

Reference values (RV₉₅) for persistent organic pollutants in whole blood – PCBs *			
Parameter [bibliographical data]	Population group / period of life	Year of study	RV ₉₅ ^a
PCB 138 [1999, 2001, 2009]	7 – 14 years ¹	2003-2006	0.3 µg/l
	18 – 19 years ²	1997-1999	0.4 µg/l
	20 – 29 years ²	1997-1999	0.6 µg/l
	30 – 39 years ²	1997-1999	0.9 µg/l
	40 – 49 years ²	1997-1999	1.4 µg/l
	50 – 59 years ²	1997-1999	1.7 µg/l
	60 – 69 years ²	1997-1999	2.2 µg/l
PCB 153 [1999, 2001, 2009]	7 – 14 years ¹	2003-2006	0.4 µg/l
	18 – 19 years ²	1997-1999	0.6 µg/l
	20 – 29 years ²	1997-1999	0.9 µg/l
	30 – 39 years ²	1997-1999	1.6 µg/l
	40 – 49 years ²	1997-1999	2.2 µg/l
	50 – 59 years ²	1997-1999	2.8 µg/l
	60 – 69 years ²	1997-1999	3.3 µg/l
PCB 180 [1999, 2001, 2009]	7 – 14 years ¹	2003-2006	0.3 µg/l
	18 – 19 years ²	1997-1999	0.3 µg/l
	20 – 29 years ²	1997-1999	0.6 µg/l
	30 – 39 years ²	1997-1999	1.0 µg/l
	40 – 49 years ²	1997-1999	1.6 µg/l
	50 – 59 years ²	1997-1999	2.1 µg/l
	60 – 69 years ²	1997-1999	2.4 µg/l
Σ PCB (138 + 153 + 180) [1999, 2001, 2009]	7 – 14 years ¹	2003-2006	1.0 µg/l
	18 – 19 years ²	1997-1999	1.1 µg/l
	20 – 29 years ²	1997-1999	2.0 µg/l
	30 – 39 years ²	1997-1999	3.2 µg/l
	40 – 49 years ²	1997-1999	5.1 µg/l
	50 – 59 years ²	1997-1999	6.4 µg/l
	60 – 69 years ²	1997-1999	7.8 µg/l

[xy] bibliographical data see publication: <http://www.uba.de/gesundheit-e/publikationen/index.htm#khh>

^a: when applying RV₉₅ the analytical uncertainty must be taken into account

¹ Source: German Environmental Survey on Children 2003-2006 (GerES IV)

² Source: German Environmental Survey 1997-1999 (GerES III)

* The HBM Commission has collated the datasets on blood PCB levels which are available in Germany from the German states and evaluated them in descriptive terms. After reviewing data quality (time and background of the relevant studies, sample size, sample selection, etc.) and considering the results, the Commission concluded the following at its session in October 2011:

A) The RV₉₅ for PCBs cannot be updated. Reason: The available data are not population-representative because in some cases select population groups were investigated. Due to the low case numbers, stratification by age is hardly possible. The methods applied to generate the laboratory data are not consistent (whole blood versus plasma or blood fat).

B) The available data suggest that population background exposure to PCBs has likely declined markedly compared to the RV₉₅ of 1998, although the magnitude of this decrease cannot be estimated.

C) The HBM Commission maintains that appropriate population-representative studies need to be performed to generate a suitable data base for updating RV₉₅.

Last update 01/2012

Reference values (RV₉₅)

for persistent organic pollutants in whole blood – β -HCH, HCB and DDE

Parameter [bibliographical data]	Population group / period of life	Year of study	RV ₉₅ ^a	
β-HCH [1999, 2001, 2009]	7 – 14 years ¹	2003-2006	0.3 μg/l	
	18 – 19 years ²	1997-1999	0.3 μg/l	
	20 – 29 years ²	1997-1999	0.3 μg/l	
	30 – 39 years ²	1997-1999	0.3 μg/l	
	40 – 49 years ²	1997-1999	0.3 μg/l	
	50 – 59 years ²	1997-1999	0.5 μg/l	
	60 – 69 years ²	1997-1999	0.9 μg/l	
HCB [1999, 2001, 2009]	7 – 14 years ¹	2003-2006	0.3 μg/l	
	18 – 19 years ²	1997-1999	0.4 μg/l	
	20 – 29 years ²	1997-1999	0.5 μg/l	
	30 – 39 years ²	1997-1999	1.0 μg/l	
	40 – 49 years ²	1997-1999	2.5 μg/l	
	50 – 59 years ²	1997-1999	3.3 μg/l	
	60 – 69 years ²	1997-1999	5.8 μg/l	
DDE [1999, 2001, 2009]			Western Germany	Eastern Germany
	7 – 14 years ¹	2003-2006	0.7 μg/l	1.4 μg/l
	18 – 19 years ²	1997-1999	1.5 μg/l	3 μg/l **
	20 – 29 years ²	1997-1999	2 μg/l	5 μg/l
	30 – 39 years ²	1997-1999	4 μg/l	11 μg/l
	40 – 49 years ²	1997-1999	7 μg/l	18 μg/l
	50 – 59 years ²	1997-1999	8 μg/l	31 μg/l
	60 – 69 years ²	1997-1999	11 μg/l	31 μg/l

[xy] bibliographical data see publication: <http://www.uba.de/gesundheits-e/publikationen/index.htm#khhb>

^a : when applying RV₉₅ the analytical uncertainty must be taken into account

¹ Source: German Environmental Survey on Children 2003-2006 (GerES IV)

² Source: German Environmental Survey 1998 (GerES III)

** based on the 95th percentile of the values of 28 subjects

Last update: 06/2009