., 2009b	Det. in 7% samples; low and high are 10th and 95th perc., respectively
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005				<LOD	<LOD		1	Wolff et al., 2007	Detected in 18 of 90 samples
U.S. - New York City; children age 6 to 10 y; N = 159	2004-2005				1.9	0.4	239.5	1	Teitelbaum et al., 2008	Det. in 57.9% samples; 95th perc = 15.4 ug/g; collected over 6 mo. period
		5724	1.86			0.4	7672.9			
<b>Europe</b>										
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006				<LOD	<LOD	197.0	1	Ye et al., 2008	N=100; det. in 36% samples; 95th perc = 30.3 ug/g
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	2.5	2.5	1.9		12	4	Hogberg et al., 2008	Detected in 20 of 38 samples; 75th perc = 2.8 ug/g
		38	2.5			<1.9	197.0			Low value is referenced median
<b>Japan/Asia</b>										
Taiwan - pregnant women (2nd trimester) (N = 28)	NA				13.1			4	Huang et al., 2006	Detected in 46.4% of samples
			NA			NA	NA			

U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	512	2.73	484	117	2680	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	1210	2.72	1267	228	7650	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	0.54	5.66	0.82	<LOD	14.2	1	Hines et al., 2009a	Detected in 52% samples
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	1.29	2.81	0.99	<LOD	12.1	1	Hines et al., 2009a	Detected in 80% samples
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005				<LOD	<LOD	1.61	1	Hines et al., 2009a	Detected in 11% samples
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005				<LOD	<LOD	1.43	1	Hines et al., 2009a	Detected in 22% samples
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005				<LOD	<LOD	<LOD	1	Hines et al., 2009a	Detected in 0% samples
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005				<LOD	<LOD	<LOD	1	Hines et al., 2009a	Detected in 0% samples
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	1.89	2.34	1.82	<LOD	14.3	1	Hines et al., 2009a	Detected in 84% samples
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	1.94	2.31	2.54	<LOD	12.1	1	Hines et al., 2009a	Detected in 84% samples
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005				<LOD	<LOD	8.02	1	Hines et al., 2009a	Detected in 5% samples
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005				<LOD	<LOD	<LOD	1	Hines et al., 2009a	Detected in 0% samples
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	0.83	4.10	0.91	<LOD	13.7	1	Hines et al., 2009a	Detected in 65% samples
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	1.12	2.49	1.14	<LOD	7.69	1	Hines et al., 2009a	Detected in 80% samples
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	4.96	4.76	4.57	<LOD	78.7	1	Hines et al., 2009a	Detected in 80% samples
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	6.19	4.39	4.83	<LOD	88.9	1	Hines et al., 2009a	Detected in 61% samples

Human Plasma											
	Date	N	Concentration as ug/mL			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
Denmark, Copenhagen - umbilical cord blood	N/A	5	0.000025				<0.00005	<0.00005	4	Mose et al., 2007	Mean represents one half detection limit
			0.000025				<0.00005	<0.00005			

Amniotic Fluid											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
Denmark, Copenhagen - maternal perfusate	N/A		N/A				<0.05	0.371	4	Mose et al., 2007	

Placenta Tissue											
	Date	N	Concentration as ug/kg			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
Denmark, Copenhagen - before perfusion	N/A						<0.05	0.211	4	Mose et al., 2007	
Denmark, Copenhagen - after perfusion	N/A						<0.05	1.00	4	Mose et al., 2007	

Milk											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
Denmark, Copenhagen - conventional and organic farming	NA	7	0.005				<0.01	<0.01	1	Mortensen et al. 2005	Fat content: 1.5 to 3.5%
			0.005				<0.01	<0.01			

Human Milk											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
Denmark, Copenhagen - 36 mothers; 1 to 3 mo postnatal	1997-2001	36	0.17	0.26	0.11	<0.01	1.49	3	Mortensen et al. 2005	Possible contamination of samples	
Denmark, Copenhagen - 65 mothers; 1 to 3 mo postnatal	1997-2001				0.10	<0.01	5.53	3	Main et al. 2005	Likely includes data reported in Mortensen et al. 2005	
Finland, Turku - 65 mothers; 1 to 3 mo postnatal	1997-2001				0.09	<0.01	0.37	3	Main et al. 2005		

Infant Formula											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
Denmark, Copenhagen - 10 samples	NA	10	0.005				<0.01	<0.01	1	Mortensen et al. 2005	2 ready to use products; 8 powder samples reconstituted
			0.005				<0.01	<0.01			

## Monomethyl isophthalate (MMiP)

Urine	Date	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Low	High			
USA	NA	43	0.18	<0.36	<0.36	<0.36	4	Kato et al., 2005	Not detected in any of 43 samples	
U.S. - 43 adults		<b>43</b>	<b>0.18</b>		<b>&lt;0.36</b>	<b>&lt;0.36</b>		<b>Mean represents one half detection limit</b>		

**Legend**

Data, changes or comments added in 2009

Excluded from calculated summary

Indicates average based on detection limit

**BOLD** Calculated category summary

**Data Quality**

1 - Reliable without restrictions

2 - Reliable with restrictions

3 - Not reliable

4 - Unassignable

## Monoethyl phthalate (MEP)

Surface Water												
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Average	SD	Median		Low	High				
<b>Europe</b>												
Spain, Barcelona - Llobregat River	N/A	1	1.2			<2.4			1	Alzaga et al., 2003		
		<b>1</b>	1.2				<2.4			Mean represents one half detection limit		
<b>Canada</b>												
Alberta - N. Sask. River - downstream of WWTP effluent	2002 (Dec)	1	0.0025			<0.005			1	Alberta Environment, 2005		
Alberta - Bow River - downstream of WWTP effluent	2003 (Jan)	1	0.0025			<0.005			1	Alberta Environment, 2005		
Alberta - S. Sask. River - upstream of Medicine Hat	2003 (Jan)	1	0.0025			<0.005			1	Alberta Environment, 2005		
Alberta - Red Deer River - downstream of WWTP effluent	2003 (Jan)	1	0.0025			<0.005			1	Alberta Environment, 2005		
		<b>4</b>	0.0025				<0.005			Mean represents one half detection limit		
<b>Japan/Asia</b>												
Tokyo - Tama River site #1 (upstream)	1999-2000	12	0.007			<0.014	<0.014		1	Suzuki, et al., 2001	Not detected in any of 12 monthly samples	
Tokyo - Tama River site #2	1999-2000	12	0.007			<0.014	<0.014		1	Suzuki, et al., 2001	Not detected in any of 12 monthly samples	
Tokyo - Tama River site #3	1999-2000	12	0.007			<0.014	<0.014		1	Suzuki, et al., 2001	Not detected in any of 12 monthly samples	
Tokyo - Tama River site #4 (downstream)	1999-2000	12	0.007			<0.014	<0.014		1	Suzuki, et al., 2001	Not detected in any of 12 monthly samples	
Tokyo - Aki River	1999-2000	12	0.007			<0.014	<0.014		1	Suzuki, et al., 2001	Not detected in any of 12 monthly samples	
Tokyo - Asa River	1999-2000	12	0.007			<0.014	<0.014		1	Suzuki, et al., 2001	Not detected in any of 12 monthly samples	
		<b>72</b>	0.007				<0.014	<0.014		Mean represents one half detection limit		
<b>Landfill Leachate</b>												
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Average	SD	Median		Low	High				
<b>Europe</b>												
Spain - landfill leachate	N/A	3	1.2			<2.4	<2.4	<2.4	1	Alzaga et al., 2003		
Sweden - landfill leachate	N/A	1	1.2			<2.4			1	Alzaga et al., 2003		
Sweden, Denmark, Germany, Italy- Landfill leachate	1998-1999	17	2	5	<1	<1		20	2	Jonsson et al., 2003	Leachate collected from 17 engineered landfills	
Denmark - MSW, no leachate collection system	spring 1999	1	340			340			4	Baun et al., 2004		
		<b>22</b>	17				<1	340				
<b>Wastewater</b>												
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Average	SD	Median		Low	High				
<b>Europe</b>												
Spain, Barcelona - untreated urban wastewater	N/A	1	1.2			<2.4			1	Alzaga et al., 2003		
Spain, Barcelona - treated urban wastewater	N/A	1	1.2			<2.4			1	Alzaga et al., 2003		
		<b>2</b>	1.2				<2.4			Mean represents one half detection limit		
<b>Canada</b>												
Alberta - effluent from 7 WWTPs	Dec 02-Jun 03	7	0.0025			<0.005	<0.005	<0.005	1	Alberta Environment, 2005		
		<b>7</b>	0.0025				<0.005	<0.005		Mean represents one half detection limit		

**Legend**

Data, changes or comments added in 2009

Excluded from calculated summary

Indicates average based on detection limit

**BOLD** Calculated category summary

**Data Quality**

1 - Reliable without restrictions

2 - Reliable with restrictions

3 - Not reliable

4 - Unassignable

Urine	Date	Concentration as ug/L urine			Single Point	Range		Data		Reference	Comments
		N	Geo.Mean/Ave.	SD		Low	High	Quality			
<b>USA</b>											
U.S. - national survey of adults aged 20 to 60 y	1989-94	289	345		305	<1.0	16200	1	Blount et al., 2000		
U.S. - Imperial County, CA; toddlers aged 11.8 to 16.5 mo.	2000 (Jan. to Mar.)	31	184.1	246.9		14.8	1380	1	Brock et al., 2002	19 children tested	
U.S. - national survey aged 6 y and older	1999-2000	2536	179		164	28.9	2840	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey aged 6 y and older	2001-2002	2782	178		169		2500	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 6-11 y	1999-2000	328	91.3		74.7		756	1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 6-11 y	2001-2002	393	85.1		71.9		808	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 12-19 y	1999-2000	752	211		193		3260	1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 12-19 y	2001-2002	742	197		184		2060	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey of adults age 20 y and older	1999-2000	1456	190		180	27.7	3480	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey of adults age 20 y and older	2001-2002	1647	191		181		2720	1	CDC, 2005	High value is 95th percentile	
U.S. - adult male, chronic use of medicine containing DBP	NA	1	131.5		131.5			1	Silva et al., 2004c		
U.S. - adult male, chronic use of medicine containing DBP	NA	1	443.7		443.7			1	Hauser et al., 2004a		
U.S. - New England area; 369 adult males	NA	369	148.5		128.2	22.7	1879	1	Hauser et al., 2004b	Low and high are 10th and 95th percentiles, respectively	
U.S. - Boston; adult males 20 to 54 y	2000-2003	338	485	1008	145	17	1953	1	Duty et al., 2005a	Low & high are 5th & 95th perc; geo mean = 164; unadj for spec. grav.	
U.S. - Boston; adult males 18 to 54 y	1999-2003	295	159		149	16.9	1953	1	Duty et al., 2005b	Low & high are 5th & 95th perc; Subset of Duty et al 2005a; unadj for spec. grav.	
U.S. - Boston; adult males 22 to 54 y attending fertility clinic	2000-2004	463	180		158	8.7	11371	1	Hauser et al., 2006	Det. in 100% samples; det. limit = 1.0 ug/L; 95th perc = 2214 ug/L	
U.S. - 43 adults	NA				42.9	2.72	1732.2	4	Kato et al., 2005	Det. in 100% samples; det. limit = 0.40 ug/L	
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	115.6	3.3	103.5	9.3	3140	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 982.5 ug/L	
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				117		30528	1	Marsee et al., 2006	25th perc = 50 ug/L; 95th perc = 3199 ug/L	
U.S. - New York City; 246 pregnant women	2001-2006	246	232		202	36.8	2753	1	Adibi et al., 2008	Det. in 100% samples; low and high are 5th and 95th perc., respectively	
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				73.1	9.2	6891.8	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively	
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				74.3	13.2	1662.2	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively	
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	75.7	3.9	83.2	5.3	2580	1	Wolff et al., 2007	Detected in 100% samples; det. limit = 0.40 ug/L	
U.S. - New York City; children age 6 to 10 y	2004-2005	159	177.7		165.8	7.4	3636.2	1	Teitelbaum et al., 2008	Det. in 100% samples; 95th perc = 1723.2 ug/L; collected over 6 mo. period	
		<b>13098</b>	<b>189.1</b>			<b>&lt;1.0</b>	<b>30,528</b>				
<b>Europe</b>											
Germany, Erlangen (south) - genit population age 7 to 64 y	2002 (April)	85	184	297	90.2	5.4	2111	1	Koch et al., 2003a	95th percentile = 560	
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	112.0	5.6	117.0	<1.0	4330.0	1	Ye et al., 2008	Det. in 97% samples; 95th perc = 1150.0 ug/L	
Spain, Barcelona - adult males	NA	4	147		24	<2.4	538	1	Alzaga et al., 2003	Detection limit = 2.4 ng/mL	
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	84	141	35	<1.0	761	4	Hogberg et al., 2008	Detected in 37 of 38 samples; det. limit = 1.0 ug/L; 75th perc = 80 ug/L	
		<b>227</b>	<b>134.9</b>			<b>&lt;1.0</b>	<b>4,330</b>				
<b>Japan/Asia</b>											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	201.5		165	19.1	3410	1	Berman et al., 2009	Detected in 100% samples; det. limit = 0.8 ug/L	
Japan, Tokyo-Yokohama; 35 adults, 1 child (4-70 y)	2004 (May)				18			1	Itoh et al., 2007		
Taiwan - adults 21 to 67 y; 41 women, 19 men	NA	60	4.8	4.2	<0.7	<0.7	193.6	4	Chen et al., 2008	Detected in 18% of samples; high value is 95th perc.	
Taiwan - pregnant women (2nd trimester) (N = 28)	NA				31.6			4	Huang et al., 2006	Detected in 96.5% of samples	
		<b>79</b>	<b>52</b>			<b>&lt;0.7</b>	<b>3,410</b>				
<b>Canada - BC; children with CF taking enteric coated medicine</b>											
U.S. - national survey, adult users of medicine, mesalamine	1999-2004	6	2390				14,000	4	Keller et al., 2009	Free MEP	
U.S. - national survey, adult users of medicine, didanosine	1999-2004	3	4660					1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, omeprazole	1999-2004	91	1210					1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, theophylline	1999-2004	27	2924					1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - worker, phthalate manu.; 9 men - mid-shift	2003-2005	9	556	2.57	555	184	2470	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, phthalate manu.; 9 men - end-shift	2003-2005	9	1361	3.40	1270	317	10900	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	162	4.66	104	15.2	2000	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	113	3.31	131	18.8	963	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	235	5.46	298	5.80	3340	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	130	3.95	145	12.1	1540	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	292	5.00	373	32.3	2480	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	326	4.50	405	37.2	2610	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, rubber hose; 24 men, 1 woman - mid-shift	2003-2005	25	131	2.81	108	25.3	1470	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, rubber hose; 24 men, 1 woman - end-shift	2003-2005	25	109	2.65	97.3	15.7	775	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	293	3.74	290	22.7	6020	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	313	3.43	302	33.6	3870	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	263	3.57	246	29.3	2600	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	226	3.74	189	19.6	2230	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	248	4.46	116	39.0	3520	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	140	4.61	196	3.00	1100	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.09 to 1.0 ug/L	

	Date	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Median	Low			
<b>USA</b>										
U.S. - national survey aged 6 y and older	1999-2000	2536	163		141	33	1950	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey aged 6 y and older	2001-2002	2772	167		147		1860	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6-11 y	1999-2000	328	92.6		79.4		625	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 6-11 y	2001-2002	392	96.9		81.2		837	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	1999-2000	752	142		122		1550	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	152		140		1330	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	1999-2000	1456	179		154	34.5	2170	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey of adults age 20 y and older	2001-2002	1638	181		159		2080	1	CDC, 2005	High value is 95th percentile
U.S. - New York City; pregnant women	2000(Mar-July)	25	690	1430	236		5520	1	Adibi et al., 2003	
U.S. - adult male, chronic use of medicine containing DBP	NA	1	162.6			162.6		4	Hauser et al., 2004a	
U.S. - Wisconsin - adult males and females	2005	70			48.1			4	Peck et al., 2006	Median for 35 y and older = 69.24 ug/g; versus 29.47 for < 35 y
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	118.4	2.9	109.1	13.6	2899.2	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 814.4 ug/g
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				108		33,932	1	Marsee et al., 2006	25th perc = 71.1 ug/L; 95th perc = 3015 ug/L
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				145.0	28.7	3155.6	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				113.0	29.0	2444.4	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively
U.S. - NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	118.0	3.1				1	Wolff et al., 2007	Detected in 100% samples
U.S. - New York City; children age 6 to 10 y	2004-2005	159	176.4		149.5	15.3	6410.4	1	Teitelbaum et al., 2008	Det. in 100% samples; 95th perc = 1378.6 ug/g; collected over 6 mo. period
		<b>11071</b>	<b>162.5</b>			<b>13.6</b>	<b>33,932</b>			
<b>Europe</b>										
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	173.0	4.7	222.0	<LOD	7160.0	1	Ye et al., 2008	Det. in 97% samples; 95th perc = 1810.0 ug/g
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	101	160	39		862	4	Hogberg et al., 2008	Detected in 37 of 38 samples; 75th perc = 119 ug/g
		<b>138</b>	<b>153.2</b>			<b>&lt;LOD</b>	<b>7,160</b>			
<b>Japan/Asia</b>										
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	270.0		140.5	29.4	14956.1	1	Berman et al., 2009	
Korea - children age 6.5 to 12.5 y - male	NA	30	25.5	2.2		6.2	158.0	4	Kho et al., 2007	Data reported as mg/g
Korea - children age 6.5 to 12.5 y - female	NA	30	26.6	2.1		10.1	177.7	4	Kho et al., 2007	Data reported as mg/g
Taiwan - pregnant women (2nd trimester) (N = 28)	NA				123.1			4	Huang et al., 2006	Detected in 96.5% of samples
		<b>79</b>	<b>84.7</b>			<b>6.2</b>	<b>14,956</b>			
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	338	2.67	317	70.9	1380	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	716	3.92	429	140	4520	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	77.7	4.06	58.6	8.59	924	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	60.2	2.78	57.3	12.6	606	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	198	4.11	149	18.7	1450	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	102	3.29	110	16.7	968	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	181	4.38	216	25.2	1550	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	164	4.50	205	22.3	1980	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	94.6	2.83	80.6	20.9	1110	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	68.0	2.37	68.1	20.8	469	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	221	3.81	201	14.3	3810	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	183	2.91	195	22.0	1300	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	171	3.63	212	15.0	2000	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	143	3.44	120	16.8	1330	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	275	4.86	176	23.7	15300	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	199	3.32	183	17.6	1580	1	Hines et al., 2009a	Detected in 100% samples
Korea - children age 6.5 to 12.5 y - male and female	NA	60	26.0	2.1		6.2	177.7	4	Kho et al., 2007	Overall total of data presented above
<b>Human Plasma</b>										
	Date	N	Concentration as ug/mL		Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median	Low	High			
Denmark, Copenhagen - umbilical cord blood	N/A	5	0.0026	0.0012		0.000065	0.00381	4	Mose et al., 2007	
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	36	0.0012	0.0023	<0.001	<0.001	0.014	4	Hogberg et al., 2008	Detected in 7 of 36 samples; det. limit =0.001 ug/mL
		<b>41</b>	<b>0.0014</b>			<b>0.000065</b>	<b>0.014</b>			

Amniotic Fluid												
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Geo.Mean/Ave.	SD	Median		Low	High				
U.S. - 54 pregnant females	N/A					<1.2	<1.2	9.0	4	Silva et al., 2004b	Detected in 21 of 54 samples; 95th percentile = 8.1	
Denmark, Copenhagen - maternal perfusate	N/A		N/A				<0.01	14.58	4	Mose et al., 2007		
Placenta Tissue												
			Concentration as ug/kg									
Denmark, Copenhagen - before perfusion	N/A						1.68	49.67	4	Mose et al., 2007		
Denmark, Copenhagen - after perfusion	N/A		N/A				5.83	12.90	4	Mose et al., 2007		
							1.68	49.7				
Milk												
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Average	SD	Median		Low	High				
Denmark, Copenhagen - conventional and organic farming	NA	7	0.005				<0.01	<0.01	1	Mortensen et al. 2005	Fat content: 1.5 to 3.5% Mean represents one half detection limit	
		7	0.005				<0.01	<0.01				
Human Milk												
Sweden - 2 to 3 wks after delivery; age 23 to 39 y	2001	42	0.55		<1.0		<1.0	2.5	4	Hogberg et al., 2008	Detected in 1 of 42 samples; det. limit = 1.0 ug/L	
Denmark, Copenhagen - 36 mothers; 1 to 3 mo postnatal	1997-2001	36	1.78	2.74	0.95	0.07	15.4	3	Mortensen et al. 2005	Possible contamination of samples		
Denmark, Copenhagen - 65 mothers; 1 to 3 mo postnatal	1997-2001				0.93	0.07	33.6	3	Main et al. 2005	Likely includes data reported in Mortensen et al. 2005		
Finland, Turku - 65 mothers; 1 to 3 mo postnatal	1997-2001				0.97	0.25	41.4	3	Main et al. 2005			
Infant Formula												
Denmark, Copenhagen - 10 samples	NA	10	0.005				<0.01	<0.01	1	Mortensen et al. 2005	2 ready to use products; 8 powder samples reconstituted	
		10	0.005				<0.01	<0.01			Mean represents one half detection limit	




**Mono-n-propyl Phthalate (MPP)**


Surface Water		Concentration as ug/L				Single	Range		Data	Reference	Comments	Legend
Location	Date	N	Average	SD	Median	Point	Low	High	Quality			
<b>Japan/Asia</b>												
Tokyo - Tama River site #1 (upstream)	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples	Data, changes or comments added in 2009
Tokyo - Tama River site #2	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples	Excluded from calculated summary
Tokyo - Tama River site #3	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples	
Tokyo - Tama River site #4 (downstream)	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples	Indicates average based on detection limit
Tokyo - Aki River	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples	
Tokyo - Asa River	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples	
		<b>72</b>	<b>0.005</b>				<b>&lt;0.010</b>	<b>&lt;0.010</b>		<b>Mean represents one half detection limit</b>		<b>BOLD</b> Calculated category summary
<b>Data Quality</b>												
1 - Reliable without restrictions												
2 - Reliable with restrictions												
3 - Not reliable												
4 - Unassignable												


## Mono-iso-propyl Phthalate (MiPP)

Surface Water		Concentration as ug/L				Single	Range		Data	Reference	Comments
Location	Date	N	Average	SD	Median	Point	Low	High	Quality		
<b>Japan/Asia</b>											
Tokyo - Tama River site #1 (upstream)	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #2	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #3	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #4 (downstream)	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Aki River	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Asa River	1999-2000	12	0.005				<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
		<b>72</b>	<b>0.005</b>				<b>&lt;0.010</b>	<b>&lt;0.010</b>			<b>Mean represents one half detection limit</b>

### Legend

 Data, changes or comments added in 2009

 Excluded from calculated summary

 Indicates average based on detection limit

**BOLD** Calculated category summary

### Data Quality

1 - Reliable without restrictions

2 - Reliable with restrictions

3 - Not reliable

4 - Unassignable

**Monobutyl phthalate (MBP)**

<b>Surface Water</b>											
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
<b>Europe</b>											
Spain, Barcelona - Llobregat River	N/A	1	0.5			<0.95			1	Alzaga et al., 2003	
		1	0.5				<0.95			Mean represents one half detection limit	
<b>Canada</b>											
Alberta - N. Sask. River - downstream of WWTP effluent	2002 (Dec)	1	0.003			<0.006			1	Alberta Environment, 2005	
Alberta - Bow River - downstream of WWTP effluent	2003 (Jan)	1	0.003			<0.006			1	Alberta Environment, 2005	
Alberta - S. Sask. River - upstream of Medicine Hat	2003 (Jan)	1	0.003			<0.006			1	Alberta Environment, 2005	
Alberta - Red Deer River - downstream of WWTP effluent	2003 (Jan)	1	0.003			<0.006			1	Alberta Environment, 2005	
		4	0.003				<0.006			Mean represents one half detection limit	
<b>Japan/Asia</b>											
Tokyo - Tama River site #1 (upstream)	1999-2000					<0.010	0.050		1	Suzuki, et al. 2001	Detected in 9 of 12 monthly samples
Tokyo - Tama River site #2	1999-2000					<0.010	0.150		1	Suzuki, et al. 2001	Detected in 10 of 12 samples
Tokyo - Tama River site #3	1999-2000					0.012	0.100		1	Suzuki, et al. 2001	Detected in 11 of 12 samples
Tokyo - Tama River site #4 (downstream)	1999-2000					<0.010	0.480		1	Suzuki, et al. 2001	Detected in 8 of 12 samples
Tokyo - Aki River	1999-2000					<0.010	0.100		1	Suzuki, et al. 2001	Detected in 10 of 12 samples
Tokyo - Asa River	1999-2000					<0.010	0.170		1	Suzuki, et al. 2001	Detected in 10 of 12 samples
			N/A				<0.010	0.48			

<b>Ground Water</b>											
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
<b>Japan/Asia</b>											
India, Chennai - groundwater near waste sites	N/A	1	0.0005			<0.001			4	Swati et al., 2008	
		1	0.0005				<0.001				

<b>Landfill Leachate</b>											
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
<b>Europe</b>											
Spain - landfill leachate	N/A	3	2.9			<0.95		4.9	1	Alzaga et al., 2003	
Sweden - landfill leachate	N/A	1	0.5			<0.95			1	Alzaga et al., 2003	
Sweden, Denmark, Germany, Italy- Landfill leachate	1998-1999	17	2	4	<1	<1		16	2	Jonsson et al., 2003	Leachate collected from 17 engineered landfills
Denmark - MSW, no leachate collection system	spring 1999	1	4			4			4	Baun et al., 2004	
		22	2				<0.95	16			
<b>Japan/Asia</b>											
India, Chennai - leachate from waste sites	N/A	1	0.0005			<0.001			4	Swati et al., 2008	
		1	0.0005				<0.001				

<b>Municipal Solid Waste</b>											
Location	Date	N	Concentration as ug/g			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
<b>Japan/Asia</b>											
India, Chennai - fresh MSW	N/A	1	0.0005			<0.001			4	Swati et al., 2008	Extracted using Toxicity Characteristics Leaching Procedure
India, Chennai - MSW, partially degraded	N/A	2	163				<0.001	325	4	Swati et al., 2008	Extracted using Toxicity Characteristics Leaching Procedure
		3	109				<0.001	325			

**Legend**

Yellow background: Data, changes or comments added in 2009

Grey background: Excluded from calculated summary

Pink background: Indicates average based on detection limit

**BOLD**: Calculated category summary

**Data Quality**

- 1 - Reliable without restrictions
- 2 - Reliable with restrictions
- 3 - Not reliable
- 4 - Unassignable

Wastewater		Concentration as ug/L					Single	Range		Data		Comments
Location	Date	N	Average	SD	Median	Point	Low	High	Quality	Reference		
<b>Europe</b>												
Belgium - WWTP influent	N/A	3	0.88		0.1		<0.1	2.5	4	Tienpont et al., 2004		
Belgium - WWTP effluent	N/A	3	0.05		<0.1		<0.1	<0.1	4	Tienpont et al., 2004		
Belgium - Sludge supernatant	N/A	1	2.7			2.7			4	Tienpont et al., 2004		
Belgium - Centrifuge supernatant	N/A	1	1.8			1.8			4	Tienpont et al., 2004		
Spain, Barcelona - untreated urban wastewater	N/A	1	0.9			<1.87			1	Alzaga et al., 2003		
Spain, Barcelona - treated urban wastewater	N/A	1	0.5			<0.95			1	Alzaga et al., 2003		
		<b>10</b>	<b>0.9</b>				<b>&lt;0.1</b>	<b>2.7</b>				
<b>Canada</b>												
Alberta - effluent from 7 WWTPs	Dec 02-Jun 03	7	0.003		<0.006		<0.006	<0.006	1	Alberta Environment, 2005		
		<b>7</b>	<b>0.003</b>				<b>&lt;0.006</b>			<b>Mean represents one half detection limit</b>		
<b>Urine</b>												
		Concentration as ug/L urine					Single	Range		Data		Comments
	Date	N	Geo.Mean/Ave.	SD	Median	Point	Low	High	Quality	Reference		
<b>USA</b>												
U.S. - national survey of adults aged 20 to 60 y	1989-94	289	41.5		41		2.2	4670	1	Blount et al., 2000		
U.S. - Imperial County, CA; toddlers aged 11.8 to 16.5 mo.	2000 (Jan. to Mar.)	31	117.4	287.6			4.1	2540	1	Brock et al., 2002	19 children tested	
U.S. - national survey aged 6 y and older	1999-2000	2541	24.6		26.0		5.7	149	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey aged 6 y and older	2001-2002	2782	18.9		20.4			108	1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 6 y and older	1999-2000	328	41.4		40.0			163	1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 6-11 y	2001-2002	393	31.1		32.4			157	1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 12-19 y	1999-2000	752	36.0		36.1			165	1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 12-19 y	2001-2002	742	25.1		26.4			147	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey of adults age 20 y and older	1999-2000	1461	21.6		23.0		4.7	142	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey of adults age 20 y and older	2001-2002	1647	17.0		19.1			95.4	1	CDC, 2005	High value is 95th percentile	
U.S. - adult	NA	1	29.4			29.4			1	Silva et al., 2004c		
U.S. - New England area; 369 adult males	NA	369	13.3		13.6		2.89	73.1	1	Hauser et al., 2004b	Low and high are 10th and 95th percentiles, respectively	
U.S. - Boston; adult males 20 to 54 y	2000-2003	338	85.6	932.8	14.5		2.2	75.1	1	Duty et al., 2005a	Low & high are 5th & 95th perc; geo mean = 14.9; unadj for spec. grav.	
U.S. - Boston; adult males 18 to 54 y	1999-2003	295	14.6		14.3		2.2	75.4	1	Duty et al., 2005b	Low & high are 5th & 95th perc; Subset of Duty et al 2005a; unadj for spec. grav.	
U.S. - Boston; adult males 22 to 54 y attending fertility clinic	2000-2004	463	17.3		17.7		<0.6	14459	1	Hauser et al., 2006	Det. limit = 0.6 ug/L; 95th perc = 69.9 ug/L	
U.S. - Boston area; manicurists - pre-shift; N = 37	2004-2005				58.5				1	Kwapniewski et al., 2008	25th perc = 32.3 ug/L; 75th perc = 107 ug/L	
U.S. - 43 adults	NA	1	1.57				0.56	11.8	4	Kato et al., 2005	Det. in 100% samples; det. limit = 0.40 ug/L	
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	78.1	2.5	74.0		6.3	758	4	Baird et al., 2009	MnBP + MBP; Samples frozen for >20 y; 95th perc = 379.5 ug/L	
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				16.2			337	1	Marsee et al., 2006	25th perc = 7.4 ug/L; 95th perc = 64.5 ug/L	
U.S. - New York City; 246 pregnant women	2001-2006	246	37.5		35.5		7.3	174.9	1	Adibi et al., 2008	Det. in 100% samples; low and high are 5th and 95th perc., respectively	
U.S. - N.C.; 33 lactating women (18-38 y); 2-7 wks postpartum	2004-2005				14		1.3	53.5	1	Hines et al., 2009b	Det. in 97% samples; low and high are 10th and 95th perc., respectively	
U.S. - N.C.; 33 lactating women (18-38 y); 3-4 months postpartum	2004-2005				6.6		<0.45	155.9	1	Hines et al., 2009b	Det. in 80% samples; low and high are 10th and 95th perc., respectively	
U.S. - Boston; infants in neonatal care; low exposure to DEHP	2003				12		<0.94		1	Weuve et al., 2006	N=54; 25th perc = <0.94 ug/L; 75th perc = 19 ug/L	
U.S. - Boston; infants in neonatal care; med. exposure to DEHP	2003				22				1	Weuve et al., 2006	N=54; 25th perc = 7 ug/L; 75th perc = 70 ug/L	
U.S. - Boston; infants in neonatal care; high exposure to DEHP	2003				20				1	Weuve et al., 2006	N=54; 25th perc = 12 ug/L; 75th perc = 45 ug/L	
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	28.2	3.4	37.4		0.3	363.0	1	Wolff et al., 2007	Detected in 88 of 90 samples; det. limit = 0.40 ug/L	
U.S. - New York City; children age 6 to 10 y	2004-2005	159	52.4		55.7		2.8	1187.4	1	Tittelbaum et al., 2008	Det. in 100% samples; 95th perc = 211.2 ug/L; LOD = 0.4 ug/L	
		<b>13107</b>	<b>26.1</b>				<b>0.3</b>	<b>14459</b>				
<b>Europe</b>												
Germany, Erlangen (south) - genrl population age 7 to 64 y	2002 (April)	85	263	248	181		14.5	1256	1	Koch et al., 2003a	95th percentile = 825	
Germany, rural - south - 38 children 2.6 to 6.5 y (median 4.7 y)	2003 (Jan.)			497	139		6.2	3058	1	Koch et al., 2005	2nd highest conc. = 510 ug/L	
Germany, rural - south - 19 adults 20 to 59 y (median 37.4 y)	2003 (Jan.)			45.4	91.8		35.1	184	1	Koch et al., 2005		
Germany - Berlin + rural (north) - children 2 to 14 y (median 8.5 y)	2001-2002	239	174		166		15.5	3193	1	Koch et al., 2006a	95th percentile = 624 ug/L	
Germany - Berlin + rural (north) - children 2 to 4 y (N = 31)	2001-2002				170			701	1	Koch et al., 2006a	High value is 95th percentile	
Germany - Berlin + rural (north) - children 5 to 6 y (N = 46)	2001-2002				162			420	1	Koch et al., 2006a	High value is 95th percentile	
Germany - Berlin + rural (north) - children 7 to 8 y (N = 53)	2001-2002				158			775	1	Koch et al., 2006a	High value is 95th percentile	
Germany - Berlin + rural (north) - children 9 to 11 y (N = 56)	2001-2002				187			611	1	Koch et al., 2006a	High value is 95th percentile	
Germany - Berlin + rural (north) - children 12 to 14 y (N = 53)	2001-2002				153			741	1	Koch et al., 2006a	High value is 95th percentile	
Germany - adults 27 to 32 y (2 male, 1 female)	NA						36.7	48.1	4	Koch et al., 2006b	Sampled 24 to 48 h after alimentary abstinence	
Germany - adult males attending fertility clinic, med. age 34 y	2004-2005				32.71			165.81	4	Nieden et al., 2006	N = 259; 75th perc. 56.70 ug/L; High value is 95th perc.	
Germany, Munich & rural (south); 50 men & women 14 to 60 y	2005				49.6		2.3	1509.2	1	Fromme et al., 2007a	399 samples, collected for 8 d; 95th perc = 171.5 ug/L	
Germany - adults 21 to 29 y (30 male, 30 female)	1988				178		13.6	882	1	Witassek et al., 2007b	95th percentile = 795 ug/L	
Germany - adults 21 to 29 y (30 male, 30 female)	1989				189		28.7	1475	1	Witassek et al., 2007b	95th percentile = 609 ug/L	
Germany - adults 22 to 29 y (30 male, 30 female)	1991				182		40.8	699	1	Witassek et al., 2007b	95th percentile = 443 ug/L	
Germany - adults 20 to 29 y (30 male, 30 female)	1993				164		16.2	1969	1	Witassek et al., 2007b	95th percentile = 1208 ug/L	
Germany - adults 20 to 29 y (78 male, 68 female)	1996				105		24.6	2090	1	Witassek et al., 2007b	95th percentile = 657 ug/L	

Germany - adults 20 to 29 y (38 male, 30 female)	1998		79.2	12.4	686	1	Wittassek et al., 2007b	95th percentile = 346 ug/L		
Germany - adults 21 to 28 y (30 male, 30 female)	1999		71.7	20.2	800	1	Wittassek et al., 2007b	95th percentile = 597 ug/L		
Germany - adults 20 to 29 y (30 male, 30 female)	2001		63.4	18	1778	1	Wittassek et al., 2007b	95th percentile = 464 ug/L		
Germany - adults 20 to 28 y (30 male, 30 female)	2003		50.8	7.2	704	1	Wittassek et al., 2007b	95th percentile = 161 ug/L		
Germany, south; 12 female + 13 male; age 6 to 73 y	N/A	25	67.2	50.8	12.6	366.9	1	Koch et al., 2007	Det. in 100% samples	
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	43.2	3.1	42.7	4.7	420.8	1	Ye et al., 2008	Det. in 100% samples; LOD = 1.00 ug/L; 95th perc = 197.0 ug/L
Spain, Barcelona - adult males	NA	4	67	58	49	101	1	Alzaga et al., 2003	Detection limit = 0.95 ng/mL	
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	53	45	46	5.1	198	4	Hogberg et al., 2008	Detected in all 38 samples; det. limit = 1.1 ug/L; 75th perc = 68 ug/L
		<b>491</b>	<b>147.1</b>			<b>2.3</b>	<b>3193</b>			
<b>Japan/Asia</b>										
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	24.6	30.8	3.5	131.0	1	Berman et al., 2009	Detected in 100% samples; det. limit = 0.6 ug/L	
Japan, Tokyo-Yokohama; 35 adults, 1 child (4-70 y)	2004 (May)			43	<1.8	280	1	Itoh et al., 2005	Median reported as 36 ug/L in Itoh et al (2007) (same dataset)	
Japan - adult males	NA	50	15.6	19.6	4.5	130.5	1	Kato et al., 2003	Limit of quantitation = 4.3 ng/mL; detected in 100% samples	
Japan - adult females	NA	20	27.1	16.3	13.4	85.8	1	Kato et al., 2003	Limit of quantitation = 4.3 ng/mL; detected in 100% samples	
Korea, Seoul - male and female adults in urban area	2005	513	51.84	58.96	35.91	8.01	107.25	4	Hong et al., 2009	Det. In 97.7% samples; det limit = 0.93; low and high are 10th and 90th perc.
Taiwan - adults 21 to 67 y; 41 women, 19 men	NA	60	25.9	4.2	36.5	141.6	4	Chen et al., 2008	Detected in 90% of samples; high value is 95th perc.; 25th perc = 13.8 ug/L	
Taiwan - pregnant women (2nd trimester) (N = 28)	NA			92.3			4	Huang et al., 2006	Detected in 100% of samples	
		<b>27858</b>	<b>30.8</b>		<b>&lt;1.8</b>	<b>280</b>				
U.S. - adult male, chronic use of medicine containing DBP	NA	1	16868	16868			1	Hauser et al., 2004a		
U.S. - national survey, adult users of medicine, mesalamine	1999-2004	6	2257				1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, didanosine	1999-2004	3	16.8				1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, omeprazole	1999-2004	91	28.2				1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, theophylline	1999-2004	27	199				1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - Boston area; manicurists - post-shift; N = 37	2004-2005			87.2			1	Kwapniewski et al., 2008	25th perc = 33.8 ug/L; 75th perc = 160 ug/L	
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	306	2.59	230	78.8	1240	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	766	3.26	1010	96.3	4680	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	27.7	1.69	25.9	14.0	152	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	24.6	2.41	26.1	2.30	116	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	23.7	2.70	18.2	6.20	202	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	30.6	2.75	30.8	6.40	360	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	40.0	2.48	38.0	11.8	196	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	61.3	2.19	63.0	15.8	169	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	194	2.31	211	44.6	1580	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	270	2.25	257	71.9	1790	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	43.8	2.59	38.5	5.40	326	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	62.3	2.39	56.8	19.2	321	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	350	2.11	334	107	1930	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	660	2.16	643	57.8	2010	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	23.3	3.41	29.3	<1.6	114	1	Hines et al., 2009a	Detected in 96% samples; LOD = 0.4 to 1.6 ug/L
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	26.0	3.63	38.0	<1.6	147	1	Hines et al., 2009a	Detected in 96% samples; LOD = 0.4 to 1.6 ug/L
Germany - adults 20 to 29 y (N = 634)	1988-2003			112	7.2	2090	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 604 ug/L	
Germany - male adults 20 to 29 y (N = 326)	1988-2003			106	7.2	2090	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 679 ug/L	
Germany - female adults 20 to 29 y (N = 308)	1988-2003			117	12.2	1930	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 547 ug/L	

	Date	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Median	Low			
<b>USA</b>										
U.S. - national survey aged 6 y and older	1999-2000	2541	22.4		21.9	7.74	97.5	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey aged 6 y and older	2001-2002	2772	17.8		17.4		81.3	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6-11 y	1999-2000	328	41.9		38.9		159	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 6-11 y	2001-2002	392	35.5		35.1		146	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	1999-2000	752	24.3		23.6		88.1	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	19.4		20.3		88.6	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	1999-2000	1461	20.4		19.5	7.08	91.0	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey of adults age 20 y and older	2001-2002	1638	16.1		15.4		71.6	1	CDC, 2005	High value is 95th percentile
U.S. - New York City; pregnant women	2000(Mar-July)	25	54.4	24.5	42.6	21.3	105	1	Adibi et al., 2003	
U.S., Wisconsin - adult males and females	2005				22.9			4	Peck et al., 2006	
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	80.0	2.1	72.2	11.9	779	4	Baird et al., 2009	MnBP + MiBP; Samples frozen for >20 y; 95th perc = 291.1 ug/g
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				20.6		144	1	Marsee et al., 2006	25th perc = 13.8 ug/g; 95th perc = 57.3 ug/g
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				18.3	9.7	40.8	1	Hines et al., 2009b	Det. in 97% samples; low and high are 10th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				18.2	4.3	133.0	1	Hines et al., 2009b	Det. in 80% samples; low and high are 10th and 95th perc., respectively
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	44.1	2.4				1	Wolff et al., 2007	Detected in 88 of 90 samples
U.S. - New York City; children age 6 to 10 y	2004-2005	159	52.0		52.6	9.1	660.8	1	Teitelbaum et al., 2008	Det. in 100% samples; 95th perc = 165.1 ug/g; collected over 6 mo. period
		<b>11080</b>	<b>22.6</b>			<b>4.3</b>	<b>779</b>			

Europe											
Germany, Munich and area - age 14 to 60 y	2005 (April-Oct)			43.6					1	Fromme et al., 2007b	
Germany, rural - south - 36 children 2.6 to 6.5 y (median 4.7 y)	2003 (Jan.)	361		161	62.5	2249			1	Koch et al., 2005	2nd highest conc. = 517 ug/g
Germany, rural - south - 19 adults 20 to 59 y (median 37.4 y)	2003 (Jan.)			26.8	79.3	48.1	149		1	Koch et al., 2005	
Germany - Berlin + rural (north) - children 2 to 14 y (median 8.5 y)	2001-2002	239	136		136	16.8	2102		1	Koch et al., 2006a	95th percentile = 491 ug/g
Germany - Berlin + rural (north) - children 2 to 4 y (N = 31)	2001-2002				244		685		1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 5 to 6 y (N = 46)	2001-2002				151		364		1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 7 to 8 y (N = 53)	2001-2002				149		765		1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 9 to 11 y (N = 56)	2001-2002				115		248		1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 12 to 14 y (N = 53)	2001-2002				81.2		424		1	Koch et al., 2006a	High value is 95th percentile
Germany - adults 21 to 29 y (30 male, 30 female)	1988				174	14.3	937		1	Wittassek et al., 2007b	95th percentile = 621 ug/g
Germany - adults 21 to 29 y (30 male, 30 female)	1989				181	33.0	1798		1	Wittassek et al., 2007b	95th percentile = 664 ug/g
Germany - adults 22 to 29 y (30 male, 30 female)	1991				156	54.0	750		1	Wittassek et al., 2007b	95th percentile = 364 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	1993				162	47.8	1456		1	Wittassek et al., 2007b	95th percentile = 1033 ug/g
Germany - adults 20 to 29 y (78 male, 68 female)	1996				96.1	23.2	3294		1	Wittassek et al., 2007b	95th percentile = 488 ug/g
Germany - adults 20 to 29 y (38 male, 30 female)	1998				80.6	25.1	420.9		1	Wittassek et al., 2007b	95th percentile = 255 ug/g
Germany - adults 21 to 28 y (30 male, 30 female)	1999				76.2	22.6	719		1	Wittassek et al., 2007b	95th percentile = 426 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	2001				69.4	22.5	2167		1	Wittassek et al., 2007b	95th percentile = 351 ug/g
Germany - adults 20 to 28 y (30 male, 30 female)	2003				51.7	18.1	1921		1	Wittassek et al., 2007b	95th percentile = 146 ug/g
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	67.1	2.2	62.2	15.3	351.0		1	Ye et al., 2008	Det. in 100% samples; 95th perc = 228.0 ug/g
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	56	37	50		18	191	4	Hogberg et al., 2008	Detected in all 38 samples; 75th perc = 68 ug/g
		377	110				14.3	3294			
Japan/Asia											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	32.9		45.9	4.10	90.0		1	Berman et al., 2009	
China, Liaoning Province - adult males	N/A	63	129.6		113.5	58.2	434.5		4	Pan et al., 2006	Low and high are 10th and 95th percentiles, respectively
Japan, Tokyo-Yokohama; 35 adults, 1 child (4-70 y)	2004 (May)				31	<6.1	140		1	Itoh et al., 2005	
Korea - children age 6.5 to 12.5 y - male	NA	30	130.3	1.5		57.2	308.9		4	Kho et al., 2007	Data reported as mg/g
Korea - children age 6.5 to 12.5 y - female	NA	30	149.9	2.5		30.7	5233		4	Kho et al., 2007	Data reported as mg/g
Taiwan - pregnant women (2nd trimester) (N = 28)	NA				346.4				4	Huang et al., 2006	Detected in 100% of samples
		142	121			<6.1	5233				
U.S. - adult male, chronic use of medicine containing DBP	NA	1	6180		6180				1	Hauser et al., 2004a	
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	187	2.44	121	65.5	647		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	402	2.27	363	157	1750		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	13.3	1.60	12.9	6.01	38.8		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	13.1	2.12	14.7	2.35	85.9		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	20.0	1.97	16.4	6.56	101		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	24.1	2.08	21.2	6.28	163		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	24.8	2.52	23.6	7.48	105		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	30.9	2.08	28.8	10.3	92.4		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	140	2.23	130	26.4	1370		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	168	2.16	135	46.4	1810		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	33.0	2.74	26.4	3.40	592		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	36.4	2.30	32.1	11.8	313		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	228	2.00	269	65.6	623		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	418	1.76	403	137	1320		1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	26.0	2.10	29.9	<LOD	77.2		1	Hines et al., 2009a	Detected in 96% samples
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	34.2	1.94	38.3	<LOD	119		1	Hines et al., 2009a	Detected in 96% samples
Germany - adults 20 to 29 y (N = 634)	1988-2003				109	14.3	3294		1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 461 ug/g
Germany - male adults 20 to 29 y (N = 326)	1988-2003				88.9	14.3	1934		1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 404 ug/g
Germany - female adults 20 to 29 y (N = 308)	1988-2003				126	26.7	3294		1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 640 ug/g
China, Liaoning Province - adult males occupationally exposed	N/A	74	644.3		548.4	156.7	8781.2		4	Pan et al., 2006	Low and high are 10th and 95th percentiles, respectively
Korea - children age 6.5 to 12.5 y - male and female	NA	60	139.8	2.0		30.7	5233		4	Kho et al., 2007	Overall total of data presented above

Human Plasma											
	Date	N	Concentration as ug/mL			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
Denmark, Copenhagen - umbilical cord blood	N/A	5	0.0023	0.0011		0.00111	0.0039	4	Mose et al., 2007		
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	36	0.0018	0.0033	<0.0011	<0.0011	0.02	4	Hogberg et al., 2008	Detected in 17 of 36 samples; det. limit =0.0011 ug/mL; 75th perc. = 0.0019	
		41	0.0019			<0.0011	0.02				
Amniotic Fluid											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
U.S. - 54 pregnant females	N/A				5.8	<0.97	263.9	4	Silva et al., 2004b	Detected in 50 of 54 samples; 95th percentile = 15.9	
Denmark, Copenhagen - maternal perfusate	N/A		N/A			2.03	60.8	4	Mose et al., 2007		
			N/A			<0.97	60.8				
Placenta Tissue											
	Date	N	Concentration as ug/kg			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
Denmark, Copenhagen - before perfusion	N/A					4.77	18.61	4	Mose et al., 2007		
Denmark, Copenhagen - after perfusion	N/A					23.28	42.72	4	Mose et al., 2007		
			N/A			4.77	42.72				
Milk											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
Denmark, Copenhagen - conventional and organic farming	NA		N/A			1.4	2.8	1	Mortensen et al. 2005	7 samples; Fat content: 1.5 to 3.5%	
			N/A			1.4	2.8				
Human Milk											
Italy, Brindisi & Tricase - 7 d after delivery; age 18 to 41 y; n=62	2006				1.5	<1	20.4	4	Latini et al., 2009	Det. in 40 of 62 samples; 95th perc = 10.7 ug/L	
Sweden - 2 to 3 wks after delivery; age 23 to 39 y	2001	42	1.2	1.3	<1.1	<1.1	5.7	4	Hogberg et al., 2008	Det. in 11 of 42 samples; det. limit = 1.1 ug/L; 75th perc. = 1.3 ug/L	
		42	1.2			<1	20.4				
Denmark, Copenhagen - 36 mothers; 1 to 3 mo postnatal	1997-2001	36	359	1830	3.5	0.6	10900	3	Mortensen et al. 2005	Possible contamination of samples	
Denmark, Copenhagen - 65 mothers; 1 to 3 mo postnatal	1997-2001				4.3	0.6	10900	3	Main et al. 2005	Likely includes data reported in Mortensen et al. 2005	
Finland, Turku - 65 mothers; 1 to 3 mo postnatal	1997-2001				12	2.4	123	3	Main et al. 2005		
Infant Formula											
Denmark, Copenhagen - 10 samples	NA					0.6	3.9	1	Mortensen et al. 2005	2 ready to use products; 8 powder samples reconstituted	
			N/A			0.6	3.9				

**Mono-isobutyl phthalate (MiBP)**

Surface Water											
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
<b>Japan/Asia</b>											
Tokyo - Tama River site #1 (upstream)	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #2	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #3	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #4 (downstream)	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Aki River	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Asa River	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
		<b>72</b>	<b>0.006</b>				<b>&lt;0.012</b>	<b>&lt;0.012</b>		<b>Mean represents one half detection limit</b>	
<b>Urine</b>											
USA	Date	N	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
U.S. - adult	NA	1	2.3			2.3			1	Silva et al., 2004c	
U.S. - national survey aged 6 y and older	2001-2002	2782	2.71		2.60			17.9	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6 -11 y	2001-2002	393	4.22		4.40			23.4	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	3.48		3.80			22.2	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	2001-2002	1647	2.46		2.40			16.3	1	CDC, 2005	High value is 95th percentile
U.S. - 43 adults	NA				1.27		0.85	5.9	4	Kato et al., 2005	Det. in 100% samples; det. limit = 0.26 ug/L
U.S. - Boston area; manicurists - pre-shift; N = 37	2004-2005				10.7				1	Kwapniewski et al., 2008	25th perc = 7.3 ug/L; 75th perc = 14.9 ug/L
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				2.5		<1.07	39.8	1	Marsee et al., 2006	25th perc = <1.07 ug/L; 95th perc = 13.1 ug/L
U.S. - New York City; 246 pregnant women	2001-2006	221	9.5		10.2		1.9	36.1	1	Adibi et al., 2008	Det. in 100% samples; low and high are 5th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				3.8		0.7	12.1	1	Hines et al., 2009b	Det. in 97% samples; low and high are 10th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				2.1		0.6	19.0	1	Hines et al., 2009b	Det. in 67% samples; low and high are 10th and 95th perc., respectively
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	7.1	3.6	7.7		0.2	144.0	1	Wolff et al., 2007	Detected in 87 of 90 samples; det. limit = 0.26 ug/L
U.S. - New York City; children age 6 to 10 y	2004-2005	159	16.6		18.0		<0.26	299.1	1	Teitelbaum et al., 2008	Det. in 98.7% samples; 95th perc = 66.5 ug/L; LOD = 0.26 ug/L
		<b>6035</b>	<b>3.5</b>				<b>0.2</b>	<b>299.1</b>			
<b>Europe</b>											
Germany - adults 27 to 32 y (2 male, 1 female)	NA						9.7	28.1	4	Koch et al., 2006b	Sampled 24 to 48 h after alimentary abstinence
Germany - adult males attending fertility clinic; med. age 34 y	2004-2005			49.65				166.23	4	Nieden et al., 2006	N = 137; 75th perc. 79.03 ug/L; High value is 95th perc.
Germany, Munich & rural (south); 50 men & women 14 to 60 y	2005			44.9			3.1	524.6	1	Fromme et al., 2007a	399 samples, collected for 8 d; 95th perc = 182.6 ug/L
Germany - adults 21 to 29 y (30 male, 30 female)	1988			29.3			8.6	318	1	Wittassek et al., 2007b	95th percentile = 150 ug/L
Germany - adults 21 to 29 y (30 male, 30 female)	1989			27.7			5.9	187	1	Wittassek et al., 2007b	95th percentile = 117 ug/L
Germany - adults 22 to 29 y (30 male, 30 female)	1991			39.8			7.4	588	1	Wittassek et al., 2007b	95th percentile = 465 ug/L
Germany - adults 20 to 29 y (30 male, 30 female)	1993			29.8			6.0	209	1	Wittassek et al., 2007b	95th percentile = 90.9 ug/L
Germany - adults 20 to 29 y (78 male, 68 female)	1996			42.9			8.2	534	1	Wittassek et al., 2007b	95th percentile = 241 ug/L
Germany - adults 20 to 29 y (38 male, 30 female)	1998			36.5			5.4	263	1	Wittassek et al., 2007b	95th percentile = 214 ug/L
Germany - adults 21 to 28 y (30 male, 30 female)	1999			32.1			10.3	216	1	Wittassek et al., 2007b	95th percentile = 151 ug/L
Germany - adults 20 to 29 y (30 male, 30 female)	2001			32.7			7.5	435	1	Wittassek et al., 2007b	95th percentile = 171 ug/L
Germany - adults 20 to 28 y (30 male, 30 female)	2003			30.4			7.2	151	1	Wittassek et al., 2007b	95th percentile = 124 ug/L
Germany, south; 12 female + 13 male; age 6 to 73 y	N/A	25	53.1		48.4		8.1	132.6	1	Koch et al., 2007	Det. in 100% samples
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	41.3	3.0	42.1		5.3	759.0	1	Ye et al., 2008	Det. in 100% samples; LOD = 1.00 ug/L; 95th perc = 249.0 ug/L
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	21	24	16		<1.0	130	4	Hogberg et al., 2008	Detected in 34 of 38 samples; det. limit = 1.0 ug/L; 75th perc = 30 ug/L
		<b>163</b>	<b>38.4</b>				<b>&lt;1.0</b>	<b>759</b>			
<b>Japan/Asia</b>											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	13.4		15.6		<0.3	69.6	1	Berman et al., 2009	Detected in 95% samples; det. limit = 0.3 ug/L
		<b>19</b>	<b>13.4</b>				<b>&lt;0.3</b>	<b>69.6</b>			
U.S. - national survey, adult users of medicine, mesalamine	1999-2004	6	6.5						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - national survey, adult users of medicine, didanosine	1999-2004	2	3.5						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - national survey, adult users of medicine, omeprazole	1999-2004	54	3.5						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - national survey, adult users of medicine, theophylline	1999-2004	16	5.5						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - Boston area; manicurists - post-shift; N = 37	2004-2005				10.5				1	Kwapniewski et al., 2008	25th perc = 5.8 ug/L; 75th perc = 17.3 ug/L
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	5.44	1.60	5.20		2.40	10.3	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	6.83	2.24	7.30		2.30	25.0	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	5.79	1.47	5.80		2.40	13.2	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	5.16	1.92	4.90		1.10	16.1	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	3.74	2.54	4.05		<1.0	13.4	1	Hines et al., 2009a	Detected in 89% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	3.50	2.21	4.30		<1.0	10.1	1	Hines et al., 2009a	Detected in 89% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	9.05	2.46	7.30		2.20	39.9	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	13.2	2.03	12.5		3.40	35.4	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber hose; 24 men, 1 woman - mid-shift	2003-2005	25	11.7	3.71	8.80		1.40	586	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber hose; 24 men, 1 woman - end-shift	2003-2005	25	12.1	3.76	8.70		1.80	850	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	10.9	2.22	10.9		2.00	36.4	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	15.8	2.76	12.5		3.60	236	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	10.1	2.17	9.15		2.60	83.0	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	11.6	2.25	13.4		<1.0	54.1	1	Hines et al., 2009a	Detected in 95% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	4.51	2.33	4.60		<1.0	26.5	1	Hines et al., 2009a	Detected in 96% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	4.33	3.12	5.10		<1.0	22.9	1	Hines et al., 2009a	Detected in 85% samples; LOD = 0.3 to 1.0 ug/L
Germany - adults 20 to 29 y (N = 634)	1988-2003				34.5		5.4	588	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 176 ug/L
Germany - male adults 20 to 29 y (N = 326)	1988-2003				35.3		5.4	543	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 150 ug/L
Germany - female adults 20 to 29 y (N = 308)	1988-2003				33.7		6.0	588	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 183 ug/L

**Legend**

- Data, changes or comments added in 2009
- Excluded from calculated summary
- Indicates average based on detection limit
- BOLD** Calculated category summary

**Data Quality**

- 1 - Reliable without restrictions
- 2 - Reliable with restrictions
- 3 - Not reliable
- 4 - Unassignable



	Date	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments	
		N	Geo.Mean/Ave.	SD		Median	Low				High
<b>USA</b>											
U.S. - national survey aged 6 y and older	2001-2002	2772	2.53		2.44		12.0	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 6-11 y	2001-2002	392	4.80		5.17		24.3	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 12-19 y	2001-2002	742	2.68		2.83		12.8	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey of adults age 20 y and older	2001-2002	1638	2.31		2.24		10.6	1	CDC, 2005	High value is 95th percentile	
U.S., Wisconsin - adult males and females	2005				5.21			4	Peck et al., 2006	No recent use of hair conditioner	
U.S., Wisconsin - adult males and females	2005				9.39			4	Peck et al., 2006	Use of hair conditioner < 48 h prior to meas.	
U.S., Wisconsin - adult males and females	2005				5.79			4	Peck et al., 2006	No recent use of perfume/cologne	
U.S., Wisconsin - adult males and females	2005				11.23			4	Peck et al., 2006	Use of perfume/cologne < 48 h prior to meas.	
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				2.9	<LOD	71.1	1	Marsee et al., 2006	25th perc = <LOD ug/g; 95th perc = 10.0 ug/g	
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				5.2	2.6	13.9	1	Hines et al., 2009b	Det. in 97% samples; low and high are 10th and 95th perc., respectively	
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				3.4	1.0	12.2	1	Hines et al., 2009b	Det. in 67% samples; low and high are 10th and 95th perc., respectively	
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	11.1	2.5				1	Wolff et al., 2007	Detected in 87 of 90 samples	
U.S. - New York City; children age 6 to 10 y	2004-2005	159	16.5		15.6		2.1	158.2	1	Teitelbaum et al., 2008	Det. in 98.7% samples; 95th perc = 50.9 ug/g; collected over 6 mo. period
		<b>5793</b>	<b>3.2</b>				<b>&lt;LOD</b>	<b>158.2</b>			
<b>Europe</b>											
Germany, Munich and area - age 14 to 60 y	2005 (April-Oct)				47.5			1	Fromme et al., 2007b		
Germany - adults 21 to 29 y (30 male, 30 female)	1988				30.8		8.0	182	1	Wittassek et al., 2007b	95th percentile = 89.5 ug/g
Germany - adults 21 to 29 y (30 male, 30 female)	1989				28.3		6.7	385	1	Wittassek et al., 2007b	95th percentile = 84.1 ug/g
Germany - adults 22 to 29 y (30 male, 30 female)	1991				32.6		7.8	421	1	Wittassek et al., 2007b	95th percentile = 253 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	1993				29.4		9.6	115	1	Wittassek et al., 2007b	95th percentile = 84.0 ug/g
Germany - adults 20 to 29 y (78 male, 68 female)	1996				37.6		11.2	901	1	Wittassek et al., 2007b	95th percentile = 225 ug/g
Germany - adults 20 to 29 y (38 male, 30 female)	1998				40.2		11.7	285	1	Wittassek et al., 2007b	95th percentile = 205 ug/g
Germany - adults 21 to 28 y (30 male, 30 female)	1999				39.3		11.0	263	1	Wittassek et al., 2007b	95th percentile = 131 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	2001				37.7		6.9	415	1	Wittassek et al., 2007b	95th percentile = 136 ug/g
Germany - adults 20 to 28 y (30 male, 30 female)	2003				36.1		10.8	115	1	Wittassek et al., 2007b	95th percentile = 104 ug/g
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	64.1	2.1	57.1	14.4	640.0	1	Ye et al., 2008	Det. in 100% samples; 95th perc = 327.0 ug/g	
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	21	21	15			110	4	Hogberg et al., 2008	Detected in 34 of 38 samples; 75th perc = 23 ug/g
		<b>138.0</b>	<b>52</b>				<b>6.7</b>	<b>901</b>			
<b>Japan/Asia</b>											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	18.0		27.7		<LOD	52.7	1	Berman et al., 2009	
Korea - children age 6.5 to 12.5 y - male	NA	30	56.8	2.0			13.3	308.9	4	Kho et al., 2007	Data reported as mg/g
Korea - children age 6.5 to 12.5 y - female	NA	30	56.8	2.1			16.4	289.3	4	Kho et al., 2007	Data reported as mg/g
		<b>79</b>	<b>47.5</b>				<b>&lt;LOD</b>	<b>308.9</b>			
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	3.31	1.74	3.14		1.34	5.98	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	3.59	2.21	3.11		1.06	10.0	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	2.77	1.45	2.93		1.32	5.36	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	2.74	1.58	2.53		1.12	8.28	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	3.16	1.79	3.30		<LOD	7.84	1	Hines et al., 2009a	Detected in 89% samples
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	2.80	1.54	2.99		<LOD	4.57	1	Hines et al., 2009a	Detected in 89% samples
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	5.60	2.35	5.75		1.72	20.2	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	6.63	1.79	7.65		2.22	15.1	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	8.44	3.58	5.80		1.73	915	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	7.52	3.57	4.87		1.96	766	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	8.22	2.26	8.31		1.26	58.3	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	9.26	2.37	8.98		2.35	125	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	6.56	1.93	6.82		2.28	18.2	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	7.42	1.76	7.66		2.66	19.7	1	Hines et al., 2009a	Detected in 95% samples
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	5.00	2.04	5.70		<LOD	27.0	1	Hines et al., 2009a	Detected in 96% samples
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	6.26	1.85	6.42		<LOD	26.6	1	Hines et al., 2009a	Detected in 85% samples
Germany - adults 20 to 29 y (N = 634)	1988-2003				35.4		6.7	901	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 155 ug/g
Germany - male adults 20 to 29 y (N = 326)	1988-2003				31.7		6.8	901	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 115 ug/g
Germany - female adults 20 to 29 y (N = 308)	1988-2003				40.6		9.6	421	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 193 ug/g
Korea - children age 6.5 to 12.5 y - male and female	NA	60	56.8	2.0			13.3	308.9	4	Kho et al., 2007	Overall total of data presented above
<b>Human Plasma</b>											
	Date	N	Geo.Mean/Ave.	SD	Median	Single Point	Low	High	Data Quality	Reference	Comments
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	36	0.00087	0.0018	<0.001		<0.001	0.011	4	Hogberg et al., 2008	Detected in 3 of 36 samples; det. limit =0.001 ug/mL
		<b>36</b>	<b>0.00087</b>				<b>&lt;0.001</b>	<b>0.011</b>			
<b>Milk</b>											
	Date	N	Average	SD	Median	Single Point	Low	High	Data Quality	Reference	Comments
<b>Human Milk</b>											
Italy, Brindisi & Tricase - 7 d after delivery; age 18 to 41 y; n=62	2006				18.8		8.4	57.2	4	Latini et al., 2009	Det. in 100% samples; 95th perc = 36.9 ug/L
Sweden - 2 to 3 wks after delivery; age 23 to 39 y; N=42	2001		<b>N/A</b>		<1.0		<1.0	2.1	4	Hogberg et al., 2008	Detected in 2 of 42 samples; det. limit = 1.0 ug/L
							<b>&lt;1.0</b>	<b>57.2</b>			

Monobenzyl phthalate (MBzP)

Surface Water											
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
<b>Canada</b>											
Alberta - N. Sask. River - downstream of WWTP effluent	2002 (Dec)	1	0.003			<0.006			1	Alberta Environment, 2005	
Alberta - Bow River - downstream of WWTP effluent	2003 (Jan)	1	0.003			<0.006			1	Alberta Environment, 2005	
Alberta - S. Sask. River - upstream of Medicine Hat	2003 (Jan)	1	0.003			<0.006			1	Alberta Environment, 2005	
Alberta - Red Deer River - downstream of WWTP effluent	2003 (Jan)	1	0.003			<0.006			1	Alberta Environment, 2005	
		<b>4</b>	<b>0.003</b>				<b>&lt;0.006</b>			<b>Mean represents one half detection limit</b>	
<b>Japan/Asia</b>											
Tokyo - Tama River site #1 (upstream)	1999-2000	12	0.007			<0.013	<0.013		1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #2	1999-2000	12	0.007			<0.013	<0.013		1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #3	1999-2000	12	0.007			<0.013	<0.013		1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #4 (downstream)	1999-2000	12	0.007			<0.013	<0.013		1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Aki River	1999-2000	12	0.007			<0.013	<0.013		1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Asa River	1999-2000	12	0.007			<0.013	<0.013		1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
		<b>72</b>	<b>0.007</b>				<b>&lt;0.013</b>	<b>&lt;0.013</b>		<b>Mean represents one half detection limit</b>	
<b>Landfill Leachate</b>											
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
<b>Europe</b>											
Sweden, Denmark, Germany, Italy- Landfill leachate	1998-1999	17	3	3	<1		<1	10	2	Jonsson et al., 2003	Leachate collected from 17 engineered landfills
		<b>17</b>	<b>3</b>				<b>&lt;1</b>	<b>10</b>			
<b>Wastewater</b>											
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
<b>Canada</b>											
Alberta - effluent from 7 WWTPs	Dec 02-Jun 03	7	0.003		<0.006		<0.006	<0.006	1	Alberta Environment, 2005	
		<b>7</b>	<b>0.003</b>				<b>&lt;0.006</b>			<b>Mean represents one half detection limit</b>	
<b>Urine</b>											
Location	Date	N	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
<b>USA</b>											
U.S. - national survey of adults aged 20 to 60 y	1989-94	289	22.6		21.2		1.4	1020	1	Blount et al., 2000	
U.S. , Imperial County, CA; toddlers aged 11.8 to 16.5 mo.	2000 (Jan. to Mar.)	31	35.6	44.8			5.4	316	1	Brock et al., 2002	19 children tested
U.S. - national survey aged 6 y and older	1999-2000	2541	15.3		17.0		2.8	103	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey aged 6 y and older	2001-2002	2782	15.1		15.7			122	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6 -11 y	1999-2000	328	39.4		40.3			214	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 6 -11 y	2001-2002	393	33.4		37.0			226	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	1999-2000	752	25.6		28.3			125	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	23.2		24.7			169	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	1999-2000	1461	12.4		13.8		2.2	86.3	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey of adults age 20 y and older	2001-2002	1647	12.7		13.8			99.7	1	CDC, 2005	High value is 95th percentile
U.S. - adult	NA	1	14.7			14.7			1	Silva et al., 2004c	
U.S. - adult male, chronic use of medicine containing DBP	NA	1	9.3			9.3			1	Hauser et al., 2004a	
U.S. - New England area; 369 adult males	NA	369	5.57		6.0		1.1	34.7	1	Hauser et al., 2004b	Low and high are 10th and 95th percentiles, respectively
U.S. - Boston; adult males 20 to 54 y	2000-2003	338	13.9	32.4	6.8		<0.47	41.3	1	Duty et al., 2005a	Low & high are 5th & 95th perc; geo mean = 6.0; unadj for spec. grav.
U.S. - Boston; adult males 18 to 54 y	1999-2003	295	6.4		6.9		0.9	37.1	1	Duty et al., 2005b	Low & high are 5th & 95th perc; Subset of Duty et al 2005a; unadj for spec. grav.
U.S. - Boston; adult males 22 to 54 y attending fertility clinic	2000-2004	463	7.4		8.0		<0.8	54.0	1	Hauser et al., 2006	Det. limit = 0.8 ug/L; 95th perc = 40.6 ug/L
U.S. - 43 adults	NA				2.06		<0.11	33.60	4	Kato et al., 2005	Detected in 36 of 43 samples; det. limit = 0.11 ug/L
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	34.8	2.6	33.2		1.7	794	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 170.0 ug/L
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				9.3			436	1	Marsee et al., 2006	25th perc = 3.6 ug/L; 95th perc = 57.8 ug/L
U.S. - New York City; 246 pregnant women	2001-2006	246	17.5		17.2		1.7	146.8	1	Adibi et al., 2008	Det. in 100% samples; low and high are 5th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				9.6		1.6	75.6	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				11.0		1.0	141.1	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively
U.S. - Boston; infants in neonatal care; low exposure to DEHP	2003				41				1	Weuve et al., 2006	N=54; 25th perc = 15 ug/L; 75th perc = 47 ug/L
U.S. - Boston; infants in neonatal care; med. exposure to DEHP	2003				70				1	Weuve et al., 2006	N=54; 25th perc = 21 ug/L 75th perc = 256 ug/L
U.S. - Boston; infants in neonatal care; high exposure to DEHP	2003				36				1	Weuve et al., 2006	N=54; 25th perc = 10 ug/L 75th perc = 82 ug/L
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	18.4	4.0	22.2		0.1	191.0	1	Wolff et al., 2007	Detected in 89 of 90 samples; det. limit = 0.11 ug/L
U.S. - New York City; children age 6 to 10 y	2004-2005	158	40.5		37.8		1.9	1038.6	1	Teitelbaum et al., 2008	Det. in 100% samples; 95th perc = 314.3 ug/L; LOD = 0.11 ug/L
		<b>13107</b>	<b>16.8</b>				<b>0.1</b>	<b>1038.6</b>			
<b>Europe</b>											
Germany, Erlangen (south) - genrl population age 7 to 64 y	2002 (April)	85	37.9		49.1	21	1.2	268	1	Koch et al., 2003a	95th percentile = 146
Germany, rural - south - 36 children 2.6 to 6.5 y (median 4.7 y)	2003 (Jan.)				38	22.1	1.8	164	1	Koch et al., 2005	
Germany, rural - south - 19 adults 20 to 59 y (median 37.4 y)	2003 (Jan.)				11.1	12.7	2.9	39.4	1	Koch et al., 2005	
Germany - adults 27 to 32 y (2 male, 1 female)	NA						2.0	5.6	4	Koch et al., 2006b	Sampled 24 to 48 h after alimentary abstinence
Germany - Berlin + rural (north) - children 2 to 14 y (median 8.5 y)	2001-2002	239	19.7		18.8		0.93	744	1	Koch et al., 2006a	95th percentile = 123 ug/L
Germany - Berlin + rural (north) - children 2 to 4 y (N = 31)	2001-2002				22.3			74.5	1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 5 to 6 y (N = 46)	2001-2002				18.3			74.3	1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 7 to 8 y (N = 53)	2001-2002				22.4			91.6	1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 9 to 11 y (N = 56)	2001-2002				17.7			187	1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 12 to 14 y (N = 53)	2001-2002				13.8			131	1	Koch et al., 2006a	High value is 95th percentile

**Legend**

- Data, changes or comments added in 2009
- Excluded from calculated summary
- Indicates average based on detection limit
- BOLD** Calculated category summary

**Data Quality**

- 1 - Reliable without restrictions
- 2 - Reliable with restrictions
- 3 - Not reliable
- 4 - Unassignable

Germany - adult males attending fertility clinic; med. age 34 y	2004-2005				5.05			28.55	4	Nieden et al., 2006	N = 258; 75th perc. 9.33 ug/L; High value is 95th perc.
Germany, Munich & rural (south); 50 men & women 14 to 60 y	2005				7.2		-0.3	537.6	1	Fromme et al., 2007a	399 samples, collected for 8 d; 95th perc = 45.6 ug/L
Germany - adults 21 to 29 y (30 male, 30 female)	1988				7.8		-0.5	203	1	Wittassek et al., 2007b	95th percentile = 25.5 ug/L
Germany - adults 21 to 29 y (30 male, 30 female)	1989				8.7		2.1	79.1	1	Wittassek et al., 2007b	95th percentile = 53.3 ug/L
Germany - adults 22 to 29 y (30 male, 30 female)	1991				15.4		2.3	99.7	1	Wittassek et al., 2007b	95th percentile = 70.8 ug/L
Germany - adults 20 to 29 y (30 male, 30 female)	1993				7.2		1.4	86.0	1	Wittassek et al., 2007b	95th percentile = 51.0 ug/L
Germany - adults 20 to 29 y (78 male, 68 female)	1996				8.4		1.2	687	1	Wittassek et al., 2007b	95th percentile = 145 ug/L
Germany - adults 20 to 29 y (38 male, 30 female)	1998				7.5		0.60	95.5	1	Wittassek et al., 2007b	95th percentile = 49.2 ug/L
Germany - adults 21 to 28 y (30 male, 30 female)	1999				5.2		1.1	289	1	Wittassek et al., 2007b	95th percentile = 154 ug/L
Germany - adults 20 to 29 y (30 male, 30 female)	2001				5.2		0.70	39.8	1	Wittassek et al., 2007b	95th percentile = 26.8 ug/L
Germany - adults 20 to 28 y (30 male, 30 female)	2003				5.9		0.71	30.6	1	Wittassek et al., 2007b	95th percentile = 24.8 ug/L
Germany, south; 12 female + 13 male; age 6 to 73 y	N/A	25	8.6		5.6		1.7	27.4	1	Koch et al., 2007	Det. in 100% samples
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	8.9	2.8	7.5		1.3	320.0	1	Ye et al., 2008	Det. in 100% samples; LOD = 0.25 ug/L; 95th perc = 95.8 ug/L
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	16	10	13		2.2	38	4	Hogberg et al., 2008	Detected in all 38 samples; det. limit = 1.0 ug/L; 75th perc = 20 ug/L
		<b>487</b>	<b>19.8</b>				<b>-0.3</b>	<b>744</b>			
<b>Japan/Asia</b>											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	6.4		5.3		0.5	71	1	Berman et al., 2009	Detected in 100% samples; det. limit = 0.3 ug/L
Japan, Tokyo-Yokohama; 35 adults, 1 child (4-70 y)	2004 (May)				2.4				1	Itoh et al., 2007	
Japan - adult males	NA	50	2.9	3.8			-5.7	8.8	1	Kato et al., 2003	Limit of quantitation = 5.7 ng/mL; detected in 31.4% samples
Japan - adult females	NA	20	2.9	3.7			-5.7	7.5	1	Kato et al., 2003	Limit of quantitation = 5.7 ng/mL; detected in 25.0% samples
Taiwan - adults 21 to 67 y; 41 women, 19 men	NA	60	3.9	2.2	2.2		-0.7	15.1	4	Chen et al., 2008	Detected in 50% of samples; high value is 95th perc.; det limit = 0.7 ug/L
Taiwan - pregnant women (2nd trimester) (N = 28)	NA				0.9				4	Huang et al., 2006	Detected in 21.4% of samples
		<b>149</b>	<b>3.7</b>				<b>0.5</b>	<b>71</b>			
U.S. - national survey, adult users of medicine, mesalamine	1999-2004	6	16.5						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - national survey, adult users of medicine, didanosine	1999-2004	3	22.4						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - national survey, adult users of medicine, omeprazole	1999-2004	91	24.8						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - national survey, adult users of medicine, theophylline	1999-2004	27	22.3						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	19.4	1.99	21.6		7.10	44.5	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	37.7	6.15	25.0		5.00	736	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	33.0	2.18	33.5		6.90	130	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	28.0	2.49	31.5		3.10	156	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	20.9	1.83	22.8		5.10	70.4	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	21.6	2.46	21.0		4.10	71.6	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	21.6	2.29	17.6		6.90	119	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	35.6	2.39	32.4		12.0	170	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	14.7	2.18	15.8		2.90	66.3	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	16.1	1.96	16.7		4.60	54.6	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	42.7	2.80	39.3		3.80	207	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	69.2	2.97	74.4		5.30	473	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	74.2	4.03	101		5.20	747	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	115	4.13	167		11.5	689	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	1.78	8.37	1.80		<1.0	32.1	1	Hines et al., 2009a	Detected in 56% samples; LOD = 0.1 to 1.0 ug/L
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	3.45	5.98	5.80		<1.0	54.0	1	Hines et al., 2009a	Detected in 69% samples; LOD = 0.1 to 1.0 ug/L
Germany - adults 20 to 29 y (N = 634)	1988-2003				7.4		-0.5	687	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 50.4 ug/L
Germany - male adults 20 to 29 y (N = 326)	1988-2003				8.0		-0.5	687	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 53.8 ug/L
Germany - female adults 20 to 29 y (N = 308)	1988-2003				7.2		0.6	542	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 45.2 ug/L

	Date	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Median	Low			
<b>USA</b>										
U.S. - national survey aged 6 y and older	1999-2000	2541	14.0		13.3	4.41	77.4	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey aged 6 y and older	2001-2002	2772	14.1		13.5		90.4	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6-11 y	1999-2000	328	40.0		38.4		142	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 6-11 y	2001-2002	392	38.1		37.2		195	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	1999-2000	752	17.3		17.0		68.3	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	17.9		18.1		99.7	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	1999-2000	1461	11.8		12.1	3.59	57.2	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey of adults age 20 y and older	2001-2002	1638	12.0		11.8		64.9	1	CDC, 2005	High value is 95th percentile
U.S. - New York City; pregnant women	2000(Mar-July)	25	26.0	28.2	12.1		120	1	Adibi et al., 2003	
U.S. - adult male, chronic use of medicine containing DBP	NA	1	3.4			3.4		1	Hauser et al., 2004a	
U.S., Wisconsin - adult males and females	2005				13.63			4	Peck et al., 2006	No recent use of lipstick/lip balm
U.S., Wisconsin - adult males and females	2005				24.49			4	Peck et al., 2006	Use of lipstick/lip balm < 48 h prior to meas.
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	35.6	2.1	36.0	5.1	327.7	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 120.4 ug/g
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				11.7		364	1	Marsee et al., 2006	25th perc = 6.5 ug/g; 95th perc = 58 ug/g
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				14.4	6.3	70.2	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				13.4	5.1	62.6	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	28.7	2.8				1	Wolff et al., 2007	Detected in 89 of 90 samples
U.S. - New York City; children age 6 to 10 y	2004-2005	158	40.3		36.6	2.8	823.8	1	Teitelbaum et al., 2008	Det. in 100% samples; 95th perc = 287.5 ug/g; collected over 6 mo. period
		<b>11080</b>	<b>16.4</b>			<b>2.8</b>	<b>823.8</b>			
<b>Europe</b>										
Germany, Munich and area - age 14 to 60 y	2005 (April-Oct)				6.9			1	Fromme et al., 2007b	
Germany, rural - south - 36 children 2.6 to 6.5 y (median 4.7 y)	2003 (Jan.)			40.5	37	5.1	193	1	Koch et al., 2005	
Germany, rural - south - 19 adults 20 to 59 y (median 37.4 y)	2003 (Jan.)			7.3	9.8	2.9	26.7	1	Koch et al., 2005	
Germany - Berlin + rural (north) - children 2 to 14 y (median 8.5 y)	2001-2002	239	15.3		13.2	1.78	567	1	Koch et al., 2006a	95th percentile = 82.7 ug/g
Germany - Berlin + rural (north) - children 2 to 4 y (N = 31)	2001-2002				22.3		104	1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 5 to 6 y (N = 46)	2001-2002				15.9		55.8	1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 7 to 8 y (N = 53)	2001-2002				16.9		87.1	1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 9 to 11 y (N = 56)	2001-2002				8.99		92.9	1	Koch et al., 2006a	High value is 95th percentile
Germany - Berlin + rural (north) - children 12 to 14 y (N = 53)	2001-2002				8.05		59.0	1	Koch et al., 2006a	High value is 95th percentile
Germany - adults 21 to 29 y (30 male, 30 female)	1988				6.8	1.0	203	1	Wittassek et al., 2007b	95th percentile = 24.3 ug/g
Germany - adults 21 to 29 y (30 male, 30 female)	1989				8.6	2.3	78.6	1	Wittassek et al., 2007b	95th percentile = 52.8 ug/g
Germany - adults 22 to 29 y (30 male, 30 female)	1991				12.7	2.6	48.5	1	Wittassek et al., 2007b	95th percentile = 47.0 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	1993				7.6	2.5	65.6	1	Wittassek et al., 2007b	95th percentile = 47.4 ug/g
Germany - adults 20 to 29 y (78 male, 68 female)	1996				7.6	1.0	636	1	Wittassek et al., 2007b	95th percentile = 149 ug/g
Germany - adults 20 to 29 y (38 male, 30 female)	1998				6.6	2.4	90.8	1	Wittassek et al., 2007b	95th percentile = 44.9 ug/g
Germany - adults 21 to 28 y (30 male, 30 female)	1999				6.2	0.8	273	1	Wittassek et al., 2007b	95th percentile = 123 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	2001				6.4	1.7	22.8	1	Wittassek et al., 2007b	95th percentile = 20.8 ug/g
Germany - adults 20 to 28 y (30 male, 30 female)	2003				6.7	1.7	39.3	1	Wittassek et al., 2007b	95th percentile = 23.2 ug/g
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	13.9	2.0	11.7	3.0	405.0	1	Ye et al., 2008	Det. in 100% samples; 95th perc = 84.7 ug/g
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	20	13	17	4.5	63	4	Hogberg et al., 2008	Detected in all 38 samples; 75th perc = 27 ug/g
		<b>377</b>	<b>15.4</b>			<b>0.8</b>	<b>636</b>			
<b>Japan/Asia</b>										
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	8.5		9.6	0.45	108.8	1	Berman et al., 2009	
Taiwan - pregnant women (2nd trimester) (N = 28)	NA				3.1			4	Huang et al., 2006	Detected in 21.4% of samples
		<b>19</b>	<b>8.5</b>			<b>0.45</b>	<b>108.8</b>			
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	11.8	1.55	9.10	7.71	21.2	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	19.8	5.27	12.6	2.20	386	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	15.8	1.92	14.0	4.21	50.8	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	14.9	1.90	15.8	3.16	68.8	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	17.6	1.79	15.8	8.92	87.1	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	17.0	1.94	17.3	5.81	49.8	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	13.4	2.19	15.0	5.38	51.9	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	17.9	2.14	21.8	6.96	61.1	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	10.6	1.95	10.0	2.82	37.2	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	10.0	1.99	10.6	2.37	32.7	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	32.2	2.00	33.6	5.85	127	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	40.4	2.09	32.2	10.2	125	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	48.2	4.53	107	4.03	272	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	70.1	4.42	139	5.11	438	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	2.24	5.16	2.78	<LOD	29.4	1	Hines et al., 2009a	Detected in 56% samples
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	4.59	3.78	4.61	<LOD	90.0	1	Hines et al., 2009a	Detected in 69% samples
Germany - adults 20 to 29 y (N = 634)	1988-2003				7.2	0.8	636	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 46.4 ug/g
Germany - male adults 20 to 29 y (N = 326)	1988-2003				6.6	0.8	636	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 47.2 ug/g
Germany - female adults 20 to 29 y (N = 308)	1988-2003				7.9	1.8	611	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 44.2 ug/g

<b>Human Plasma</b>										
	Date	Concentration as ug/mL			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Median	Low			
Denmark, Copenhagen - umbilical cord blood	N/A	5	0.0017	0.00069			<0.0005	4	Mose et al., 2007	
		<b>5</b>	<b>0.0017</b>				<b>&lt;0.0005</b>			

<b>Amniotic Fluid</b>										
	Date	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Median	Low			
Denmark, Copenhagen - maternal perfusate	N/A						<0.1	0.66	4	Mose et al., 2007

		N/A				<0.1		0.66			
<b>Placenta Tissue</b>		<b>Concentration as ug/kg</b>									
Denmark, Copenhagen - before perfusion	N/A						<0.5	<0.5	4	Mose et al., 2007	
Denmark, Copenhagen - after perfusion	N/A						<0.5	<0.5	4	Mose et al., 2007	
		N/A				<0.5		<0.5			
<b>Milk</b>											
	Date	N	Concentration as ug/L Average	SD	Median	Single Point	Range Low	High	Data Quality	Reference	Comments
Denmark, Copenhagen - conventional and organic farming	NA	7	0.025		<0.05		<0.05	<0.05	1	Mortensen et al. 2005	7 samples; Fat content: 1.5 to 3.5%
		7	0.025				<0.05	<0.05			Mean represents one half detection limit
<b>Human Milk</b>											
Italy, Brindisi & Tricase - 7 d after delivery; age 18 to 41 y; n=62	2006				<0.3		<0.3	4.3	4	Latini et al., 2009	Det. in 27 of 62 samples; 95th perc = 2.54 ug/L
Sweden - 2 to 3 wks after delivery; age 23 to 39 y	2001	42	0.64	0.63	<1.0		<1.0	4.4	4	Hogberg et al., 2008	Detected in 3 of 42 samples; det. limit = 1.0 ug/L
		42	0.64				<0.3	4.4			
Denmark, Copenhagen - 36 mothers; 1 to 3 mo postnatal	1997-2001	36	1.2	1.6	0.8		0.2	10	3	Mortensen et al. 2005	Possible contamination of samples
Denmark, Copenhagen - 65 mothers; 1 to 3 mo postnatal	1997-2001				0.9		0.2	14	3	Main et al. 2005	Likely includes data reported in Mortensen et al. 2005
Finland, Turku - 65 mothers; 1 to 3 mo postnatal	1997-2001				1.3		0.4	26	3	Main et al. 2005	
<b>Infant Formula</b>											
Denmark, Copenhagen - 10 samples	NA	10	0.025		<0.05		<0.05	<0.05	1	Mortensen et al. 2005	2 ready to use products; 8 powder samples reconstituted
		10	0.025				<0.05	<0.05			Mean represents one half detection limit

## Mono-n-pentyl Phthalate (MnPnP)

Surface Water		Concentration as ug/L			Single	Range	Data	Reference	Comments		
Location	Date	N	Average	SD	Median	Point	Low	High	Quality	Reference	Comments
<b>Japan/Asia</b>											
Tokyo - Tama River site #1 (upstream)	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #2	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #3	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #4 (downstream)	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Aki River	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Asa River	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
		<b>72</b>	<b>0.006</b>				<b>&lt;0.012</b>	<b>&lt;0.012</b>			<b>Mean represents one half detection limit</b>

### Legend

Data, changes or comments added in 2009

Excluded from calculated summary

Indicates average based on detection limit

**BOLD** Calculated category summary

### Data Quality

1 - Reliable without restrictions

2 - Reliable with restrictions

3 - Not reliable

4 - Unassignable

**Monocyclohexyl phthalate (MCHP)**

Surface Water		Concentration as ug/L			Single	Range		Data	Reference	Comments
Location	Date	N	Average	SD	Point	Low	High	Quality		
<b>Japan/Asia</b>										
Tokyo - Tama River site #1 (upstream)	1999-2000	12	0.005			<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #2	1999-2000	12	0.005			<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #3	1999-2000	12	0.005			<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #4 (downstream)	1999-2000	12	0.005			<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Aki River	1999-2000	12	0.005			<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Asa River	1999-2000	12	0.005			<0.010	<0.010	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
		<b>72</b>	<b>0.005</b>			<b>&lt;0.010</b>	<b>&lt;0.010</b>			<b>Mean represents one half detection limit</b>
<b>Urine</b>										
USA		Date	Concentration as ug/L urine		Single	Range		Data	Reference	Comments
		N	Geo.Mean/Ave.	SD	Point	Low	High	Quality		
U.S. - national survey of adults aged 20 to 60 y	1989-94	289	0.3		<0.7	<0.7	13.7	1	Blount et al., 2000	
U.S. - Imperial County, CA, toddlers aged 11.8 to 16.5 mo.2000 (Jan. to Mar.)	1999-2000	2541	0.45		<0.9	<0.9	1.00	1	Brock et al., 2002	19 children tested; not det. in any of 31 samples; det. limit 0.9 to 9 ng/mL
U.S. - national survey aged 6 y and older	1999-2000	2541	0.45		<0.9	<0.9	1.00	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey aged 6 y and older	2001-2002	2782	0.15		<0.3	<0.3	0.40	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6-11 y	1999-2000	328	0.45		<0.9	<0.9	1.70	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 6-11 y	2001-2002	393	0.15		<0.3	<0.3	0.600	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	1999-2000	752	0.45		<0.9	<0.9	1.70	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	0.15		<0.3	<0.3	0.500	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	1999-2000	1461	0.45		<0.9	<0.9	<0.9	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey of adults age 20 y and older	2001-2002	1647	0.15		<0.3	<0.3	0.500	1	CDC, 2005	High value is 95th percentile
U.S. - 43 adults	NA				<0.20	<0.20	0.58	4	Kato et al., 2005	Detected in 4 of 43 samples; det. limit = 0.20 ug/L
		<b>10935</b>	<b>0.29</b>			<b>&lt;0.20</b>	<b>13.7</b>			
<b>Europe</b>										
Germany - adult males attending fertility clinic; med. age 3	2004-2005		NA		16.23	NA	87.94	4	Nieden et al., 2006	N = 258; 75th perc. 32.20 ug/L; High value is 95th perc.
			NA			NA	87.94			
USA		Date	Concentration as ug/g creatinine		Single	Range		Data	Reference	Comments
		N	Geo.Mean/Ave.	SD	Point	Low	High	Quality		
U.S. - national survey aged 6 y and older	1999-2000	2541	<LOD		<LOD	<LOD	3.00	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey aged 6 y and older	2001-2002	2772	<LOD		<LOD	<LOD	0.854	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6-11 y	1999-2000	328	<LOD		<LOD	<LOD	2.82	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 6-11 y	2001-2002	392	<LOD		<LOD	<LOD	0.909	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	1999-2000	752	<LOD		<LOD	<LOD	1.67	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	<LOD		<LOD	<LOD	0.769	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	1999-2000	1461	<LOD		<LOD	<LOD	<LOD	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey of adults age 20 y and older	2001-2002	1638	<LOD		<LOD	<LOD	0.870	1	CDC, 2005	High value is 95th percentile
		<b>10626</b>				<b>&lt;LOD</b>	<b>3.00</b>			

**Legend**

- Data, changes or comments added in 2009
- Excluded from calculated summary
- Indicates average based on detection limit
- BOLD** Calculated category summary

**Data Quality**

- 1 - Reliable without restrictions
- 2 - Reliable with restrictions
- 3 - Not reliable
- 4 - Unassignable

**Mono-2-ethylhexyl phthalate (MEHP)**

<b>Surface Water</b>											
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
<b>Europe</b>											
Spain, Barcelona - Llobregat River	N/A	1	0.05			<0.1			1	Alzaga et al., 2003	
		1	0.05				<0.1			Mean represents one half detection limit	
<b>Canada</b>											
Alberta - N. Sask. River - downstream of WWTP effluent	2002 (Dec)	1	0.0012			0.0012			1	Alberta Environment, 2005	MEHP + MnOP
Alberta - Bow River - downstream of WWTP effluent	2003 (Jan)	1	0.0058			0.0058			1	Alberta Environment, 2005	MEHP + MnOP
Alberta - S. Sask. River - upstream of Medicine Hat	2003 (Jan)	1	0.0067			0.0067			1	Alberta Environment, 2005	MEHP + MnOP
Alberta - Red Deer River - downstream of WWTP effluent	2003 (Jan)	1	0.0043			0.0043			1	Alberta Environment, 2005	MEHP + MnOP
		4	0.0045				0.0012	0.007			
<b>Japan/Asia</b>											
Tokyo - Tama River site #1 (upstream)	1999-2000						<0.010	0.120	1	Suzuki, et al. 2001	Detected in 9 of 12 monthly samples
Tokyo - Tama River site #2	1999-2000						0.021	0.580	1	Suzuki, et al. 2001	Detected in 11 of 12 samples
Tokyo - Tama River site #3	1999-2000						0.023	0.460	1	Suzuki, et al. 2001	Detected in 11 of 12 samples
Tokyo - Tama River site #4 (downstream)	1999-2000						0.020	1.30	1	Suzuki, et al. 2001	Detected in 11 of 12 samples
Tokyo - Aki River	1999-2000						<0.010	0.170	1	Suzuki, et al. 2001	Detected in 10 of 12 samples
Tokyo - Asa River	1999-2000						<0.010	0.870	1	Suzuki, et al. 2001	Detected in 10 of 12 samples
			N/A				<0.010	1.3			
<b>Landfill Leachate</b>											
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
<b>Europe</b>											
Spain - landfill leachate	N/A	3	44		2.1		<0.1	130	1	Alzaga et al., 2003	
Sweden - landfill leachate	N/A	1	0.05			<0.1			1	Alzaga et al., 2003	
Sweden, Denmark, Germany, Italy- Landfill leachate	1998-1999	17	4	4	<1		<1	14	2	Jonsson et al., 2003	Leachate collected from 17 engineered landfills
		21	10				<0.1	130			
<b>Wastewater</b>											
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
<b>Europe</b>											
Belgium - WWTP influent	N/A	3	0.08		0.1		<0.1	0.1	4	Tienpont et al., 2004	
Belgium - WWTP effluent	N/A	3	0.05		<0.1		<0.1	<0.1	4	Tienpont et al., 2004	
Belgium - Sludge supernatant	N/A	1	0.5			<1			4	Tienpont et al., 2004	
Belgium - Centrifuge supernatant	N/A	1	0.5			<1			4	Tienpont et al., 2004	
Spain, Barcelona - untreated urban wastewater	N/A	1	4.6		4.6				1	Alzaga et al., 2003	
Spain, Barcelona - treated urban wastewater	N/A	1	0.05			<0.1			1	Alzaga et al., 2003	
		10	0.6				<0.1	4.6			
<b>Canada</b>											
Alberta - effluent from 7 WWTPs	Dec 02-Jun 03	6	0.035	0.0503	0.01225		<0.0042	0.1358	1	Alberta Environment, 2005	MEHP + MnOP; detected in 6 of 7 samples
		6	0.035				<0.0042	0.1358			
<b>Urine</b>											
	Date	N	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
<b>USA</b>											
U.S. - national survey of adults aged 20 to 60 y	1989-94	289	3.5		2.7		<1.2	66.6	1	Blount et al., 2000	
U.S. - Imperial County, CA; toddlers aged 11.8 to 16.5 mo.	2000 (Jan. to Mar.)	31	4.6	6.4			<1.2	47.3	1	Brock et al., 2002	19 children tested
U.S. - national survey aged 6 y and older	1999-2000	2541	3.43		3.20		<1.2	23.8	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey aged 6 y and older	2001-2002	2782	4.27		4.10			38.9	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6 -11 y	1999-2000	328	5.12		4.90			34.5	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 6 -11 y	2001-2002	393	4.41		4.40			29.9	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	1999-2000	752	3.75		3.70			22.8	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	4.57		4.50			42.5	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	1999-2000	1461	3.21		3.00		<1.2	22.4	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey of adults age 20 y and older	2001-2002	1647	4.20		4.10			39.5	1	CDC, 2005	High value is 95th percentile
U.S. - adults and children	N/A				4.50		1.4	537	1	Barr et al., 2003	Data are for 50 samples
U.S. - adult	NA	1	2.4			2.4			1	Silva et al., 2004c	
U.S. - 127 adults	2001				<0.9		<0.9	20.4	1	Kato et al., 2004	Det. in 35% of samples; low & high are 5th & 95th perc., resp.
U.S. - adult male, chronic use of medicine containing DBP	NA	1	3.0			3.0			1	Hauser et al., 2004a	
U.S. - New England area; 369 adult males	NA	369	5.68		5.2		0.49	110.2	1	Hauser et al., 2004b	Low and high are 10th and 95th percentiles, respectively
U.S. - Boston; adult males 20 to 54 y	2000-2003	338	25.6	60.1	5.2		<0.87	134.6	1	Duty et al., 2005a	Low & high are 5th & 95th perc; geo mean = 6.0; unadj for spec. grav.
U.S. - Boston; adult males 18 to 54 y	1999-2003	295	5.9		5.0		0.4	131	1	Duty et al., 2005b	Low & high are 5th & 95th perc; Subset of Duty et al 2005a; unadj for spec. grav.
U.S. - Boston; adult males 22 to 54 y attending fertility clinic	2000-2004	463	8.0		7.9		<1.2	876	1	Hauser et al., 2006	Det. limit = 1.2 ug/L; 95th perc = 127 ug/L
U.S. - 43 adults	NA				<0.90		<0.25	11.84	4	Kato et al., 2005	Detected in 18 of 43 samples; det. limit = 0.90 ug/L
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	8.3	2.8	7.7		0.6	136	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 39.7 ug/L
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				4.25			206.8	1	Marsee et al., 2006	25th perc = 1.5 ug/L; 95th perc = 38.6 ug/L
U.S. - CA, IA, MN, & MO; 283 pregnant women; beg. 3rd trimester	2000-2004	283	3.6		3.5		0.6	40.2	1	Adibi et al., 2009	Det. in 76% samples; low and high are 5th and 95th perc., respectively
U.S. - New York City; 246 pregnant women	2001-2006	246	4.8		4.8		0.5	46.8	1	Adibi et al., 2008	Det. in 85% samples; low and high are 5th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				3.0		1.5	86.2	1	Hines et al., 2009b	Det. in 91% samples; low and high are 10th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				<0.25		<0.25	21.1	1	Hines et al., 2009b	Det. in 50% samples; low and high are 10th and 95th perc., respectively
U.S. - Boston; infants in neonatal care; low exposure to DEHP	2003				4.0		<0.87		1	Green et al., 2005	N=54; 75th perc = 18 ug/L
U.S. - NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	3.3	3.0	3.2		0.6	110.0	1	Wolff et al., 2007	Detected in 85 of 90 samples; det. limit = 0.90 ug/L
U.S. - New York City; children age 6 to 10 y	2004-2005	159	11.4		11.3		0.6	272.7	1	Teitelbaum et al., 2008	Det. in 97.5% samples; 95th perc = 93.0 ug/L; LOD = 0.9 ug/L
		13391	4.9				<0.25	876			
<b>Europe</b>											
France - workers not exposed to DEHP (pre-shift)	NA	19	13.2		12.0		2.5	47.5	1	Gaudin et al., 2008	Admin. workers in a facility preparing and using plastisols containing DEHP

**Legend**

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- 4 - Unassignable



France - workers not exposed to DEHP (post-shift)	NA	19	13.5		10.4	2.8	44.6	1	Gaudin et al., 2008	Admin. workers in a facility preparing and using plastisols containing DEHP	
Germany, Erlangen (south) - genrl population age 7 to 64 y	2002 (April)	85	15.7	21.4	10.3	<0.5	177	1	Koch et al., 2003a	95th percentile = 37.9	
Germany - south, rural; 36 children aged 2 to 6 y	2003 (Jan)			4.1	6.6	1.5	18.3	4	Koch et al., 2004	95th percentile = 14.6	
Germany - south, rural; 19 adults	2003 (Jan)			9.9	9.0	2.6	43.1	4	Koch et al., 2004	95th percentile = 29.0	
Germany - 114 boys aged 3 to 14	2001-2002	114	9.3		8.81	1.22	103	4	Becker et al., 2004	95th percentile = 49.3	
Germany - 140 girls aged 3 to 14	2001-2002	140	6.93		6.41	0.74	226	4	Becker et al., 2004	95th percentile = 23.4	
Germany - adult males	NA	5	15.5		9.7	2.1	44.5	4	Koch et al., 2005	Det. Limit = 0.25 ug/L	
Germany - adult males attending fertility clinic; med. age 34 y	2004-2005				4.99		30.05	4	Nieden et al., 2006	N = 297; 75th perc. 10.85 ug/L; High value is 95th perc.	
Germany, Munich & rural (south); 50 men & women 14 to 60 y	2005				4.9	<0.3	207.3	1	Fromme et al., 2007a	399 samples, collected for 8 d; 95th perc = 21.7 ug/L	
Germany - adults 21 to 29 y (30 male, 30 female)	1988				9.4	<0.25	94.5	1	Wittassek et al., 2007b	95th percentile = 34.4 ug/L	
Germany - adults 21 to 29 y (30 male, 30 female)	1989				10.7	<0.25	129	1	Wittassek et al., 2007b	95th percentile = 32.2 ug/L	
Germany - adults 22 to 29 y (30 male, 30 female)	1991				9.4	1.3	62.4	1	Wittassek et al., 2007b	95th percentile = 43.8 ug/L	
Germany - adults 20 to 29 y (30 male, 30 female)	1993				8.4	1.0	88.0	1	Wittassek et al., 2007b	95th percentile = 47.0 ug/L	
Germany - adults 20 to 29 y (78 male, 68 female)	1996				7.8	<0.25	68.8	1	Wittassek et al., 2007b	95th percentile = 33.9 ug/L	
Germany - adults 20 to 29 y (38 male, 30 female)	1998				6.7	<0.25	64.3	1	Wittassek et al., 2007b	95th percentile = 33.8 ug/L	
Germany - adults 21 to 28 y (30 male, 30 female)	1999				5.4	<0.25	36.8	1	Wittassek et al., 2007b	95th percentile = 22.4 ug/L	
Germany - adults 20 to 29 y (30 male, 30 female)	2001				6.4	<0.25	48.0	1	Wittassek et al., 2007b	95th percentile = 38.9 ug/L	
Germany - adults 20 to 28 y (30 male, 30 female)	2003				4.6	<0.25	63.9	1	Wittassek et al., 2007b	95th percentile = 25.2 ug/L	
Germany, south; 12 female + 13 male; age 6 to 73 y	N/A	25	12.2		4.7	<0.5	141.8	1	Koch et al., 2007	Det. in 92% samples	
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	6.9	2.7	6.9	<0.25	392.0	1	Ye et al., 2008	Det. in 96% samples; LOD = 0.25 ug/L; 95th perc = 82.8 ug/L	
Spain, Barcelona - adult males	NA	4	3.7		3.2	-0.1	8.6	1	Alzaga et al., 2003	Detection limit = 0.1 ng/mL	
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	13	10	9	2.9	57	4	Hogberg et al., 2008	Detected in all 38 samples; det. limit =0.98 ug/L; 75th perc = 17 ug/L	
		549	9.9			<0.1	392				
<b>Japan/Asia</b>											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	4.8		6.8	<1.2	21.0	1	Berman et al., 2009	Detected in 95% samples; det. limit =1.2 ug/L	
Japan, Tokyo-Yokohama; 35 adults, 1 child (4-70 y)	2004 (May)				5.1	0.76	25	1	Itoh et al., 2005	Median reported as 5.0 ug/L in Itoh et al (2007) (same dataset)	
Japan - adult males	2000 (summer&fall)	10	11.7		4.9	5.6	19.2	4	Shimura et al., 2000 cited in Itoh, et al., 2005		
Japan - adult males	NA	50	3.0		3.3	<2.3	27.5	1	Kato et al., 2003	Limit of quantitation = 2.3 ng/mL; detected in 27.0% samples	
Japan - adult females	NA	20	2.4		3.5	<2.3	13.9	1	Kato et al., 2003	Limit of quantitation = 2.3 ng/mL; detected in 20.0% samples	
Korea - children age 11-12 y	2003 (May)	150	13.3	24	<12	<12	44.1	4	Koo and Lee, 2005	Max. conc. is the 95th percentile; detected in 32 samples	
Korea - women age 20-73 y	2003 (May)	150	41.3	50	15.9	<12	137.5	4	Koo and Lee, 2005	Max. conc. is the 95th percentile; detected in 81 samples	
Taiwan - adults 21 to 67 y; 41 women, 19 men	NA	60	13.3	3.3	15.9		56.2	4	Chen et al., 2008	Detected in 93% of samples; high value is 95th perc.; 25th perc = 8.1 ug/L	
Taiwan - pregnant women (2nd trimester) (N = 28)	NA				24			4	Huang et al., 2006	Detected in 100% of samples	
		459	20.5			0.76	137.5				
U.S. - Boston; infants in neonatal care; med. exposure to DEHP	2003				28			1	Green et al., 2005	N=54; 25th perc = 3 ug/L 75th perc = 61 ug/L	
U.S. - Boston; infants in neonatal care; high exposure to DEHP	2003				86			1	Green et al., 2005	N=54; 25th perc = 21 ug/L 75th perc = 171 ug/L	
U.S. - national survey, adult users of medicine, mesalamine	1999-2004	6	12.2					1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, didanosine	1999-2004	3	14.5					1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, omeprazole	1999-2004	91	5.6					1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, theophylline	1999-2004	27	4.7					1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	7.1	1.90	6.10	3.50	21.7	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	7.14	2.45	7.6	2.00	27.9	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	24.7	2.61	26.7	2.00	186	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	31.4	3.55	37.3	<2.0	257	1	Hines et al., 2009a	Detected in 96% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	11.1	2.49	10.1	3.30	196	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	13.0	2.32	11.1	2.90	167	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	13.0	5.03	22.6	<2.0	61.2	1	Hines et al., 2009a	Detected in 92% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	24.0	4.82	29.2	<2.0	220	1	Hines et al., 2009a	Detected in 92% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	6.08	2.67	5.30	1.20	151	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	8.70	2.48	7.60	1.30	107	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	4.98	3.34	5.40	<2.0	36.3	1	Hines et al., 2009a	Detected in 95% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	9.21	4.43	12.5	<2.0	117	1	Hines et al., 2009a	Detected in 90% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	12.8	4.25	14.2	<2.0	131	1	Hines et al., 2009a	Detected in 90% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	18.1	3.56	22.3	<2.0	161	1	Hines et al., 2009a	Detected in 95% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	11.4	3.75	10.2	<2.0	266	1	Hines et al., 2009a	Detected in 96% samples; LOD = 0.9 to 2.0 ug/L	
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	14.5	5.47	23.0	<2.0	1830	1	Hines et al., 2009a	Detected in 92% samples; LOD = 0.9 to 2.0 ug/L	
France - workers exposed to DEHP (pre-shift)	NA	25	25.2		16.1	1.7	98.0	1	Gaudin et al., 2008	In facility preparing and using plastisols containing DEHP	
France - workers exposed to DEHP (post-shift)	NA	25	68.2		55.9	5.3	303.0	1	Gaudin et al., 2008	In facility preparing and using plastisols containing DEHP	
Germany - adult males - plasma donors	NA	6	41.9		34.7	12.3	97.8	4	Koch et al., 2005	Det. Limit = 0.25 ug/L	
Germany - adult males - platelet (discontinuous) donors	NA	6	148.1		117.6	39.6	311.2	4	Koch et al., 2005	Det. Limit = 0.25 ug/L	
Germany - adult males - platelet (continuous) donors	NA	6	265.6		231.9	69.2	536.5	4	Koch et al., 2005	Det. Limit = 0.25 ug/L	
Germany - adults 20 to 29 y (N = 634)	1988-2003				7.6	<0.25	129	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 33.6 ug/L	
Germany - male adults 20 to 29 y (N = 326)	1988-2003				8.5	<0.25	129	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 33.1 ug/L	
Germany - female adults 20 to 29 y (N = 308)	1988-2003				6.6	<0.25	94.5	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 34.2 ug/L	

	Date	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Low	High			
<b>USA</b>										
U.S. - national survey aged 6 y and older	1999-2000	2541	3.12		3.08	<LOD	18.5	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey aged 6 y and older	2001-2002	2772	3.99		3.89		32.8	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6 -11 y	1999-2000	328	5.19		5.37		41.9	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 6 -11 y	2001-2002	392	5.02		5.31		31.2	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	1999-2000	752	2.53		2.38		12.1	1	CDC, 2003	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	3.53		3.62		25.2	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	1999-2000	1461	3.03		2.98	<LOD	17.5	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively
U.S. - national survey of adults age 20 y and older	2001-2002	1638	3.96		3.81		33.3	1	CDC, 2005	High value is 95th percentile
U.S. - New York City; pregnant women	2000(Mar-July)	25	40.5	98.4	4.6	1.8	449	1	Adibi et al., 2003	
U.S. - adult male, chronic use of medicine containing DBP	NA	1	1.1			1.1		1	Hauser et al., 2004a	
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	8.5	2.5	8.2	0.5	91.5	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 44.5 ug/g
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				5.53		172.8	1	Marsee et al., 2006	25th perc = 2.15 ug/g; 95th perc = 39.2 ug/g
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				7.6	1.9	46.9	1	Hines et al., 2009b	Det. in 91% samples; low and high are 10th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				<3.6	<1.3	58.0	1	Hines et al., 2009b	Det. in 50% samples; low and high are 10th and 95th perc., respectively
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	5.2	2.7			207.7	1	Wolff et al., 2007	Detected in 85 of 90 samples
U.S. - New York City; children age 6 to 10 y	2004-2005	159	11.3		11.7	0.5	207.7	1	Tettelbaum et al., 2008	Det. in 97.5% samples; 95th perc = 90.2 ug/g; collected over 6 mo. period
		11081	3.9			0.5	449			

**Europe**

France - workers not exposed to DEHP (pre-shift)	NA	19	11.0	8.5	4.7	33.9	1	Gaudin et al., 2008	Admin. workers in a facility preparing and using plastisols containing DEHP		
France - workers not exposed to DEHP (post-shift)	NA	19	11.9	7.9	2.3	33.3	1	Gaudin et al., 2008	Admin. workers in a facility preparing and using plastisols containing DEHP		
Germany, Munich and area - age 14 to 60 y	2005 (April-Oct)			4.3			1	Fromme et al., 2007b			
Germany - 254 children aged 3 to 14	2001-2002	254	6.18	5.85		0.7	223	4	Becker et al., 2004	95th percentile = 23.7	
Germany - south, rural; 36 children aged 2 to 6 y	2003 (Jan)			9.5		1.7	48.4	4	Koch et al., 2004	95th percentile = 27.5	
Germany - south, rural; 19 adults	2003 (Jan)			6.7		8.6	26.6	4	Koch et al., 2004	95th percentile = 24.7	
Germany - adults 21 to 29 y (30 male, 30 female)	1988					9.8	<LOD	94.5	1	Wittassek et al., 2007b	95th percentile = 23.4 ug/g
Germany - adults 21 to 29 y (30 male, 30 female)	1989					9.0	<LOD	62.5	1	Wittassek et al., 2007b	95th percentile = 39.0 ug/g
Germany - adults 22 to 29 y (30 male, 30 female)	1991					8.5	2.0	108	1	Wittassek et al., 2007b	95th percentile = 29.7 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	1993					7.9	1.9	60.4	1	Wittassek et al., 2007b	95th percentile = 30.1 ug/g
Germany - adults 20 to 29 y (78 male, 68 female)	1996					7.5	<LOD	62.6	1	Wittassek et al., 2007b	95th percentile = 38.5 ug/g
Germany - adults 20 to 29 y (38 male, 30 female)	1998					6.6	<LOD	43.0	1	Wittassek et al., 2007b	95th percentile = 22.6 ug/g
Germany - adults 21 to 28 y (30 male, 30 female)	1999					6.4	<LOD	56.7	1	Wittassek et al., 2007b	95th percentile = 24.6 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	2001					6.8	<LOD	45.7	1	Wittassek et al., 2007b	95th percentile = 30.7 ug/g
Germany - adults 20 to 28 y (30 male, 30 female)	2003					5.5	<LOD	34.8	1	Wittassek et al., 2007b	95th percentile = 21.1 ug/g
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	10.8	2.1	9.9	<LOD	321.0	1	Ye et al., 2008	Det. in 96% samples; 95th perc = 88.7 ug/g	
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	18	14	15	4.6	74	4	Hogberg et al., 2008	Detected in all 38 samples; 75th perc = 24 ug/g	
		<b>430</b>	<b>8.8</b>			<b>0.7</b>	<b>321</b>				

**Japan/Asia**

Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	6.5	7.0	<LOD	40.8	1	Berman et al., 2009		
China, Liaoning Province - adult males	N/A	63	5.7	5.4	2.0	23.2	4	Pan et al., 2006	Low and high are 10th and 95th percentiles, respectively	
Japan, Tokyo-Yokohama; 35 adults, 1 child (4-70 y)	2004 (May)			4.5	0.79	27	1	Itoh et al., 2005		
Japan - 2000 (summer&fall)	2000 (summer&fall)				3.9	28.2	4	Shimura et al., 2000 cited in Itoh, et al., 2005		
Japan - pregnant women; N=40	2003 (Jun-Oct)			9.83	3.27	39.5	4	Fujimaki et al., 2006		
Korea - children age 11-12 y	2003 (May)	150	9.6			28.9	4	Koo and Lee, 2005	Max. conc. is the 95th percentile; detected in 32 samples	
Korea - women age 20-73 y	2003 (May)	150	39.6			150.5	4	Koo and Lee, 2005	Max. conc. is the 95th percentile; detected in 81 samples	
Korea - children age 6.5 to 12.5 y - male	NA	30	19.5	2.3		4.8	173.0	4	Kho et al., 2007	Data reported as mg/g
Korea - children age 6.5 to 12.5 y - female	NA	30	15.3	2.7		1.3	124.6	4	Kho et al., 2007	Data reported as mg/g
Taiwan - pregnant women (2nd trimester) (N = 28)	NA			86.2				4	Huang et al., 2006	Detected in 100% of samples
		<b>442</b>	<b>20.2</b>			<b>0.79</b>	<b>173</b>			
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	4.69	1.74	5.16	1.96	11.3	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	3.75	1.92	3.98	1.10	10.4	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	11.8	2.37	12.0	1.77	74.6	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	16.7	3.08	20.0	<LOD	83.3	1	Hines et al., 2009a	Detected in 96% samples
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	9.33	2.24	10.0	3.63	130	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	10.2	2.13	9.00	3.58	60.6	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	8.09	4.51	12.1	<LOD	95.0	1	Hines et al., 2009a	Detected in 92% samples
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	12.1	4.4	12.6	<LOD	85.0	1	Hines et al., 2009a	Detected in 92% samples
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	4.40	2.80	3.60	0.71	62.4	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	5.41	2.36	4.14	1.84	54.4	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	3.67	2.75	3.42	<LOD	19.7	1	Hines et al., 2009a	Detected in 95% samples
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	5.37	3.54	8.93	<LOD	21.2	1	Hines et al., 2009a	Detected in 90% samples
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	8.10	3.59	5.87	<LOD	248	1	Hines et al., 2009a	Detected in 90% samples
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	12.1	2.77	13.9	1.73	96.0	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	12.7	3.44	13.0	<LOD	681	1	Hines et al., 2009a	Detected in 96% samples
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	19.0	4.02	18.6	<LOD	1480	1	Hines et al., 2009a	Detected in 92% samples
France - workers exposed to DEHP (pre-shift)	NA	25	12.7		7.7	0.6	46.6	1	Gaudin et al., 2008	In facility preparing and using plastisols containing DEHP
France - workers exposed to DEHP (post-shift)	NA	25	51.1		41.0	2.1	187.6	1	Gaudin et al., 2008	In facility preparing and using plastisols containing DEHP
Germany - adults 20 to 29 y (N = 634)	1988-2003				7.3	<LOD	108	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 26.7 ug/g
Germany - male adults 20 to 29 y (N = 326)	1988-2003				7.3	<LOD	62.6	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 23.3 ug/g
Germany - female adults 20 to 29 y (N = 308)	1988-2003				7.4	<LOD	108	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 28.0 ug/g
China, Liaoning Province - adult males occupationally exposed	N/A	74	565.7		562.3	78	5379.7	4	Pan et al., 2006	Low and high are 10th and 95th percentiles, respectively
Korea - children age 6.5 to 12.5 y - male and female	NA	60	17.3	2.5		1.3	173.0	4	Kho et al., 2007	Overall total of data presented above

Human Plasma											
	Date	N	Concentration as ug/mL			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
Denmark, Copenhagen - umbilical cord blood	N/A	5	0.0064	0.0022			0.00372	0.00968	4	Mose et al., 2007	
Italy, Brindisi - Maternal sample (age 23 to 42 y)	N/A	24	0.68	0.85					4	Latini et al. 2003	Detected in 75% of samples; ave. is of detected values only
Italy, Brindisi - Cord sample (gestational age 35 to 42 weeks)	N/A	25	0.68	1.03					4	Latini et al. 2003	Detected in 72% of samples; ave. is of detected values only
Italy, Brindisi - Cord sample (gestational age 27 to 42 weeks)	N/A	84	0.52	0.61					4	Latini et al. 2003b	Detected in 65 of 84 samples
Japan, Tokyo - Adults age 22 to 28 years	N/A	6	0.0025				<0.005	<0.005	1	Inoue et al., 2003	
Japan - Adults age 28 to 34 years	N/A	4	0.0028				<0.0033	0.0057	2	Takatori et al., 2004	Blood serum; limit of quant. = 0.005 ug/mL
Puerto Rico, San Juan - girls 6 mos to 8 y with thelarche	1994-1998	36	0.0077	0.0008	<0.00098		ND	0.038	4	Colon et al., 2005	Det. in 5 of 41 samples; det. limit not reported; min. det. conc. = 0.0063 ug/mL
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	184	0.42				<0.00098	0.0045	4	Hogberg et al., 2008	Detected in 6 of 36 samples; det. limit =0.00098 ug/mL
							<b>&lt;0.00098</b>	<b>2.94</b>			
U.S. - 127 adults - serum	2001	127	0.0039		0.004		<0.0013	0.0152	3	Kato et al., 2004	Conc. may be overest. due to serum lipase activity

Amniotic Fluid											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
U.S. - 54 pregnant females	N/A					<0.86		2.8	4	Silva et al., 2004b	Detected in 13 of 54 samples; 95th percentile = 2.6
Denmark, Copenhagen - maternal perfasate	N/A							-0.5	4	Mose et al., 2007	
			<b>N/A</b>					<b>-0.5</b>			
Placenta Tissue											
	Date	N	Concentration as ug/kg			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
Denmark, Copenhagen - before perfusion	N/A	5	13.1	1.3			11.98	14.96	4	Mose et al., 2007	
Denmark, Copenhagen - after perfusion	N/A	5	21.5	3.1			17.97	26.09	4	Mose et al., 2007	
		<b>10</b>	<b>17.3</b>				<b>11.98</b>	<b>26.1</b>			

Milk											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			

Denmark, Copenhagen - conventional and organic farming	NA						7.1	9.9	1	Mortensen et al. 2005	7 samples; Fat content: 1.5 to 3.5%
			N/A				7.1	9.9			

**Human Milk**

Italy, Brindisi & Tricase - 7 d after delivery; age 18 to 41 y; n=62	2006				8.4		1.8	109	4	Latini et al., 2009	Det. in 100% samples; det. limit = 0.3 ug/L; 95th perc = 28.5 ug/L
Sweden - 2 to 3 wks after delivery; age 23 to 39 y	2001	42	1.3	1.3	<0.98		<0.98	6.5	4	Hogberg et al., 2008	Detected in 16 of 42 samples; det. limit = 0.98 ug/L; 75th perc. = 1.7 ug/L
		42	1.3				<0.98	109			
Denmark, Copenhagen - 36 mothers; 1 to 3 mo postnatal	1997-2001	36	13	11	9.5		2.7	72	3	Mortensen et al. 2005	Possible contamination of samples
Denmark, Copenhagen - 65 mothers; 1 to 3 mo postnatal	1997-2001				9.5		1.5	191	3	Main et al. 2005	Likely includes data reported in Mortensen et al. 2005
Finland, Turku - 65 mothers; 1 to 3 mo postnatal	1997-2001				13		4.0	1410	3	Main et al. 2005	

**Infant Formula**

Denmark, Copenhagen - 10 samples	NA						5.6	9.1	1	Mortensen et al. 2005	2 ready to use products; 8 powder samples reconstituted
			N/A				5.6	9.1			

Food		Date	N	Concentration as ug/g			Single Point	Low	High	Quality	Reference	Comments
Type				Average	SD	Median						
<b>TOTAL DIET SAMPLES</b>												
Germany, Munich and area - composite diet (solid and liquid)		2005 (April-Oct)					0.0001	0.0049	4	Fromme et al., 2007	Detected in 203 of 350 samples (58%); det. limit 0.0002 to 0.0009 ug/g fresh wt.	
				N/A			0.0001	0.0049				

Miscellaneous		Date	N	Average	SD	Median	Single Point	Range	Data Quality	Reference	Comments
								Low High			
Enteral feeding solution - Japan: ug/mL		N/A	3	0.0025				<0.005 <0.005	2	Takatori et al., 2008	So'l'n for neonatal/infant; before contact with DEHP-containing material
Enteral feeding solution - Japan: ug/mL		N/A	3	0.0292				0.0285 0.0305	2	Takatori et al., 2008	So'l'n for neonatal/infant; after contact with DEHP-containing material
Enteral feeding solution - Japan: ug/mL		N/A	1	0.0060					2	Takatori et al., 2008	So'l'n for neonatal/infant; before contact with DEHP-containing material
Enteral feeding solution - Japan: ug/mL		N/A	1	0.0235					2	Takatori et al., 2008	So'l'n for neonatal/infant; after contact with DEHP-containing material
Enteral feeding solution - Japan: ug/mL		N/A	1	0.0069					2	Takatori et al., 2008	So'l'n for adult; before contact with DEHP-containing material
Enteral feeding solution - Japan: ug/mL		N/A	1	0.0261					2	Takatori et al., 2008	So'l'n for adult; after contact with DEHP-containing material
Enteral feeding solution - Japan: ug/mL		N/A	1	0.0025					2	Takatori et al., 2008	So'l'n for adult; before contact with DEHP-containing material
Enteral feeding solution - Japan: ug/mL		N/A	1	0.0249					2	Takatori et al., 2008	So'l'n for adult; after contact with DEHP-containing material
Water passed through enteral feeding materials - Japan: ug/mL		N/A	1	0.0244					2	Takatori et al., 2008	After contact with DEHP-containing material; prior to contact < 0.005 ug/mL

**Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)**

Urine	Date	Concentration as ug/L urine				Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD	Median		Low	High			
<b>USA</b>											
U.S. - adults and children	N/A				28.3		4.2	1860	1	Barr et al., 2003	Data are for 50 samples
U.S. - adult	NA	1	12.3			12.3			1	Silva et al., 2004c	
U.S. - 127 adults	2001	127	14.8		15.6		<1.2	243	1	Kato et al., 2004	Det. in 91% of samples; low & high are 5th & 95th perc., resp.
U.S. - national survey aged 6 y and older	2001-2002	2782	13.5		14.0			120	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6-11 y	2001-2002	393	23.3		22.6			142	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	17.5		18.5			118	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	2001-2002	1647	12.0		12.2			115	1	CDC, 2005	High value is 95th percentile
U.S. - Boston; adult males 22 to 54 y attending fertility clinic	2000-2004	230	38.0		32.1		<1.07	3063	1	Hauser et al., 2006	Det. limit = 1.07 ug/L; 95th perc = 497 ug/L
U.S. - 43 adults	NA				5.68		1.29	116.38	4	Kato et al., 2005	Detected in 100% samples; det. limit = 0.45 ug/L
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	35.2	2.7	36.6		1.4	593	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 175.5 ug/L
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				9.75			1677	1	Marsee et al., 2006	25th perc = 5.1 ug/L; 95th perc = 65.0 ug/L
U.S. - CA, IA, MN, & MO; 283 pregnant women; beg. 3rd trimester	2000-2004	283	10.9		9.9		1.2	68.4	1	Adibi et al., 2009	Det. in 96% samples; low and high are 5th and 95th perc., respectively
U.S. - New York City; 246 pregnant women	2001-2006	221	18.2		17.5		2.8	107.6	1	Adibi et al., 2008	Det. in 100% samples; low and high are 5th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				12.0		2.6	224.2	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				8.4		1.3	77.8	1	Hines et al., 2009b	Det. in 93% samples; low and high are 10th and 95th perc., respectively
U.S. - Boston; infants in neonatal care; low exposure to DEHP	2003				29				1	Weuve et al., 2006	N=54; 25th perc = 11 ug/L; 75th perc = 42 ug/L
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	18.8	3.3	17.8		1.3	1070	1	Wolff et al., 2007	Detected in 100% samples; det. limit = 0.45 ug/L
U.S. - New York City; children age 6 to 10 y	2004-2005	159	54.3		54.1		1.2	1245.7	1	Teitelbaum et al., 2008	Det. in 100% samples; 95th perc = 376.8 ug/L; collected over 6 mo. period
		<b>6855</b>	<b>16.6</b>				<b>&lt;1.07</b>	<b>3063</b>			
<b>Europe</b>											
Germany, Erlangen (south) - gen'l population age 7 to 64 y	2002 (April)	85	57.2	75.4	36.5		0.5	544	1	Koch et al., 2003a	95th percentile = 156
Germany - 114 boys aged 3 to 14	2001-2002	114	44.4		45.0		6.94	1420	4	Becker et al., 2004	95th percentile = 167
Germany - 140 girls aged 3 to 14	2001-2002	140	36.6		39.5		<0.5	352	4	Becker et al., 2004	95th percentile = 122
Germany - south, rural; 36 children aged 2 to 6 y	2003 (Jan)			19.8	33.8		2.2	90.6	4	Koch et al., 2004	95th percentile = 71.0
Germany - south, rural; 19 adults	2003 (Jan)			12.7	19.6		4.9	55.1	4	Koch et al., 2004	95th percentile = 36.7
Germany - adult males	NA	5	38.2		16.9		4.1	100.8	4	Koch et al., 2005	Det. Limit = 0.25 ug/L
Germany - adult males attending fertility clinic; med. age 34 y	2004-2005			13.32				84.04	4	Nieden et al., 2006	N = 306; 75th perc. 26.21 ug/L; High value is 95th perc.
Germany, Munich & rural (south); 50 men & women 14 to 60 y	2005				14.7		0.5	447.1	1	Fromme et al., 2007a	399 samples, collected for 8 d; 95th perc = 56.0 ug/L
Germany - adults 21 to 29 y (30 male, 30 female)	1988				20.1		2.1	251	1	Wittassek et al., 2007b	95th percentile = 66.4 ug/L
Germany - adults 21 to 29 y (30 male, 30 female)	1989				22.0		3.3	196	1	Wittassek et al., 2007b	95th percentile = 47.4 ug/L
Germany - adults 22 to 29 y (30 male, 30 female)	1991				25.6		5.2	118	1	Wittassek et al., 2007b	95th percentile = 98.5 ug/L
Germany - adults 20 to 29 y (30 male, 30 female)	1993				20.1		5.6	108	1	Wittassek et al., 2007b	95th percentile = 77.3 ug/L
Germany - adults 20 to 29 y (78 male, 68 female)	1996				16.1		3.9	192	1	Wittassek et al., 2007b	95th percentile = 63.7 ug/L
Germany - adults 20 to 29 y (38 male, 30 female)	1998				14.3		1.8	181	1	Wittassek et al., 2007b	95th percentile = 49.2 ug/L
Germany - adults 21 to 28 y (30 male, 30 female)	1999				11.1		3.8	67.8	1	Wittassek et al., 2007b	95th percentile = 33.3 ug/L
Germany - adults 20 to 29 y (30 male, 30 female)	2001				14.0		3.6	109	1	Wittassek et al., 2007b	95th percentile = 51.8 ug/L
Germany - adults 20 to 28 y (30 male, 30 female)	2003				12.2		2.6	57.9	1	Wittassek et al., 2007b	95th percentile = 34.9 ug/L
Germany, south; 12 female + 13 male; age 6 to 73 y	NA	25	25.0		13.5		1.3	173.7	1	Koch et al., 2007	Det. in 100% samples
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	15.0	2.6	14.5		0.7	514.0	1	Ye et al., 2008	Det. in 100% samples; LOD = 0.25 ug/L; 95th perc = 104.0 ug/L
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	19	19	11		<1.1	83	4	Hogberg et al., 2008	Detected in 37 of 38 samples; det. limit = 1.1 ug/L; 75th perc = 24 ug/L
		<b>507</b>	<b>35.7</b>				<b>&lt;0.5</b>	<b>1420</b>			
<b>Japan/Asia</b>											
Korea, Seoul - male and female adults in urban area	2005	513	25.06	33.73	17.67		3.16	50.68	4	Hong et al., 2009	Det. In 97.1% samples; det limit = 0.5; low and high are 10th and 90th perc.
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	15.0		17.5		1.7	63.8	1	Berman et al., 2009	Detected in 100% samples; det. limit = 0.7 ug/L
		<b>532</b>	<b>24.7</b>				<b>1.7</b>	<b>63.8</b>			
<b>U.S. - Boston; infants in neonatal care; med. exposure to DEHP</b>											
U.S. - Boston; infants in neonatal care; high exposure to DEHP	2003				286				1	Weuve et al., 2006	N=54; 25th perc = 25 ug/L 75th perc = 611 ug/L
U.S. - national survey, adult users of medicine, mesalamine	1999-2004	6	50		598				1	Weuve et al., 2006	N=54; 25th perc = 318 ug/L 75th perc = 906 ug/L
U.S. - national survey, adult users of medicine, didanosine	1999-2004	2	5.6						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - national survey, adult users of medicine, omeprazole	1999-2004	54	20						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - national survey, adult users of medicine, theophylline	1999-2004	16	34.2						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	30.8	2.03	34.2		8.60	73.6	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	31.9	2.50	36.8		6.80	121	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	125	2.21	111		26.6	648	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	159	3.14	148		7.00	1490	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	27.4	2.26	28.1		7.20	224	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	34.4	2.39	36.6		8.30	179	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	65.2	4.81	131		4.70	327	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	121	3.56	200		8.00	675	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	19.3	2.64	18.4		3.80	571	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	24.8	2.68	22.1		4.60	552	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	36.1	3.54	37.5		3.90	701	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	63.2	3.49	70.0		4.90	1100	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	35.3	4.75	31.3		1.10	915	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	47.9	4.43	42.4		<1.1	1130	1	Hines et al., 2009a	Detected in 95% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	9.04	3.64	8.10		<1.1	205	1	Hines et al., 2009a	Detected in 92% samples; LOD = 0.4 to 1.1 ug/L
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	13.5	8.02	12.2		<1.1	6750	1	Hines et al., 2009a	Detected in 88% samples; LOD = 0.4 to 1.1 ug/L
Germany - adult males - plasma donors	NA	6	91.6		82.8		33.3	153	4	Koch et al., 2005	Det. Limit = 0.25 ug/L
Germany - adult males - platelet (discontinuous) donors	NA	6	416.3		306.9		134.8	816	4	Koch et al., 2005	Det. Limit = 0.25 ug/L
Germany - adult males - platelet (continuous) donors	NA	6	774.3		801.0		302.3	1153	4	Koch et al., 2005	Det. Limit = 0.25 ug/L

**Legend**

- Data, changes or comments added in 2009
- Excluded from calculated summary
- Indicates average based on detection limit
- BOLD** Calculated category summary

**Data Quality**

- 1 - Reliable without restrictions
- 2 - Reliable with restrictions
- 3 - Not reliable
- 4 - Unassignable

Germany - adults 27 to 32 y (2 male, 1 female)	NA				1.3	4.0	4	Koch et al., 2006b	Sampled 24 to 48 h after alimentary abstinence
Germany - adults 20 to 29 y (N = 634)	1988-2003			16.7	1.8	251	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 57.5 ug/L
Germany - male adults 20 to 29 y (N = 326)	1988-2003			17.8	1.8	196	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 56.2 ug/L
Germany - female adults 20 to 29 y (N = 308)	1988-2003			15.6	2.7	251	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 60.9 ug/L

	Date	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Median	Low			
<b>USA</b>										
U.S. - national survey aged 6 y and older	2001-2002	2772	12.6		11.2			1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6 -11 y	2001-2002	392	26.6		22.8			1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	13.5		12.0			1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	2001-2002	1638	11.4		10.1			1	CDC, 2005	High value is 95th percentile
U.S., Wisconsin - adult males and females	2005				6.55			4	Peck et al., 2006	No recent use of hair conditioner
U.S., Wisconsin - adult males and females	2005				13.12			4	Peck et al., 2006	Use of hair conditioner < 48 h prior to meas.
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	36.1	2.3	36.8	3.0	670.1	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 163.1 ug/g
U.S. - CA, MN, & MO: 214 pregnant women	2000-2004				12.6			1	Marsee et al., 2006	25th perc = 7.7 ug/g; 95th perc = 80.5 ug/g
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				17.9	7.3	122.1	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				13.5	4.3	45.2	1	Hines et al., 2009b	Det. in 93% samples; low and high are 10th and 95th perc., respectively
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	29.3	2.6				1	Wolf et al., 2007	Detected in 100% samples
U.S. - New York City; children age 6 to 10 y	2004-2005	159	53.9		50.9	4.6	710.4	1	Teitelbaum et al., 2008	Det. in 100% samples; 95th perc = 350.4 ug/g; collected over 6 mo. period
		5973	15.4			3.0	998			
<b>Europe</b>										
Germany, Munich and area - age 14 to 60 y	2005 (April-Oct)				12.8			1	Fromme et al., 2007b	
Germany - 254 children aged 3 to 14	2001-2002	254			30.5	3.83	1090	4	Becker et al., 2004	95th percentile = 119
Germany - south, rural; 36 children aged 2 to 6 y	2003 (Jan)			26.7	30.3	10.2	158	4	Koch et al., 2004	95th percentile = 75.8
Germany - south, rural; 19 adults	2003 (Jan)			9.1	17.2	4.5	40.9	4	Koch et al., 2004	95th percentile = 34.7
Germany - adults 21 to 29 y (30 male, 30 female)	1988				17.8	2.7	251	1	Wittassek et al., 2007b	95th percentile = 46.4 ug/g
Germany - adults 21 to 29 y (30 male, 30 female)	1989				20.4	3.8	93.5	1	Wittassek et al., 2007b	95th percentile = 65.3 ug/g
Germany - adults 22 to 29 y (30 male, 30 female)	1991				19.7	6.3	205	1	Wittassek et al., 2007b	95th percentile = 61.8 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	1993				20.6	3.7	74.8	1	Wittassek et al., 2007b	95th percentile = 65.3 ug/g
Germany - adults 20 to 29 y (78 male, 68 female)	1996				17.2	5.3	208	1	Wittassek et al., 2007b	95th percentile = 70.7 ug/g
Germany - adults 20 to 29 y (38 male, 30 female)	1998				13.8	2.9	75.3	1	Wittassek et al., 2007b	95th percentile = 35.3 ug/g
Germany - adults 21 to 28 y (30 male, 30 female)	1999				13.0	3.7	54.8	1	Wittassek et al., 2007b	95th percentile = 46.2 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	2001				14.2	5.2	86.5	1	Wittassek et al., 2007b	95th percentile = 39.7 ug/g
Germany - adults 20 to 28 y (30 male, 30 female)	2003				12.0	4.0	35.2	1	Wittassek et al., 2007b	95th percentile = 27.1 ug/g
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	23.3	2.0	20.9	5.3	386.0	1	Ye et al., 2008	Det. in 100% samples; 95th perc = 126.0 ug/g
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	18	13	15			4	Hogberg et al., 2008	Detected in 37 of 38 samples; 75th perc = 24 ug/g
		392	27.9			2.7	1090			
<b>Japan/Asia</b>										
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	20.1		17.5	5.0	129.4	1	Berman et al., 2009	
Japan - pregnant women; N=40	2003 (Jun-Oct)				10.4	1.51	41.0	4	Fujimaki et al., 2006	
Korea - children age 6.5 to 12.5 y - male	NA	30	83.1	1.8		29.0	620.5	4	Kho et al., 2007	Data reported as mg/g
Korea - children age 6.5 to 12.5 y - female	NA	30	79.0	2.4		12.2	758.8	4	Kho et al., 2007	Data reported as mg/g
		79	66.4			1.51	758.8			
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	18.8	2.05	20.4	4.80	41.7	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	16.8	1.79	14.8	7.44	45.1	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	60.0	1.78	54.8	24.9	212	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	84.6	2.21	74.0	7.14	348	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	23.1	2.00	23.5	6.80	148	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	27.1	2.12	27.8	9.38	163	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	40.4	4.27	82.5	3.67	261	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	60.8	3.27	92.0	5.23	233	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	14.0	2.50	12.6	3.64	236	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	15.5	2.48	13.5	4.82	282	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot, 17 men, 4 women - mid-shift	2003-2005	21	27.2	2.61	23.7	7.13	501	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot, 17 men, 4 women - end-shift	2003-2005	21	36.9	2.50	41.3	4.05	369	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	22.9	3.89	15.2	4.96	705	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	33.4	3.20	26.9	8.95	673	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	9.96	3.50	7.44	<LOD	525	1	Hines et al., 2009a	Detected in 92% samples
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	25	17.9	6.70	11.1	<LOD	544	1	Hines et al., 2009a	Detected in 88% samples
Germany - adults 20 to 29 y (N = 634)	1988-2003				16.1	2.7	251	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 51.7 ug/g
Germany - male adults 20 to 29 y (N = 326)	1988-2003				14.1	2.7	208	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 44.6 ug/g
Germany - female adults 20 to 29 y (N = 308)	1988-2003				18.6	6.0	251	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 60.5 ug/g
Korea - children age 6.5 to 12.5 y - male and female	NA	60	80.6	2.1		12.2	758.8	4	Kho et al., 2007	Overall total of data presented above

<b>Human Plasma</b>										
	Date	Concentration as ug/mL			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Median	Low			
U.S. - 127 adults - serum	2001				<0.0014	<0.0014	0.0034	1	Kato et al., 2004	Det. in 18% of samples; low & high are 5th & 95th perc., resp.
U.S. - N.C.; 33 women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005				<0.0008	<0.0008		1	Hines et al., 2009b	Det. in 14% samples
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	36	0.00055		<0.0011	<0.0011	<0.0011	4	Hogberg et al., 2008	Not detected in any of 36 samples; det. limit =0.0011 ug/mL
		36	0.00055			<0.0008	0.0034			Mean represents one half detection limit

<b>Milk</b>											
		Concentration as ug/L			Single	Range	Data				

	Date	N	Average	SD	Median	Point	Low	High	Quality	Reference	Comments
<b>Human Milk</b>											
U.S. - N.C.; 33 women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005				<0.8		<0.8	0.3	1	Hines et al., 2009b	Det. in 2% samples
Italy, Brindisi & Tricase - 7 d after delivery; age 18 to 41 y; n=62	2006	62	0.15		<0.3		<0.3	<0.3	4	Latini et al., 2009	Det. in 0 of 62 samples
Sweden - 2 to 3 wks after delivery; age 23 to 39 y	2001	42	0.55		<1.1		<1.1	<1.1	4	Hogberg et al., 2008	Not detected in any of 42 samples; det. limit = 1.1 ug/L
		104	0.31				<0.3	<1.1			Mean represents one half detection limit
<b>Human Saliva</b>											
	Date	N	Concentration as ug/L		Median	Single Point	Range		Data Quality	Reference	Comments
			Average	SD			Low	High			
U.S. - N.C.; 33 lactating women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005	65	0.4		<1.07		<0.8	<0.8	1	Hines et al., 2009b	Det. in 0% samples
		65	0.4				<0.8	<0.8			Mean represents one half detection limit

## Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP)

Urine	Date	Concentration as ug/L urine			Single Point	Range		Data		Reference	Comments
		N	Geo.Mean/Ave.	SD		Median	Low	High	Quality		
<b>USA</b>											
U.S. - adults and children	N/A				35.9		2.7	2417	1	Barr et al., 2003	Data are for 50 samples
U.S. - adult	NA	1	17.5			17.5			1	Silva et al., 2004c	
U.S. - 127 adults	2001	127	19.3		17.4			220	1	Kato et al., 2004	Det. in 95% of samples; low & high are 5th & 95th perc., resp.
U.S. - national survey aged 6 y and older	2001-2002	2782	20.0		20.1			192	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 6-11 y	2001-2002	393	33.6		32.9			210	1	CDC, 2005	High value is 95th percentile
U.S. - national survey aged 12-19 y	2001-2002	742	24.9		25.2			202	1	CDC, 2005	High value is 95th percentile
U.S. - national survey of adults age 20 y and older	2001-2002	1647	18.1		17.7			175	1	CDC, 2005	High value is 95th percentile
U.S. - Boston; adult males 22 to 54 y attending fertility clinic	2000-2004	230	57.4		48.1		<0.95	4806	1	Hauser et al., 2006	Det. limit = 0.95 ug/L; 95th perc = 786 ug/L
U.S. - 43 adults	NA				7.99			2.04	4	Kato et al., 2005	Detected in 100% samples; det. limit = 0.32 ug/L
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1982-1986	180	33.4	2.7	34.4		0.8	1060	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 164 ug/L
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				10.8			2108	1	Marsee et al., 2006	25th perc = 5.6 ug/L; 95th perc = 76.4 ug/L
U.S. - CA, IA, MN, & MO; 283 pregnant women; beg. 3rd trimester	2000-2004	283	11.9		11.2		1.1	99.4	1	Adibi et al., 2009	Det. in 97% samples; low and high are 5th and 95th perc., respectively
U.S. - New York City; 246 pregnant women	2001-2006	221	20.2		19.9		2.5	149.6	1	Adibi et al., 2008	Det. in 100% samples; low and high are 5th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y); 2-7 wks postpartum	2004-2005				18.6		3.6	336.2	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively
U.S. - N.C.; 33 lactating women (18-38 y); 3-4 months postpartum	2004-2005				10.9		1.4	181.9	1	Hines et al., 2009b	Det. in 93% samples; low and high are 10th and 95th perc., respectively
U.S. - Boston; infants in neonatal care; low exposure to DEHP	2003				27				1	Weuve et al., 2006	N=54; 25th perc = 18 ug/L; 75th perc = 60 ug/L
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	28.0	3.4	25.9		1.4	1699	1	Wolff et al., 2007	Detected in 100% samples; det. limit = 0.32 ug/L
U.S. - New York City; children age 6 to 10 y	2004-2005	159	85.5		83.1		1.6	1926.8	1	Teitelbaum et al., 2008	Det. in 100% samples; 95th perc = 666.8 ug/L; collected over 6 mo. period
		<b>6855</b>	<b>23.7</b>				<b>0.8</b>	<b>4806</b>			
<b>Europe</b>											
Germany, Erlangen (south) - genrif population age 7 to 64 y	2002 (April)	85	79.6	116	46.8		0.5	818	1	Koch et al., 2003a	95th percentile = 224
Germany - 114 boys aged 3 to 14	2001-2002	114	57.5		56.9		6.65	2590	4	Becker et al., 2004	95th percentile = 227
Germany - 140 girls aged 3 to 14	2001-2002	140	48.2		50.6		1.86	597	4	Becker et al., 2004	95th percentile = 151
Germany - south, rural; 36 children aged 2 to 6 y	2003 (Jan)				32.1	49.6	2.7	129	4	Koch et al., 2004	95th percentile = 107
Germany - south, rural; 19 adults	2003 (Jan)				22.6	32.1	10.7	103	4	Koch et al., 2004	95th percentile = 64.0
Germany - adult males	NA	5	52.3		24.3		5.1	125.8	4	Koch et al., 2005	Det. Limit = 0.25 ug/L
Germany - adult males attending fertility clinic; med. age 34 y	2004-2005				10.20			66.64	4	Nieden et al., 2006	N = 306; 75th perc. 18.83 ug/L; High value is 95th perc.
Germany, Munich & rural (south); 50 men & women 14 to 60 y	2005				19.2		0.6	681.8	1	Fromme et al., 2007a	399 samples, collected for 8 d; 95th perc = 81.8 ug/L
Germany - adults 21 to 29 y (30 male, 30 female)	1988				27.8		3.3	275	1	Wittassek et al., 2007b	95th percentile = 78.7 ug/L
Germany - adults 21 to 29 y (30 male, 30 female)	1989				28.2		5.9	275	1	Wittassek et al., 2007b	95th percentile = 66.9 ug/L
Germany - adults 22 to 29 y (30 male, 30 female)	1991				36.0		7.6	142	1	Wittassek et al., 2007b	95th percentile = 120 ug/L
Germany - adults 20 to 29 y (30 male, 30 female)	1993				28.0		5.5	133	1	Wittassek et al., 2007b	95th percentile = 108 ug/L
Germany - adults 20 to 29 y (78 male, 68 female)	1996				20.0		5.2	216	1	Wittassek et al., 2007b	95th percentile = 83.6 ug/L
Germany - adults 20 to 29 y (38 male, 30 female)	1998				17.0		2.5	165	1	Wittassek et al., 2007b	95th percentile = 61.6 ug/L
Germany - adults 21 to 28 y (30 male, 30 female)	1999				13.4		4.6	77.7	1	Wittassek et al., 2007b	95th percentile = 53.5 ug/L
Germany - adults 20 to 29 y (30 male, 30 female)	2001				16.4		3.9	113	1	Wittassek et al., 2007b	95th percentile = 66.1 ug/L
Germany - adults 20 to 28 y (30 male, 30 female)	2003				13.4		2.3	83.2	1	Wittassek et al., 2007b	95th percentile = 38.8 ug/L
Germany, south; 12 female + 13 male; age 6 to 73 y	N/A	25	32.9		14.7		3	258	1	Koch et al., 2007	Det. in 100% samples
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	14.3	4.7	14.0		0.5	494.0	1	Ye et al., 2008	Det. in 100% samples; LOD = 0.25 ug/L; 95th perc = 86.2 ug/L
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	25	27	15		1.4	126	4	Hogberg et al., 2008	Detected in all 38 samples; det. limit = 0.95 ug/L; 75th perc = 29 ug/L
		<b>507</b>	<b>46.4</b>				<b>0.5</b>	<b>2590</b>			
<b>Japan/Asia</b>											
Korea, Seoul - male and female adults in urban area	2005	513	29.58	35.56	21.58		4.70	59.54	4	Hong et al., 2009	Det. In 99.4% samples; det limit = 0.71; low and high are 10th and 90th perc.
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	18.6		21.5		1.8	70.9	1	Berman et al., 2009	Detected in 100% samples; det. limit = 0.7 ug/L
		<b>532</b>	<b>29.2</b>				<b>1.8</b>	<b>70.9</b>			
<b>U.S. - Boston; infants in neonatal care; med. exposure to DEHP</b>											
U.S. - Boston; infants in neonatal care; high exposure to DEHP	2003				307				1	Weuve et al., 2006	N=54; 25th perc = 34 ug/L 75th perc = 614 ug/L
U.S. - national survey, adult users of medicine, mesalamine	1999-2004	6	82.3		555				1	Weuve et al., 2006	N=54; 25th perc = 328 ug/L 75th perc = 844 ug/L
U.S. - national survey, adult users of medicine, didanosine	1999-2004	2	10.8						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - national survey, adult users of medicine, omeprazole	1999-2004	54	32.3						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - national survey, adult users of medicine, theophylline	1999-2004	16	50.5						1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	45.5	2.20	45.1		11.4	118	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	48.4	2.63	54.9		9.90	196	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	220	2.30	224		45.8	1230	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	283	3.22	282		11.8	3090	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	35.0	2.45	35.8		6.50	427	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	44.0	2.53	45.4		11.4	294	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	103	4.76	190		8.50	565	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	203	3.36	289		16.2	1040	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	31.4	2.58	30.1		7.40	699	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	40.5	2.63	34.3		6.30	891	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	56.2	3.57	60.8		6.40	1060	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	102	3.46	106		9.10	1640	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	55.5	4.69	50.4		1.60	1090	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	78.6	4.31	74.8		1.20	1820	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	16.2	3.19	12.5		3.30	338	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.3 to 1.0 ug/L
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	25.0	7.15	21.3		<1.0	10800	1	Hines et al., 2009a	Detected in 96% samples; LOD = 0.3 to 1.0 ug/L
Germany - adult males - plasma donors	NA	6	86.3		90.5		34.8	130.4	4	Koch et al., 2005	Det. Limit = 0.25 ug/L
Germany - adult males - platelet (discontinuous) donors	NA	6	416.6		315.9		140.2	988	4	Koch et al., 2005	Det. Limit = 0.25 ug/L
Germany - adult males - platelet (continuous) donors	NA	6	826.4		793.8		241	1346	4	Koch et al., 2005	Det. Limit = 0.25 ug/L
Germany - adults 27 to 32 y (2 male, 1 female)	NA				1.2		4.3	4	4	Koch et al., 2006b	Sampled 24 to 48 h after alimentary abstinence
Germany - adults 20 to 29 y (N = 634)	1988-2003				21.0		2.3	275	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 77.2 ug/L
Germany - male adults 20 to 29 y (N = 326)	1988-2003				23.8		2.5	275	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 76.5 ug/L
Germany - female adults 20 to 29 y (N = 308)	1988-2003				18.4		2.3	275	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 77.7 ug/L

## Legend

Data, changes or comments added in 2009

Excluded from calculated summary

Indicates average based on detection limit

**BOLD** Calculated category summary

## Data Quality

1 - Reliable without restrictions

2 - Reliable with restrictions

3 - Not reliable

4 - Unassignable



	Date	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments	
		N	Geo.Mean/Ave.	SD		Median	Low				High
<b>USA</b>											
U.S. - national survey aged 6 y and older	2001-2002	2772	18.8		16.6		147	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 6-11 y	2001-2002	392	38.3		34.2		211	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 12-19 y	2001-2002	742	19.2		17.7		102	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey of adults age 20 y and older	2001-2002	1638	17.2		15.0		134	1	CDC, 2005	High value is 95th percentile	
U.S., Wisconsin - adult males and females	2005				10.8			4	Peck et al., 2006	No recent use of hair conditioner	
U.S., Wisconsin - adult males and females	2005				19.83			4	Peck et al., 2006	Use of hair conditioner < 48 h prior to meas.	
U.S. - adult females 21 to 42 y; N = 60; 3 samples each	1962-1986	180	34.2	2.2		4.1	716.2	4	Baird et al., 2009	Samples frozen for >20 y; 95th perc = 141.8 ug/g	
U.S. - CA, MN, & MO; 214 pregnant women	2000-2004				13.0		1254	1	Marshee et al., 2006	25th perc = 8.4 ug/g; 95th perc = 88.9 ug/g	
U.S. - N.C.; 33 lactating women (18-38 y); 2.7 wks postpartum	2004-2005				24.5		183.0	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively	
U.S. - N.C.; 33 lactating women (18-38 y); 3-4 months postpartum	2004-2005				17.0		80.7	1	Hines et al., 2009b	Det. in 93% samples; low and high are 10th and 95th perc., respectively	
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	43.8	2.7				1	Wolff et al., 2007	Detected in 100% samples	
U.S. - New York City; children age 6 to 10 y	2004-2005	159	84.8		76.4		6.4	1101	1	Teitelbaum et al., 2008	Det. in 100% samples; 95th perc = 592.1 ug/g; collected over 6 mo. period
		5973	22.3			4.1	1254				
<b>Europe</b>											
Germany, Munich and area - age 14 to 60 y	2005 (April-Oct)				18.4			1	Fromme et al., 2007b		
Germany - 254 children aged 3 to 14	2001-2002	254	40.7		39.9		4.8	1990	4	Becker et al., 2004	95th percentile = 170
Germany - south, rural; 36 children aged 2 to 6 y	2003 (Jan)				43.6		15.4	258	4	Koch et al., 2004	95th percentile = 113
Germany - south, rural; 19 adults	2003 (Jan)				12.7		10.9	63.6	4	Koch et al., 2004	95th percentile = 48
Germany - adults 21 to 29 y (30 male, 30 female)	1988				25.3		4.1	275	1	Wittassek et al., 2007b	95th percentile = 66.9 ug/g
Germany - adults 21 to 29 y (30 male, 30 female)	1989				25.4		6.7	133	1	Wittassek et al., 2007b	95th percentile = 76.6 ug/g
Germany - adults 22 to 29 y (30 male, 30 female)	1991				26.3		8.3	212	1	Wittassek et al., 2007b	95th percentile = 74.5 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	1993				26.2		6.5	113	1	Wittassek et al., 2007b	95th percentile = 90.7 ug/g
Germany - adults 20 to 29 y (78 male, 68 female)	1996				21.5		6.5	282	1	Wittassek et al., 2007b	95th percentile = 82.6 ug/g
Germany - adults 20 to 29 y (38 male, 30 female)	1998				18.5		4.2	68.6	1	Wittassek et al., 2007b	95th percentile = 46.0 ug/g
Germany - adults 21 to 28 y (30 male, 30 female)	1999				16.2		4.5	72.4	1	Wittassek et al., 2007b	95th percentile = 50.9 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	2001				17.0		7.0	89.9	1	Wittassek et al., 2007b	95th percentile = 49.9 ug/g
Germany - adults 20 to 28 y (30 male, 30 female)	2003				15.2		5.4	33.2	1	Wittassek et al., 2007b	95th percentile = 30.7 ug/g
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	22.2	3.4	20.3		3.7	371.0	1	Ye et al., 2008	Det. in 100% samples; 95th perc = 99.5 ug/g
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	25	18	24		5.1	86	4	Hogberg et al., 2008	Detected in all 38 samples; 75th perc = 33 ug/g
		392	34.5				3.7	1990			
<b>Japan/Asia</b>											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	24.9		24.3		5.3	133.8	1	Berman et al., 2009	
Japan - pregnant women; N=40	2003 (Jun-Oct)				10.9		4.6	26.6	4	Fujimaki et al., 2006	
Korea - children age 6.5 to 12.5 y - male	NA	30	85.6	1.8			44.5	792.6	4	Kho et al., 2007	Data reported as mg/g
Korea - children age 6.5 to 12.5 y - female	NA	30	75.2	2.5			13.5	788.2	4	Kho et al., 2007	Data reported as mg/g
		79	67.1				4.6	792.6			
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	27.7	2.21	35.2		6.37	61.0	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	25.4	1.89	22.1		10.1	73.0	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	105	1.85	93.4		40.5	456	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	151	2.31	138		12.0	703	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	29.6	2.33	27.4		7.50	283	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	34.6	2.29	32.4		11.4	267	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	63.8	4.24	121		6.64	407	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	102	3.05	164		10.6	366	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 woman - mid-shift	2003-2005	25	22.7	2.53	21.7		6.29	372	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 woman - end-shift	2003-2005	25	25.2	2.45	21.2		7.77	455	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	42.4	2.63	40.0		10.6	756	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	59.5	2.47	69.9		8.10	553	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	36.1	3.85	24.1		6.59	1380	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	54.6	2.98	40.2		15.7	1090	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	25	18.0	3.16	13.6		5.70	791	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	34.4	5.90	21.9		<LOD	8690	1	Hines et al., 2009a	Detected in 96% samples
Germany - adults 20 to 29 y (N = 634)	1988-2003				21.0		4.1	282	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 68.0 ug/g
Germany - male adults 20 to 29 y (N = 326)	1988-2003				19.5		4.1	282	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 61.1 ug/g
Germany - female adults 20 to 29 y (N = 308)	1988-2003				22.8		5.6	275	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 71.4 ug/g
Korea - children age 6.5 to 12.5 y - male and female	NA	60	79.8	2.1			13.5	792.6	4	Kho et al., 2007	Overall total of data presented above

	Date	Concentration as ug/mL			Single Point	Range		Data Quality	Reference	Comments	
		N	Geo.Mean/Ave.	SD		Median	Low				High
U.S. - 127 adults - serum	2001				<0.0019		<0.0019	0.0031	1	Kato et al., 2004	Det. in 44% of samples; low & high are 5th & 95th perc., resp.
U.S. - N.C.; 33 women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005				<0.00107		<0.00107		1	Hines et al., 2009b	Det. in 17% samples
Denmark, Copenhagen - umbilical cord blood	N/A	5	0.00025	0.00069			<0.0005		4	Mose et al., 2007	
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	36	0.00048		<0.00095		<0.00095	<0.00095	4	Hogberg et al., 2008	Not detected in any of 36 samples; det. limit = 0.00095 ug/mL
		41	0.00045				<0.0005	0.0031			Mean represents one half detection limit

	Date	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
		N	Geo.Mean/Ave.	SD		Median	Low				High
Denmark, Copenhagen - maternal perfusate	N/A						<0.05	0.207	4	Mose et al., 2007	
			N/A				<0.05	0.207			
<b>Placenta Tissue</b>											
Denmark, Copenhagen - before perfusion	N/A						<0.5	<0.5	4	Mose et al., 2007	
Denmark, Copenhagen - after perfusion	N/A						<0.5	<0.5	4	Mose et al., 2007	
			N/A				<0.5	<0.5			



Milk												
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Average	SD	Median		Low	High				
<b>Human Milk</b>												
U.S. - N.C.; 33 women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005					<1.07	<1.07	0.3	1	Hines et al., 2009b	Det. in 5% samples	
Italy, Brindisi & Tricase - 7 d after delivery; age 18 to 41 y; n=62	2006	62	0.15			<0.3	<0.3	<0.3	4	Latini et al., 2009	Det. in 0 of 62 samples	
Sweden - 2 to 3 wks after delivery; age 23 to 39 y	2001	42	0.48			<0.95	<0.95	<0.95	4	Hogberg et al., 2008	Not detected in any of 42 samples; det. limit = 0.95 ug/L	
		104	0.28				<0.3	<0.95			Mean represents one half detection limit	
<b>Human Saliva</b>												
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Average	SD	Median		Low	High				
U.S. - N.C.; 33 lactating women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005	65	0.54			<1.07	<1.07	<1.07	1	Hines et al., 2009b	Det. in 0% samples	
		65	0.54				<1.07	<1.07			Mean represents one half detection limit	

**Mono-(2-carboxymethylhexyl) phthalate (MCMHP)**

Urine		Concentration as ug/L urine			Single	Range		Data	Reference	Comments
Date	N	Geo.Mean/Ave.	SD	Median	Point	Low	High	Quality		
<b>Europe</b>										
Germany, Munich & rural (south); 50 men & women 14 to 60 y	2005			8.3		0.4	300.8	1	Fromme et al., 2007a	399 samples, collected for 8 d; 95th perc = 41.3 ug/L
Germany - adults 21 to 29 y (30 male, 30 female)	1988			11.6		1.4	82.4	1	Wittassek et al., 2007b	95th percentile = 43.2 ug/L
Germany - adults 21 to 29 y (30 male, 30 female)	1989			12.2		2.0	119	1	Wittassek et al., 2007b	95th percentile = 34.4 ug/L
Germany - adults 22 to 29 y (30 male, 30 female)	1991			13.3		2.8	120	1	Wittassek et al., 2007b	95th percentile = 58.6 ug/L
Germany - adults 20 to 29 y (30 male, 30 female)	1993			10.3		2.5	55.6	1	Wittassek et al., 2007b	95th percentile = 31.7 ug/L
Germany - adults 20 to 29 y (78 male, 68 female)	1996			8.8		1.4	99.9	1	Wittassek et al., 2007b	95th percentile = 38.3 ug/L
Germany - adults 20 to 29 y (38 male, 30 female)	1998			7.6		1.4	178	1	Wittassek et al., 2007b	95th percentile = 44.0 ug/L
Germany - adults 21 to 28 y (30 male, 30 female)	1999			5.4		1.8	172	1	Wittassek et al., 2007b	95th percentile = 27.2 ug/L
Germany - adults 20 to 29 y (30 male, 30 female)	2001			6.1		2.0	48.8	1	Wittassek et al., 2007b	95th percentile = 26.4 ug/L
Germany - adults 20 to 28 y (30 male, 30 female)	2003			5.6		0.8	29.0	1	Wittassek et al., 2007b	95th percentile = 21.7 ug/L
Germany, south; 12 female + 13 male; age 6 to 73 y	N/A	25	12.4	6.5		1.4	98	1	Koch et al., 2007	Det. in 100% samples
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	6.2	3.2	6.2	0.5	67.3	1	Ye et al., 2008	Det. in 100% samples; LOD = 0.25 ug/L; 95th perc = 33.4 ug/L
		125	7.4			0.4	300.8			
Germany - adults 20 to 29 y (N = 634)	1988-2003			8.7		0.8	178	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 35.3 ug/L
Germany - male adults 20 to 29 y (N = 326)	1988-2003			9.4		1.4	120	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 36.0 ug/L
Germany - female adults 20 to 29 y (N = 308)	1988-2003			7.6		0.8	178	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 34.9 ug/L

Legend	
<span style="background-color: yellow;"> </span>	Data, changes or comments added in 2009
<span style="background-color: lightgrey;"> </span>	Excluded from calculated summary
<span style="background-color: pink;"> </span>	Indicates average based on detection limit
<b>BOLD</b>	Calculated category summary
Data Quality	
1 -	Reliable without restrictions
2 -	Reliable with restrictions
3 -	Not reliable
4 -	Unassignable

Urine		Concentration as ug/g creatinine			Single	Range		Data	Reference	Comments
Date	N	Geo.Mean/Ave.	SD	Median	Point	Low	High	Quality		
<b>Europe</b>										
Germany, Munich and area - age 14 to 60 y	2005 (April-Oct)			7.9				1	Fromme et al., 2007b	
Germany - adults 21 to 29 y (30 male, 30 female)	1988			9.4		3.3	82.4	1	Wittassek et al., 2007b	95th percentile = 32.9 ug/g
Germany - adults 21 to 29 y (30 male, 30 female)	1989			9.9		3.6	56.6	1	Wittassek et al., 2007b	95th percentile = 30.7 ug/g
Germany - adults 22 to 29 y (30 male, 30 female)	1991			11.6		3.3	79.0	1	Wittassek et al., 2007b	95th percentile = 44.3 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	1993			9.3		3.3	34.2	1	Wittassek et al., 2007b	95th percentile = 31.5 ug/g
Germany - adults 20 to 29 y (78 male, 68 female)	1996			9.1		2.0	110	1	Wittassek et al., 2007b	95th percentile = 36.1 ug/g
Germany - adults 20 to 29 y (38 male, 30 female)	1998			8.3		3.6	73.8	1	Wittassek et al., 2007b	95th percentile = 27.3 ug/g
Germany - adults 21 to 28 y (30 male, 30 female)	1999			6.9		2.1	90.5	1	Wittassek et al., 2007b	95th percentile = 19.2 ug/g
Germany - adults 20 to 29 y (30 male, 30 female)	2001			7.2		2.5	20.9	1	Wittassek et al., 2007b	95th percentile = 20.3 ug/g
Germany - adults 20 to 28 y (30 male, 30 female)	2003			6.8		2.2	17.3	1	Wittassek et al., 2007b	95th percentile = 12.7 ug/g
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	9.7	2.6	9.1	1.6	73.6	1	Ye et al., 2008	Det. in 100% samples; 95th perc = 36.1 ug/g
		100	9.7			<LOD	110			
Germany - adults 20 to 29 y (N = 634)	1988-2003			8.7		2.0	110	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 30.1 ug/g
Germany - male adults 20 to 29 y (N = 326)	1988-2003			7.9		2.0	110	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 28.1 ug/g
Germany - female adults 20 to 29 y (N = 308)	1988-2003			9.5		2.8	98.8	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 30.9 ug/g

Milk		Concentration as ug/L			Single	Range		Data	Reference	Comments
Date	N	Average	SD	Median	Point	Low	High	Quality		
<b>Human Milk</b>										
Italy, Brindisi & Tricase - 7 d after delivery; age 18 to 41 y; n=62	2006	62	0.15	<0.3		<0.3	<0.3	4	Latini et al., 2009	Det. in 0 of 62 samples
		62	0.15			<0.3	<0.3			Mean represents one half detection limit

## Mono-(2-ethyl-5-carboxypentyl) phthalate (MECPP)

Urine	Date	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments	Legend
		N	Geo.Mean/Ave.	SD		Median	Low				
<b>USA</b>											
U.S. - 43 adults	NA				8.92	2.33	130.1	4	Kato et al., 2005	Detected in 100% samples; det. limit = 0.25 ug/L	
U.S. - New York City; 246 pregnant women	2001-2006	220	38.3		37.1	6.2	232.2	1	Adibi et al., 2008	Det. in 100% samples; low and high are 5th and 95th perc., respectively	Data, changes or comments added in 2009
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				27.3	4.2	364.4	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively	Excluded from calculated summary
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				24.8	3.1	236.9	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively	
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	50.3	3.1	53.2	5.9	226.0	1	Wolff et al., 2007	Detected in 100% samples; det. limit = 0.25 ug/L	Indicates average based on detection limit
U.S. - New York City; children age 6 to 10 y	2004-2005	100	135.6		138.6	10.4	1694.5	1	Teitelbaum et al., 2008	Det. in 100% samples; 95th perc = 816.4 ug/L; collected over 6 mo. period	
		<b>410</b>	<b>64.7</b>			<b>2.33</b>	<b>226.0</b>				<b>BOLD</b> Calculated category summary
<b>Europe</b>											
France - workers not exposed to DEHP (pre-shift)	NA	19	39.3		38.1	1.0	109.8	1	Gaudin et al., 2008	Admin. workers in a facility prep. & using plastisols containing DEHP	
France - workers not exposed to DEHP (post-shift)	NA	19	31.8		11.4	1.2	148.7	1	Gaudin et al., 2008	Admin. workers in a facility prep. & using plastisols containing DEHP	
Germany, Munich & rural (south); 50 men & women 14 to 60 y	2005				26.2	0.8	946.7	1	Fromme et al., 2007a	399 samples, collected for 8 d; 95th perc = 93.6 ug/L	
Germany - adults 21 to 29 y (30 male, 30 female)	1988				27.8	1.9	340	1	Wittassek et al., 2007b	95th percentile = 106 ug/L	
Germany - adults 21 to 29 y (30 male, 30 female)	1989				39.0	3.9	282	1	Wittassek et al., 2007b	95th percentile = 87.5 ug/L	
Germany - adults 22 to 29 y (30 male, 30 female)	1991				40.2	8.6	241	1	Wittassek et al., 2007b	95th percentile = 166 ug/L	
Germany - adults 20 to 29 y (30 male, 30 female)	1993				30.3	9.2	159	1	Wittassek et al., 2007b	95th percentile = 117 ug/L	
Germany - adults 20 to 29 y (78 male, 68 female)	1996				26.8	6.1	300	1	Wittassek et al., 2007b	95th percentile = 129 ug/L	
Germany - adults 20 to 29 y (38 male, 30 female)	1998				21.6	4.0	181	1	Wittassek et al., 2007b	95th percentile = 75.1 ug/L	
Germany - adults 21 to 28 y (30 male, 30 female)	1999				18.7	7.4	167	1	Wittassek et al., 2007b	95th percentile = 64.5 ug/L	
Germany - adults 20 to 29 y (30 male, 30 female)	2001				23.0	5.0	185	1	Wittassek et al., 2007b	95th percentile = 72.2 ug/L	
Germany - adults 20 to 29 y (30 male, 30 female)	2003				17.5	4.1	129	1	Wittassek et al., 2007b	95th percentile = 60.6 ug/L	
Germany, south; 12 female + 13 male; age 6 to 73 y	N/A	25	47.5		25.1	3.3	375.7	1	Koch et al., 2007	Det. in 100% samples	
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	19.4	2.8	18.4	1.2	421.0	1	Ye et al., 2008	Det. in 100% samples; LOD = 0.25 ug/L; 95th perc = 141.0 ug/L	
		<b>163</b>	<b>27.5</b>			<b>0.8</b>	<b>946.7</b>				
<b>Japan/Asia</b>											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	26.1		26.7	5.8	107.0	1	Berman et al., 2009	Detected in 100% samples; det. limit = 0.6 ug/L	
		<b>19</b>	<b>26.1</b>			<b>5.8</b>	<b>107</b>				
U.S. - national survey, adult users of medicine, mesalamine	1999-2004	4	113.5					1	Hernandez-Diaz et al., 2006	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, omeprazole	1999-2004	21	35					1	Hernandez-Diaz et al., 2006	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, theophylline	1999-2004	7	45.5					1	Hernandez-Diaz et al., 2006	Subset of NHANES 1999-2004	
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	235	2.31	222	47.9	1430	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 0.2 ug/L	
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	298	2.93	283	23.0	2030	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 0.2 ug/L	
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	140	4.39	286	12.8	998	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 0.2 ug/L	
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	246	3.46	391	22.4	1080	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 0.2 ug/L	
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	48.2	2.14	47.7	11.5	486	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 0.2 ug/L	
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	58.1	2.23	51.4	15.1	497	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 0.2 ug/L	
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	71.2	3.78	75.4	10.3	2840	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 0.2 ug/L	
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	119	3.55	132	13.8	3520	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.1 to 0.2 ug/L	
France - workers exposed to DEHP (pre-shift)	NA	25	73.7		37.6	6.2	581.0	1	Gaudin et al., 2008	In facility preparing and using plastisols containing DEHP	
France - workers exposed to DEHP (post-shift)	NA	25	149.7		103.7	18.8	961.0	1	Gaudin et al., 2008	In facility preparing and using plastisols containing DEHP	
Germany - adults 20 to 29 y (N = 634)	1988-2003				26.9	1.9	340	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 98.8 ug/L	
Germany - male adults 20 to 29 y (N = 326)	1988-2003				29.6	3.7	282	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 97.9 ug/L	
Germany - female adults 20 to 29 y (N = 308)	1988-2003				24.0	1.9	340	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 104 ug/L	
<b>USA</b>											
U.S., Wisconsin - adult males and females	2005				15.08			4	Peck et al., 2006	No recent use of hair conditioner	
U.S., Wisconsin - adult males and females	2005				30.37			4	Peck et al., 2006	Use of hair conditioner < 48 h prior to meas.	
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				36.8	16.8	247.9	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively	
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				32.5	12.7	134.8	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively	
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	78.5	2.5				1	Wolff et al., 2007	Detected in 100% samples	
U.S. - New York City; children age 6 to 10 y	2004-2005	100	124.4		104.2	16.5	1806.9	1	Teitelbaum et al., 2008	Det. in 100% samples; 95th perc = 726.4 ug/g; collected over 6 mo. period	
		<b>190</b>	<b>102.7</b>			<b>12.7</b>	<b>1806.9</b>				

Europe											
France - workers not exposed to DEHP (pre-shift)	NA	19	33.1		25.1	1.2	77.2	1	Gaudin et al., 2008	Admin. workers in a facility prep. & using plastisols containing DEHP	
France - workers not exposed to DEHP (post-shift)	NA	19	24.6		8.1	1.1	165.0	1	Gaudin et al., 2008	Admin. workers in a facility prep. & using plastisols containing DEHP	
Germany, Munich and area - age 14 to 60 y	2005 (April-Oct)				22.3			1	Fromme et al., 2007b		
Germany - adults 21 to 29 y (30 male, 30 female)	1988				27.0	2.9	340	1	Wittassek et al., 2007b	95th percentile = 65.1 ug/g	
Germany - adults 21 to 29 y (30 male, 30 female)	1989				31.8	4.5	134	1	Wittassek et al., 2007b	95th percentile = 99.0 ug/g	
Germany - adults 22 to 29 y (30 male, 30 female)	1991				32.0	5.7	200	1	Wittassek et al., 2007b	95th percentile = 137 ug/g	
Germany - adults 20 to 29 y (30 male, 30 female)	1993				32.8	8.4	122	1	Wittassek et al., 2007b	95th percentile = 106 ug/g	
Germany - adults 20 to 29 y (78 male, 68 female)	1996				26.9	9.0	300	1	Wittassek et al., 2007b	95th percentile = 123 ug/g	
Germany - adults 20 to 29 y (38 male, 30 female)	1998				24.0	6.9	75.1	1	Wittassek et al., 2007b	95th percentile = 62.2 ug/g	
Germany - adults 21 to 28 y (30 male, 30 female)	1999				22.7	7.5	100	1	Wittassek et al., 2007b	95th percentile = 78.8 ug/g	
Germany - adults 20 to 29 y (30 male, 30 female)	2001				23.0	8.0	147	1	Wittassek et al., 2007b	95th percentile = 54.4 ug/g	
Germany - adults 20 to 28 y (30 male, 30 female)	2003				20.0	7.0	56.7	1	Wittassek et al., 2007b	95th percentile = 51.6 ug/g	
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	30.1	2.3	25.8	8.1	317.0	1	Ye et al., 2008	Det. in 100% samples; 95th perc = 155.0 ug/g	
		138	29.8			1.1	340.0				
Japan/Asia											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	35.0		41.1	13.7	193.4	1	Berman et al., 2009		
		19	35.0			13.7	193.4				
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	112	1.93	102	34.0	574	1	Hines et al., 2009a	Detected in 100% samples	
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	158	2.09	142	23.5	625	1	Hines et al., 2009a	Detected in 100% samples	
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	86.8	3.86	150	10.0	598	1	Hines et al., 2009a	Detected in 100% samples	
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	124	3.18	200	14.6	444	1	Hines et al., 2009a	Detected in 100% samples	
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	34.9	2.02	29.4	10.5	201	1	Hines et al., 2009a	Detected in 100% samples	
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	36.2	2.09	31.0	10.9	53.0	1	Hines et al., 2009a	Detected in 100% samples	
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	53.7	3.06	50.5	9.44	2030	1	Hines et al., 2009a	Detected in 100% samples	
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	69.3	2.71	69.7	11.3	1180	1	Hines et al., 2009a	Detected in 100% samples	
France - workers exposed to DEHP (pre-shift)	NA	25	36.0		21.4	4.1	276.7	1	Gaudin et al., 2008	In facility preparing and using plastisols containing DEHP	
France - workers exposed to DEHP (post-shift)	NA	25	98.4		63.0	11.1	533.0	1	Gaudin et al., 2008	In facility preparing and using plastisols containing DEHP	
Germany - adults 20 to 29 y (N = 634)	1988-2003				26.4	2.9	340	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 84.2 ug/g	
Germany - male adults 20 to 29 y (N = 326)	1988-2003				23.6	4.5	300	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 75.1 ug/g	
Germany - female adults 20 to 29 y (N = 308)	1988-2003				29.8	2.9	340	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 94.7 ug/g	

Human Plasma											
	Date	N	Concentration as ug/mL			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
U.S. - N.C.; 33 women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005	65	0.0022			<0.0008	0.0137	1	Hines et al., 2009b	Det. in 87% samples	
		65	0.0022			<0.0008	0.0137				
Milk											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
Human Milk											
U.S. - N.C.; 33 women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005				<0.8	<0.8	0.4	1	Hines et al., 2009b	Det. in 8% samples	
Italy, Brindisi & Tricase - 7 d after delivery; age 18 to 41 y; n=62	2006				<0.3	<0.3	0.6	4	Latini et al., 2009	Det. in 1 of 62 samples	
			N/A			<0.3	0.6				
Human Saliva											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
U.S. - N.C.; 33 lactating women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005				<0.8	<0.8	2.3	1	Hines et al., 2009b	Det. in 2% samples	
			N/A			<0.8	2.3				

**Mono-n-octyl phthalate (MnOP)**

Surface Water											
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median	Point	Low	High			
<b>Japan/Asia</b>											
Tokyo - Tama River site #1 (upstream)	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #2	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #3	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Tama River site #4 (downstream)	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Aki River	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
Tokyo - Asa River	1999-2000	12	0.006				<0.012	<0.012	1	Suzuki, et al. 2001	Not detected in any of 12 monthly samples
		<b>72</b>	<b>0.006</b>				<b>&lt;0.012</b>	<b>&lt;0.012</b>			<b>Mean represents one half detection limit</b>
<b>Urine</b>											
Date	N	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments	
		Geo.Mean/Ave.	SD	Median	Point	Low	High				
<b>USA</b>											
U.S. - national survey of adults aged 20 to 60 y	1989-94	289	0.6		<0.9	<0.9	30.5	1	Blount et al., 2000		
U.S. , Imperial County, CA; toddlers aged 11.8 to 16.5 mo.	2000 (Jan. to Mar.)				<0.9	<0.9		1	Brock et al., 2002	19 children tested; not det. in any of 31 samples; det. limit 0.9 to 9 ng/mL	
U.S. - national survey aged 6 y and older	1999-2000	2541	0.45		<0.9	<0.9	2.90	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey aged 6 y and older	2001-2002	2782	0.50		<1.0	<1.0		1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 6 -11 y	1999-2000	328	0.45		<0.9	<0.9	3.20	1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 6 -11 y	2001-2002	393	0.50		<1.0	<1.0		1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 12-19 y	1999-2000	752	0.45		<0.9	<0.9	2.80	1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 12-19 y	2001-2002	742	0.50		<1.0	<1.0		1	CDC, 2005	High value is 95th percentile	
U.S. - national survey of adults age 20 y and older	1999-2000	1461	0.45		<0.9	<0.9	2.90	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey of adults age 20 y and older	2001-2002	1647	0.50		<1.0	<1.0		1	CDC, 2005	High value is 95th percentile	
U.S. - 43 adults	NA	43	0.34		<0.67	<0.67	<0.67	4	Kato et al., 2005	Detected in 0 of 43 samples; det. limit = 0.67 ug/L	
		<b>10978</b>	<b>0.48</b>			<b>&lt;0.67</b>	<b>30.5</b>				
<b>Europe</b>											
Germany, Erlangen (south) - genrl population age 7 to 64 y	2002 (April)				<1.0	<1.0	5.9	1	Koch et al., 2003a	95th percentile = <1.0; n = 85	
Netherlands, Rotterdam - pregnant women; median 30 wk gestat	2004-2006		NA		<0.50	<0.50	39.1	1	Ye et al., 2008	N=100; det. in 2% samples; 95th perc = <0.50 ug/L	
			NA			<b>&lt;0.50</b>	<b>39.1</b>				
Date	N	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments	
		Geo.Mean/Ave.	SD	Median	Point	Low	High				
<b>USA</b>											
U.S. - national survey aged 6 y and older	1999-2000	2541			<LOD	<LOD	3.51	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey aged 6 y and older	2001-2002	2772			<LOD	<LOD		1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 6 -11 y	1999-2000	328			<LOD	<LOD	3.75	1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 6 -11 y	2001-2002	392			<LOD	<LOD		1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 12-19 y	1999-2000	752			<LOD	<LOD	1.82	1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 12-19 y	2001-2002	742			<LOD	<LOD		1	CDC, 2005	High value is 95th percentile	
U.S. - national survey of adults age 20 y and older	1999-2000	1461			<LOD	<LOD	3.47	1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey of adults age 20 y and older	2001-2002	1638			<LOD	<LOD		1	CDC, 2005	High value is 95th percentile	
		<b>10626</b>	NA			<b>&lt;LOD</b>	<b>3.75</b>				
<b>Europe</b>											
Netherlands, Rotterdam - pregnant women; median 30 wk gestat	2004-2006				<LOD	<LOD	32.1	1	Ye et al., 2008	N=100; det. in 2% samples; 95th perc = <LOD	
			NA			<b>&lt;LOD</b>	<b>32.1</b>				

**Legend**

Yellow background: Data, changes or comments added in 2009

Grey background: Excluded from calculated summary

Pink background: Indicates average based on detection limit

**BOLD**: Calculated category summary

**Data Quality**

1 - Reliable without restrictions  
 2 - Reliable with restrictions  
 3 - Not reliable  
 4 - Unassignable

**Mono-3-carboxypropyl phthalate (MCPP)**

Urine	Date	Concentration as ug/L urine				Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD	Median		Low	High			
<b>USA</b>											
U.S. - adult	NA	1	3.4			3.4		1	Silva et al., 2004c		
U.S. - national survey aged 6 y and older	2001-2002	2782	2.75		3.00		14.6	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 6 -11 y	2001-2002	393	6.11		6.60		24.7	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 12-19 y	2001-2002	742	3.71		4.00		13.9	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey of adults age 20 y and older	2001-2002	1647	2.37		2.60		12.0	1	CDC, 2005	High value is 95th percentile	
U.S. - 43 adults	NA				1.43		<0.16	4	Kate et al., 2005	Det. in 41 of 43 samples; det. limit = 0.16 ug/L	
U.S. - Boston area; manicurists - pre-shift; N = 37	2004-2005				4.3			1	Kwapniewski et al., 2008	25th perc = 2.6 ug/L; 75th perc = 6.4 ug/L	
U.S. - New York City; 246 pregnant women	2001-2006	220	1.9		2.0	0.3	8.0	1	Adibi et al., 2008	Det. in 89% samples; low and high are 5th and 95th perc., respectively	
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				3.2	0.6	11.4	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively	
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				3.4	0.4	18.2	1	Hines et al., 2009b	Det. in 93% samples; low and high are 10th and 95th perc., respectively	
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	6.1	2.9	6.3	0.4	76.9	1	Wolff et al., 2007	Detected in 100% samples; det. limit = 0.16 ug/L	
U.S. - New York City; children age 6 to 10 y	2004-2005	159	6.4		6.4	0.1	129.2	1	Teitelbaum et al., 2008	Det. in 94.3% samples; 95th perc = 61.4 ug/L; LOD = 0.16 ug/L	
		<b>6034</b>	<b>3.1</b>				<b>0.1</b>		<b>129.2</b>		
<b>Europe</b>											
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	0.8	2.8	1.0	<0.25	8.2	1	Ye et al., 2008	Det. in 94% samples; 95th perc = 3.5 ug/L	
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	1.9	1.7	1.5	<1.0	9.1	4	Hogberg et al., 2008	Detected in 25 of 38 samples; det. limit =1.0 ug/L; 75th perc = 2.5 ug/L	
		<b>138</b>	<b>1.1</b>			<b>&lt;0.25</b>	<b>9.1</b>				
<b>Japan/Asia</b>											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	1.3		1.3	0.3	4.4	1	Berman et al., 2009	Detected in 100% samples; det. limit =0.2 ug/L	
		<b>19</b>	<b>1.3</b>			<b>0.3</b>	<b>4.4</b>				
U.S. - national survey, adult users of medicine, mesalamine	1999-2004	6	52.6					1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, didanosine	1999-2004	2	1.7					1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, omeprazole	1999-2004	54	41.7					1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - national survey, adult users of medicine, theophylline	1999-2004	16	44.6					1	Hernandez-Diaz et al., 2009	Subset of NHANES 1999-2004	
U.S. - Boston area; manicurists - post-shift; N = 37	2004-2005				4.5			1	Kwapniewski et al., 2008	25th perc = 2.2 ug/L; 75th perc = 8.8 ug/L	
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	9.50	2.79	8.80	3.60	89.5	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	12.1	2.58	13.4	2.50	42.6	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	4.60	2.14	5.80	0.50	15.8	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	4.73	2.68	5.00	0.30	22.8	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	6.74	1.86	6.00	2.30	20.8	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	5.65	2.11	6.60	<1.0	14.0	1	Hines et al., 2009a	Detected in 94% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	10.8	3.67	14.2	1.90	135	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	15.3	3.55	12.7	4.20	262	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	4.49	2.37	5.00	0.70	22.9	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	5.59	1.92	5.20	1.40	29.7	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	4.88	2.79	5.50	0.60	27.8	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	6.70	2.43	6.90	0.60	31.6	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	6.22	2.39	5.70	<1.0	34.1	1	Hines et al., 2009a	Detected in 95% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	10.7	2.21	10.9	1.40	46.9	1	Hines et al., 2009a	Detected in 100% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005	26	0.98	4.42	<1.0	<1.0	80.9	1	Hines et al., 2009a	Detected in 32% samples; LOD = 0.2 to 1.0 ug/L	
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	0.98	4.42	<1.0	<1.0	41.6	1	Hines et al., 2009a	Detected in 50% samples; LOD = 0.2 to 1.0 ug/L	
<b>Concentration as ug/g creatinine</b>											
Urine	Date	N	Geo.Mean/Ave.	SD	Median	Single Point	Range	Data Quality	Reference	Comments	
<b>USA</b>											
U.S. - national survey aged 6 y and older	2001-2002	2772	2.57		2.45		11.4	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 6 -11 y	2001-2002	392	6.96		7.07		26.4	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 12-19 y	2001-2002	742	2.86		2.93		9.44	1	CDC, 2005	High value is 95th percentile	
U.S. - national survey of adults age 20 y and older	2001-2002	1638	2.24		2.19		7.71	1	CDC, 2005	High value is 95th percentile	
U.S. - N.C.; 33 lactating women (18-38 y), 2-7 wks postpartum	2004-2005				3.5	2.3	17.9	1	Hines et al., 2009b	Det. in 100% samples; low and high are 10th and 95th perc., respectively	
U.S. - N.C.; 33 lactating women (18-38 y), 3-4 months postpartum	2004-2005				3.7	1.3	10.2	1	Hines et al., 2009b	Det. in 93% samples; low and high are 10th and 95th perc., respectively	
U.S., NY, OH, CA - girls age 6 to 9 y (mean 7.77 y)	2004-2005	90	9.2	2.1				1	Wolff et al., 2007	Detected in 100% samples	
U.S. - New York City; children age 6 to 10 y	2004-2005	159	6.3		6.1	0.1	94.2	1	Teitelbaum et al., 2008	Det. in 94.3% samples; 95th perc = 53.6 ug/g; collected over 6 mo. period	
		<b>5793</b>	<b>3.0</b>				<b>0.1</b>		<b>94.2</b>		

**Legend**

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- Excluded from calculated summary
- Indicates average based on detection limit
- BOLD** Calculated category summary

**Data Quality**

- 1 - Reliable without restrictions
- 2 - Reliable with restrictions
- 3 - Not reliable
- 4 - Unassignable

Europe										
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	1.3	2.3	1.4	<LOD	8.9	1	Ye et al., 2008	Det. in 94% samples; 95th perc = 4.6 ug/g
Sweden - women age 23 to 39 y; 3 to 4 wks after giving birth	2001	38	2.4	2.6	1.6	<LOD	16	4	Hogberg et al., 2008	Detected in 25 of 38 samples; 75th perc = 2.7 ug/g
		138	1.6							
Japan/Asia										
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	1.7		1.7	0.6	6.2	1	Berman et al., 2009	
		19	1.7			0.6	6.2			
U.S. - worker, phthalate manuf.; 9 men - mid-shift	2003-2005	9	5.78	2.34	5.03	2.25	37.6	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, phthalate manuf.; 9 men - end shift	2003-2005	9	6.35	1.92	5.70	2.20	17.9	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - mid-shift	2003-2005	25	2.20	1.75	2.21	0.81	7.28	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC film; 19 men, 6 women - end-shift	2003-2005	25	2.51	2.06	2.89	0.81	10.0	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - mid-shift	2003-2005	18	5.69	1.70	4.91	2.84	20.0	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, vehicle filter; 6 men, 12 women - end-shift	2003-2005	18	4.45	1.95	4.76	<LOD	11.1	1	Hines et al., 2009a	Detected in 94% samples
U.S. - worker, PVC compounding; 10 men, 2 women - mid-shift	2003-2005	12	6.7	3.31	7.15	1.15	61.2	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, PVC compounding; 10 men, 2 women - end-shift	2003-2005	12	7.72	3.11	6.66	1.77	69.3	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - mid-shift	2003-2005	25	3.25	2.22	2.73	0.76	19.7	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber hose; 24 men, 1 women - end-shift	2003-2005	25	3.48	1.85	3.3	1.38	30.0	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - mid-shift	2003-2005	21	3.68	2.29	3.82	0.64	17.6	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber boot; 17 men, 4 women - end-shift	2003-2005	21	3.92	1.98	4.51	0.50	12.7	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, rubber gasket; 20 men - mid-shift	2003-2005	20	3.98	2.24	4.1	<LOD	31.0	1	Hines et al., 2009a	Detected in 95% samples
U.S. - worker, rubber gasket; 20 men - end-shift	2003-2005	20	6.62	2.00	6.24	2.08	34.4	1	Hines et al., 2009a	Detected in 100% samples
U.S. - worker, nail-only salon; 9 men, 17 women - mid-shift	2003-2005				0.77	<LOD	42.8	1	Hines et al., 2009a	Detected in 32% samples
U.S. - worker, nail-only salon; 9 men, 17 women - end-shift	2003-2005	26	1.33	3.58	1.80	<LOD	27.7	1	Hines et al., 2009a	Detected in 50% samples

Human Plasma											
	Date	N	Concentration as ug/mL			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
U.S. - N.C.; 33 women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005		N/A		<0.00107	<0.00107		1	Hines et al., 2009b	Det. in 3% samples	
						<0.00107					

Milk											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
Human Milk											
U.S. - N.C.; 33 women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005		N/A		<1.07	<1.07	0.2	1	Hines et al., 2009b	Det. in 3% samples	
						<1.07	0.2				

Human Saliva											
	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments
			Average	SD	Median		Low	High			
U.S. - N.C.; 33 lactating women (18-38 y); 0.5 to 4 mos. postpartem	2004-2005		N/A		<1.07	<1.07	2.2	1	Hines et al., 2009b	Det. in 2% samples	
						<1.07	2.2				

**Monoisononyl phthalate (MiNP)**

Surface Water												
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Average	SD	Median		Low	High				
<b>Canada</b>												
Alberta - N. Sask. River - downstream of WWTP effluent	2002 (Dec)	1	0.0032			<0.0063			1	Alberta Environment, 2005	Mono C9-iso-mix	
Alberta - Bow River - downstream of WWTP effluent	2003 (Jan)	1	0.0032			<0.0063			1	Alberta Environment, 2005	Mono C9-iso-mix	
Alberta - S. Sask. River - upstream of Medicine Hat	2003 (Jan)	1	0.0032			<0.0063			1	Alberta Environment, 2005	Mono C9-iso-mix	
Alberta - Red Deer River - downstream of WWTP effluent	2003 (Jan)	1	0.0032			<0.0063			1	Alberta Environment, 2005	Mono C9-iso-mix	
		<b>4</b>	<b>0.0032</b>				<b>&lt;0.0063</b>				<b>Mean represents one half detection limit</b>	
<b>Wastewater</b>												
Location	Date	N	Concentration as ug/L			Single Point	Range		Data Quality	Reference	Comments	
			Average	SD	Median		Low	High				
<b>Europe</b>												
Belgium - WWTP influent	N/A	3	0.5		<1	<1	<1		4	Tienpont et al., 2004	MI-NP combined with MiDP	
Belgium - WWTP effluent	N/A	3	0.5		<1	<1	<1		4	Tienpont et al., 2004	MI-NP combined with MiDP	
Belgium - Sludge supernatant	N/A	1	5			<10			4	Tienpont et al., 2004	MI-NP combined with MiDP	
Belgium - Centrifuge supernatant	N/A	1	5			<10			4	Tienpont et al., 2004	MI-NP combined with MiDP	
		<b>8</b>	<b>1.6</b>				<b>&lt;1</b>	<b>&lt;10</b>			<b>Mean represents one half detection limit</b>	
<b>Canada</b>												
Alberta - effluent from 7 WWTPs	Dec 02-Jun 03	7	0.0032		<0.0063	<0.0063	<0.0063		1	Alberta Environment, 2005	Mono C9-iso-mix	
		<b>7</b>	<b>0.0032</b>				<b>&lt;0.0063</b>				<b>Mean represents one half detection limit</b>	
<b>Urine</b>												
	Date	N	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments	
			Geo.Mean/Ave.	SD	Median		Low	High				
<b>USA</b>												
U.S. - national survey of adults aged 20 to 60 y	1989-94	289	1.5		<0.8	<0.8	79.7		1	Blount et al., 2000	Mono-3-methyl-5-dimethylhexyl phthalate	
U.S. , Imperial County, CA; toddlers aged 11.8 to 16.5 mo.	2000 (Jan. to Mar.)					<0.9			1	Brock et al., 2002	19 children tested; not det. in any of 31 samples; det. limit 0.9 to 9 ng/mL	
U.S. - national survey aged 6 y and older	1999-2000	2541	0.4		<0.8	<0.8	3.50		1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey aged 6 y and older	2001-2002	2762	0.4		<0.8	<0.8			1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 6 -11 y	1999-2000	328	0.4		<0.8	<0.8	5.70		1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 6 -11 y	2001-2002	393	0.4		<0.8	<0.8			1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 12-19 y	1999-2000	752	0.4		<0.8	<0.8	2.30		1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 12-19 y	2001-2002	742	0.4		<0.8	<0.8			1	CDC, 2005	High value is 95th percentile	
U.S. - national survey of adults age 20 y and older	1999-2000	1461	0.4		<0.8	<0.8	3.10		1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey of adults age 20 y and older	2001-2002	1647	0.4		<0.8	<0.8			1	CDC, 2005	High value is 95th percentile	
U.S. - 43 adults	NA	43	0.18		<0.36	<0.36	<0.36		4	Kato et al., 2005	Detected in 0 of 43 samples; det. limit = 0.36 ug/L	
U.S. - 129 adults	2005	129	0.18		<0.36	<0.36	<0.36		1	Silva et al., 2006	Detected in 0 of 129 samples; det. limit = 0.36 ug/L	
		<b>11107</b>	<b>0.43</b>				<b>&lt;0.36</b>	<b>79.7</b>				
	Date	N	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments	
			Geo.Mean/Ave.	SD	Median		Low	High				
<b>USA</b>												
U.S. - national survey aged 6 y and older	1999-2000	2541	<LOD		<LOD	<LOD	4.29		1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey aged 6 y and older	2001-2002	2772	<LOD		<LOD	<LOD			1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 6 -11 y	1999-2000	328	<LOD		<LOD	<LOD	6.00		1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 6 -11 y	2001-2002	392	<LOD		<LOD	<LOD			1	CDC, 2005	High value is 95th percentile	
U.S. - national survey aged 12-19 y	1999-2000	752	<LOD		<LOD	<LOD	1.94		1	CDC, 2003	High value is 95th percentile	
U.S. - national survey aged 12-19 y	2001-2002	742	<LOD		<LOD	<LOD			1	CDC, 2005	High value is 95th percentile	
U.S. - national survey of adults age 20 y and older	1999-2000	1461	<LOD		<LOD	<LOD	4.62		1	CDC, 2003	Low and high are 10th and 95th percentiles, respectively	
U.S. - national survey of adults age 20 y and older	2001-2002	1638	<LOD		<LOD	<LOD			1	CDC, 2005	High value is 95th percentile	
		<b>10626</b>					<b>&lt;LOD</b>	<b>6.00</b>				

**Legend**

- Data, changes or comments added in 2009
- Excluded from calculated summary
- Indicates average based on detection limit
- BOLD** Calculated category summary

**Data Quality**

- 1 - Reliable without restrictions
- 2 - Reliable with restrictions
- 3 - Not reliable
- 4 - Unassignable



Milk	Date	N	Concentration as ug/L		SD	Median	Single Point	Range		Data Quality	Reference	Comments
			Average					Low	High			
Denmark, Copenhagen - conventional and organic farming	NA	7	0.25			<0.5		<0.5	<0.5	1	Mortensen et al. 2005	7 samples; Fat content: 1.5 to 3.5%
		7	0.25					<0.5	<0.5			Mean represents one half detection limit
<b>Human Milk</b>												
Denmark, Copenhagen - 36 mothers; 1 to 3 mo postnatal	1997-2001	36	114	69	101	27	382	3	Mortensen et al. 2005		Possible contamination of samples	
Denmark, Copenhagen - 65 mothers; 1 to 3 mo postnatal	1997-2001				101	27	469	3	Main et al. 2005		Likely includes data reported in Mortensen et al. 2005	
Finland, Turku - 65 mothers; 1 to 3 mo postnatal	1997-2001				89	28	230	3	Main et al. 2005			
<b>Infant Formula</b>												
Denmark, Copenhagen - 10 samples	NA	10	0.25			<0.5		<0.5	<0.5	1	Mortensen et al. 2005	2 ready to use products; 8 powder samples reconstituted
		10	0.25					<0.5	<0.5			Mean represents one half detection limit

## Mono(carboxyisononyl) phthalate (MCiNP)

Urine												
	Date	Concentration as ug/L urine				Single Point	Range		Data Quality	Reference	Comments	
		N	Geo.Mean/Ave.	SD	Median		Low	High				
<b>Europe</b>												
Germany, south; 12 female + 13 male; age 6 to 73 y	N/A	25	16.4		5.0	<0.5	260.2	1	Koch et al., 2007	Det. in 96% samples		
		<b>25</b>	<b>16.4</b>			<b>&lt;0.5</b>	<b>260.2</b>					
<b>Japan/Asia</b>												
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	1.3		1.5	<0.6	25.7	1	Berman et al., 2009	Det. 68%; det. limit =0.6 ug/L; mono(2,7-dimethyl-7-carboxyheptyl) phthalate		
		<b>19</b>	<b>1.3</b>			<b>&lt;0.6</b>	<b>25.7</b>					
USA, 129 male and female adults	2003-2004	129	5.1		4.4	<0.25	104.4	3	Silva et al., 2007	Det. in 98% samples; high value is 95th perc.		
<b>Concentration as ug/g creatinine</b>												
	Date	Concentration as ug/g creatinine				Single Point	Range		Data Quality	Reference	Comments	
		N	Geo.Mean/Ave.	SD	Median		Low	High				
<b>Japan/Asia</b>												
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	1.7		1.5	<LOD	13.9	1	Berman et al., 2009	Det. 68%; mono(2,7-dimethyl-7-carboxyheptyl) phthalate		
		<b>19</b>	<b>1.7</b>			<b>nd</b>	<b>13.9</b>					

### Legend

  Data, changes or comments added in 2009

  Excluded from calculated summary

  Indicates average based on detection limit

**BOLD** Calculated category summary

### Data Quality

1 - Reliable without restrictions

2 - Reliable with restrictions

3 - Not reliable

4 - Unassignable

## Mono(oxoisobutyl) phthalate (MOiNP)

[mono-4-methyl-7-oxooctyl phthalate]

Urine		Concentration as ug/L urine				Single	Range		Data	Reference	Comments
Date	N	Geo.Mean/Ave.	SD	Median	Point	Low	High	Quality			
<b>USA</b>											
U.S. - 129 adults	2005	129	1.2		1.2	<0.25	6.6	1	Silva et al., 2006	Detected in 87% samples; high value is 95th perc.	
		<b>129</b>	<b>1.2</b>			<b>&lt;0.25</b>	<b>6.6</b>				
<b>Europe</b>											
Germany, Munich & rural (south); 50 men & women 14 to 60 y	2005				3.0	<0.25	304	1	Fromme et al., 2007a	399 samples, collected for 8 d	
Germany - adults 21 to 29 y (30 male, 30 female)	1988				0.6	<0.25	4.3	1	Wittassek et al., 2007b	95th percentile = 3.5 ug/L	
Germany - adults 21 to 29 y (30 male, 30 female)	1989				0.8	<0.25	32.5	1	Wittassek et al., 2007b	95th percentile = 7.3 ug/L	
Germany - adults 22 to 29 y (30 male, 30 female)	1991				0.8	<0.25	38.4	1	Wittassek et al., 2007b	95th percentile = 3.2 ug/L	
Germany - adults 20 to 29 y (30 male, 30 female)	1993				0.8	<0.25	9.0	1	Wittassek et al., 2007b	95th percentile = 5.3 ug/L	
Germany - adults 20 to 29 y (78 male, 68 female)	1996				1.0	<0.25	15.2	1	Wittassek et al., 2007b	95th percentile = 5.6 ug/L	
Germany - adults 20 to 29 y (38 male, 30 female)	1998				1.1	<0.25	50.6	1	Wittassek et al., 2007b	95th percentile = 26.6 ug/L	
Germany - adults 21 to 28 y (30 male, 30 female)	1999				1.0	<0.25	11.5	1	Wittassek et al., 2007b	95th percentile = 9.6 ug/L	
Germany - adults 20 to 29 y (30 male, 30 female)	2001				1.1	<0.5	63.8	1	Wittassek et al., 2007b	95th percentile = 5.7 ug/L	
Germany - adults 20 to 28 y (30 male, 30 female)	2003				1.6	<0.25	19.1	1	Wittassek et al., 2007b	95th percentile = 10.4 ug/L	
Germany, south; 12 female + 13 male; age 6 to 73 y	N/A	25	8.9		1.3	<0.5	174.1	1	Koch et al., 2007	Det. in 80% samples	
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	2.5	3.7	2.2	<0.25	152.0	1	Ye et al., 2008	Det. in 96% samples; LOD = 0.25 ug/L; 95th perc = 30.0 ug/L	
		<b>125</b>	<b>3.8</b>			<b>&lt;0.25</b>	<b>304</b>				
Germany - adults 20 to 29 y (N = 634)	1988-2003				1.0	<0.25	63.8	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 5.6 ug/L	
Germany - male adults 20 to 29 y (N = 326)	1988-2003				1.0	<0.25	50.6	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 5.8 ug/L	
Germany - female adults 20 to 29 y (N = 308)	1988-2003				1.0	<0.25	63.8	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 5.0 ug/L	
<b>Concentration as ug/g creatinine</b>											
Date	N	Geo.Mean/Ave.	SD	Median	Single	Range		Data	Reference	Comments	
Point	Low	High	Quality								
<b>Europe</b>											
Germany, Munich and area - age 14 to 60 y	2005 (April-Oct)				2.8			1	Fromme et al., 2007b		
Germany - adults 21 to 29 y (30 male, 30 female)	1988				0.5	<LOD	4.9	1	Wittassek et al., 2007b	95th percentile = 3.9 ug/g	
Germany - adults 21 to 29 y (30 male, 30 female)	1989				0.7	<LOD	49.2	1	Wittassek et al., 2007b	95th percentile = 6.6 ug/g	
Germany - adults 22 to 29 y (30 male, 30 female)	1991				0.7	<LOD	72.7	1	Wittassek et al., 2007b	95th percentile = 3.7 ug/g	
Germany - adults 20 to 29 y (30 male, 30 female)	1993				0.8	<LOD	9.6	1	Wittassek et al., 2007b	95th percentile = 5.0 ug/g	
Germany - adults 20 to 29 y (78 male, 68 female)	1996				1.1	<LOD	16.1	1	Wittassek et al., 2007b	95th percentile = 5.2 ug/g	
Germany - adults 20 to 29 y (38 male, 30 female)	1998				1.1	<LOD	48.9	1	Wittassek et al., 2007b	95th percentile = 29.2 ug/g	
Germany - adults 21 to 28 y (30 male, 30 female)	1999				1.1	<LOD	12.5	1	Wittassek et al., 2007b	95th percentile = 6.8 ug/g	
Germany - adults 20 to 29 y (30 male, 30 female)	2001				1.3	<LOQ	26.7	1	Wittassek et al., 2007b	95th percentile = 5.6 ug/g	
Germany - adults 20 to 28 y (30 male, 30 female)	2003				1.7	<LOD	8.3	1	Wittassek et al., 2007b	95th percentile = 5.8 ug/g	
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	3.9	2.2	3.4	<LOD	119.0	1	Ye et al., 2008	Det. in 96% samples; 95th perc = 43.9 ug/g	
		<b>100</b>	<b>3.9</b>			<b>&lt;LOD</b>	<b>119</b>				
Germany - adults 20 to 29 y (N = 634)	1988-2003				1.0	<LOD	72.7	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 5.4 ug/g	
Germany - male adults 20 to 29 y (N = 326)	1988-2003				0.8	<LOD	34.3	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 4.9 ug/g	
Germany - female adults 20 to 29 y (N = 308)	1988-2003				1.2	<LOD	72.7	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 6.8 ug/g	
<b>Milk</b>											
Date	N	Concentration as ug/L			Single	Range		Data	Reference	Comments	
Average	SD	Median	Point	Low	High	Quality					
<b>Human Milk</b>											
Italy, Brindisi & Tricase - 7 d after delivery; age 18 to 41 y; n=62	2006	62	0.15		<0.3	<0.3	<0.3	4	Latini et al., 2009	Det. in 0 of 62 samples	
		<b>62</b>	<b>0.15</b>			<b>&lt;0.3</b>	<b>&lt;0.3</b>		<b>Mean represents one half detection limit</b>		

### Legend

■ Data, changes or comments added in 2009

■ Excluded from calculated summary

■ Indicates average based on detection limit

**BOLD** Calculated category summary

### Data Quality

1 - Reliable without restrictions

2 - Reliable with restrictions

3 - Not reliable

4 - Unassailable

## Mono(hydroxyisononyl) phthalate (MHINP)

[mono-4-methyl-7-hydroxyoctyl phthalate]

Urine											
	Date	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments	
		N	Geo.Mean/Ave.	SD		Median	Low				
<b>USA</b>											
U.S. - 129 adults	2005	129	11.4		13.2	2.6	43.7	1	Silva et al., 2006	Det. in 100% samples; low & high values are 10th & 95th perc.	
		<b>129</b>	<b>11.4</b>			<b>2.6</b>	<b>43.7</b>				
<b>Europe</b>											
Germany, Munich & rural (south); 50 men & women 14 to 60 y	2005				5.5	<0.25	698	1	Fromme et al., 2007a	399 samples, collected for 8 d	
Germany - adults 21 to 29 y (30 male, 30 female)	1988				1.5	<0.25	11.4	1	Wittassek et al., 2007b	95th percentile = 8.8 ug/L	
Germany - adults 21 to 29 y (30 male, 30 female)	1989				1.8	<0.25	53.4	1	Wittassek et al., 2007b	95th percentile = 14.9 ug/L	
Germany - adults 22 to 29 y (30 male, 30 female)	1991				2.2	<0.5	85.4	1	Wittassek et al., 2007b	95th percentile = 31.5 ug/L	
Germany - adults 20 to 29 y (30 male, 30 female)	1993				1.8	<0.25	12.3	1	Wittassek et al., 2007b	95th percentile = 10.0 ug/L	
Germany - adults 20 to 29 y (78 male, 68 female)	1996				2.0	<0.25	27.9	1	Wittassek et al., 2007b	95th percentile = 12.0 ug/L	
Germany - adults 20 to 29 y (38 male, 30 female)	1998				2.1	<0.5	59.3	1	Wittassek et al., 2007b	95th percentile = 47.9 ug/L	
Germany - adults 21 to 28 y (30 male, 30 female)	1999				1.9	<0.5	17.9	1	Wittassek et al., 2007b	95th percentile = 11.6 ug/L	
Germany - adults 20 to 29 y (30 male, 30 female)	2001				2.1	0.60	57.7	1	Wittassek et al., 2007b	95th percentile = 13.9 ug/L	
Germany - adults 20 to 28 y (30 male, 30 female)	2003				2.3	<0.5	29.0	1	Wittassek et al., 2007b	95th percentile = 13.3 ug/L	
Germany, south; 12 female + 13 male; age 6 to 73 y	N/A	25	14.9		2.5	<0.5	287.1	1	Koch et al., 2007	Det. in 96% samples	
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	3.0	3.6	2.5	<0.25	122.0	1	Ye et al., 2008	Det. in 98% samples; LOD = 0.25 ug/L; 95th perc = 38.3 ug/L	
		<b>125</b>	<b>5.4</b>			<b>&lt;0.25</b>	<b>698</b>				
Germany - adults 20 to 29 y (N = 634)	1988-2003				2.0	<0.25	85.4	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 11.9 ug/L	
Germany - male adults 20 to 29 y (N = 326)	1988-2003				2.1	<0.25	59.3	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 13.4 ug/L	
Germany - female adults 20 to 29 y (N = 308)	1988-2003				1.9	<0.25	85.4	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 11.5 ug/L	
Milk											
	Date	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments	
		N	Geo.Mean/Ave.	SD		Median	Low				
<b>Europe</b>											
Germany, Munich and area - age 14 to 60 y	2005 (April-Oct)				5.0			1	Fromme et al., 2007b		
Germany - adults 21 to 29 y (30 male, 30 female)	1988				1.2	<LOD	12.0	1	Wittassek et al., 2007b	95th percentile = 7.6 ug/g	
Germany - adults 21 to 29 y (30 male, 30 female)	1989				1.7	<LOD	80.9	1	Wittassek et al., 2007b	95th percentile = 11.0 ug/g	
Germany - adults 22 to 29 y (30 male, 30 female)	1991				1.6	<LOQ	131	1	Wittassek et al., 2007b	95th percentile = 38.1 ug/g	
Germany - adults 20 to 29 y (30 male, 30 female)	1993				1.8	<LOD	13.0	1	Wittassek et al., 2007b	95th percentile = 11.3 ug/g	
Germany - adults 20 to 29 y (78 male, 68 female)	1996				1.9	<LOD	25.4	1	Wittassek et al., 2007b	95th percentile = 10.6 ug/g	
Germany - adults 20 to 29 y (38 male, 30 female)	1998				2.1	0.54	56.9	1	Wittassek et al., 2007b	95th percentile = 43.3 ug/g	
Germany - adults 21 to 28 y (30 male, 30 female)	1999				1.9	<LOQ	17.7	1	Wittassek et al., 2007b	95th percentile = 11.2 ug/g	
Germany - adults 20 to 29 y (30 male, 30 female)	2001				2.2	0.84	26.4	1	Wittassek et al., 2007b	95th percentile = 13.8 ug/g	
Germany - adults 20 to 28 y (30 male, 30 female)	2003				2.6	0.67	12.6	1	Wittassek et al., 2007b	95th percentile = 7.9 ug/g	
Netherlands, Rotterdam - pregnant women; median 30 wk gestation	2004-2006	100	4.6	2.9	4.2	<LOD	95.7	1	Ye et al., 2008	Det. in 98% samples; 95th perc = 53.0 ug/g	
		<b>100</b>	<b>4.6</b>			<b>&lt;LOD</b>	<b>131</b>				
Germany - adults 20 to 29 y (N = 634)	1988-2003				1.9	<LOD	131	1	Wittassek et al., 2007b	Overall total for data listed above, by year; 95th perc = 11.1 ug/g	
Germany - male adults 20 to 29 y (N = 326)	1988-2003				1.8	<LOD	40.8	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 11.5 ug/g	
Germany - female adults 20 to 29 y (N = 308)	1988-2003				2.1	<LOD	131	1	Wittassek et al., 2007b	Subset of data listed above; 95th perc = 10.3 ug/g	
Human Milk											
Italy, Brindisi & Tricase - 7 d after delivery; age 18 to 41 y; n=62	2006				<0.3	<0.3	1.5	4	Latini et al., 2009	Det. in 13 of 62 samples; 95th perc = 0.83 ug/L	
			<b>NA</b>			<b>&lt;0.3</b>	<b>1.5</b>				

### Legend

Yellow background: Data, changes or comments added in 2009

Grey background: Excluded from calculated summary

Pink background: Indicates average based on detection limit

**BOLD** Calculated category summary

### Data Quality

1 - Reliable without restrictions

2 - Reliable with restrictions

3 - Not reliable

4 - Unassignable

**Mono(carboxyisooctyl) phthalate (MCiOP)**

<b>Urine</b>											
	Date	N	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
<b>USA</b>											
U.S. - 129 adults	2005	129	7.8		8.4		2.0	46.2	1	Silva et al., 2006	Det. in 97% samples; low and high values are 10th and 95th perc.
		<b>129</b>	<b>7.8</b>				<b>2.0</b>	<b>46.2</b>			
<b>Japan/Asia</b>											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	2.3		3.0		<0.7	8.0	1	Berman et al., 2009	Det. 84%; det. limit =0.7 ug/L; mono(2,6-dimethyl-6-carboxyhexyl) phthalate
		<b>19</b>	<b>2.3</b>				<b>&lt;0.7</b>	<b>8.0</b>			
<b>Milk</b>											
	Date	N	Concentration as ug/g creatinine			Single Point	Range		Data Quality	Reference	Comments
			Geo.Mean/Ave.	SD	Median		Low	High			
<b>Japan/Asia</b>											
Israel, Jerusalem - pregnant women, 24 to 41 y; third trimester	2006	19	3.1		3.8		<LOD	16.2	1	Berman et al., 2009	Det. 84%; mono(2,6-dimethyl-6-carboxyhexyl) phthalate
		<b>19</b>	<b>3.1</b>				<b>nd</b>	<b>16.2</b>			
<b>Human Milk</b>											
Italy, Brindisi & Tricase - 7 d after delivery; age 18 to 41 y; n=62	2006	62	0.15		<0.3		<0.3	<0.3	4	Latini et al., 2009	Det. in 0 of 62 samples
		<b>62</b>	<b>0.15</b>				<b>&lt;0.3</b>	<b>&lt;0.3</b>			<b>Mean represents one half detection limit</b>

**Legend**

- Data, changes or comments added in 2009
- Excluded from calculated summary
- Indicates average based on detection limit
- BOLD** Calculated category summary


**Data Quality**


- 1 - Reliable without restrictions
- 2 - Reliable with restrictions
- 3 - Not reliable
- 4 - Unassignable

## Monoisodecyl phthalate (MiDP)

Urine	Date	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Low	High			
<b>USA</b>										
U.S. - 43 adults	NA	43	2.2		<4.30	<4.30	<4.30	4	Kato et al., 2005	Det. in 0 of 43 samples; det. limit = 4.3 ug/L
		<b>43</b>	<b>2.2</b>			<b>&lt;4.30</b>	<b>&lt;4.30</b>		<b>Mean represents one half detection limit</b>	
USA, 129 male and female adult: 2003-2004		129	0.15		1.2	<0.3	<0.3	3	Silva et al., 2007	

### Legend

 Data, changes or comments added in 2009

 Excluded from calculated summary

 Indicates average based on detection limit

**BOLD** Calculated category summary


### Data Quality


- 1 - Reliable without restrictions
- 2 - Reliable with restrictions
- 3 - Not reliable
- 4 - Unassignable


## Mono(hydroxyisodecyl) phthalate (MHIDP)

Urine	Date	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Low	High			
USA, 129 male and female adults	2003-2004	129	5.2	4.9		<0.25	70.6	3	Silva et al., 2007	Det. in 96% samples; high value is 95th perc.

### Legend

 Data, changes or comments added in 2009

 Excluded from calculated summary

 Indicates average based on detection limit

**BOLD** Calculated category summary


### Data Quality


- 1 - Reliable without restrictions
- 2 - Reliable with restrictions
- 3 - Not reliable
- 4 - Unassignable


## Mono(oxoisodecyl) phthalate (MOiDP)

Urine	Date	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments
		N	Geo.Mean/Ave.	SD		Low	High			
USA, 129 male and female adults	2003-2004	129	1.4	1.2	<0.25	15.0	3	Silva et al., 2007	Det. in 85% samples; high value is 95th perc.	

### Legend

 Data, changes or comments added in 2009

 Excluded from calculated summary

 Indicates average based on detection limit

**BOLD** Calculated category summary

### Data Quality

1 - Reliable without restrictions

2 - Reliable with restrictions

3 - Not reliable


4 - Unassignable




## Phthalic acid (PA)

Urine	Date	Concentration as ug/L urine			Single Point	Range		Data Quality	Reference	Comments	
		N	Geo.Mean/Ave.	SD		Low	High				
<b>USA</b>											
U.S. - adult	NA	1	3.2		3.2			1	Silva et al., 2004c		
U.S. - 43 adults	NA			6.19				4	Kato et al., 2005	Det. in 100% samples; det. limit = 0.42 ug/L	
		<b>1</b>	<b>3.2</b>								

### Legend

 Data, changes or comments added in 2009

 Excluded from calculated summary

 Indicates average based on detection limit

**BOLD** Calculated category summary

### Data Quality

1 - Reliable without restrictions

2 - Reliable with restrictions

3 - Not reliable

4 - Unassignable