

**Reference values**  
for metabolites of von polycyclic aromatic hydrocarbons in urine

Parameter [bibliographical data]	Population group / period of life	Year of the study	Reference value <sup>a</sup>
<b>1-hydroxypyrene in urine</b> [2005, 2009]	Non-smoking children (3 to 14 years) <sup>1</sup>	2003-2006	<b>0.5 µg/l</b>
	Non-smoking adults (18 to 69 years) <sup>2</sup>	1997-1999	
<b>1-hydroxyphenanthrene in urine</b> [2009]	Non-smoking children (3 to 14 years) <sup>1</sup>	2003-2006	<b>0.6 µg/l</b>
<b>2/9-hydroxyphenanthrene in urine</b> [2009]	Non-smoking children (3 to 14 years) <sup>1</sup>	2003-2006	<b>0.4 µg/l</b>
<b>3-hydroxyphenanthrene in urine</b> [2009]	Non-smoking children (3 to 14 years) <sup>1</sup>	2003-2006	<b>0.5 µg/l</b>
<b>4-hydroxyphenanthrene in urine</b> [2009]	Non-smoking children (3 to 14 years) <sup>1</sup>	2003-2006	<b>0.2 µg/l</b>
<b>∑ hydroxyphenanthrene (1,2/9,3,4) in urine</b> [2009]	Non-smoking children (3 to 14 years) <sup>1</sup>	2003-2006	<b>1.5 µg/l</b>
[xy] bibliographical data publication: <a href="http://www.uba.de/gesundheit-e/publikationen/index.htm#khh">http://www.uba.de/gesundheit-e/publikationen/index.htm#khh</a>			
<sup>a</sup> when applying reference values the analytical uncertainty must be taken into account;			
<sup>1</sup> Source: German Environmental Survey on Children 2003-2006 (GerES IV);			
<sup>2</sup> Source: German Environmental Survey 1998 (GerES III)			