

Data structure – Human blood

The aim of this document is to provide a short and clear description of parameters (data items) that are to be reported in the data collection forms of the Global Monitoring Plan (GMP) data collection campaigns 2013–2014. Data itself should be reported by means of MS Excel sheets as suggested in the document UNEP/POPS/COP.6/INF/31, chapter 2.3, p. 22. Aggregated data can also be reported via on-line forms available in the GMP data warehouse (GMP DWH).

Structure of the database and associated code lists are based on following documents, recommendations and expert opinions as adopted by the Stockholm Convention COP6 in 2013:

- Guidance on the Global Monitoring Plan for Persistent Organic Pollutants UNEP/POPS/COP.6/INF/31 (version January 2013)
- Conclusions of the Meeting of the Global Coordination Group and Regional Organization Groups for the Global Monitoring Plan for POPs, held in Geneva, 10–12 October 2012
- Conclusions of the Meeting of the expert group on data handling under the global monitoring plan for persistent organic pollutants, held in Brno, Czech Republic, 13-15 June 2012

The individual reported data component is inserted as:

- text or number (e.g. Site name, Monitoring programme, Value)
- a defined input selected from a particular code list (e.g., Country, Chemical – group, Sampling). All code lists (i.e., allowed values for individual parameters) are enclosed in this document, either in a particular section (e.g., Region, Method) or listed separately in the annexes below (Country, Chemical – group, Parameter) for your reference.
- multiple selection from a particular code list, i.e., more than one option can be selected (Potential source type)

Site

- **Site ID (number)**
Description: Identification code of the site generated by the GMP DWH system in the format GMP-XX-XXXXX
- **Site name (text)**
Description: Name of the site. Note: When providing data from a site that was reported previously, the name used this time must be identical to that already contained in the GMP DWH.
- **Region (code list)***
Description: list of UN regional groups
 - Asia and Pacific
 - Africa
 - CEEC
 - GRULAC
 - WEOG
- **Country (code list)***
Description: Country, in which the site is located.
 - code list – see “Country” code list

Sampling attributes

- **Year (number)***
Description: Year in the format YYYY
- **Start of sampling (number)***
Description: Date in the format DD.MM.YYYY
- **End of sampling (number)***
Description: Date in the format DD.MM.YYYY
- **Blood source (code list)***
Description: Specification of the blood that was sampled.
 - Blood – other
 - Blood – maternal
 - Blood – children
 - Blood – cord
- **Fraction (code list)***
Description: Specification of the blood fraction which was analysed.
 - Plasma
 - Serum
 - Whole blood
- **Monitoring programme/network (text)**
Description: Name of the monitoring programme or network that provided this data record.

Measurement

- **Chemical – group (code list)***
Description: Persistent organic pollutants (POPs) included in Annexes of the Stockholm Convention and defined in the document UNEP-POPS-COP.6-INF-31, chapter 2.1, p. 16. Please note that indicator and coplanar PCBs are separated.
 - code list – see “Chemical – group” code list
- **Parameter (code list)***
Description: Parent POPs, isomers and transformation products of POPs listed in the Stockholm Convention and summations defined in the document UNEP/POPS/COP.6/INF/31, chapter 2.2, p. 19–21. The parameters are directly linked with units. Please note that each parameter can be reported in units per litre or per g of fat.
 - code list – see “Parameter” code list
- **Method (code list)***
Description: Analytical method used for determination of the concentration
 - GC-ECD
 - GC-ECNI-MS
 - GC-HRMS
 - GC-MS
 - HPLC
 - HPLC-MS-MS
- **LOQ (non-negative real number)***
Description: Number representing Limit of quantification value

- **No. of values (positive integer)***
Description: Number representing amount of values aggregated
- **No. under LoQ (non-negative integer)***
Description: Number representing amount of values in this aggregation that were smaller than the LoQ value
- **Value (mean) (non-negative real number)***
Description: Number; Mean of aggregated values
- **Value (median) (non-negative real number)***
Description: Number; Median of aggregated values
- **Minimum (non-negative real number)***
Description: Number; Minimum value in this aggregation
- **Maximum (non-negative real number)***
Description: Number; Maximum value in this aggregation
- **5th percentile (non-negative real number)**
Description: Number; Value on the 5% position of the aggregated data set (sorted from the lowest to highest concentration)
- **95th percentile (non-negative real number)**
Description: Number; Value on the 95% position of the aggregated data set (sorted from the lowest to highest concentration)
- **SD (non-negative real number)***
Description: Number; Standard deviation of aggregated values
- **Laboratory (text)**
Description: Name of the laboratory performing analysis of this data record

“Country” Code List

Afghanistan	Ivory Coast	Sudan
Albania	Jamaica	Suriname
Algeria	Japan	Swaziland
Andorra	Jordan	Sweden
Angola	Kazakhstan	Switzerland
Antarctica	Kenya	Syria
Antigua and Barbuda	Kiribati	Tajikistan
Argentina	Korea, Democratic People’s Republic of	Tanzania, United Republic of
Armenia	Korea, Republic of	Thailand
Australia	Kosovo	Timor-Leste
Austria	Kuwait	Togo
Azerbaijan	Kyrgyzstan	Tonga
Bahamas	Laos	Trinidad and Tobago
Bahrain	Latvia	Tunisia
Bangladesh	Lebanon	Turkey
Barbados	Lesotho	Turkmenistan
Belarus	Liberia	Tuvalu
Belgium	Libya	Uganda
Belize	Liechtenstein	Ukraine
Benin	Lithuania	United Arab Emirates
Bhutan	Luxembourg	United Kingdom
Bolivia	Madagascar	United States
Bosnia and Herzegovina	Malawi	Uruguay
Botswana	Malaysia	Uzbekistan
Brazil	Maldives	Vanuatu
Brunei	Mali	Vatican City
Bulgaria	Malta	Venezuela
Burkina Faso	Marshall Islands	Viet-Nam
Burundi	Mauritania	Yemen
Cambodia	Mauritius	Zambia
Cameroon	Mexico	Zimbabwe
Canada	Micronesia, Federated States of	
Cape Verde	Moldova, Republic of	
Central African Republic	Monaco	
Chad	Mongolia	
Chile	Montenegro	
China, Peoples Republic of	Morocco	
Colombia	Mozambique	
Comoros	Myanmar	
Congo	Namibia	
Congo, Democratic Republic of	Nauru	
Cook Islands	Nepal	
Costa Rica	Netherlands	
Croatia	New Zealand	
Cuba	Nicaragua	
Cyprus	Niger	
Czech Republic	Nigeria	
Denmark	Niue	
Djibouti	Norway	
Dominica	Oman	
Dominican Republic	Pakistan	
Ecuador	Palau	
Egypt	Palestine	
El Salvador	Panama	
Equatorial Guinea	Papua New Guinea	
Eritrea	Paraguay	
Estonia	Peru	
Ethiopia	Philippines	
Fiji	Poland	
Finland	Portugal	
Former Yugoslav Republic of Macedonia	Qatar	
France	Romania	
Gabon	Russian Federation	
Gambia	Rwanda	
Georgia	Saint Kitts and Nevis	
Germany	Saint Lucia	
Ghana	Saint Vincent and the Grenadines	
Greece	Samoa	
Grenada	San Marino	
Guatemala	Sao Tome and Principe	
Guinea	Saudi Arabia	
Guinea-Bissau	Senegal	
Guyana	Serbia	
Haiti	Seychelles	
Honduras	Sierra Leone	
Hungary	Singapore	
Iceland	Slovakia	
India	Slovenia	
Indonesia	Solomon Islands	
Iran, Islamic Republic of	Somalia	
Iraq	South Africa	
Ireland	South Sudan	
Israel	Spain	
Italy	Sri Lanka	

“Chemical – group” Code List

Aldrin
Chlordane
Dichlorodiphenyltrichloroethane (DDT)
Dieldrin
Endrin
Hexachlorobenzene (HCB)
Heptachlor
Mirex
Polychlorinated biphenyls (PCB) – indicator
Polychlorinated biphenyls (dl-PCB) – coplanar
Polychlorinated dibenzodioxins (PCDD)
Polychlorinated dibenzofurans (PCDF)
Polychlorinated dibenzodioxins/dibenzofurans (PCDD/F)
Toxaphene
Chlordecone
Alpha-hexachlorocyclohexane (α -HCH)
Beta-hexachlorocyclohexane (β -HCH)
Gamma-hexachlorocyclohexane (γ -HCH)
Hexabromobiphenyl (HBB)
Pentachlorobenzene (PeCBz)
Polybromodiphenyl ethers (PBDE)
Perfluorooctane sulfonic acid (PFOS)
Endosulfan
Hexabromocyclododecane (HBCD)

“Parameter” Code List

Reporting in ng or pg/g fat is preferred.

Aldrin (ng/g fat)	PCB 167 (pg/g fat)	Parlar 26 (ng/g fat)
Aldrin (ng/l)	PCB 167 (pg/l)	Parlar 26 (ng/l)
cis-Chlordane (= alpha) (ng/g fat)	PCB 169 (pg/g fat)	Parlar 50 (ng/g fat)
cis-Chlordane (= alpha) (ng/l)	PCB 169 (pg/l)	Parlar 50 (ng/l)
trans-Chlordane (= gamma) (ng/g fat)	PCB 189 (pg/g fat)	Parlar 40/41 (ng/g fat)
trans-Chlordane (= gamma) (ng/l)	PCB 189 (pg/l)	Parlar 40/41 (ng/l)
Oxychlordane (ng/g fat)	Sum 12 PCBs (pg/g fat)	Parlar 44 (ng/g fat)
Oxychlordane (ng/l)	Sum 12 PCBs (pg/l)	Parlar 44 (ng/l)
cis-Nonachlor (ng/g fat)	PCBs WHO1998-TEQ LB (pg/g fat)	Parlar 62 (ng/g fat)
cis-Nonachlor (ng/l)	PCBs WHO1998-TEQ LB (pg/l)	Parlar 62 (ng/l)
trans-Nonachlor (ng/g fat)	PCBs WHO1998-TEQ UB (pg/g fat)	Chlordecone (ng/g fat)
trans-Nonachlor (ng/l)	PCBs WHO1998-TEQ UB (pg/l)	Chlordecone (ng/l)
o,p-DDT (ng/g fat)	PCBs WHO2005-TEQ LB (pg/g fat)	Alpha-HCH (ng/g fat)
o,p-DDT (ng/l)	PCBs WHO2005-TEQ LB (pg/l)	Alpha-HCH (ng/l)
o,p-DDD (ng/g fat)	PCBs WHO2005-TEQ UB (pg/g fat)	Beta-HCH (ng/g fat)
o,p-DDD (ng/l)	PCBs WHO2005-TEQ UB (pg/l)	Beta-HCH (ng/l)
o,p-DDE (ng/g fat)	1,2,3,4,6,7,8-HpCDD (pg/g fat)	Gamma-HCH (ng/g fat)
o,p-DDE (ng/l)	1,2,3,4,6,7,8-HpCDD (pg/l)	Gamma-HCH (ng/l)
p,p-DDT (ng/g fat)	1,2,3,4,7,8-HxCDD (pg/g fat)	PBB 153 (ng/g fat)
p,p-DDT (ng/l)	1,2,3,4,7,8-HxCDD (pg/l)	PBB 153 (ng/l)
p,p-DDD (ng/g fat)	1,2,3,6,7,8-HxCDD (pg/g fat)	PeCB (ng/g fat)
p,p-DDD (ng/l)	1,2,3,6,7,8-HxCDD (pg/l)	PeCB (ng/l)
p,p-DDE (ng/g fat)	1,2,3,7,8,9-HxCDD (pg/g fat)	BDE 153 (ng/g fat)
p,p-DDE (ng/l)	1,2,3,7,8,9-HxCDD (pg/l)	BDE 153 (ng/l)
Sum 3 p,p-DDTs (ng/g fat)	1,2,3,7,8-PeCDD (pg/g fat)	BDE 154 (ng/g fat)
Sum 3 p,p-DDTs (ng/l)	1,2,3,7,8-PeCDD (pg/l)	BDE 154 (ng/l)
Sum 6 DDTs (ng/g fat)	2,3,7,8-TCDD (pg/g fat)	BDE 175/183 (ng/g fat)
Sum 6 DDTs (ng/l)	2,3,7,8-TCDD (pg/l)	BDE 175/183 (ng/l)
Dieldrin (ng/g fat)	OCDD (pg/g fat)	BDE 17 (ng/g fat)
Dieldrin (ng/l)	OCDD (pg/l)	BDE 17 (ng/l)
Endrin (ng/g fat)	Sum 7 PCDDs (pg/g fat)	BDE 28 (ng/g fat)
Endrin (ng/l)	Sum 7 PCDDs (pg/l)	BDE 28 (ng/l)
HCB (ng/g fat)	PCDDs WHO1998-TEQ LB (pg/g fat)	BDE 47 (ng/g fat)
HCB (ng/l)	PCDDs WHO1998-TEQ LB (pg/l)	BDE 47 (ng/l)
Heptachlor (ng/g fat)	PCDDs WHO1998-TEQ UB (pg/g fat)	BDE 99 (ng/g fat)
Heptachlor (ng/l)	PCDDs WHO1998-TEQ UB (pg/l)	BDE 99 (ng/l)
cis-Heptachlorepoxide (= exo, B) (ng/g fat)	PCDDs WHO2005-TEQ LB (pg/g fat)	BDE 100 (ng/g fat)
cis-Heptachlorepoxide (= exo, B) (ng/l)	PCDDs WHO2005-TEQ LB (pg/l)	BDE 100 (ng/l)
trans-Heptachlorepoxide (= endo, A) (ng/g fat)	PCDDs WHO2005-TEQ UB (pg/g fat)	PFOS (ng/g fat)
trans-Heptachlorepoxide (= endo, A) (ng/l)	PCDDs WHO2005-TEQ UB (pg/l)	PFOS (ng/l)
Sum 2 heptachlorepoxides (cis + trans) (ng/g fat)	1,2,3,4,6,7,8-HpCDF (pg/g fat)	PFOSA (ng/g fat)
Sum 2 heptachlorepoxides (cis + trans) (ng/l)	1,2,3,4,6,7,8-HpCDF (pg/l)	PFOSA (ng/l)
Mirex (ng/g fat)	1,2,3,4,7,8,9-HpCDF (pg/g fat)	NMeFOFA (ng/g fat)
Mirex (ng/l)	1,2,3,4,7,8,9-HpCDF (pg/l)	NMeFOFA (ng/l)
PCB 28 (ng/g fat)	1,2,3,4,7,8-HxCDF (pg/g fat)	NEtFOFA (ng/g fat)
PCB 28 (ng/l)	1,2,3,4,7,8-HxCDF (pg/l)	NEtFOFA (ng/l)
PCB 52 (ng/g fat)	1,2,3,6,7,8-HxCDF (pg/g fat)	NMeFOFE (ng/g fat)
PCB 52 (ng/l)	1,2,3,6,7,8-HxCDF (pg/l)	NMeFOFE (ng/l)
PCB 101 (ng/g fat)	1,2,3,7,8,9-HxCDF (pg/g fat)	NEtFOFE (ng/g fat)
PCB 101 (ng/l)	1,2,3,7,8,9-HxCDF (pg/l)	NEtFOFE (ng/l)
PCB 138 (ng/g fat)	1,2,3,7,8-PeCDF (pg/g fat)	Endosulfan I (alpha) (ng/g fat)
PCB 138 (ng/l)	1,2,3,7,8-PeCDF (pg/l)	Endosulfan I (alpha) (ng/l)
PCB 153 (ng/g fat)	1,2,3,4,6,7,8-HxCDF (pg/g fat)	Endosulfan II (beta) (ng/g fat)
PCB 153 (ng/l)	2,3,4,6,7,8-HxCDF (pg/l)	Endosulfan II (beta) (ng/l)
PCB 180 (ng/g fat)	2,3,4,7,8-PeCDF (pg/g fat)	Endosulfan SO4 (ng/g fat)
PCB 180 (ng/l)	2,3,4,7,8-PeCDF (pg/l)	Endosulfan SO4 (ng/l)
Sum 6 PCBs (ng/g fat)	2,3,7,8-TCDF (pg/g fat)	Alpha-HBCD (ng/g fat)
Sum 6 PCBs (ng/l)	2,3,7,8-TCDF (pg/l)	Alpha-HBCD (ng/l)
Sum 7 PCBs (ng/g fat)	OCDF (pg/g fat)	Beta-HBCD (ng/g fat)
Sum 7 PCBs (ng/l)	OCDF (pg/l)	Beta-HBCD (ng/l)
PCB 77 (pg/g fat)	OCDF (pg/l)	Gamma-HBCD (ng/g fat)
PCB 77 (pg/l)	Sum 10 PCDFs (pg/g fat)	Gamma-HBCD (ng/l)
PCB 81 (pg/g fat)	Sum 10 PCDFs (pg/l)	
PCB 81 (pg/l)	PCDFs WHO1998-TEQ LB (pg/g fat)	
PCB 105 (pg/g fat)	PCDFs WHO1998-TEQ LB (pg/l)	
PCB 105 (pg/l)	PCDFs WHO1998-TEQ UB (pg/g fat)	
PCB 114 (pg/g fat)	PCDFs WHO1998-TEQ UB (pg/l)	
PCB 114 (pg/l)	PCDFs WHO2005-TEQ LB (pg/g fat)	
PCB 118 (pg/g fat)	PCDFs WHO2005-TEQ LB (pg/l)	
PCB 118 (pg/l)	PCDFs WHO2005-TEQ UB (pg/g fat)	
PCB 123 (pg/g fat)	PCDFs WHO2005-TEQ UB (pg/l)	
PCB 123 (pg/l)	Sum 17 PCDDs/Fs (pg/g fat)	
PCB 126 (pg/g fat)	Sum 17 PCDDs/Fs (pg/l)	
PCB 126 (pg/l)	PCDDs/Fs WHO1998-TEQ LB (pg/g fat)	
PCB 156 (pg/g fat)	PCDDs/Fs WHO1998-TEQ LB (pg/l)	
PCB 156 (pg/l)	PCDDs/Fs WHO1998-TEQ UB (pg/g fat)	
PCB 157 (pg/g fat)	PCDDs/Fs WHO1998-TEQ UB (pg/l)	
PCB 157 (pg/l)	PCDDs/Fs WHO2005-TEQ LB (pg/g fat)	
	PCDDs/Fs WHO2005-TEQ LB (pg/l)	
	PCDDs/Fs WHO2005-TEQ UB (pg/g fat)	
	PCDDs/Fs WHO2005-TEQ UB (pg/l)	