

Chemicals Measured in the German Environmental Survey

Table 2. Analytes in blood, urine, and scalp hair in human biomonitoring samples in GerESs I–IV

	GerES I 1985/1986	GerES II 1990/1992	GerES III 1998	GerES IV 2003/2006
<i>Whole blood</i>				
Pb	X	X	X	X
Cd	X	X	X	X
Hg	X	X	X	X
Cu	X	X	—	—
PCB 138, 153, 180	—	—	X	X ^a
DDE	—	—	X	X
HCB	—	—	X	X
α-, β-, γ-HCH	—	—	X	X
IgE ^b	—	—	—	X
FEP	—	Children	—	—
<i>Morning urine</i>				
Creatinine	X	X	X	X
As	X	X	X	X
Cd	X	X	X	X
Hg	X	X	X	X
Cr	X	X	—	—
Cu	X	X	—	—
Ni	—	—	—	X
U	—	—	—	X
PCP	X	X	X	X
Further chlorophenols ^c	—	—	X	X
Pd	—	—	X	—
Pt	—	—	X	—
Au	—	—	X	—
Ir	—	—	X	—
Nicotine/cotinine	—	X	X	X
Stress hormones ^d	—	—	—	X
<i>Metabolites of</i>				
PAH ^e	—	X	X	X
Pyrethroides ^f	—	—	X	X
Organophosphorus compounds ^g	—	—	—	X
DEHP ^h	—	—	—	X ⁱ
<i>Scalp hair</i>				
Elements ^j	X	X ^k	—	—
Nicotine/cotinine	—	X	—	—

^aAlso PCB 28, 52, 101.

^b*Penicillium (notatum) chrysogenum, Aspergillus versicolor, Alternaria alternata, Wallemia sebi, Eurotium spp.*

^cMonochlorophenol (MCP), dichlorophenol (DCP), trichlorophenol (TCP), tetrachlorophenol (TECP).

^dCortisol, adrenalin, noradrenalin.

^e1-Hydroxypyrene, 1-, 2,9-, and 3-hydroxyphenanthrene.

^f3-Phenoxybenzoic acid (3-PBA), *cis*- and *trans*-3-(2,2-dichlorovinyl)-2,2-dimethyl-cyclopropane-1-carboxylic acid (*cis*-DCCA and *trans*-DCCA), DBCA, 4-fluoro-3-phenoxy-benzoic acid (F-PBA).

^gDimethylphosphate (DMP), dimethylthiophosphate (DMTP), dimethyldithiophosphate (DMDTP), diethylphosphate (DEP), diethylthiophosphate (DETTP), diethyldithiophosphate (DEDTP).

^hMono(2-ethylhexyl)phthalate (MEHP), 2-ethyl-5-hydroxy-hexylphthalate (5OH-MEHP), 2-ethyl-5-oxo-hexylphthalate (5oxo-MEHP), mono-n-butylphthalate (MnBP), mono-benzyl-phthalate (MBzP).

ⁱOnly in the pilot study.

^jAl, B, Ba, Ca, Cd, Cr, Cu, Mg, P, Pb, Pt, Sr, Ti, Zn.

^kAs well as Cs, Pd, U, V in GerES IIb (East Germany).