EMEP/CCC-Report 9/2002

EMEP Co-operative Programme for Monitoring and Evaluation of the Long-Range Transmission of Air Pollutants in Europe

Heavy metals and POPs within the EMEP region 2000

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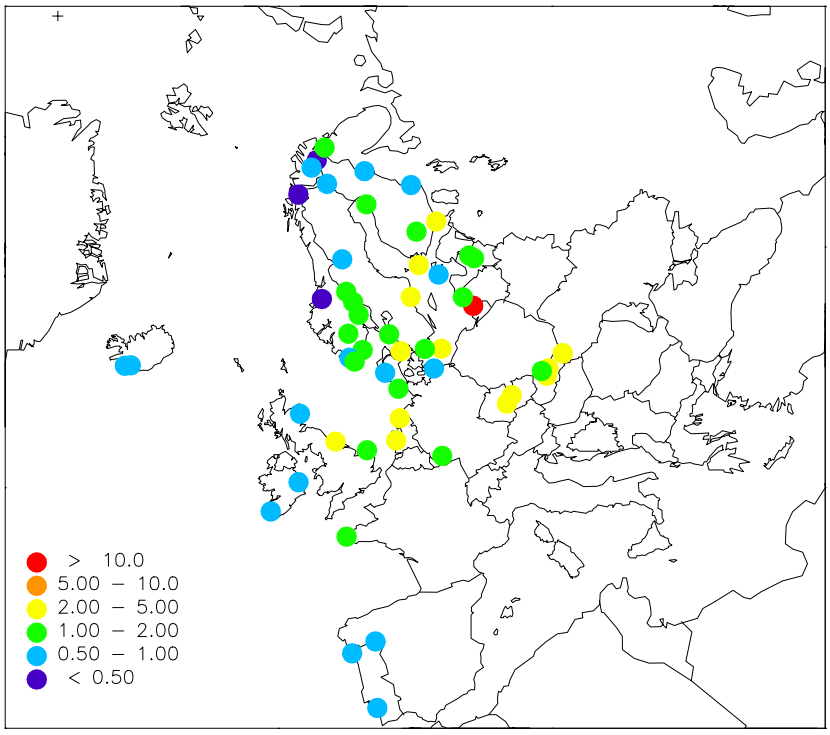

Norwegian Institute for Air Research
PO Box 100, NO-2027 Kjeller, Norway
Chemical Co-ordinating Centre of EMEP (CCC)

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1. Introduction

Heavy metals and persistent organic pollutants (POPs) were included in EMEP's monitoring program in 1999. However, already in 1995, co-operation concerning heavy metals and POPs between EMEP and other international programs was extended. This co-operation included the establishment of a database and collection of already available data on heavy metals and POPs among the participants. A number of countries have been reporting heavy metals and POPs within the EMEP area in connection with different national and international programmes such as HELCOM, AMAP, OSPARCOM, MEDPOP.

During the seventh phase of EMEP (EB.AIR/GE.1/1998/8) it is recommended that the future works under the Convention should concentrate on eight priority elements: lead (Pb), mercury (Hg), cadmium (Cd), chromium (Cr), nickel (Ni), zinc (Zn), copper (Cu) and arsenic (As). Particular attention should be paid to the first three elements.

The strategic long-term plans on POPs (EB.AIR/GE.1/1997/8) recommend to take a stepwise approach, and the following compounds or groups of compounds should be included in the first step: polycyclic aromatic hydrocarbons (PAHs), polychlorobiphenyls (PCBs), HCB, chlordane, lindane, alpha-HCH, DDT/DDE.

So far, six reports have been published (EMEP/CCC-Reports 8/96, 9/97, 7/98, 7/99, 2/2000, 9/2001) which present data on heavy metals and POPs from national and international measurement programmes for the period 1987 to 1999. The majority of the data are included in the priority lists for heavy metals and POPs. In this report data from 2000 are presented.

2. Measurement programme

2.1 Monitoring sites

The locations of the measurement sites, which have delivered heavy metal and/or POP data for 2000, are given in Table 1 and Figure 1. An overview of the sites is given in Table 2–Table 5. The stations are generally located distant from local emission sources in order to be representative for a larger region.

Table 1: List of monitoring stations in operation in 2000: Heavy metals and/or POPs.

Country	Station codes	Old code	Station name	Location		Height above sea (m)
				Lat.	Long.	
Belgium	BE0004R	BE4	Knokke	51º21'N	3º20'E	0
	BE0090R	BE90	Bredene	51º14'N	2º59'E	0
Czech Rep.	CZ0001R	CS1	Svratouch	49º44'N	16º02'E	737
	CZ0003R	CS3	Kosetice	49º35'N	15º05'E	534
Denmark	DK0003R	DK3	Tange	56º21'N	9º36'E	13
	DK0005R	DK5	Keldsnor	54º44'N	10º44'E	9
	DK0008R	DK8	Anholt	56º43'N	11º31'E	40
	DK0010G	DK10	Nord, Greenland	81º30'N	17º30'W	
	DK0015R	DK15	Faroe Islands	62º18'N	7º04'W	210
	DK0020R	DK20	Bornholm, Pedersber	35º01'N	14º57'E	
	DK0031R	DK31	Ulborg	56º17'N	8º26'E	10
Estonia	EE0009R	EE9	Lahemaa	59º03'N	25º54'E	32
	EE0011R	EE11	Vilsandi	58º23'N	21º49'E	6
Finland	FI0009R	FI9	Utö	59º47'N	21º23'E	7
	FI0017R	FI17	Virolahti II	60º31'N	27º41'E	4
	FI0022R		Oulanka	66º19'N	29º24'E	310
	FI0053R	FI53, FI91	Hailuoto	65º00'N	24º41'E	4
	FI0092R	FI92	Hietajarvi	63º10'N	30º43'E	173
	FI0093R	FI93	Kotinen	61º14'N	25º04'E	158
	FI0096R	FI96	Pallas	67º58'N	24º7'E	566
France	FR0090R	FR90	Porspoder	48º31'N	4º45'W	50
Germany	DE0001R	DE1	Westerland	54º55'N	8º18'E	12
	DE0003R	DE3	Schauinsland	47º55'N	7º54'E	1205
	DE0004R	DE4	Deuselbach	49º46'N	7º03'E	480
	DE0005R	DE5	Brotjacklriegel	48º49'N	13º13'E	1016
	DE0007R	DE7	Neuglobsow	53º09'N	13º02'E	62
	DE0008R	DE8	Schmücke	50º39'N	10º46'E	937
	DE0009R	DE9	Zingst	54º26'N	12º44'E	1
Iceland	IS0002R	IS2	Irafoss	64º05'N	21º01'W	61
	IS0090R	IS90	Reykjavik	64º08'N	21º54'W	61
	IS0091R	IS91	Stórhöfdi	63º24'N	20º17'W	118
Ireland	IE0001R	IE1	Valentia Observatory	51º56'N	10º15'W	9
	IE0002R	IE2	Turlough Hill	53º02'N	6º24'W	420
	IE0031R	IE31	Mace Head	53º19'N	9º54'W	5
Latvia	LV0010R	LV10	Rucava	56º13'N	21º13'E	18
	LV0016R	LV16	Zoseni	57º08'N	25º55'E	183
Lithuania	LT0015R	LT15	Preila	55º21'N	21º04'E	5
Netherlands	NL0009R	NL9	Kollumerwaard	53º20'N	6º17'E	0
	NL0091R	NL91	De Zilk	52º18'N	4º30'E	4

Table 1, cont.:

Country	Station codes	Old code	Station name	Location		Height above sea (m)
				Lat.	Long.	
Norway	NO0001R	NO1	Birkenes	58°23'N	8°15'E	190
	NO0039R	NO39	Kårvatn	62°47'N	8°53'E	210
	NO0041R	NO41	Osen	61°15'N	11°47'E	440
	NO0042G	NO42	Spitsbergen, Zeppelinfjell	78°54'N	11°53'E	474
	NO0047R	NO47	Svanvik	69°27'N	30°02'E	474
	NO0055R		Karasjok	69°28'N	25°13'E	333
	NO0056R		Hurdal	60°22'N	11°04'E	300
	NO0092R	NO92	Øverbygd	69°03'N	19°22'E	90
	NO0099R	NO99	Lista	58°06'N	6°34'E	13
Portugal	PT0001R	PT1	Braganca	41°49'N	6°46'W	16
	PT0003R	PT3	V. d. Castelo	40°25'N	7°33'W	16
	PT0004R		Monte Velho	38°05'N	8°48'W	43
	PT0010R		Angra do Heroismo	38°74'N	27°13'W	74
Slovakia	SK0002R	SK2	Chopok	48°56'N	19°35'E	2008
	SK0004R	SK4	Stará Lesná	49°09'N	20°17'E	808
	SK0005R	SK5	Liesek	49°22'N	19°41'E	892
	SK0006R	SK6	Starina	49°03'N	22°16'E	345
	SK0007R		Topolniky	47°58'N	17°52'E	113
Sweden	SE0002R	SE2	Rörvik	57°25'N	11°56'E	10
	SE0005R	SE5	Bredkälen	63°51'N	15°20'E	404
	SE0011R		Vavihill	56°01'N	13°09'E	172
	SE0012R	SE12	Aspvreten	58°48'N	17°23'E	20
	SE0051R	SE51, SE99	Arup	55°45'N	13°40'E	157
	SE0097R	SE97	Gårdsjön	58°03'N	12°01'E	113
United Kingdom	GB0014R	GB14	High Muffles	54°20'N	0°48'W	260
	GB0090R	GB90	East Ruston	52°48'N	1°28'E	5
	GB0091R	GB91	Banchory	57°05'N	2°32'E	120

The site codes used in this report are the codes used for data submission and storage in the EMEP database, or codes used in the OSPARCOM or HELCOM programmes. The codes consist of the two-letter ISO code for the countries, a four-digit number and a letter indicating the type of station, regional (R) or global (G).

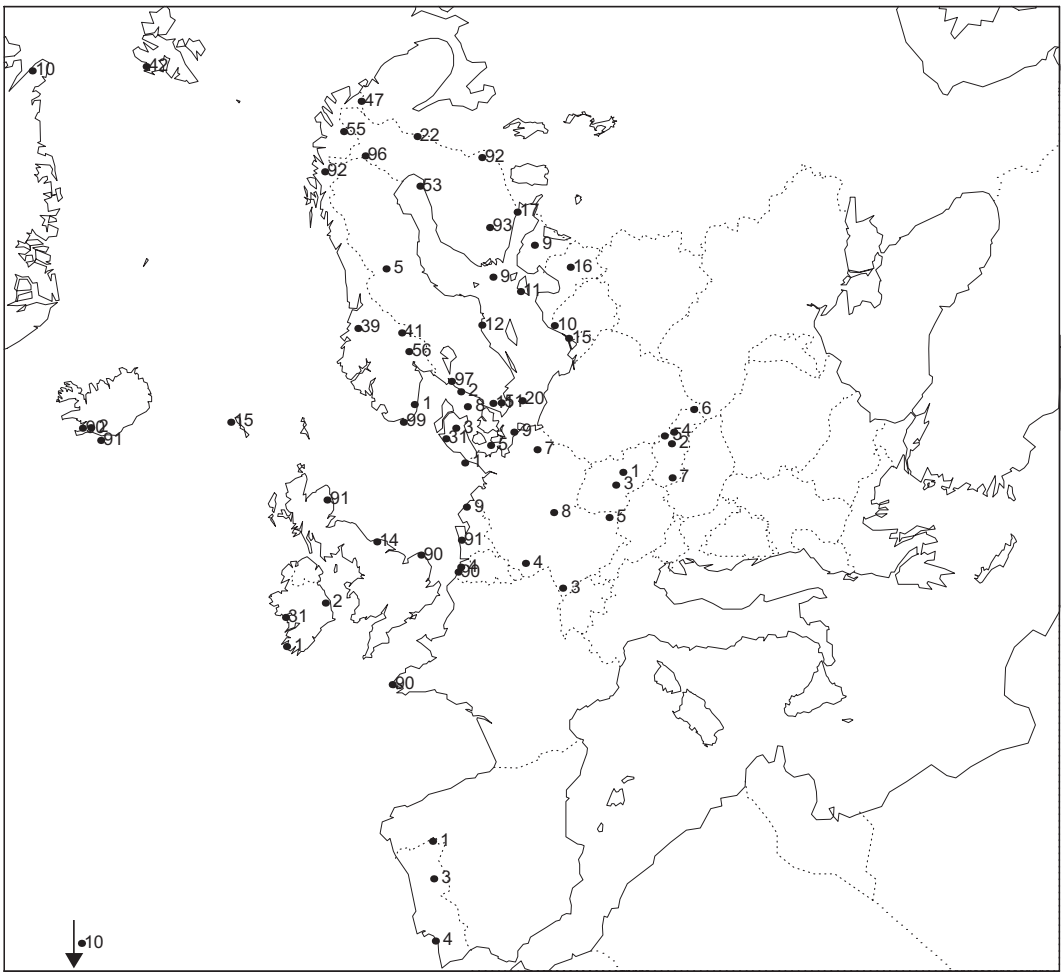

Figure 1: Location of monitoring stations which have reported data to the EMEP heavy metal and POP data base.

2.2 Sampling and analytical techniques

A brief summary of the sampling and analytical techniques used for the 2000-data are given in Table 2–Table 5.

2.3 Quality of the monitoring data

In order to provide sufficiently accurate data for EMEP's needs, data with an expected lower accuracy have been flagged (QA) in the tables containing annual summaries and monthly means. The definitions of the quality flags are as follows:

1. High detection limit
2. Site location not regionally representative
3. Sampling problems
4. Analytical problems
5. Sample site located at high altitude

Table 2: General information about sampling and analysis of heavy metals in precipitation in 2000.

Country	Sites	Heavy metals	Sampling period	Sampler		Analytical methods
				Wet only	Bulk	
Belgium	BE0004R	Cr, Ni, Cu, Zn, As, Hg, Cd, Pb	Monthly	x	x	
Czech Republic	CZ0001R, CZ0003R	Ni, Cd, Pb	Weekly		X	
Denmark	DK0008R, DK0020R, DK0031R	Cr, Ni, Cu, Zn, As, Hg, Cd, Pb	Monthly		X	ICP-MS
Estonia	EE0009R, EE0011R	Cu, Zn, As, Cd, Pb	Monthly		X	
Finland	FI0008, FI0022R, FI0009R, FI0017R, FI0053R, FI0092R, FI00093R FI0096R	V, Cr, Mn, Fe, Ni, Cu, Zn, As, Cd, Pb " Hg	Monthly " "		X X X	ICP-MS CV-AFS
France	FR0090R	Cr, Ni, Cu, Zn, As, Cd, Pb	Monthly		X	GF-AAS
Germany	DE0001R, DE0009R DE0004R	V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Cd, Hg, Pb V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Cd, Pb	Monthly Weekly	X	 X	ICP-MS/CV-AAS
Iceland	IS0002R, IS0090R	Al, V, Cr, Mn, Fe, Ni, Cu, Zn, As, Cd, Pb "	Monthly "	X	 X	ICP-MS
Ireland	IE0001R, IE0002R	Al, V, Cr, Mn, Ni, Cu, Zn, As, Cd, Pb, Hg	Monthly		X	ICP
Lithuania	LT0015R	Cu, Zn, Cd, Pb	Monthly		X	AAS
Latvia	LV0010R, LV0016R	Cu, Zn, Cd, Pb	Monthly		X	GF-AAS
Netherlands	NL0009R, NL0091R NL0091R	Cr, Ni, Cu, Zn, As, Cd, Pb Hg	4 weeks 4 weeks	X X		
Norway	NO0001R, NO0039, NO0041R, NO0055-56 NO0047R, NO0092R-NO0095R, NO0099R	Zn, Cd, Pb Cr, Co, Ni, Cu, Zn, As, Cd, Pb V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Cd, Pb V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Cd, Pb Hg	Weekly Weekly Weekly Weekly		X X X X	ICP-MS " " ICP-MS/CV-AFS
Portugal	PT0001R, PT0003R, PT0004R, PT0010R	Mn, Ni, Cu, Zn, Cd, Pb "	24h Weekly	 X	X	GF-AAS
Slovakia	SK0002R, SK0004R, SK0005R, SK0006R, SK0007R	Al, Mn, Fe, Zn, Cd, Pb "	Monthly			
Sweden	SE0002R, SE0005R, SE0011R SE0005R, SE0012R, SE0051R, SE0097R	Hg V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Cd, Pb Cr, Ni, Zn, As, Cd, Pb	Monthly " "		X X	CV-AFS ICP-MS
United Kingdom	GB0014R, GB0090R, GB0091R	Cr, Ni, Cu, Zn, As, Cd, Pb	Monthly		X	

AAS: Atomic absorption spectroscopy
GF-AAS: Graphite furnace atomic absorption spectroscopy
ICP-MS: Inductively coupled plasma - mass spectrometry
CV-AFS: Cold vapour - atomic fluorescence spectroscopy

Table 3: General information about sampling and analysis of heavy metals in air in 2000.

Country	Sites	Heavy metals	Sampling period	Sampler	Analytical methods
Belgium	BE0004R	Ni, Cu, Cd, Pb		Filter-1pack	
Czech Republic	CZ0001R, CZ0003R	Cd, Pb	24h	Filter-1pack	
Denmark	DK0003R, DK0005R, DK0008R, DK0031R DK0010G DK0010G, DK0015R	Cr, Fe, Ni, Cu, Zn, As, Cd, Pb Al, Cr, Mn, Ni, Cu, Zn, As, Se, Pb Hg	24h Weekly < Hourly	Filter-3pack " Hg-monitor	Pixe " Hg-monitor (Tekran)
Finland	FI0096R	Mn, V, Cr, Fe, Ni, Cu, Zn, As, Cd, Pb Hg	Weekly 12h	Low volume sampler Gold traps	ICP-MS " CV-AFS
Germany	DE0001R, DE0003R-DE0005R, DE0007R-DE0009R	Pb	24h	High vol.	ICP-MS
Iceland	IS0091R	Al, V, Cr, Mn, Fe, Ni, Cu, Zn, As, Cd, Pb, Hg (part.)	15d	High. Vol.	GF-AAS/CV-AAS
Ireland	IE0031R	Hg	5 - 30min	Hg-monitor	Hg-monitor (Tekran)
Latvia	LV0010R, LV0016R	Cu, Zn, Cd, Pb	Weekly	Filter-1pack	AAS/GF-AAS
Lithuania	LT0015R	Cu, Zn, Cd, Pb	24h[2)]	Filter-1pack	AAS
Netherlands	NL0009R	Zn, As, Cd, Pb	24h	Filter-1pack	
Norway	NO0042G, NO0099R NO0042G, NO0099R	Mn, V, Cr, Co, Ni, Cu, Zn, As, Cd, Pb, Hg	48h[2)] 5-30min 12-24h	NO42: High vol, NO99: Filter-2pack NO42: Hg-monitor NO99: Gold traps	ICP-MS Hg-monitor (Tekran) CV-AFS
Slovakia	SK0002R, SK0004R, SK0005R, SK0006R, SK0007R	Cr, Mn, Ni, Cu, Cd, Pb	Weekly 2-7 Days		
Sweden	SE0002R	Hg	12 h	Gold traps	CV-AFS
United Kingdom	GB0014R, GB0090R, GB0091R	Cr, Ni, Cu, Zn, As, Cd, Pb	Monthly	Filter-1pack	ICP-MS

AAS: Atomic absorption spectroscopy
GF-AAS: Graphite furnace atomic absorption spectroscopy
ICP-MS: Inductively coupled plasma - mass spectrometry
CV-AFS: Cold vapour atomic fluorescence spectroscopy

Table 4: General information about sampling and analysis of POPs in precipitation in 2000.

Country	Sites	POPs	Sampling period	Sampler	Analytical methods
Belgium	BE0004R	Pesticides, HCHs	Monthly	Wet-only	HPLC, GC/ECD
Finland	FI0096R	PAHs, PCBs, HCHs	1 w a month	Bulk sampler	HPLC, GC/MS
Germany	DE0001R	PAHs, HCB and HCHs	Monthly	Wet-only	HPLC, GC/ECD
Iceland	IS0091R	PCBs, pesticides, HCHs, HCB	15d	Bulk sampler	GC/ECD
Ireland	IE0002R	PCBs, pesticides, HCHs,PCBs	Monthly	Bulk sampler	GC/MS
Lithuania	LT0015R	Benzo(a)pyrene			TLC
Netherlands	NL0091R	Gamma-HCH	Monthly	Bulk sampler	
Norway	NO0099R	HCHs and HCB	Monthly	Bulk sampler	GC/MS
Sweden	SE0002R, SE0012R	PAHs, PCBs, HCHs	1 w a month	Bulk sampler	HPLC, GC/MS

GC-MS: Gas chromatography with mass spectrometry
ECD: Electron capture detector
HPLC: High performance liquid chromatography
TLC: Thin layer chromatography

Table 5: General information about sampling and analysis of POPs in air in 2000.

Country	Sites	POPs	Sampling period	Sampler	Analytical methods
Czech. Rep	CZ0003R	PAHs, PCBs, pesticides, HCHs	1d	High vol.	HPLC, GC/MS
Finland	FI0096R	PAHs, PCBs, pesticides, HCHs	1 w a month	High vol.	HPLC, GC/MS
Iceland	IS0091R	PCBs, pesticides, HCB and HCHs	15d	High vol.	gc/ecd
Lithuania	LT0015R	Benzo(a)pyrene			TLC
Norway	NO0042G NO0099R	PAHs, pesticides, HCHs,HCB, PCBs α-HCH, γ-HCH, HCB	48h 48h	High vol. "	GC/MS
Sweden	SE0002R, SE0012R	PAHs, PCBs, pesticides, HCHs	1 w a month	High vol.	HPLC, GC/MS

GC-MS: Gas chromatography with mass spectrometry
ECD: Electron capture detector
HPLC: High performance liquid chromatography
TLC: Thin layer chromatography

6. Concentration level low when compared to nearby stations
7. Extremely long sampling time
8. Sum of wet deposition + dry deposited particles onto the funnel. Unit: ng/m^2 day
9. Estimated values
10. Extremely high single sample concentrations

11L. More than 25% percentage deviations for both the **low** concentration samples in the 2000 EMEP intercalibration

11H. More than 25% percentage deviations for both the **high** concentration samples in the 2000 EMEP intercalibration

NP. Not participated in the EMEP Intercalibration on heavy metals, 2000.

CCC is working with new data quality objectives (DQO). They will be used in the next report. The data have been checked for outliers. Extremely high values, outside four times standard deviation in a lognormal distribution, have been flagged in the EMEP database and are excluded from this report.

2.3.1 Heavy metals

A few data with extremely high detection limits are not included in the report (Cd in precipitation from Portugal, Hg in precipitation from Ireland). The Belgium lead data have been excluded from the maps because they are inconsistent. From the same station (BE4) data from both a bulk sampler, a wet-only sampler and an aerosol sampler are delivered. The bulk sampler reports very low concentrations, the wet-only sampler and the aerosol sampler the highest concentrations in Europe. The Belgian laboratory did not participate in the 2000-intercomparison, and the resuls must be checked in detail before the data are included.

Information on the quality of the measurements is also available from the "EMEP Analytical intercomparison of heavy metals in precipitation – 2000" (Table 6) (Uggerud and Skjelmoen, 2001). A total of 17 laboratories participated. Two samples contained trace element concentrations (Pb, Cd, Cu, Ni, As, Co, Zn) typical of precipitation in Southern Scandinavia, and two samples contained higher concentrations typical of Central Europe. It should be noted that the cadmium concentration given in one of the low concentration samples was extremely low and that 8 of the laboratories delivered results below the detection limit for this sample. It should be emphasised that most laboratories involved measure mainly concentrations similar to the high concentration samples in their monitoring networks, and therefore have less experience than others with low concentration samples. In the discussion below, the cadmium results from the extreme low concentration sample is therefore excluded.

The results show that 3 of 19 laboratories reported values below the detection limit for the low concentration sample. Only 2 laboratories were outside 25% from the theoretical value for cadmium in the low concentration sample. For the high concentration samples 1 of 19 laboratories reported values below the detection limit, and 2 laboratories were outside 25% from the theoretical value for cadmium. For lead 2 of 19 laboratories reported values below the detection limit for both the low concentration samples. Three laboratories are outside 25% from the theoretical value for both the low concentration samples, while only 1 of

19 laboratories had high-concentration results outside 25%. For both cadmium and lead, the results were better in 2000 than in the 1999 intercomparison.

The last field intercomparison on heavy metals in precipitation was carried out in the framework of HELCOM-EMEP-PARCOM-AMAP activity during 1996. The exercise was divided in an analytical and a field intercomparison part and included seven heavy metals: Pb, Cd, Cu, Zn, As, Cr, and Ni. The field intercomparison part of the exercise was carried out at the German EMEP station Deuselbach (DE04). The results were extensively discussed at a workshop in Germany, September 1996, and the major conclusion from this meeting was that the agreement between the collectors regarding precipitation amount seems to be satisfactory, and that the outcome of this intercomparison is much more positive than in the case of previous exercises. Furthermore, the results for Pb, Cd and eventually Zn seemed to be acceptable, but problems still remain to be solved for the other heavy metals considered (WMO, 1997).

Table 6: Percentage deviation from theoretical concentration values. (Extract from Uggerud and Skjelmoen, 2001.)

Element and percent interval	No. of lab..	**Lab. Identification** *The number in brackets are number of results reported in the particular percent interval by the laboratory*
Cd		
0-10%	14	1(2), 3(3), 5(3), 8(2), 14(2), 15(2), 16(1), 19(1), 26(3), 31(3), 33(3), 36(2), 38(1), 39(2),
10-25%	10	1(1), 8(2), 14(1), 15(1), 16(2), 19(1), 23(1), 32(3), 36(1), 38(2).
>25%	10	5(1), 7(1), 14(1), 15(1), 16(1), 23(3), 24(4), 31(1), 33(1), 38(1)
Pb		
0-10%	15	1(4), 3(3), 5(4), 6(1), 7(2), 8(4), 14(3), 15(4), 16(4), 19(2), 24(2), 26(2), 31(4), 32(4), 33(2), 38(4),
10-25%	9	3(1), 6(1), 7(1), 14(1), 24(1), 26(2), 32(1), 36(3), 39(2)
>25%	6	7(1), 19(2), 23(4), 24(2), 33(2), 39(1)

The geographical gradients for Pb, Cd and Hg in precipitation and air seem to be reasonable. Estonian sites have lower concentration values for Pb in precipitation than the adjacent sites in Southern Finland, which seems strange. A similar pattern has also been observed earlier. For Pb, both the Estonian and the Finnish laboratories reported good results in the intercomparison. Portuguese Pb concentrations are low – so they should be. The high concentrations of Pb at the Slovakian sites may be due to industry in the region Ruzomberok – Liptovský Mikauláš (Rühling et al., 1998). The relatively high concentrations of Cd reported from the Slovakian stations may mainly be due to emissions from cupper smelters in the Legnica - Glogów basin in Southern Poland (Rühling et al., 1998). High concentrations of Pb are also reported from CZ3 (Košetice). The main road from Praha to Brno is not far from the station.

2.3.2 POPs

It is generally difficult to give full credit to the information content in the POP data. Different sampling and analysis techniques make it difficult to compare data. SE2, SE12 and FI96 have the same type of precipitation sampler with 1 m^2 collection area. The results are given as deposition rates, ng/m^2 day. The rationale is that this includes both wet deposition and some dry deposition on the exposed collector surface. The deposition rates of PCBs at these stations show a decreasing trend from the southernmost station SE2 to the northernmost FI96. The Icelandic station has generally lower concentrations than the high Arctic NO0042G, which is reasonable, considering the geographical location in relation to known source areas, but the differences are also due to different data handling and analysis techniques. Iceland subtracts blanks, whereas Norway does not. A few data with extremely high detection limits are not included in the report (precipitation data from Ireland and Belgium).

We will have more knowledge on the quality of the data when the analytical intercomparison on POPs, carried out in the framework of EMEP, is finished late 2002. The intercomparison started in August 2000, when ampoules containing solutions to be analysed in round 1 of the first EMEP POP laboratory comparison were shipped to the participating laboratories. The sets sent to most of the participants contained:

- One standard solution of known PAHs and one standard solution of PAHs of unknown concentration
- One standard solution of known chlorinated compounds (pesticides and PCBs) and one standard solution of chlorinated compounds of unknown concentration.

The participants were asked to analyse the unknown solutions using their own quantification standard and to report the results by February 15th 2001.

The known standard could be used to check (optional) the quantification standard. Sets were sent to 27 labs in 20 different countries. Of all the labs, 18 returned results. Some labs reported results only for one of the two compound groups (PAH and chlorinated POPs). The last results were received on the May 7th 2001. A data report for round 1 was sent to the participants. An extended version of this report will be included in a draft report after round 2 of the comparison. The results from both rounds will be discussed in a workshop during winter 2002/2003 before the final report of the comparison is published. The over-all impression from round 1 was positive, showing the competence of the labs participating (see Figure 2 and Figure 3).

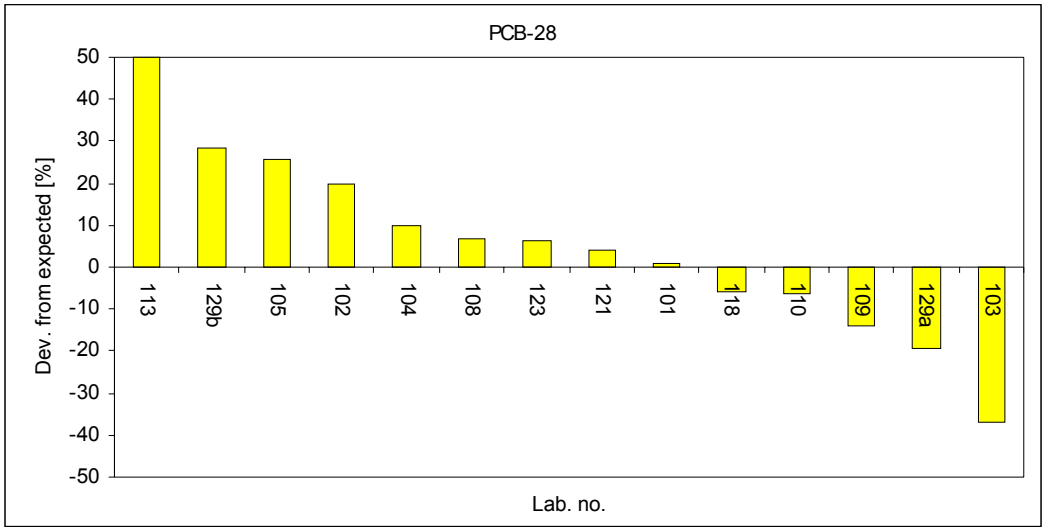

Figure 2: Results reported from 13 labs for the parameter PCB 28 at a concentration of 36 pg/µl.

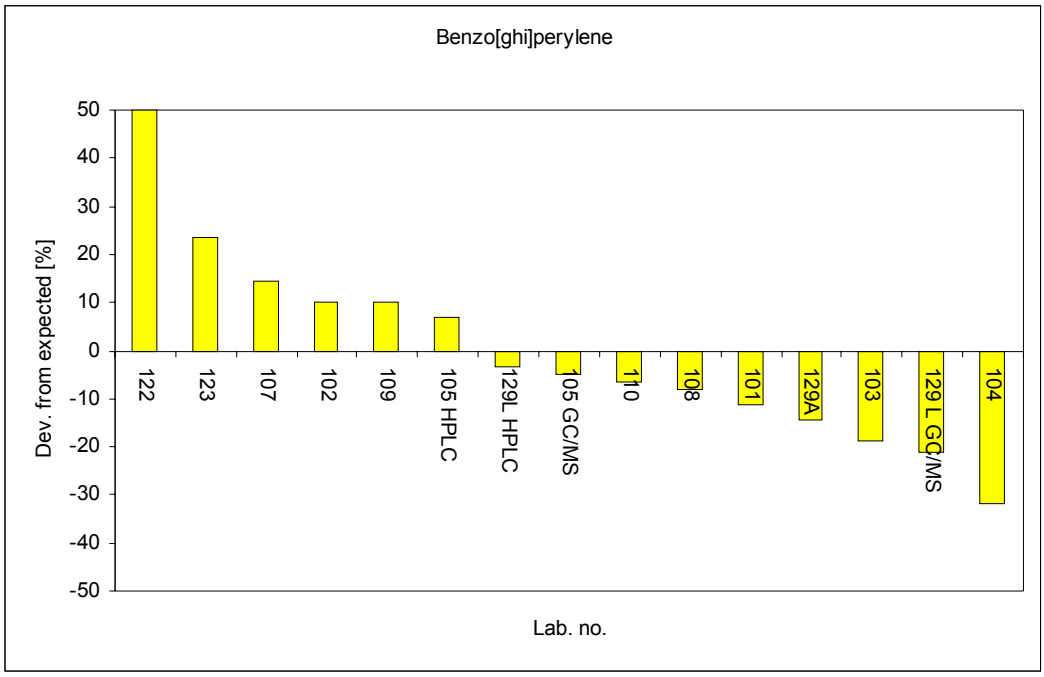

Figure 3: Results reported from 13 labs for the parameter Benzo[ghi]perylene at a concentration of 1,0 ng/µl.

3. Presentation of the measurement data

3.1 Maps of heavy metal concentrations over Europe

Annual averages of Pb, Cd and Hg from the 2000 precipitation and air data are presented in (Figure 4–Figure 9). The yearly precipitation mean concentrations have been calculated from daily, weekly or monthly reported values as precipitation-weighted averages. Average air concentrations are arithmetic averages of the reported values.

3.1.1 Lead in precipitation

The stations have been located away from local sources and are as far as possible representative for a larger region. The lowest concentrations of Pb during 2000 are found in northern Scandinavia, Iceland, Ireland and Portugal, where the annual averages are below 1 µg Pb/l (Figure 4). A concentration maximum of about 13 µg Pb/l is seen at the Lithuanian station. It should be noticed that few countries in Southern- and Eastern Europe have reported data for heavy metals in precipitation.

3.1.2 Cadmium in precipitation

In Scandinavia the annual mean values of Cd are below 0.05 µg Cd/l (Figure 5). An increasing gradient can be seen southeast. The highest concentrations of Cd are reported from the Slovak station SK2 (0.9 µg Cd/l). There are no data reported from Southern Europe (except Portugal with too high detection limit for Cd) and only the Czech Republic, Slovakia and the Baltic States have reported data from Eastern Europe.

3.1.3 Mercury in precipitation

Only a few stations are measuring mercury in precipitation in Europe, and most of them are related to the OSPAR programme. The concentrations are quite similar, and with the exception of the Belgium station, in the range 5-20 ng Hg/l for all the stations (Figure 6). The fluxes from Belgium are based on mercury concentrations close to the detection limit of the analysis method used and are therefore uncertain, and the data may only be considered as upper limits.

3.1.4 Lead in aerosols

Figure 7 presents the annual averages of Pb in air in 2000. The lowest concentrations (below 1 ng Pb/m^3) can be seen at Svalbard, Iceland and Greenland. Concentration maxima are seen in Latvia and Slovakia. It should be noticed that, with the exception of the Baltic States, Czech Republic and Slovakia, there are no data reported from Southern- and Eastern Europe. Few data are however also reported from Scandinavia and the westernmost part of Europe.

3.1.5 Cadmium in aerosols

Cadmium in aerosols is presented in Figure 8. The lowest concentrations (below 0.10 ng Cd/m^3) are reported from the Nordic and the Scottish station. An increasing gradient can be seen south-eastward, with the highest concentration maxima at the Slovak and Latvian stations. The lack of data is similarly to Pb in aerosols.

3.1.6 Mercury in air

Concentrations of mercury in air are in the range 1.3–1.7 ng/m^3 for all the stations (Figure 9). As for mercury in precipitation, there are only a few stations delivering data on mercury in air, and they are mainly related to the AMAP and the OSPPAR programme.

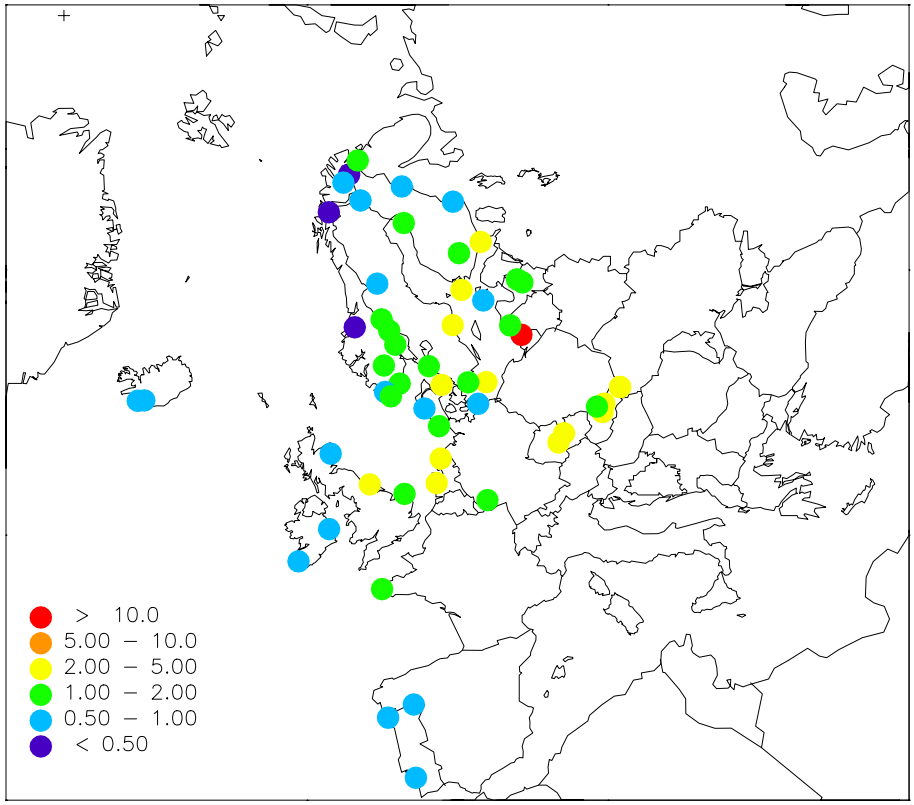

Figure 4: Lead in precipitation, 2000 (µg/l).

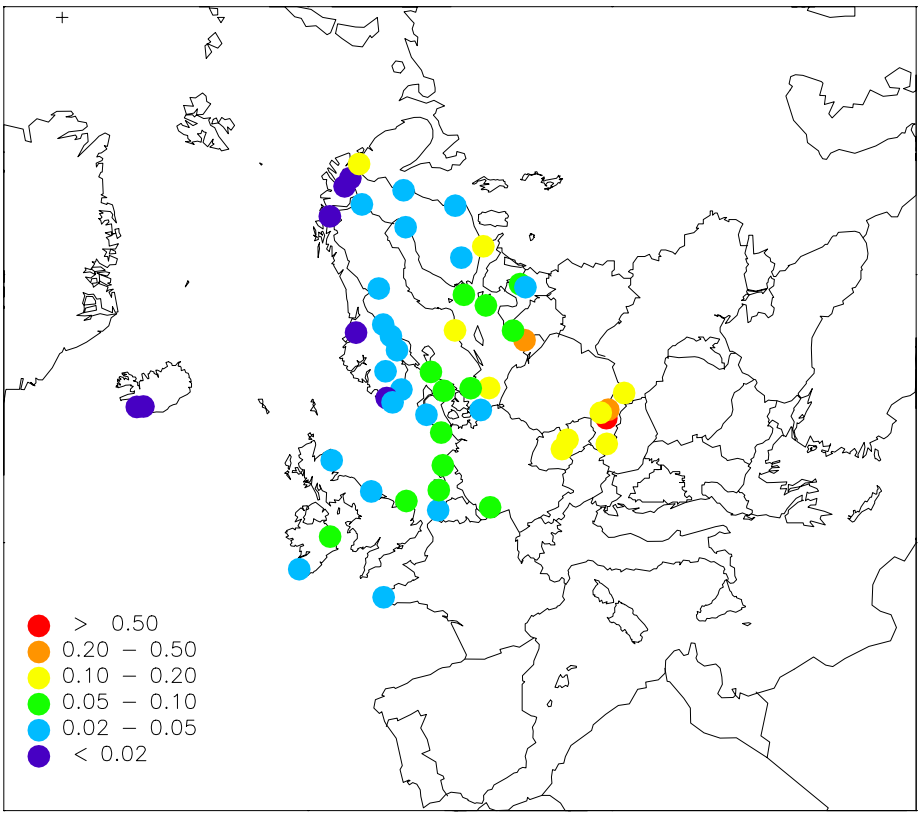

Figure 5: Cadmium in precipitation, 2000 (µg/l).

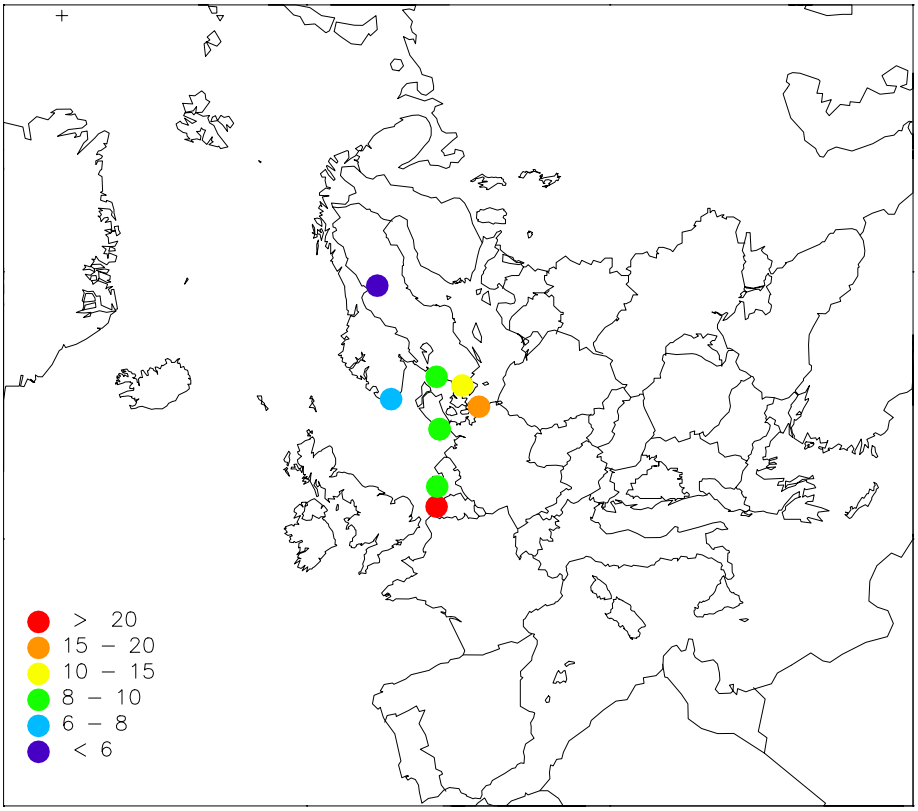

Figure 6: Mercury in precipitation, 2000 (ng/l).

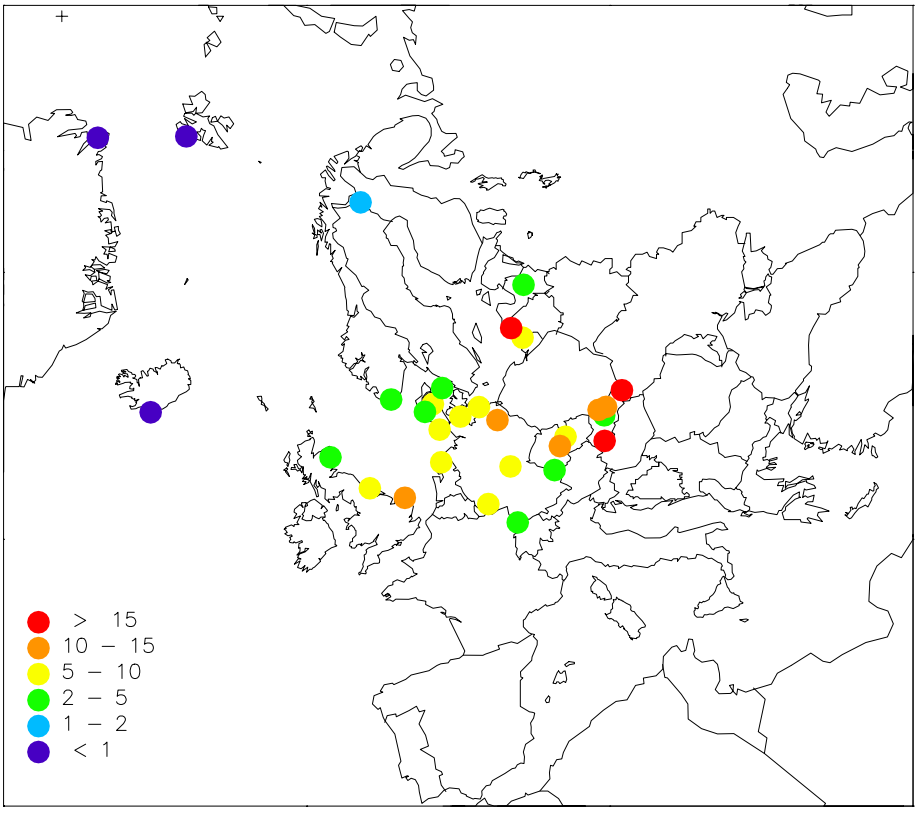

Figure 7: Lead in aerosols, 2000 (ng/m³).

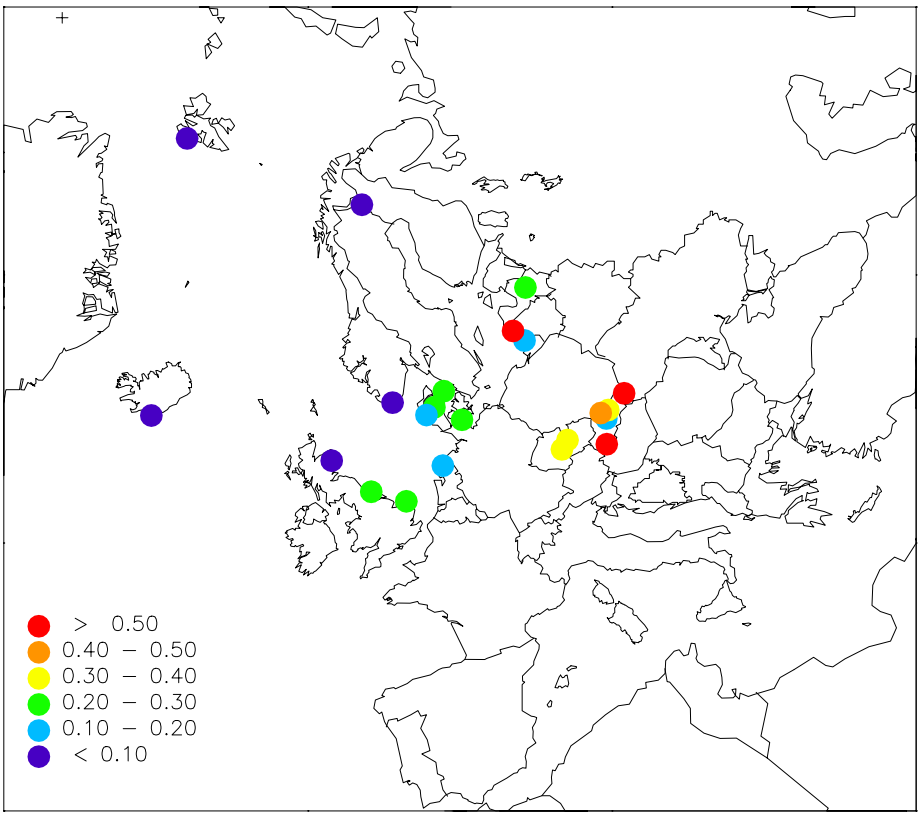

Figure 8: Cadmium in aerosols, 2000 (ng/m³).

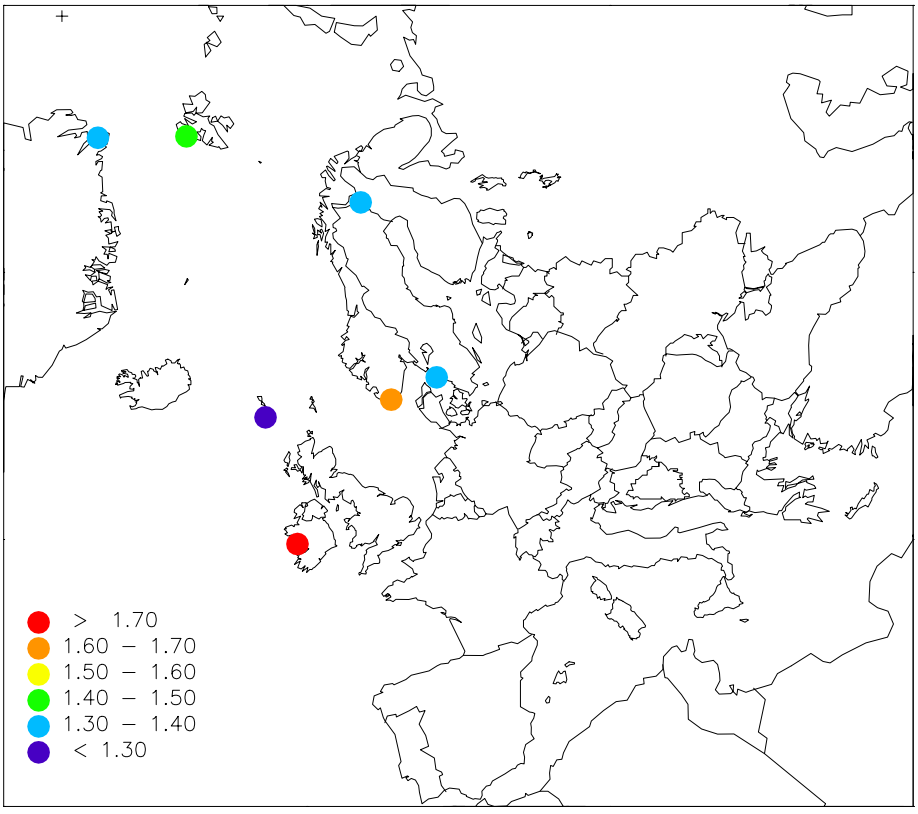

Figure 9: Mercury in aerosols, 2000 (ng/m³).

3.2 Temporal trends for cadmium in aerosols

Figure 10 shows temporal trends for Cd in aerosols at stations for which there have been reported data from for at least five years. The emissions of Cd have decreased in Europe in recent years, but not so much as for Pb (Pacyna, pers. comm.; Bartnicki, 1998). The concentration levels of Cd are decreasing at Košetice (Czech Republic) and Deuselbach (Germany). A marked seasonal variation in the level of Pb and Cd can be seen at Zeppelin (Svalbard, Norway) with highest concentrations during the high Arctic winter. This is due to the positions of major weather systems: In winter and spring, a high pressure system over Siberia pushes the Arctic front far to the south, so that important polluted areas are within the Arctic air mass.

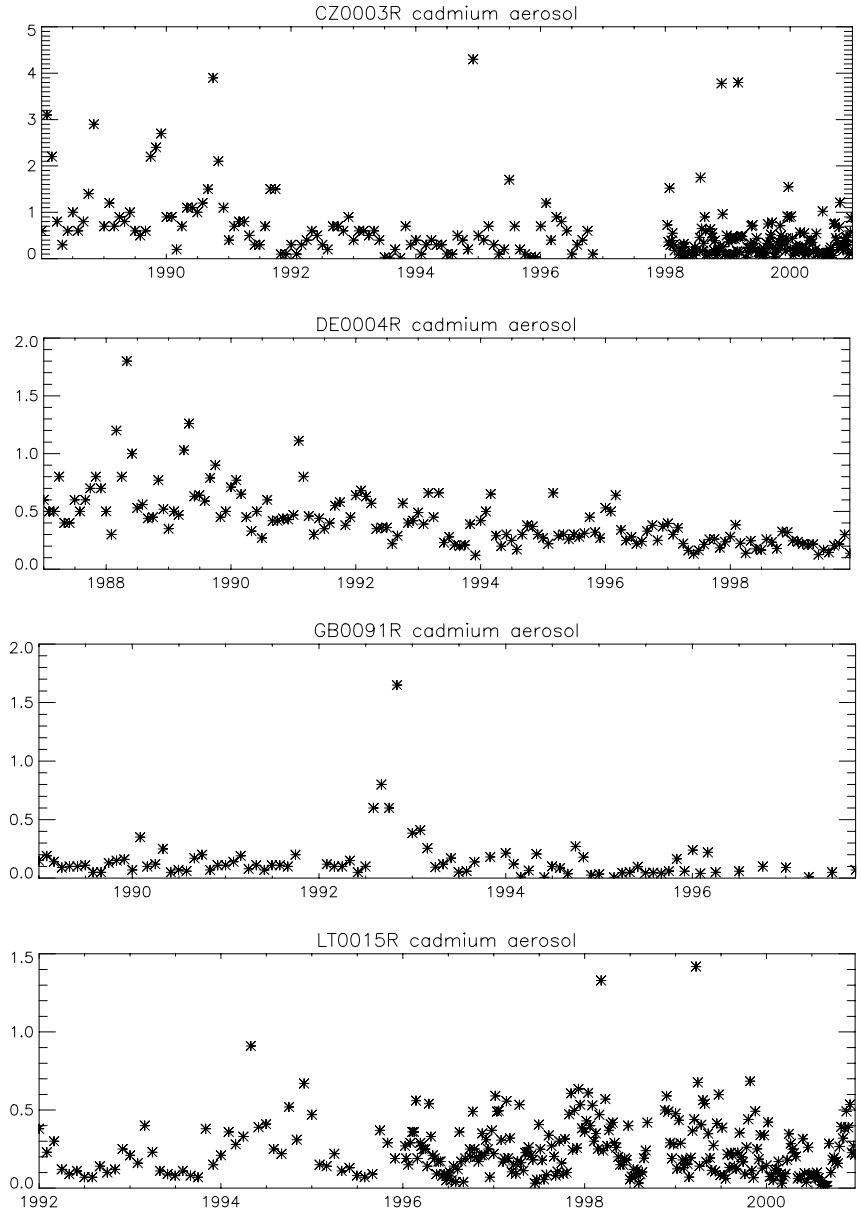

Figure 10: Temporal trends of Cd in aerosols at different EMEP sites.

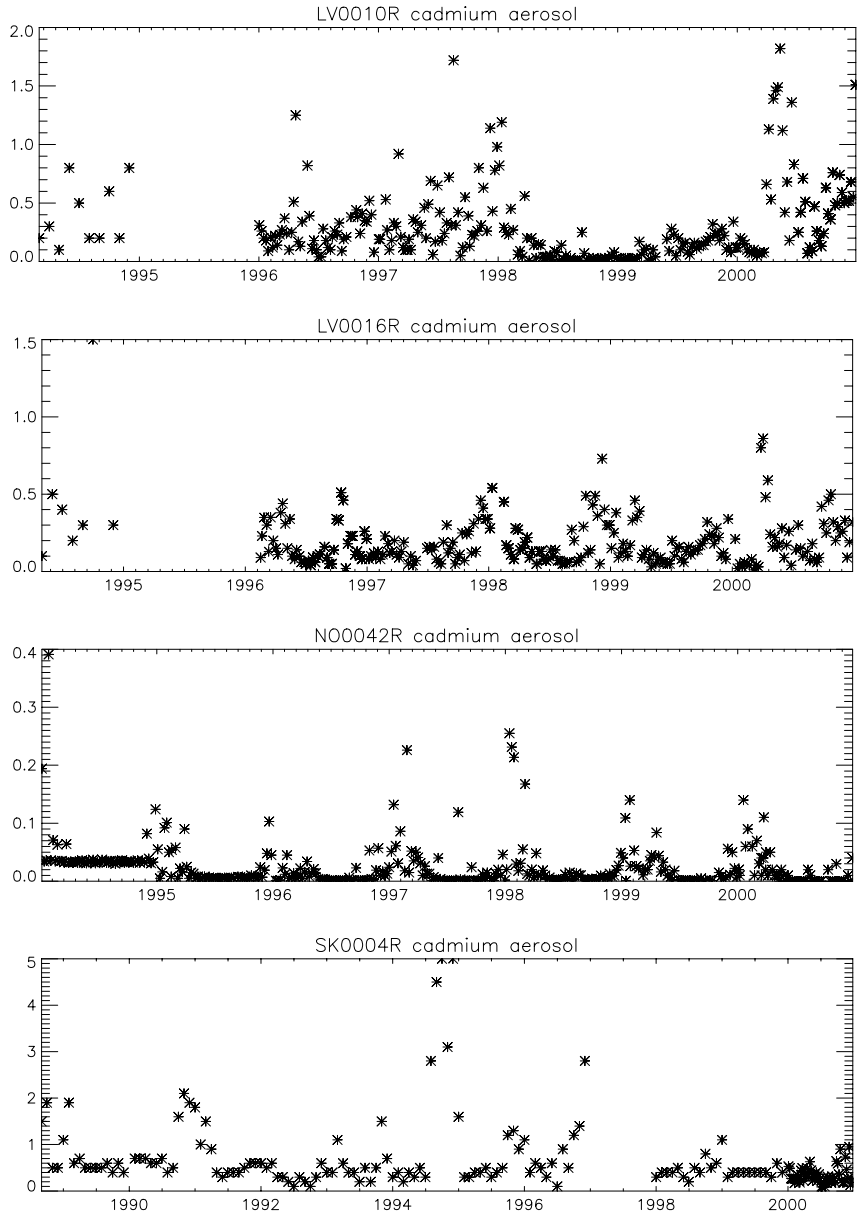

Figure 10, cont.

3.3 Concentrations of HCHs

Figure 11 and Figure 12 show temporal trends for α-HCH and γ-HCH in air at 7 stations. The concentration level of α-HCH at both the Norwegian, the Icelandic, the Finish and one of the Swedish (SE2) stations are decreasing. The relatively high concentrations measured at the Scandinavian stations are probably due to higher input of technical HCH at high latitudes. Almost 80% of the remaining use of α-HCH in Europe in 1996 were assigned to the new states of the former Soviet Union (422 t of technical HCH) (Breivik et al., 1999). The other 20% were attributed to usage in some former eastern European countries (Breivik et al., 1999). Iceland is influenced by westerly airmasses which explain the lower concentrations seen at IS0091R.

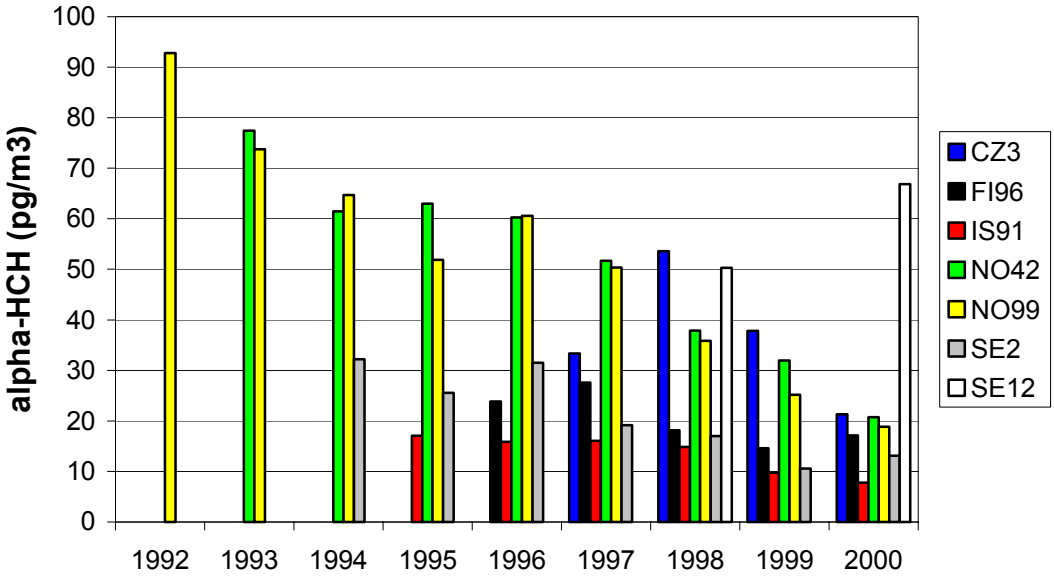

Figure 11: Annual weighted means for alpha-HCH during 1992-2000.

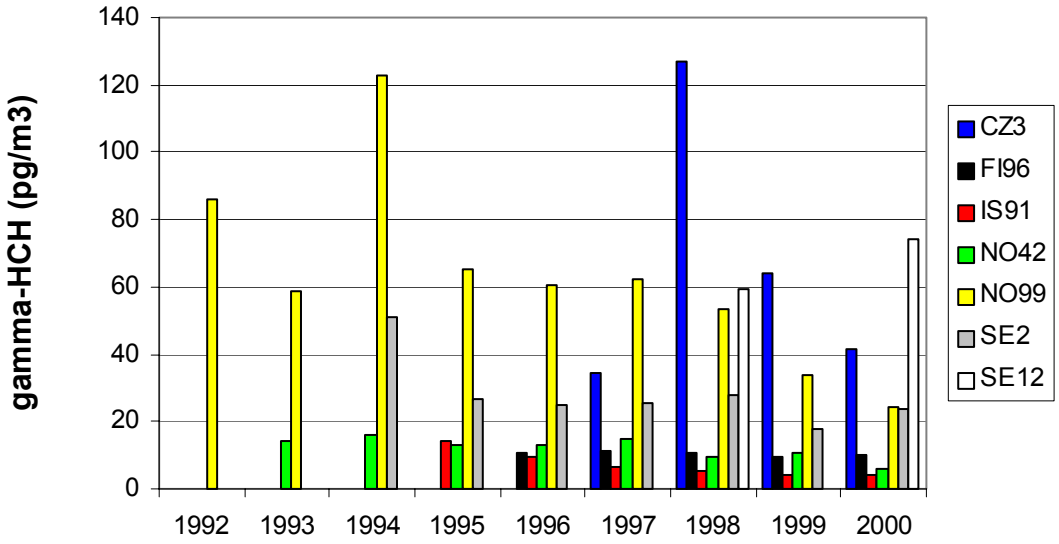

Figure 12: Annual weighted means for gamma-HCH during 1992-2000.

The concentration level of γ-HCH at the Norwegian and the Icelandic stations are decreasing. For the other stations no clear trends can be noticed for the relatively short period of monitoring. The relatively high concentrations seen at NO99 and the Swedish stations may be due to long range transport from southern parts of Europe. According to Centre International d'Etudes du Lindane (CIEL, 1998), the average annual lindane consumption in Europe was 2130 t during the period from 1992 to 1997. France was the major user of lindane in Europe during this period, with an annual average consumption of 1600 t (CIEL, 1998).

3.4 Concentrations of benzo(a)pyrene

Benzo(a)pyrene (also other PAHs) is rapidly destroyed by UV. In the absence of local sources, therefore, a pronounced seasonal trend is to be expected, which is seen at several stations (Figure 13). The emission sources, however, also have seasonal variations, with lowest emissions during the summer.

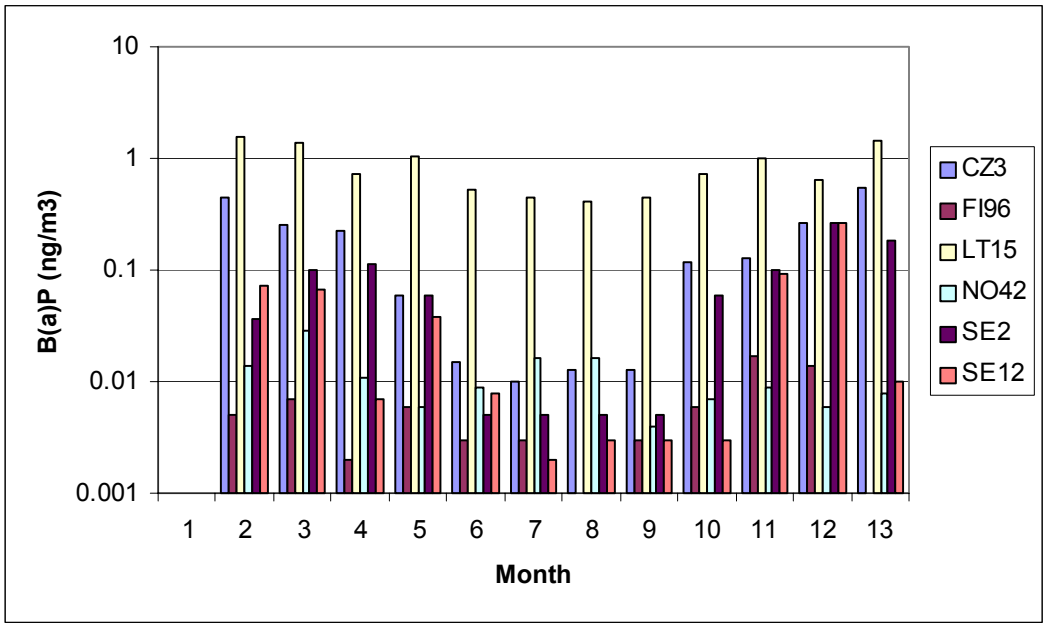

Figure 13: Concentrations of benzo(a)pyrene in air+aerosol at EMEP-stations, 2000.

3.5 Annual summaries

Annual summaries of heavy metals in precipitation and air are given in Annex 1 and Annex 2, respectively. Annual summaries for POP data are seen in Annex 3 and Annex 4. The precipitation component summaries contain:

- the precipitation weighted arithmetic mean value,
- the minimum and maximum daily concentrations,
- the number of data below the detection limit,
- the number of samples for a specified component
- a flag which gives information about the quality of the data,
- and a sampling flag which gives information about the sampling procedures.

The wet depositions have been obtained by multiplying the weighted mean concentration by the total amount of precipitation in the period. The concentrations for days with missing precipitation data have consequently been assumed to be equal to the weighted average of the period.

For air components the arithmetic mean and the geometric mean have been computed together with their standard deviations. The definitions are given on the

next three pages. The geometric standard deviation is a dimensionless factor. As a measure of the completeness of the dataset, the number of samples analysed in the period has been printed.

In the computations of mean values and other statistics, the concentrations below the detection limit have been set equal to one half of the actual limit. An overview of the statistics and definitions is given below.

W.mean — $\hat{c}$ is the precipitation weighted arithmetic mean concentration used for precipitation components:

$$\hat{c} = \frac{1}{\sum_i p_i} \cdot \sum_i c_i \cdot p_i$$

where p_i is precipitation amount day i with the measured concentration c_i of a specific component.

Arit mean — $\overline{c_a}$ is the arithmetic mean value used for air components only, and N is number of days with data:

$$\overline{c_a} = \frac{1}{N} \sum_i c_i$$

Arit sd — sd_a is the arithmetic standard deviation from the arithmetic mean value. It is computed for air components only:

$$sd_a = \left(\frac{\sum_i \left(c_i - \overline{c_a} \right)^2}{N - 1} \right)^{\frac{1}{2}}$$

Geom mean — $\overline{c_g}$ is the geometric mean value used for air components only, and it is computed from the arithmetic mean of ln c:

$$\overline{lnc} = \frac{1}{N} \cdot \sum_i lnc_i$$

$$\overline{c_g} = exp\left(\overline{lnc}\right)$$

Geom sd — sd_g is the geometric standard deviation from the geometric mean value. It is computed for air components only, and it is based on the standard deviation of ln c:

$$sdlnc = \left(\frac{\sum_i \left(lnc_i - \overline{lnc} \right)^2}{N - 1} \right)^{\frac{1}{2}}$$

$$sd_g = exp\left(sdlnc\right)$$

Min is the minimum value reported for a specific component, and it is printed both for precipitation and air components.

50% is the 50 percentile, defined as above and computed for air data only.

Max is the maximum value reported for a specific component, and it is given for precipitation and air components.

Dep is the wet deposition of a specific precipitation component. The deposition is the product of the total precipitation amount measured and the weighted arithmetic mean of a component measured at a site.

Num bel is the number of data below the detection limit (not used for precipitation amount).

Num samples is the number of samples for a specific component.

Samp flag is a two-character code which gives information on the resolution of the reported data. Usually the resolution reported is the same as the sampling period, but not always. The code used in this report is:

H: hourly
D: daily
D1: one-day each week
D2: two-days each week
W: weekly
WC: weekly with change the first day each month
W1: one-week each month
W2: two weekly
W4: four-weekly
M: monthly
Y: yearly

QA: is a flag which gives information on the quality of the data

The units used for the results in this report are given in Table 7.

Table 7: Units used for the measured components.

Components	Units for W. mean, Min Max	Units for depositions
Amount precipitation	mm	mm
Heavy metals in precipitation	µg/l	µg /m^2
Mercury in precipitation	ng/l	ng//m^2
Heavy metals in air	ng/m^3	
Mercury in air	ng/m^3	
POPs in precipitation	ng/l	ng/m^2
PAHs in air	ng/m^3	
Pesticides, HCB and PCBs in air	pg/m^3	

3.6 Monthly summaries

Monthly averages of heavy metals are given in Annexes 5-8. The monthly mean values of precipitation data are precipitation weighted arithmetic averages. Average air concentrations are arithmetic averages of the reported values.

Data which do not have monthly resolution, but have parts of the sample in one month and parts in the following have estimated monthly means. The precipitation data have been treated like this: If e.g. a weekly sample has 5 days in one month and 2 days in the next, 5/7 parts of the precipitation will be assigned to the first month and 2/7 parts to the next month, while the concentrations are assumed to be equal. The precipitation weighted monthly averages are then calculated as the estimated monthly deposition divided by the monthly precipitation amount.

For air samples starting and ending in different months weighted averages are calculated in a similar way. All values are multiplied with the number of days within a given month. The average is obtained by dividing the sum of these values with the number of days with measurements in that month.

3.7 Update

The data compiled in this report represent the best data available at present. If any further errors are detected, the data will be corrected in the database. It is important that the users make certain that they have access to the most recent version of the database. For the data presented here the latest alteration is 15 August 2001. Scientific use of the EMEP data should be based on fresh copies of the data. Copies can be requested from the CCC (e-mail: torunn.berg@nilu.no). Information about the EMEP measurement network can be found at CCC's internet pages at http://www.nilu.no/projects/ccc/index.html.

4. Conclusions and recommendations

The lowest concentrations of Pb and Cd are generally observed in northern Scandinavia, Greenland, Iceland, and the westernmost part of Europe. Increasing gradients can be seen south and eastward. Several countries in Europe have reduced their emissions of Cd which can be seen in the decreasing level in the Cd

concentrations at several stations. However, no clear trends can be noticed for other stations.

The concentration level of α-HCH at both the Norwegian, the Icelandic, the Finish and one of the Swedish (SE2) stations are decreasing. The concentration level of γ-HCH at the Norwegian and the Icelandic stations are decreasing. For the other stations no clear trends can be noticed for the relatively short period of monitoring.

There is a general need for more measurement sites with high quality data. Few stations in central parts of Europe, the Mediterranean region and the most eastern part of Europe have reported data for heavy metals in precipitation. The site density is also low for heavy metals in air in Scandinavia, the Mediterranean region and eastern Europe. Data for POPs have been reported only from countries around the North and Baltic Seas, in the Arctic and from the Czech Republic.

It is important that all the countries deliver data on schedule every year so they can be included in the data report. Data delivered after the deadline will be included in the database only, which reduce the availability of the data. CCC will still appreciate receiving old data for the database. These data will be quality checked and transferred to the database in the same way as newer data. It is important that the participants give information on sampling, analytical methods and quality control.

5. Acknowledgements

A large number of anonymous co-workers in participating countries have been involved in this work. A list of participating institutes, which have provided data for 2000, can be seen below. The staff at CCC wishes to express their gratitude and appreciation for continued good co-operation and efforts.

Belgium	Flemish Environmental Agency
Czech Republic	Czech Hydrometeorological Institute
Denmark	National Environmental Research Institute
Estonia	Estonian Environmental Research Centre
Finland	Finnish Meteorological Institute
France	
Germany	Umweltbundesamt
Iceland	The Icelandic Meteorological Office
Ireland	Environmental Protection Agency (EPA)
Latvia	Latvian Hydrometeorological Agency
Lithuania	Institute of Physics
Netherlands	National Institute for Public Health and Environmental Protection (RIVM)
Norway	Norwegian Institute for Air Research (NILU)
Portugal	Ministerio do Ambiente, Instituto de Meteorologia
Slovakia	SHMU
Sweden	Swedish Water and Air Pollution Research Institute (IVL)
United Kingdom	AEA Technology

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Annex 1

Annual statistics for heavy metals in precipitation

BE0004R Knokke Belgium
(Wet-only)

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	1.44	1.30	2.50	13	14		M
Cd	0.76	0.70	1.40	13	14		M
Cr	6.02	0.80	49.00	2	14		M
Cu	4.22	1.50	9.40	0	14		M
Hg	0.03	0.01	0.05	3	14	1	M
Ni	4.25	0.70	33.00	1	14		M
Pb	28.15	6.00	93.00	0	14	2,3,4	M
Precip	-	28.6	98.1	0	14		M
Zn	22.70	5.10	90.00	0	14		M

BE0004R Knokke Belgium
(Bulk)

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.56	0.24	1.56	9	11		M
Cd	0.26	0.05	1.13	3	11		M
Cu	4.38	2.00	8.51	7	12		M
Pb	5.96	0.69	32.40	1	12		M
Precip	-	55.7	177.8	0	12		M
Zn	143.21	2.15	850.10	3	12		M

CZ0001R Svratouch Czech Republic

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.17	0.05	0.68	0	44		W
Ni	2.02	0.40	39.00	0	34		W
Pb	3.59	0.40	9.00	0	45		W
Precip	-	0.0	58.6	3	52		W

CZ0003R Kosetice Czech Republic

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.18	0.06	1.01	0	45		W
Pb	3.46	0.40	18.50	0	46		W
Ni	3.13	0.40	34.40	0	42		W
Precip	-	0.0	39.8	3	51		W

DE0001R Westerland Germany

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.15	0.05	0.36	0	45		W
Cd	0.07	0.02	0.21	0	45		W
Cr	0.18	0.05	0.52	0	45		W
Cu	0.09	0.02	5.80	0	45		W
Fe	24.09	6.70	127.90	0	45		W
Hg	9.59	0.80	51.70	0	47		W
Mn	1.92	0.48	15.74	0	45		W
Ni	0.75	0.30	1.93	0	45		W
Pb	1.09	0.19	3.67	0	45		W
Precip	-	0.0	58.1	8	53		W
Precip (Hg)	-	0.0	58.1	8	53		W
V	0.50	0.22	1.43	0	45		W
Zn	24.65	7.50	90.50	0	45		W

DE0004R Deuselbach Germany

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.08	0.02	0.44	0	50		W
Cd	0.06	0.01	0.29	0	50		W
Co	0.05	0.01	0.40	0	50		W
Cu	4.06	0.50	15.30	0	47		W
Fe	58.47	5.00	440.00	0	50		W
Mn	4.47	0.86	38.10	0	50		W
Ni	0.69	0.11	7.99	0	50		W
Pb	1.78	0.48	9.11	0	50		W
Precip	-	0.0	61.8	1	53		W
V	0.39	0.11	3.11	0	50		W
Zn	20.17	5.00	93.00	0	50		W

DE0009R Zingst Germany

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.14	0.03	0.66	0	47		W
Cd	0.05	0.00	0.25	0	47		W
Co	0.12	0.01	1.63	0	47		W
Cr	0.18	0.04	0.99	0	47		W
Cu	3.92	0.80	13.90	0	47		W
Fe	37.30	7.70	296.30	0	47		W
Hg	15.22	4.40	64.80	0	47		W
Mn	3.19	0.50	19.44	0	47		W
Ni	0.68	0.18	3.65	0	46		W
Pb	0.95	0.04	5.96	0	47		W
Precip	-	0.0	65.4	5	53		W
V	0.55	0.15	1.99	0	47		W
Zn	13.22	6.13	39.60	0	47		W

DK0008R Anholt Denmark

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.32	0.19	0.77	0	12		M
Cd	0.06	0.03	0.11	0	12		M
Cr	0.27	0.10	0.81	0	12		M
Cu	1.35	0.56	4.89	0	12		M
Ni	0.33	0.06	1.70	0	12		M
Pb	2.33	0.95	8.37	0	12		M
Precip	-	22.7	87.4	0	12		M
Zn	11.47	7.25	55.61	0	12		M

DK0020R

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.24	0.14	0.41	0	11		M
Cd	0.11	0.04	0.32	0	11		M
Cr	0.26	0.10	0.77	0	11		M
Cu	2.06	0.61	6.73	0	11		M
Ni	0.34	0.11	1.60	0	11		M
Pb	2.53	1.27	6.11	0	11		M
Precip	-	26.4	78.5	0	11		M
Zn	18.86	8.48	35.37	0	11		M

DK0031R Ulborg Denmark

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.14	0.04	0.23	0	10		M
Cd	0.04	0.03	0.09	0	10		M
Cr	0.10	0.07	0.18	0	10		M
Cu	0.53	0.25	1.15	0	10		M
Ni	0.20	0.07	0.57	0	10		M
Pb	0.86	0.57	1.93	0	10		M
Precip	-	45.2	142.2	0	10		M
Zn	7.93	4.29	13.97	0	10		M

EE0009R Lahemaa Estonia

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.32	0.10	0.60	4	12		M
Cd	0.07	0.03	0.20	0	12		M
Cu	7.33	5.00	30.00	9	12		M
Pb	1.28	0.50	7.20	8	12		M
Precip	-	13.7	106.3	0	12		M
Zn	36.76	5.00	130.00	1	7		M

EE0011R Vilsandi Estonia

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.45	0.10	1.20	4	9		M
Cd	0.06	0.03	0.14	0	9		M
Cu	14.21	0.50	80.40	1	9		M
Pb	0.83	0.50	1.70	4	9		M
Precip	-	8.4	96.0	0	12		M
Zn	9.23	5.00	30.00	5	9		M

FI0008R

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.12	0.03	0.49	0	12		M
Cd	0.02	0.01	0.11	0	12		M
Cr	0.11	0.01	0.41	2	12		M
Cu	1.02	0.17	4.59	0	12		M
Fe	11.95	0.75	39.31	1	12		M
Mn	0.81	0.08	4.86	0	12		M
Ni	0.26	0.08	0.79	0	12		M
Pb	0.46	0.15	3.60	0	12		M
Precip	-	5.4	51.5	0	12		M
V	0.13	0.04	0.92	0	12		M
Zn	1.39	0.23	9.62	0	12		M

FI0009R Uto Finland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.35	0.14	2.50	0	11		M
Cd	0.10	0.03	0.53	0	11		M
Cr	0.25	0.11	2.77	0	11		M
Cu	1.95	0.88	9.49	0	11		M
Mn	3.44	1.17	9.32	0	11		M
Ni	0.45	0.18	2.75	0	11		M
Pb	3.01	0.64	10.17	0	11		M
Precip	-	0.6	88.2	0	12		M
Zn	6.93	1.79	25.69	0	11		M

FI0017R Virolahti II Finland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.28	0.06	1.10	0	12		M
Cd	0.10	0.03	0.21	0	12		M
Cu	0.97	0.63	3.52	0	12		M
Fe	38.60	11.08	117.37	0	12		M
Mn	2.86	0.78	7.74	0	12		M
Ni	0.35	0.13	1.00	0	12		M
Pb	2.87	0.42	5.35	0	12		M
Precip	-	9.0	82.3	0	12		M
V	0.73	0.20	2.22	0	12		M
Zn	5.88	2.09	16.68	0	12		M

FI0022R Oulanka Finland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.12	0.03	0.39	0	12		M
Cd	0.03	0.00	0.09	0	12		M
Cr	0.11	0.01	0.44	1	12		M
Cu	0.71	0.30	2.00	0	12		M
Fe	12.27	0.75	29.35	1	12		M
Mn	1.52	0.11	4.36	0	12		M
Ni	0.13	0.06	0.37	0	12		M
Pb	0.64	0.10	2.75	0	12		M
Precip	-	18.5	62.2	0	12		M
V	0.22	0.08	0.70	0	12		M
Zn	1.86	0.71	4.90	0	12		M

FI0053R Hailuoto Finland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.14	0.04	0.34	0	12		M
Cd	0.05	0.01	0.14	0	12		M
Cr	0.12	0.01	0.39	1	12		M
Cu	0.98	0.36	2.02	0	12		M
Fe	32.17	9.66	201.23	0	12		M
Mn	2.76	0.60	11.00	0	12		M
Ni	0.23	0.08	0.54	0	12		M
Pb	1.50	0.33	4.69	0	12		M
Precip	-	12.4	89.3	0	12		M
V	0.61	0.24	2.77	0	12		M
Zn	4.12	1.80	8.04	0	12		M

FI0092R Hietajarvi Finland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.10	0.03	0.65	0	12		M
Cd	0.04	0.01	0.26	0	12		M
Cr	0.14	0.01	0.49	2	12		M
Cu	0.67	0.23	3.02	0	12		M
Fe	11.92	1.54	115.78	0	12		M
Mn	1.54	0.23	11.52	0	12		M
Ni	0.16	0.05	0.88	0	12		M
Pb	0.96	0.19	8.98	0	12		M
Precip	-	15.3	86.0	0	12		M
V	0.28	0.13	1.53	0	12		M
Zn	2.61	0.86	16.44	0	12		M

FI0093R Kotinen Finland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.11	0.05	0.61	0	12		M
Cd	0.05	0.01	0.23	0	12		M
Cr	0.06	0.01	0.27	2	12		M
Cu	0.65	0.37	3.63	0	12		M
Fe	11.70	5.33	84.65	0	12		M
Mn	3.00	0.52	19.36	0	12		M
Ni	0.17	0.10	0.86	0	12		M
Pb	1.15	0.33	7.82	0	12		M
Precip	-	8.6	143.8	0	12		M
V	0.33	0.21	1.62	0	12		M
Zn	3.23	1.91	17.65	0	12		M

FI0096R Pallas Finland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.12	0.01	0.31	0	12		M
Cd	0.02	0.00	0.11	0	12		M
Cr	0.09	0.01	0.27	3	12		M
Cu	0.70	0.36	1.80	0	12		M
Fe	7.59	0.75	17.89	1	12		M
Mn	1.40	0.14	5.33	0	12		M
Ni	0.17	0.07	0.33	0	12		M
Pb	0.65	0.14	2.72	0	12		M
Precip	-	10.4	92.1	0	12		M
V	0.19	0.07	0.61	0	12		M
Zn	1.74	0.77	4.97	0	12		M

FR0090R Porspoder France

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.04	0.01	0.11	0	12		M
Cd	0.02	0.01	0.05	0	12		M
Cr	0.18	0.02	0.38	0	12		M
Cu	0.85	0.36	3.17	0	12		M
Ni	0.71	0.26	4.57	0	12		M
Pb	1.81	1.06	4.85	0	12		M
Precip	-	24.2	227.7	0	12		M
Zn	2.26	0.86	7.75	0	12		M

GB0014R High Muffles United Kingdom

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.14	0.10	0.27	0	12		M
Cd	0.05	0.03	0.17	0	12	11LH	M
Cr	0.15	0.05	0.49	0	11		M
Cu	0.82	0.22	3.04	0	11		M
Ni	0.23	0.11	0.96	0	11		M
Pb	2.11	1.12	6.60	0	11	11LH	M
Precip	-	18.7	200.5	0	12		M
Zn	9.61	4.80	17.22	0	12		M

GB0090R East Ruston United Kingdom

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.31	0.07	1.99	0	12		M
Cd	0.09	0.02	0.41	0	12	11LH	M
Cr	0.22	0.06	0.51	0	11		M
Cu	1.85	0.50	7.54	0	12		M
Ni	0.37	0.09	0.97	0	12		M
Pb	1.66	0.60	4.00	0	13	11LH	M
Precip	-	23.5	96.8	0	13		M
Zn	26.29	5.60	92.40	0	13		M

GB0091R Banchory United Kingdom

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.07	0.03	0.12	0	12		M
Cd	0.04	0.02	0.19	0	12	11LH	M
Cr	0.25	0.02	0.66	0	12		M
Cu	1.06	0.22	5.85	0	11		M
Ni	0.28	0.06	0.66	0	11		M
Pb	0.90	0.40	1.69	0	12	11LH	M
Precip	-	23.0	185.2	0	12		M
Zn	9.34	4.30	15.60	0	11		M

IE0001R Valentia Obs. Ireland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Al	27.20	10.00	197.00	9	12	NP	M
As	0.41	0.25	0.50	12	12	NP	M
Cd	0.04	0.03	0.07	11	12	NP	M
Cr	0.41	0.25	0.50	12	12	NP	M
Cu	2.32	0.25	12.10	7	12	NP	M
Mn	3.09	0.50	9.00	1	12	NP	M
Ni	0.41	0.25	0.50	12	12	NP	M
Pb	0.50	0.25	1.00	10	12	NP	M
Precip	-	42.5	308.9	0	12	NP	M
V	0.42	0.25	0.60	11	12	NP	M
Zn	32.59	16.00	54.10	0	12	NP	M

IE0002R Turlough Hill Ireland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Al	37.37	10.00	466.20	7	11	NP	M
As	0.40	0.25	0.50	11	11	NP	M
Cd	0.08	0.03	0.11	5	11	NP	M
Cr	0.48	0.25	2.00	9	11	NP	M
Cu	7.19	0.25	25.30	3	11	NP	M
Mn	5.68	0.80	15.30	0	11	NP	M
Ni	0.47	0.25	1.50	9	11	NP	M
Pb	0.63	0.25	2.80	7	11	NP	M
Precip	-	42.3	390.0	0	12	NP	M
V	0.47	0.25	1.60	9	11	NP	M
Zn	10.06	0.25	26.30	1	11	NP	M

IS0002R Irafoss Iceland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Al	120.11	5.00	3033.00	1	47		W
As	0.03	0.03	0.09	43	47		W
Cd	0.02	0.01	0.72	16	47		W
Cr	0.26	0.05	40.20	26	47		W
Cu	1.04	0.27	11.39	0	47		W
Fe	156.99	5.00	2561.00	5	47		W
Mn	2.51	0.10	51.40	0	47		W
Ni	0.38	0.05	32.08	10	47		W
Pb	0.56	0.10	4.67	0	47		W
Precip	-	0.0	93.3	2	59		W
V	0.49	0.00	5.38	4	48		W
Zn	17.05	2.40	96.90	0	47		W

IS0090R Reykjavik Iceland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Al	207.85	16.70	3323.00	0	51		W
As	0.04	0.03	0.26	34	51		W
Cd	0.01	0.01	0.08	31	51		W
Cr	0.18	0.05	2.30	26	51		W
Cu	1.58	0.39	10.35	0	51		W
Fe	200.24	5.00	2642.00	2	51		W
Mn	3.63	0.30	44.80	0	51		W
Ni	0.67	0.05	7.97	2	51		W
Pb	0.61	0.20	3.06	0	51		W
Precip	-	0.0	58.6	3	58		W
V	0.59	0.05	5.91	1	51		W
Zn	4.28	0.80	43.40	0	51		W

LT0015R Preila Lithuania

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.25	0.03	4.88	0	48		WC
Cu	1.70	0.15	14.60	0	48		WC
Pb	13.24	0.90	327.00	0	48		WC
Precip	-	0.0	31.6	4	52		WC
Zn	14.17	5.00	149.00	0	48		WC

LV0010R Rucava Latvia

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.10	0.01	0.32	0	10		M
Cu	1.10	0.10	5.60	0	10		M
Pb	1.56	0.20	5.30	0	10		M
Precip	-	9.2	94.1	0	10		M
Zn	19.48	8.50	68.30	0	10		M

LV0016R Zoseni Latvia

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.05	0.01	0.17	0	10		M
Cu	1.37	0.20	5.80	0	10		M
Pb	1.05	0.10	3.10	1	10		M
Precip	-	16.3	90.3	0	10		M
Zn	14.12	3.60	36.70	0	10		M

NL0009R Kollumerwaard Netherlands

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.25	0.07	0.91	3	11		W4
Cd	0.09	0.06	0.15	0	11		W4
Cr	0.27	0.26	0.54	10	11		W4
Cu	1.94	0.88	6.04	0	11		W4
Ni	0.31	0.20	0.69	6	11		W4
Pb	2.19	1.07	4.79	0	11		W4
Precip	-	23.9	95.2	0	11		W4
Zn	7.77	4.60	15.80	0	11		W4

NL0091R

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.09	0.07	0.33	8	12		W4
Cd	0.06	0.02	0.24	1	12		W4
Cr	0.26	0.26	0.26	12	12		W4
Cu	1.73	0.95	7.96	0	12		W4
Hg	9.87	4.00	49.00	0	46		W4
Ni	0.25	0.20	1.02	8	12		W4
Pb	3.11	2.05	7.82	0	12		W4
Precip	-	18.4	211.4	1	52		W4
Precip (Hg)	-	0.0	43.2	1	52		W4
Zn	5.83	1.95	17.90	1	12		W4

NO0001R Birkenes Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.03	0.01	0.18	10	56		WC
Pb	1.39	0.15	6.66	0	56		WC
Precip	-	0.1	191.7	0	63		WC
Zn	3.23	0.52	48.21	0	56		WC

NO0039R Kaarvatn Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.01	0.00	0.17	16	51		WC
Pb	0.18	0.03	1.20	0	51		WC
Precip	-	0.0	88.5	3	63		WC
Zn	0.97	0.10	16.66	2	51		WC

NO0041R Osen Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.05	0.00	0.35	8	54		WC
Pb	1.37	0.14	12.43	0	54		WC
Precip	-	0.0	89.7	2	62		WC
Zn	5.53	0.45	47.60	0	54		WC

NO0047R Svanvik Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	1.85	0.05	22.91	4	55		WC
Cd	0.12	0.02	1.92	0	55		WC
Cr	0.25	0.10	5.16	23	55		WC
Co	0.53	0.00	7.10	3	55		WC
Cu	20.33	0.54	277.10	0	55		WC
Pb	1.99	0.19	38.02	0	55		WC
Ni	17.81	0.10	205.50	1	55		WC
Precip	-	0.0	33.2	2	62		WC
Zn	5.43	1.19	174.60	0	55		WC

NO0055R Karasjok Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.02	0.00	0.13	11	48		WC
Pb	0.56	0.09	6.20	0	48		WC
Precip	-	0.0	32.4	2	63		WC
Zn	11.64	0.46	78.82	0	48		WC

NO0056R Hurdal Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.04	0.00	0.20	4	58		WC
Pb	1.13	0.18	10.15	0	58		WC
Precip	-	0.0	93.1	2	63		WC
Zn	4.19	0.61	33.23	0	58		WC

NO0092R Øverbygd Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.07	0.05	0.50	36	46		WC
Cd	0.02	0.00	0.12	5	47		WC
Cr	0.12	0.10	0.61	40	46		WC
Co	0.01	0.00	0.31	28	47		WC
Cu	0.38	0.05	3.40	3	47		WC
Fe	6.7	5.0	69.3	37	46		WC
Pb	0.37	0.09	4.50	0	46		WC
Mn	0.94	0.25	10.45	16	46		WC
Ni	0.21	0.10	4.53	30	47		WC
Precip	-	0.0	67.8	15	62		WC
V	0.07	0.05	0.46	30	46		WC
Zn	1.92	0.45	11.96	0	47		WC

NO0093R Valdalen Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.08	0.05	0.53	42	53		WC
Cd	0.03	0.00	0.15	19	54		WC
Cr	0.15	0.10	1.11	40	53		WC
Co	0.02	0.00	0.07	21	54		WC
Cu	0.47	0.05	2.11	4	53		WC
Fe	17.3	5.0	212.1	32	53		WC
Pb	1.01	0.06	5.64	0	54		WC
Mn	3.21	0.25	60.08	7	54		WC
Ni	0.15	0.10	0.75	34	53		WC
Precip	-	0.0	64.9	2	63		WC
V	0.15	0.05	0.46	22	54		WC
Zn	4.22	0.54	21.14	0	53		WC

NO0094R Moesvatn Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.07	0.05	0.40	38	48		WC
Cd	0.04	0.00	0.19	10	48		WC
Cr	0.12	0.10	0.48	42	48		WC
Co	0.01	0.00	0.16	30	48		WC
Cu	1.72	0.05	10.72	2	48		WC
Fe	9.5	5.0	80.9	33	48		WC
Pb	1.02	0.05	5.78	0	48		WC
Mn	0.86	0.25	13.84	26	48		WC
Ni	0.29	0.10	2.69	31	48		WC
Precip	-	0.0	92.1	1	52		WC
V	0.14	0.05	0.60	19	48		WC
Zn	6.17	0.24	41.48	0	48		WC

NO0095R Ualand Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.09	0.05	0.26	33	56		WC
Cd	0.02	0.00	0.11	12	56		WC
Cr	0.11	0.10	0.22	54	56		WC
Co	0.01	0.00	0.08	38	58		WC
Cu	0.23	0.05	4.28	8	56		WC
Fe	7.4	5.0	89.7	51	58		WC
Pb	0.71	0.13	5.86	0	57		WC
Mn	0.48	0.25	7.79	33	58		WC
Ni	0.16	0.10	0.66	42	57		WC
Precip	-	0.0	167.5	4	63		WC
V	0.47	0.05	2.52	3	58		WC
Zn	1.47	0.18	21.97	0	57		WC

NO0099R Lista Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.28	0.05	2.06	2	55		WC
Cd	0.04	0.01	0.24	4	55		WC
Co	0.03	0.01	0.33	4	55		WC
Cr	0.16	0.10	2.12	32	55		WC
Cu	1.13	0.38	15.37	0	55		WC
Hg	7.32	3.20	20.20	0	11		M
Ni	0.34	0.10	10.43	14	55		WC
Pb	1.57	0.25	6.27	0	55		WC
Precip	-	27.4	402.4	2	62		WC
V	1.51	0.31	8.75	0	55		WC
Zn	6.57	1.63	56.64	0	55		WC

PT0001R Braganca Portugal

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.42	0.42	0.42	53	53	NP	D
Cu	1.15	0.33	4.94	27	53	NP	D
Mn	2.35	1.07	21.58	38	53	NP	D
Ni	0.78	0.78	0.78	53	53	NP	D
Pb	0.99	0.65	10.39	48	53	NP	D
Precip off	-	0.00	77.90	228	366	NP	D
Zn	85.94	2.00	1112.00	0	53	NP	D

PT0003R V. Do Castelo Portugal

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.43	0.42	1.28	98	99	NP	D
Cu	1.35	0.20	16.68	31	99	NP	D
Mn	1.88	0.65	36.48	71	99	NP	D
Ni	0.78	0.78	1.44	98	99	NP	D
Pb	0.82	0.65	5.83	92	99	NP	D
Precip off	-	0.00	63.30	184	366	NP	D
Zn	11.39	2.00	96.00	0	99	NP	D

PT0004R Monte Velho Portugal

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.42	0.42	0.42	31	31	NP	D
Cu	0.52	0.33	5.21	21	31	NP	D
Mn	2.22	1.07	58.12	22	31	NP	D
Ni	0.78	0.78	0.78	31	31	NP	D
Pb	0.67	0.65	1.68	29	31	NP	D
Precip off	-	0.00	57.80	311	366	NP	D
Zn	8.63	2.00	75.00	0	31	NP	D

PT0010R

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Cd	0.42	0.42	0.42	38	38	NP	D
Cu	1.33	0.33	4.28	4	38	NP	D
Mn	4.17	1.07	26.70	12	38	NP	D
Ni	0.78	0.78	0.78	38	38	NP	D
Pb	1.67	0.65	16.50	17	38	NP	D
Precip off	-	0.00	139.90	4	52	NP	D
Zn	36.48	3.00	282.00	0	38	NP	D

SE0002R Rorvik Sweden

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Hg	8.76	5.80	12.60	0	12		M
Precip	-	26.9	106.0	0	12		M

SE0005R Bredkalen Sweden

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.05	0.05	0.10	13	13		M
Cd	0.04	0.01	0.11	3	12		M
Co	0.01	0.00	0.04	4	13		M
Cr	0.07	0.01	0.39	9	13		M
Cu	1.23	0.27	3.72	0	12		M
Hg	5.52	3.10	15.30	0	12		M
Mn	1.77	0.30	6.10	0	11		M
Ni	0.17	0.07	0.45	0	13		M
Pb	0.71	0.23	2.32	0	13		M
Precip	-	12.0	123.0	0	13		M
V	0.14	0.05	0.28	0	13		M
Zn	7.69	2.15	25.88	0	11		M

SE0011R Vavihill Sweden

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Hg	12.52	8.70	28.80	0	12		
Precip	-	36.1	139.5	0	12		

SE0012R Aspvreten Sweden

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.22	0.13	0.34	0	4		M
Cd	0.11	0.06	0.17	0	4		M
Co	0.05	0.03	0.07	0	4		M
Cr	0.44	0.15	0.81	0	4		M
Cu	2.72	1.39	5.72	0	4		M
Mn	6.09	2.30	10.80	0	4		M
Ni	0.47	0.35	0.72	0	4		M
Pb	3.52	2.05	6.16	0	4		M
Precip	-	15.0	23.0	0	4		M
V	0.62	0.46	0.79	0	4		M
Zn	17.22	12.32	25.61	0	4		M

SE0051R Arup Sweden

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.13	0.05	0.27	3	12		M
Cd	0.05	0.02	0.12	0	12		M
Co	0.02	0.00	0.08	2	12		M
Cr	0.07	0.05	0.19	9	12		M
Cu	1.53	0.43	4.99	0	12		M
Mn	2.77	1.30	11.50	0	12		M
Ni	0.24	0.12	0.53	0	12		M
Pb	2.00	0.79	3.61	0	12		M
Precip	-	24.0	111.0	0	12		M
V	0.50	0.20	0.93	0	12		M
Zn	16.42	4.57	49.72	0	12		M

SE0097R Gårdsjon Sweden

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
As	0.10	0.05	0.20	7	13		M
Cd	0.05	0.01	0.10	0	13		M
Cr	0.08	0.05	0.58	9	13		M
Ni	0.25	0.12	0.60	0	13		M
Pb	1.58	0.76	3.11	0	13		M
Precip	-	25.0	193.0	0	13		M
Zn	12.94	2.94	56.44	0	13		M

SK0002R Chopok Slovakia

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Al	22.75	12.00	40.00	0	12		M
Cd	0.94	0.20	3.00	0	12		M
Fe	36.27	7.00	166.00	3	9		M
Mn	4.85	2.30	11.50	0	12		M
Pb	4.43	2.00	7.00	0	12		M
Precip	-	37.5	189.3	0	12		M
Zn	64.90	12.00	181.00	0	12		M

SK0004R Stara Lesna Slovakia

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Al	24.83	13.00	138.00	0	12		M
Cd	0.32	0.10	2.60	0	12		M
Fe	20.06	11.00	75.00	4	8		M
Mn	3.99	1.20	13.00	0	12		M
Pb	2.24	1.00	10.00	0	12		M
Precip	-	8.5	136.0	0	12		M
Zn	7.02	1.00	29.00	2	10		M

SK0005R Liesek Slovakia

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Al	20.02	6.00	56.00	0	12		M
Cd	0.13	0.10	0.40	0	12		M
Fe	15.07	6.00	48.00	4	8		M
Mn	4.93	3.10	7.30	0	12		M
Pb	1.96	1.00	5.00	0	12		M
Precip	-	27.3	207.2	0	12		M
Zn	9.04	5.00	29.00	0	12		M

SK0006R Starina Slovakia

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Al	29.45	14.00	59.00	0	12		M
Cd	0.17	0.10	0.30	1	11		M
Fe	7.00	1.00	13.00	4	8		M
Mn	4.08	1.30	9.00	0	12		M
Pb	3.00	1.00	5.00	0	12		M
Precip	-	5.3	220.9	0	12		M
Zn	8.91	2.00	14.00	0	11		M

SK0007R Topolniky Slovakia

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Al	30.12	14.00	59.00	0	12		M
Cd	0.19	0.10	0.30	0	11		M
Fe	8.4	1.0	13.0	0	8		M
Pb	3.11	1.00	5.00	0	12		M
Mn	4.30	1.30	9.00	0	12		M
Precip	-	7.7	71.5	0	12		M
Zn	8.61	2.00	14.00	0	11		M

Annex 2

Annual statistics for heavy metals in air

BE0004R Knokke Belgium

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Cu	20.09	0.29	20.08	1.01	20.00	20.00	21.00	100.0	11	12		M
Ni	22.59	1.50	22.54	1.07	20.00	22.00	25.00	100.0	1	12		M
Pb	42.00	8.06	41.28	1.22	30.00	40.00	54.00	100.0	0	12		M
Zn	74.46	13.56	73.31	1.21	53.00	71.00	92.00	100.0	0	12		M

CZ0001R Svratouch Czech Republic

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Cd	0.32	0.30	0.22	2.45	0.04	0.21	1.61	15.8	0	58		D1
Pb	9.80	8.80	7.44	2.14	0.50	7.91	58.87	15.8	0	58		D1

CZ0003R Kosetice Czech Republic

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Cd	0.33	0.26	0.24	2.20	0.03	0.23	1.21	15.6	0	57		D1
Pb	11.13	16.49	6.52	2.64	0.51	5.73	108.59	15.6	0	57		D1

DE0001R Westerland Germany

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Pb	6.46	2.67	5.85	1.65	2.20	6.60	10.70	100.0	0	12		M

DE0003R Schauinsland Germany

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Pb	2.86	1.06	2.67	1.50	1.30	3.00	4.80	100.0	0	12		M

DE0004R Deuselbach Germany

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Pb	9.22	1.95	9.03	1.24	5.70	8.70	13.20	100.0	0	12		M

DE0005R Brotjacklriegel Germany

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Pb	4.55	1.49	4.31	1.44	2.10	4.70	7.30	100.0	0	12		M

DE0007R Neuglobsow Germany

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Pb	11.51	4.81	10.19	1.77	3.00	12.00	17.90	100.0	0	12		M

DE0008R Schmucke Germany

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Pb	6.50	2.49	6.07	1.47	2.70	5.30	11.90	100.0	0	12		M

DE0009R Zingst Germany

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Pb	7.19	5.44	5.55	2.12	2.10	4.50	17.00	100.0	0	12		M

DK0003R Tange Denmark

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
As	0.57	0.64	0.34	3.02	0.01	0.36	4.05	95.1	20	348		D
Cd	0.27	0.52	0.15	3.48	0.00	0.18	8.92	95.1	302	348		D
Cr	0.67	1.10	0.33	3.64	0.00	0.38	13.51	95.1	233	348		D
Cu	1.62	2.04	0.99	3.07	0.00	1.21	29.91	95.1	47	348		D
Fe	113.49	190.18	58.93	2.92	3.39	55.53	1844.85	95.1	0	348		D
Mn	4.09	5.53	2.47	2.67	0.06	2.42	44.26	95.1	4	348		D
Ni	1.01	0.78	0.69	2.85	0.00	0.84	4.75	95.1	38	348		D
Pb	5.88	8.35	3.18	3.22	0.08	3.43	77.24	95.1	2	348		D
Zn	13.15	11.80	8.75	2.68	0.29	9.41	92.24	95.1	2	348		D

DK0005R Keldsnor Denmark

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
As	0.46	0.64	0.27	3.10	0.00	0.30	7.80	98.1	59	359		D
Cd	0.30	0.29	0.17	3.31	0.00	0.22	2.04	97.8	279	358		D
Cr	0.75	0.95	0.41	3.49	0.00	0.51	12.39	98.1	209	359		D
Cu	1.87	1.76	1.06	3.59	0.00	1.35	8.92	98.1	68	359		D
Fe	92.37	93.61	58.34	2.80	2.24	62.89	694.15	98.1	0	359		D
Mn	2.93	2.74	1.92	2.83	0.01	2.16	16.68	98.1	11	359		D
Ni	2.04	2.02	1.29	2.85	0.02	1.39	12.77	98.1	22	359		D
Pb	7.56	9.18	4.19	3.29	0.09	5.05	85.72	98.1	3	359		D
Zn	15.53	13.86	9.64	3.07	0.08	10.99	69.32	98.1	8	359		D

DK0008R Anholt Denmark

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
As	0.35	0.44	0.20	3.45	0.00	0.23	4.71	100.0	49	366		D
Cd	0.22	0.20	0.13	3.46	0.00	0.17	1.02	99.7	316	365		D
Cr	0.52	0.47	0.31	3.47	0.00	0.38	2.51	100.0	218	366		D
Cu	1.22	1.28	0.59	4.56	0.00	0.81	6.86	100.0	78	366		D
Fe	63.99	97.33	32.52	4.04	0.01	35.13	1276.48	100.0	2	366		D
Mn	2.30	2.83	1.38	3.41	0.00	1.53	36.15	100.0	12	366		D
Ni	1.45	1.45	0.91	3.26	0.00	1.07	16.77	100.0	22	366		D
Pb	4.93	6.83	2.08	4.89	0.00	2.49	50.50	100.0	11	366		D
Zn	10.30	10.18	5.95	3.47	0.01	6.52	55.34	100.0	13	366		D

DK0010G Greenland Denmark

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Al	22.20	23.19	12.81	3.63	0.26	15.56	124.85	86.6	9	51		W
As	0.10	0.19	0.05	4.06	0.00	0.02	1.12	86.6	6	51		W
Cr	0.05	0.06	0.04	2.65	0.00	0.03	0.34	86.6	37	51		W
Cu	0.14	0.19	0.07	3.69	0.00	0.06	0.88	86.6	25	51		W
Hg	1.39	0.47	1.24	1.82	0.03	1.52	2.91	62.7	188	5511		H
Mn	0.39	0.34	0.28	2.69	0.00	0.34	1.64	86.6	1	51		W
Ni	0.07	0.12	0.05	3.08	0.00	0.04	0.59	86.6	25	51		W
Pb	0.59	0.93	0.20	6.34	0.00	0.22	4.46	86.6	15	51		W
Se	0.03	0.02	0.02	2.10	0.00	0.02	0.08	86.6	7	51		W
Zn	0.83	1.09	0.41	3.75	0.02	0.41	4.67	86.6	26	51		W

DK0015G Faroe Islands Denmark

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Hg	1.28	0.46	1.20	1.44	0.09	1.20	3.40	59.3	5	5207		H

DK0031R Ulborg Denmark

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
As	0.30	0.35	0.16	3.46	0.00	0.19	2.55	99.7	106	365		D
Cd	0.23	0.20	0.14	3.24	0.00	0.17	1.15	99.5	318	364		D
Cr	0.52	0.56	0.29	3.55	0.00	0.32	2.77	99.7	239	365		D
Cu	1.02	1.14	0.50	3.98	0.00	0.63	6.25	99.7	111	365		D
Fe	62.75	93.06	31.06	3.28	1.15	30.89	623.33	99.7	1	365		D
Pb	4.27	5.61	1.91	4.43	0.02	2.44	48.36	99.7	35	365		D
Mn	2.15	2.68	1.23	3.02	0.03	1.30	18.26	99.7	42	365		D
Ni	0.93	0.76	0.65	2.64	0.00	0.76	4.07	99.7	38	365		D
Zn	10.16	11.24	5.63	3.52	0.01	6.32	116.47	99.7	15	365		D

FI0096R Pallas Finland

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
As	0.20	0.25	0.11	3.12	0.01	0.12	1.43	99.3	2	56		W
Cd	0.04	0.04	0.03	2.58	0.00	0.02	0.20	99.3	0	56		W
Cr	0.15	0.09	0.12	2.01	0.01	0.13	0.46	99.3	1	56		W
Cu	0.48	0.56	0.26	3.68	0.01	0.32	2.89	99.3	1	56		W
Fe	23.84	23.24	17.54	2.23	1.91	17.15	150.94	99.3	0	56		W
Hg	1.34	0.14	1.35	1.11	1.10	1.40	1.60	13.1	0	43		W
Mn	0.64	0.64	0.45	2.44	0.05	0.49	3.11	99.3	0	56		W
Ni	0.41	0.47	0.26	2.69	0.04	0.22	2.43	99.3	0	56		W
Pb	1.07	1.04	0.71	2.47	0.06	0.65	5.17	99.3	0	56		W
V	0.37	0.36	0.26	2.41	0.04	0.21	1.83	99.3	0	56		W
Zn	2.00	1.52	1.53	2.04	0.39	1.49	7.18	99.3	0	56		W

GB0014R High Muffles United Kingdom

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
As	0.49	0.34	0.36	2.77	0.03	0.40	1.24	99.9	1	12		M
Cd	0.23	0.18	0.18	1.86	0.09	0.14	0.70	99.9	0	12		M
Cr	1.29	0.49	1.22	1.44	0.75	1.20	2.25	99.9	0	12		M
Cu	3.22	2.23	2.75	1.83	1.22	3.06	9.37	99.9	0	12		M
Ni	2.51	1.08	2.23	1.65	0.78	2.20	4.75	91.2	0	11		M
Pb	6.34	2.10	6.02	1.38	4.00	5.05	9.70	92.2	0	11		M
Zn	59.04	58.30	45.71	1.81	27.10	38.10	237.70	99.9	0	12		M

GB0090R East Ruston United Kingdom

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
As	0.92	0.57	0.74	2.31	0.10	0.80	1.86	100.0	0	13		M
Cd	0.23	0.19	0.22	1.83	0.08	0.19	0.80	100.0	0	13		M
Cr	1.18	0.93	0.69	3.91	0.01	0.60	2.96	100.0	1	13		M
Cu	2.31	0.86	2.27	1.41	1.14	2.12	4.27	100.0	0	13		M
Ni	950.77	455.14	402.11	18.83	0.03	861.50	1640.00	100.0	1	13		M
Pb	11.02	8.77	10.05	1.85	3.20	8.80	34.70	100.0	0	13		M
Zn	30.54	11.76	28.00	1.50	13.10	26.45	51.00	100.0	0	13		M

GB0091R Banchory United Kingdom

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
As	0.27	0.14	0.21	2.48	0.04	0.32	0.47	92.3	2	12		M
Cd	0.04	0.02	0.04	1.68	0.01	0.04	0.09	92.3	2	12		M
Cr	0.68	0.45	0.52	2.24	0.18	0.52	1.39	90.6	0	11		M
Ni	0.58	0.28	0.43	2.33	0.05	0.56	0.92	85.2	1	11		M
Pb	2.16	0.86	2.10	1.49	1.15	2.08	3.60	92.3	0	12		M
Zn	20.37	13.40	17.18	1.98	5.79	21.12	49.01	92.3	0	12		M

IE0031R Mace Head Ireland

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Hg	1.78	0.19	1.77	1.11	1.17	1.77	3.04	86.1	0	7567		H

IS0091R Storhofdi Iceland

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Al	662.31	903.27	238.91	4.51	10.43	157.00	2962.00	95.9	0	24		W2
As	0.10	0.05	0.09	1.70	0.03	0.09	0.22	95.9	0	24		W2
Cd	0.09	0.10	0.05	2.76	0.01	0.04	0.32	95.9	0	24		W2
Cr	9.91	6.84	7.28	2.22	1.24	6.65	27.20	95.9	0	24		W2
Cu	1.36	1.02	1.03	2.07	0.33	0.88	3.48	95.9	0	24		W2
Fe	1061.91	1280.77	433.66	4.16	48.76	287.00	4170.00	95.9	0	24		W2
Hg (*)	1.73	0.71	1.46	1.84	0.27	1.84	2.89	95.9	0	24		W2
Mn	14.89	16.68	7.12	3.56	0.80	4.75	50.40	95.9	0	24		W2
Ni	6.35	4.16	4.83	2.12	0.76	4.46	15.60	95.9	0	24		W2
Pb	0.53	0.24	0.47	1.68	0.17	0.54	1.10	95.9	0	24		W2
V	3.03	2.98	1.72	3.05	0.19	1.13	8.58	95.9	0	24		W2
Zn	8.64	10.61	5.65	2.40	1.56	5.08	46.40	95.9	0	24		W2

(*) aerosols, pg/m3

LT0015R Preila Lithuania

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Cd	0.17	0.13	0.12	2.53	0.01	0.12	0.54	99.7	0	52		W
Cu	1.89	0.96	1.70	1.56	0.84	1.46	4.98	99.7	0	52		W
Pb	5.77	4.65	4.17	2.29	0.80	3.20	19.90	99.7	0	52		W
Zn	15.68	4.72	14.84	1.43	4.50	14.80	24.80	99.7	0	52		W

LV0010R Rucava Latvia

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Cd	0.51	0.45	0.33	2.72	0.05	0.42	1.82	98.2	0	52		W
Cu	1.67	1.12	1.39	1.91	0.35	1.38	5.51	98.2	7	52		W
Pb	15.44	15.51	9.69	2.78	1.20	9.99	70.80	98.2	0	52		W
Zn	43.27	51.18	29.36	2.29	5.18	26.60	258.00	98.2	0	52		W

LV0016R Zoseni Latvia

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Cd	0.22	0.19	0.15	2.68	0.01	0.17	0.86	94.0	0	49		W
Cu	0.79	0.62	0.61	2.24	0.04	0.67	3.31	94.0	17	49		W
Pb	4.86	4.22	3.31	2.57	0.31	3.35	20.70	94.0	1	49		W
Zn	11.42	8.92	9.46	1.89	1.02	10.01	64.42	94.0	2	49		W

NL0009R Kollumerwaard Netherlands

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
As	0.51	0.43	0.36	2.42	0.09	0.38	2.01	24.9	18	91		D
Cd	0.17	0.15	0.11	2.73	0.02	0.13	0.67	24.9	13	91		D
Pb	8.82	11.13	5.62	2.72	0.30	5.91	96.66	24.9	0	91		D
Zn	25.95	26.48	19.46	2.07	7.70	20.00	222.63	24.9	24	91		D

NO0042G Zeppelin, Spitsbergen Norway

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
As	0.30	0.28	0.23	2.36	0.04	0.23	1.39	28.1	0	53		D2
Cd	0.02	0.03	0.02	2.32	0.00	0.01	0.14	28.1	13	53		D2
Co	0.01	0.03	0.01	1.93	0.00	0.01	0.18	28.1	14	53		D2
Cr	0.06	0.06	0.04	2.30	0.02	0.02	0.34	28.1	33	53		D2
Cu	0.41	0.51	0.27	3.20	0.02	0.29	2.43	28.1	5	53		D2
Hg	1.50	0.40	1.41	1.53	0.02	1.58	2.93	84.4	0	7411		H
Mn	0.34	0.37	0.22	3.10	0.03	0.21	1.55	28.1	6	53		D2
Ni	0.09	0.20	0.05	2.77	0.02	0.05	1.46	28.1	23	53		D2
Pb	0.62	0.97	0.21	5.72	0.01	0.23	3.97	28.1	4	53		D2
V	0.07	0.10	0.05	3.02	0.00	0.05	0.61	28.1	2	53		D2
Zn	1.54	1.73	0.96	3.17	0.07	1.02	7.42	28.1	2	53		D2

NO0099R Lista Norway

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
As	0.29	0.21	0.23	1.86	0.07	0.23	1.34	93.7	0	49		W
Cd	0.07	0.05	0.05	2.19	0.01	0.05	0.28	93.7	0	49		W
Co	0.03	0.03	0.02	2.09	0.00	0.02	0.11	93.7	0	49		W
Cr	0.80	0.29	0.75	1.49	0.21	0.72	1.56	86.1	0	45		W
Cu	0.66	0.49	0.53	1.92	0.15	0.49	2.88	93.7	0	49		W
Hg	1.63	0.53	1.53	1.45	0.56	1.54	2.60	5.2	0	19		D1
Ni	0.75	1.10	0.43	2.64	0.09	0.43	5.71	93.7	0	49		W
Pb	2.44	2.17	1.78	2.22	0.36	1.73	10.37	93.7	0	49		W
V	1.39	1.03	1.12	1.91	0.26	1.15	5.76	93.7	0	49		W
Zn	6.06	6.81	4.48	2.07	0.96	4.12	46.86	93.7	0	49		W

SE0002R Rorvik Sweden

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Hg	1.36	0.24	1.34	1.18	1.00	1.30	2.60	25.7	0	94		D2

SK0002R Chopok Slovakia

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Cd	0.15	0.17	0.10	2.38	0.04	0.11	0.97	73.8	0	46		W
Cr	1.41	1.96	0.88	2.42	0.25	0.69	10.83	73.8	0	46		W
Cu	2.16	1.44	1.84	1.68	0.62	1.74	8.06	73.8	0	46		W
Mn	2.48	3.04	1.39	3.08	0.18	1.37	18.35	73.8	0	46		W
Ni	1.46	1.76	0.99	2.22	0.14	0.92	9.86	73.8	0	46		W
Pb	3.67	3.31	2.02	3.55	0.15	2.85	13.34	72.2	1	45		W

SK0004R Stara Lesna Slovakia

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Cd	0.33	0.19	0.29	1.71	0.09	0.27	0.95	85.2	0	52		W
Cr	1.74	2.31	1.24	2.04	0.28	1.18	15.83	85.2	0	52		W
Cu	2.75	1.88	2.42	1.58	1.14	2.48	13.35	85.2	0	52		W
Mn	5.50	3.12	4.77	1.71	1.59	4.69	16.86	85.2	0	52		W
Ni	1.67	1.47	1.37	1.87	0.00	1.08	9.75	85.2	0	52		W
Pb	10.29	7.29	8.55	1.80	2.87	7.83	34.54	85.2	0	52		W

SK0005R Liesek Slovakia

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Cd	0.41	0.21	0.37	1.68	0.10	0.38	1.10	85.5	0	51		W
Cr	3.20	3.38	2.31	2.17	0.80	2.03	18.18	85.5	0	51		W
Cu	8.20	5.79	6.80	1.84	2.70	6.51	26.01	85.5	0	51		W
Mn	25.32	13.23	22.15	1.79	3.04	22.39	63.69	85.5	0	51		W
Ni	1.92	1.49	1.47	2.07	0.18	1.24	6.80	85.5	0	51		W
Pb	11.70	4.48	10.88	1.53	3.89	11.72	21.35	85.5	0	51		W

SK0006R Starina Slovakia

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Cd	0.57	0.49	0.42	2.20	0.05	0.38	2.31	62.6	0	104		D
Cr	1.98	2.49	1.43	2.04	0.31	1.34	18.90	62.6	0	104		D
Cu	3.74	1.88	3.43	1.60	0.76	3.52	12.25	62.6	0	104		D
Mn	6.31	5.73	4.58	2.22	0.64	4.65	32.70	62.6	0	104		D
Ni	1.56	1.39	1.17	2.18	0.15	1.18	7.47	62.6	0	104		D
Pb	17.94	17.38	12.55	2.45	1.54	11.27	80.03	62.6	0	104		D

SK0007R Topolniky Slovakia

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
Cd	0.51	0.34	0.41	1.94	0.09	0.44	1.67	65.1	0	120		D
Cr	3.09	2.71	2.55	1.77	0.80	2.35	21.62	64.6	0	119		D
Cu	4.86	1.73	4.55	1.47	0.98	4.47	11.81	65.1	0	120		D
Mn	8.25	5.38	6.75	1.88	1.63	6.51	27.34	65.1	0	120		D
Ni	2.78	1.83	2.41	1.70	0.65	2.62	15.92	65.1	0	120		D
Pb	17.79	11.15	14.86	1.84	4.65	13.97	49.80	65.1	0	120		D

Annex 3

Annual statistics for POPs in precipitation

BE0004R Knokke Belgium

January 2000 - December 2000

Component	W mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Precip	-	28.6	98.1	0	14		M
aldrin	1.95	1.00	2.00	13	13		M
alpha_HCH	0.97	0.50	1.00	13	13		M
dieldrin	1.00	1.00	1.00	13	13		M
endrin	2.00	2.00	2.00	13	13		M
gamma_HCH	18.56	3.00	64.00	0	13		M
heptachlor	1.00	1.00	1.00	13	13		M
pp_DDD	1.00	1.00	1.00	13	13		M
pp_DDE	1.00	1.00	1.00	13	13		M
pp_DDT	1.00	1.00	1.00	13	13		M

DE0001R Westerland Germany

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
HCB	0.43	0.20	2.77	1	12		M
Precip	-	22.4	109.2	0	12		M
alpha_HCH	0.65	0.41	0.87	1	12		M
anthracene	7.08	1.10	59.40	1	12		M
benz_a_anthracene	6.63	2.50	35.60	0	12		M
benzo_a_pyrene	3.213	1.200	11.900	3	12		M
chrysene	10.29	4.80	21.60	0	12		M
dieldrin	0.30	0.10	0.53	11	12		M
gamma_HCH	6.24	1.80	29.00	1	12		M
inden_123cd_pyrene	4.25	0.80	10.20	7	12		M
phenanthrene	84.74	24.10	567.70	0	12		M
pyrene	16.00	6.70	41.10	0	12		M

FI0096R Pallas Finland

January 2000 - December 2000

Component (ng/m^2 day)	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
alpha_HCH	0.37	0.02	1.46	0	12	8	M
anthracene	0.61	0.50	2.00	11	12	8	M
benz_a_anthracene	12.42	5.00	36.00	0	12	8	M
benzo_a_pyrene	1.824	0.500	5.000	7	12	8	M
gamma_HCH	1.07	0.04	5.46	0	12	8	M
inden_123cd_pyrene	2.62	1.00	15.00	10	12	8	M
phenanthrene	9.88	2.00	27.00	0	12	8	M
pyrene	5.34	0.50	20.00	3	12	8	M
PCB_101	0.045	0.005	0.100	2	12	8	M
PCB_118	0.013	0.005	0.050	7	12	8	M
PCB_138	0.048	0.020	0.130	0	12	8	M
PCB_153	0.063	0.020	0.150	0	12	8	M
PCB_180	0.022	0.005	0.080	2	12	8	M
PCB_28	0.106	0.010	0.820	1	12	8	M
PCB_52	0.132	0.015	0.500	2	12	8	M

IE0002R Turlough Hill Ireland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Precip	-	42.3	390.0	0	12	1	M
aldrin	1.56	0.50	8.50	10	10	1	M
alpha_HCH	1.84	0.50	9.00	10	10	1	M
dieldrin	1.56	0.50	8.50	10	10	1	M
endrin	1.58	0.50	8.50	10	10	1	M
gamma_HCH	2.27	0.50	8.50	10	10	1	M
heptachlor	1.56	0.50	8.50	10	10	1	M
op_DDD	1.52	0.50	8.50	10	10	1	M
op_DDT	1.52	0.50	8.50	10	10	1	M
pp_DDD	1.52	0.50	8.50	10	10	1	M
pp_DDE	1.52	0.50	8.50	10	10	1	M
pp_DDT	1.52	0.50	8.50	10	10	1	M
PCB_101	2.462	0.500	14.500	10	10	1	M
PCB_118	2.494	0.500	14.500	10	10	1	M
PCB_138	2.274	0.500	16.500	10	10	1	M
PCB_153	2.274	0.500	16.500	10	10	1	M
PCB_180	1.895	0.500	8.500	10	10	1	M
PCB_52	1.645	0.500	8.500	10	10	1	M
Precip	-	42.3	390.0	0	12	1	M

IS0091R Storhofdi Iceland

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
HCB	0.02	0.01	1.28	1	24		W4
Precip	-	2.5	65.0	0	24		W4
alpha_HCH	0.23	0.11	0.52	0	24		W4
beta_HCH	0.01	0.00	0.17	10	24		W4
dieldrin	0.05	0.01	0.16	2	24		W4
gamma_HCH	0.10	0.05	0.36	0	24		W4
op_DDT	0.01	0.00	0.11	23	24		W4
pp_DDD	0.00	0.00	0.07	23	24		W4
pp_DDE	0.01	0.00	0.05	13	24		W4
pp_DDT	0.01	0.00	0.12	20	24		W4
PCB_101	0.010	0.002	0.128	21	24		W4
PCB_118	0.009	0.002	0.147	20	24		W4
PCB_138	0.015	0.003	0.140	19	24		W4
PCB_153	0.017	0.004	0.140	17	24		W4
PCB_180	0.012	0.002	0.143	20	24		W4
PCB_28	0.074	0.014	0.960	22	24		W4
PCB_52	0.029	0.006	0.360	21	24		W4
Precip	-	2.5	65.0	0	24		W4

LT0015R Preila Lithuania

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
benzo_a_pyrene	24.378	10.700	50.300	0	12		M

NL0091R

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
Precip	-	18.7	149.3	0	10		W4
gamma_HCH	10.38	5.00	70.00	8	11	1	W4

NO0099R Lista Norway

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
HCB	0.49	0.02	1.67	1	52		W
Precip	-	2.9	94.4	0	53		W
alpha_HCH	0.56	0.15	1.52	1	52		W
gamma_HCH	3.09	0.23	25.79	0	52		W

SE0002R Rorvik Sweden

January 2000 - December 2000

Component (ng/m^2 day)	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
alpha_HCH	0.24	0.04	1.26	9	12	8	M
anthracene	2.00	0.50	9.00	4	12	8	M
benz_a_anthracene	20.25	0.50	92.00	2	12	8	M
benzo_a_pyrene	16.458	0.500	100.000	3	12	8	M
gamma_HCH	2.29	0.04	18.91	4	12	8	M
inden_123cd_pyrene	25.29	2.50	167.00	5	12	8	M
phenanthrene	34.33	5.00	94.00	0	12	8	M
pyrene	33.67	1.00	156.00	1	12	8	M
PCB_101	0.130	0.015	0.290	1	12	8	M
PCB_118	0.081	0.015	0.320	3	12	8	M
PCB_138	0.227	0.090	0.410	0	12	8	M
PCB_153	0.259	0.110	0.500	0	12	8	M
PCB_180	0.155	0.060	0.250	0	12	8	M
PCB_28	0.138	0.035	0.670	3	12	8	M
PCB_52	0.110	0.010	0.430	0	12	8	M

SE0012R Aspvreten Sweden

January 2000 - December 2000

Component	W. mean	Min	Max	Num bel	Num sampl	QA flag	Samp flag
alpha_HCH	0.93	0.00	3.97	0	12	8	M
anthracene	4.20	1.00	23.00	0	11	8	M
benz_a_anthracene	15.68	0.50	159.00	4	12	8	M
benzo_a_pyrene	18.943	0.000	186.000	5	12	8	M
gamma_HCH	4.32	0.00	25.15	0	12	8	M
inden_123cd_pyrene	15.67	0.00	168.00	5	12	8	M
phenanthrene	56.09	8.00	318.00	0	12	8	M
pyrene	72.76	3.00	590.00	0	12	8	M
PCB_101	0.060	0.010	0.130	0	12	8	M
PCB_118	0.052	0.010	0.160	0	12	8	M
PCB_138	0.079	0.010	0.150	0	12	8	M
PCB_153	0.076	0.020	0.180	0	12	8	M
PCB_180	0.086	0.010	0.510	0	12	8	M
PCB_28	0.163	0.010	0.460	0	12	8	M
PCB_52	0.087	0.010	0.260	0	12	8	M

Annex 4

Annual statistics for POPs in air

CZ0003R Kosetice Czech Republic

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
acenaphtene	0.18	0.25	0.10	2.77	0.01	0.08	1.51	13.7	0	50		W
alpha_HCH	21.32	15.26	16.37	2.14	4.00	20.00	70.00	13.7	0	50		W
anthracene	0.11	0.13	0.07	2.70	0.01	0.06	0.69	13.7	0	50		W
benz_a_anthracene	0.18	0.36	0.05	5.16	0.01	0.06	2.23	13.7	15	50		W
benzo_a_pyrene	0.169	0.287	0.058	4.747	0.005	0.059	1.757	13.7	11	50		W
gamma_HCH	41.66	35.46	29.99	2.33	7.00	41.00	199.00	13.7	0	50		W
inden_123cd_pyrene	0.19	0.33	0.07	4.19	0.01	0.07	2.06	13.7	10	50		W
phenanthrene	5.12	4.26	3.69	2.29	0.71	3.31	18.56	13.7	0	50		W
pp_DDD	0.82	0.74	0.68	1.69	0.50	0.50	5.00	13.7	34	50		W
pp_DDE	26.02	13.07	22.68	1.76	4.00	25.00	75.00	13.7	0	50		W
pp_DDT	3.53	1.76	3.16	1.63	0.50	3.00	10.00	13.7	1	50		W
pyrene	0.97	1.11	0.56	2.94	0.10	0.51	5.76	13.7	0	50		W
PCB_101	24.560	8.550	23.270	1.385	13.000	22.000	48.000	13.7	0	50		W
PCB_118	5.080	1.455	4.880	1.333	3.000	5.000	8.000	13.7	0	50		W
PCB_138	14.680	5.850	13.550	1.509	5.000	14.000	28.000	13.7	0	50		W
PCB_153	21.480	5.581	20.779	1.298	13.000	21.000	32.000	13.7	0	50		W
PCB_180	5.880	3.623	5.145	1.624	3.000	4.000	17.000	13.7	0	50		W
PCB_28	30.800	9.298	29.446	1.356	16.000	28.000	52.000	13.7	0	50		W
PCB_52	38.620	19.841	35.035	1.521	17.000	31.000	106.000	13.7	0	50		W

FI0096R Pallas Finland

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel s	Num ampl	QA flag	Samp flag
alpha_HCH	17.17	6.77	15.94	1.50	9.00	15.00	28.00	23.0	0	12		M
anthracene	0.01	0.00	0.00	1.47	0.00	0.00	0.01	23.0	0	12		M
benz_a_anthracene	0.05	0.03	0.03	2.47	0.01	0.03	0.10	23.0	0	12		M
benzo_a_pyrene	0.006	0.005	0.004	3.036	0.001	0.003	0.017	23.0	2	12		M
benzo_ghi_perylene	0.01	0.01	0.01	2.94	0.00	0.00	0.03	23.0	7	12		M
gamma_HCH	10.08	8.11	7.58	2.22	2.00	7.00	29.00	23.0	0	12		M
inden_123cd_pyrene	0.01	0.01	0.01	1.93	0.01	0.01	0.03	23.0	9	12		M
phenanthrene	0.32	0.19	0.28	1.70	0.09	0.30	0.86	23.0	0	12		M
pp_DDD	0.02	0.03	0.01	2.80	0.01	0.01	0.11	23.0	10	12		M
pp_DDE	0.93	0.76	0.73	1.97	0.27	0.62	2.57	23.0	0	12		M
pp_DDT	0.26	0.14	0.24	1.55	0.13	0.21	0.64	23.0	0	12		M
pyrene	0.05	0.04	0.04	1.83	0.02	0.04	0.16	23.0	0	12		M
PCB_101	0.958	0.416	0.865	1.641	0.376	0.934	1.697	23.0	0	12		M
PCB_118	0.314	0.141	0.280	1.695	0.100	0.304	0.534	23.0	0	12		M
PCB_138	0.364	0.173	0.323	1.724	0.113	0.324	0.724	23.0	0	12		M
PCB_153	0.391	0.160	0.357	1.614	0.153	0.397	0.636	23.0	0	12		M
PCB_180	0.079	0.052	0.059	2.460	0.015	0.063	0.172	23.0	3	12		M
PCB_28	1.969	1.084	1.721	1.738	0.644	1.608	4.664	23.0	0	12		M
PCB_52	2.320	1.473	1.930	1.910	0.666	1.934	5.774	23.0	0	12		M

IS0091R Storhofdi Iceland

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
HCB	5.82	1.62	5.63	1.31	3.56	5.73	10.69	99.3	0	24		W2
alpha_HCH	7.78	1.79	7.64	1.24	4.96	7.71	13.58	99.3	0	24		W2
beta_HCH	0.10	0.09	0.08	1.88	0.04	0.06	0.42	99.3	21	24		W2
cis_CD	1.04	0.21	1.02	1.23	0.72	1.00	1.59	99.3	0	24		W2
dieldrin	1.12	0.23	1.09	1.24	0.66	1.10	1.45	99.3	0	24		W2
gamma_HCH	3.86	1.50	3.55	1.50	1.82	3.67	7.16	99.3	0	24		W2
op_DDT	0.12	0.07	0.10	2.02	0.04	0.06	0.22	99.3	24	24		W2
pp_DDD	0.10	0.01	0.10	1.12	0.07	0.10	0.12	99.3	24	24		W2
pp_DDE	0.23	0.13	0.19	1.76	0.09	0.21	0.65	99.3	7	24		W2
pp_DDT	0.13	0.07	0.12	1.41	0.07	0.12	0.42	99.3	23	24		W2
PCB_101	0.301	0.157	0.266	1.662	0.090	0.280	0.890	99.3	16	24		W2
PCB_105	0.10	0.05	0.09	1.74	0.04	0.12	0.17	99.3	23	24		W2
PCB_118	0.156	0.061	0.147	1.489	0.075	0.180	0.320	99.3	22	24		W2
PCB_138	0.240	0.100	0.222	1.550	0.115	0.180	0.385	99.3	24	24		W2
PCB_153	0.275	0.097	0.256	1.521	0.125	0.320	0.385	99.3	20	24		W2
PCB_156	0.10	0.01	0.10	1.12	0.07	0.10	0.12	99.3	24	24		W2
PCB_180	0.171	0.075	0.156	1.605	0.075	0.162	0.275	95.0	23	23		W2
PCB_28	1.705	0.917	1.505	1.732	0.680	1.975	4.280	99.3	23	24		W2
PCB_31	1.390	0.765	1.249	1.649	0.605	1.525	4.040	99.3	23	24		W2
PCB_52	0.706	0.473	0.623	1.678	0.305	0.740	2.610	99.3	23	24		W2

LT0015R Preila Lithuania

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
benzo_a_pyrene	0.857	0.411	0.772	1.619	0.410	0.710	1.540	100.0	0	12		M

NO0042G Zeppelin, Spitsbergen Norway

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
HCB	55.66	9.91	53.14	1.54	2.83	56.90	72.60	28.4	0	52		W
acenaphtene	0.01	0.01	0.01	3.83	0.00	0.01	0.05	29.5	4	54		W
acenaphtylene	0.00	0.00	0.00	2.20	0.00	0.00	0.03	29.5	0	54		W
alpha_HCH	20.72	5.96	18.86	1.91	0.28	20.90	35.30	28.4	0	52		W
anthanthrene	0.00	0.00	0.00	3.60	0.00	0.00	0.01	29.5	42	54		W
anthracene	0.00	0.01	0.00	3.89	0.00	0.00	0.10	29.5	9	54		W
benz_a_anthracene	0.00	0.01	0.00	5.33	0.00	0.00	0.05	29.5	9	54		W
benzo_a_pyrene	0.011	0.010	0.008	2.780	0.000	0.009	0.054	29.5	1	54		W
benzo_ghi_perylene	0.01	0.01	0.00	6.64	0.00	0.00	0.06	29.5	22	54		W
biphenyl	0.54	0.71	0.24	3.70	0.04	0.19	3.43	29.5	0	54		W
chrysene_triphenylene	0.01	0.02	0.00	6.11	0.00	0.00	0.11	29.5	3	54		W
cis_CD	0.65	0.16	0.63	1.31	0.22	0.68	0.98	28.4	1	52		W
cis_NO	0.06	0.03	0.06	1.72	0.02	0.05	0.13	28.4	8	52		W
dibenzo_ac_ah_anthracenes	0.00	0.00	0.00	3.36	0.00	0.00	0.01	29.5	14	54		W
dibenzofuran	0.80	1.00	0.32	4.53	0.03	0.32	4.19	29.5	0	54		W
dibenzothiophene	0.02	0.02	0.01	2.52	0.00	0.01	0.08	29.5	0	54		W
gamma_HCH	5.90	2.25	5.39	1.64	0.43	5.43	10.80	28.4	0	52		W
inden_123cd_pyrene	0.01	0.01	0.00	8.39	0.00	0.00	0.10	29.5	23	54		W
op_DDD	0.05	0.04	0.04	1.98	0.01	0.03	0.20	28.4	0	52		W
op_DDE	0.11	0.08	0.08	2.26	0.02	0.09	0.35	28.4	0	52		W
op_DDT	0.28	0.25	0.22	2.12	0.05	0.26	1.50	28.4	1	52		W
perylene	0.00	0.00	0.00	3.99	0.00	0.00	0.01	29.5	38	54		W
phenanthrene	0.10	0.12	0.07	2.26	0.03	0.05	0.62	29.5	0	54		W
pp_DDD	0.06	0.05	0.05	2.15	0.02	0.04	0.25	28.4	10	52		W
pp_DDE	0.53	0.47	0.36	2.48	0.08	0.43	2.64	28.4	0	52		W
pp_DDT	0.18	0.19	0.15	1.83	0.05	0.14	1.17	28.4	0	52		W
pyrene	0.02	0.03	0.01	2.73	0.00	0.01	0.18	29.5	0	54		W
PCB_101	0.807	0.945	0.618	1.903	0.080	0.610	5.630	28.4	0	52		W
PCB_105	0.10	0.11	0.07	1.90	0.03	0.07	0.68	28.4	0	52		W
PCB_118	0.294	0.351	0.226	1.838	0.090	0.200	2.330	28.4	0	52		W
PCB_138	0.308	0.376	0.215	2.202	0.020	0.180	2.360	28.4	0	52		W
PCB_153	0.398	0.514	0.295	1.927	0.100	0.260	3.290	28.4	0	52		W
PCB_156	0.03	0.03	0.03	1.90	0.01	0.02	0.19	28.4	0	52		W
PCB_180	0.103	0.092	0.083	1.889	0.010	0.080	0.550	28.4	1	52		W
PCB_28	5.152	4.001	4.197	1.867	0.810	3.800	24.800	28.4	0	52		W
PCB_31	4.865	3.786	3.958	1.875	0.690	3.620	23.600	28.4	0	52		W
PCB_52	1.733	1.119	1.502	1.691	0.240	1.400	7.110	28.4	0	52		W

NO0099R Lista Norway

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
HCB	54.47	8.36	53.87	1.16	42.50	52.30	76.00	14.2	0	52		W
alpha_HCH	18.85	7.94	17.30	1.51	8.83	16.50	42.30	14.2	0	52		W
gamma_HCH	24.52	24.09	17.23	2.27	3.25	16.70	110.00	14.2	0	52		W

SE0002R Rorvik Sweden

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
alpha_HCH	13.08	7.13	11.15	1.85	4.00	10.00	24.00	23.0	0	12		M
anthracene	0.03	0.02	0.02	2.62	0.00	0.02	0.07	23.0	0	12		M
benz_a_anthracene	0.12	0.08	0.09	2.53	0.01	0.11	0.24	23.0	0	12		M
benzo_a_pyrene	0.078	0.081	0.036	4.671	0.005	0.059	0.267	23.0	4	12		M
benzo_ghi_perylene	0.09	0.09	0.05	2.96	0.01	0.05	0.32	23.0	4	12		M
gamma_HCH	23.92	21.61	17.01	2.34	5.00	17.00	69.00	23.0	0	12		M
inden_123cd_pyrene	0.12	0.11	0.08	2.39	0.04	0.07	0.37	23.0	5	12		M
phenanthrene	1.16	0.74	0.95	2.02	0.27	1.22	3.05	23.0	0	12		M
pp_DDD	0.27	0.23	0.17	3.05	0.05	0.21	0.62	23.0	5	12		M
pp_DDE	4.12	4.57	2.80	2.37	0.64	2.27	16.71	23.0	0	12		M
pp_DDT	1.16	1.06	0.75	3.12	0.05	0.80	3.85	23.0	1	12		M
pyrene	0.31	0.22	0.22	2.68	0.04	0.29	0.78	23.0	0	12		M
PCB_101	2.752	1.832	2.368	1.727	1.056	2.349	7.951	23.0	0	12		M
PCB_118	0.903	0.539	0.794	1.668	0.357	0.825	2.397	23.0	0	12		M
PCB_138	1.507	0.734	1.368	1.575	0.616	1.201	3.280	23.0	0	12		M
PCB_153	1.673	0.858	1.504	1.604	0.692	1.360	3.776	23.0	0	12		M
PCB_180	0.560	0.288	0.503	1.609	0.242	0.461	1.228	23.0	0	12		M
PCB_28	2.518	1.417	2.224	1.661	0.962	2.014	5.980	23.0	0	12		M
PCB_52	3.499	2.744	2.870	1.846	1.291	2.340	11.175	23.0	0	12		M

SE0012R Aspvreten Sweden

January 2000 - December 2000

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	50%	Max	% anal	Num bel	Num sampl	QA flag	Samp flag
alpha_HCH	66.83	55.10	48.97	2.28	17.00	37.00	163.00	23.0	0	12		M
anthracene	0.02	0.03	0.01	2.23	0.01	0.01	0.12	23.0	0	12		M
benz_a_anthracene	0.05	0.08	0.02	4.79	0.00	0.02	0.26	23.0	1	12		M
benzo_a_pyrene	0.048	0.075	0.015	5.111	0.002	0.008	0.262	23.0	5	12		M
benzo_ghi_perylene	0.01	0.01	0.01	3.55	0.00	0.00	0.04	23.0	8	12		M
gamma_HCH	74.08	63.74	47.26	2.89	12.00	35.00	199.00	23.0	0	12		M
inden_123cd_pyrene	0.01	0.02	0.01	3.37	0.00	0.00	0.05	23.0	8	12		M
phenanthrene	1.58	1.68	1.15	2.12	0.42	0.88	6.46	23.0	0	12		M
pp_DDE	9.01	15.12	5.76	2.46	0.00	4.73	55.90	23.0	0	12		M
pyrene	0.32	0.40	0.20	2.60	0.06	0.14	1.51	23.0	0	12		M
PCB_101	2.174	0.746	2.037	1.489	0.890	1.950	3.017	23.0	0	12		M
PCB_118	0.816	0.311	0.761	1.491	0.382	0.793	1.432	23.0	0	12		M
PCB_138	1.173	0.479	1.079	1.555	0.509	1.182	2.132	23.0	0	12		M
PCB_153	1.410	0.550	1.303	1.536	0.602	1.313	2.354	23.0	0	12		M
PCB_180	0.384	0.167	0.354	1.534	0.168	0.354	0.792	23.0	0	12		M
PCB_28	3.492	1.784	3.165	1.563	1.451	2.826	7.567	23.0	0	12		M
PCB_52	3.440	1.150	3.241	1.459	1.441	3.298	4.993	23.0	0	12		M

Annex 5

Monthly mean values for heavy metals in precipitation

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
BE0004R zinc (Wet-only)	34.391	12.798	55.438	41.896	28.515	23.688	6.006	13.726	17.422	17.295	16.000	20.750
BE0004R arsenic (Wet-only)	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.807	2.077	1.300	1.300
BE0004R cadmium (Wet-only	0.700	0.700	1.090	0.765	0.700	0.700	0.700	0.873	0.989	0.700	0.700	0.700
BE0004R chromium (Wet-only)	1.208	1.534	2.858	44.816	5.378	6.455	9.871	2.400	2.147	2.258	1.964	1.132
BE0004R mercury (Wet-only)	0.010	0.025	0.030	0.030	0.030	0.034	0.013	0.030	0.030	0.030	0.040	0.045
BE0004R nickel (Wet-only)	8.258	2.464	2.291	30.229	3.301	1.268	0.779	1.473	1.631	1.435	1.401	1.537
BE0004R lead (Wet-only)	22.062	10.044	38.655	42.217	19.367	27.812	35.666	74.015	37.578	30.303	15.036	9.150
BE0004R copper (Wet-only)	8.078	3.323	4.105	2.705	3.121	7.363	1.587	2.708	4.873	4.806	5.049	3.390
BE0004R arsenic (Bulk)	0.371	0.490	0.490	1.372	0.814	0.649	-	0.490	0.490	0.490	0.490	0.490
BE0004R copper (Bulk)	3.137	4.177	4.173	7.736	5.366	4.426	4.260	4.150	4.174	4.165	4.160	4.135
BE0004R lead (Bulk)	2.570	2.860	5.300	27.814	17.774	10.620	7.995	2.780	2.654	1.139	1.693	3.386
BE0004R zinc (Bulk)	3.374	10.845	16.837	15.720	26.875	24.382	20.970	21.230	17.207	656.066	370.446	12.851
BE0004R cadmium (Bulk)	0.068	0.083	0.277	0.477	0.346	0.691	0.944	0.110	0.063	0.050	0.050	0.735
CZ0001R cadmium	0.115	0.100	0.116	0.112	0.106	0.134	0.159	0.445	0.211	0.231	0.267	0.457
CZ0001R lead	2.941	2.939	3.030	2.732	4.415	4.295	2.267	6.690	4.445	5.963	4.113	4.516
CZ0001R nickel	1.985	2.572	0.719	0.570	1.587	5.363	1.548	3.179	3.753	2.300	7.800	2.395
DE0001R arsenic	0.126	0.235	0.165	0.163	0.131	0.091	0.066	0.204	0.132	0.169	0.162	0.157
DE0001R cadmium	0.081	0.057	0.072	0.080	0.057	0.067	0.040	0.105	0.052	0.063	0.077	0.056
DE0001R chromium	0.116	0.086	0.096	0.190	0.205	0.206	0.170	0.154	0.186	0.237	0.221	0.166
DE0001R copper	0.749	0.087	0.058	0.072	0.063	0.049	0.043	0.147	0.044	0.043	0.047	0.033
DE0001R iron	27.862	38.739	27.670	24.573	23.926	23.164	32.412	73.410	19.572	14.232	18.020	15.076
DE0001R lead	1.694	1.817	0.787	0.735	1.023	0.811	0.687	1.481	1.026	0.786	1.523	0.889
DE0001R manganese	1.010	2.835	1.838	3.011	3.020	1.635	1.128	10.453	1.646	1.156	1.000	0.671
DE0001R nickel	0.925	0.940	0.650	1.128	0.926	1.363	0.541	1.065	0.476	0.739	0.662	0.370
DE0001R precipitation_amount	30.500	40.067	43.933	37.500	56.967	37.000	47.733	27.150	51.217	95.300	114.833	77.300
DE0001R vanadium	0.418	0.542	0.492	0.478	0.490	0.462	0.427	0.911	0.570	0.369	0.595	0.402
DE0001R zinc	34.796	30.743	29.188	54.672	26.651	25.904	19.208	42.416	18.066	18.195	19.931	14.526
DE0004R arsenic	0.131	0.072	0.120	0.142	0.156	0.103	0.039	0.131	0.055	0.059	0.059	0.062
DE0004R cadmium	0.078	0.055	0.064	0.065	0.085	0.078	0.029	0.077	0.049	0.045	0.047	0.060
DE0004R copper	7.023	4.207	5.463	5.376	6.876	4.371	2.522	11.311	3.374	2.308	1.397	2.298
DE0004R lead	2.275	1.431	2.136	2.788	2.559	2.211	0.988	2.646	1.228	1.421	1.856	1.848
DE0004R manganese	3.718	3.527	5.673	6.825	7.602	7.947	2.779	13.253	2.361	3.182	2.067	2.174
DE0004R nickel	0.921	0.701	0.514	0.708	1.029	2.438	0.477	1.145	0.465	0.378	0.163	0.655
DE0004R zinc	24.345	19.686	22.103	21.996	32.069	32.675	12.159	23.268	9.583	29.925	16.010	16.979
DE0004R cobalt	0.057	0.050	0.080	0.069	0.090	0.064	0.028	0.126	0.028	0.036	0.024	0.039
DE0004R iron	69.544	76.039	100.130	70.405	99.999	66.202	32.802	102.779	36.221	43.824	26.658	62.055
DE0004R vanadium	0.594	0.359	0.598	0.401	0.454	0.588	0.344	0.743	0.317	0.277	0.210	0.286
DE0009R iron	23.791	32.085	18.449	15.949	31.124	27.092	16.350	13.260	31.809	101.609	52.375	129.715
DE0009R chromium	0.110	0.171	0.163	0.090	0.201	0.082	0.118	0.082	0.221	0.555	0.370	0.288
DE0009R cobalt	0.138	0.103	0.104	0.024	0.813	0.065	0.023	0.025	0.072	0.065	0.051	0.047
DE0009R manganese	2.373	2.461	2.118	1.363	10.888	2.808	3.114	2.485	3.101	4.448	1.855	2.013
DE0009R nickel	0.450	1.891	1.502	0.228	0.502	0.571	0.446	0.309	0.759	0.962	0.363	0.381
DE0009R vanadium	0.844	0.515	0.551	0.399	0.723	0.568	0.557	0.473	0.421	0.582	0.257	0.602
DE0009R arsenic	0.114	0.087	0.133	0.463	0.150	0.103	0.092	0.106	0.114	0.273	0.078	0.125
DE0009R copper	3.740	6.415	6.067	3.242	3.098	2.395	2.784	1.937	5.482	6.282	3.022	3.814
DE0009R mercury	13.970	6.588	5.662	10.078	19.739	19.649	20.319	19.587	13.269	15.444	7.285	24.498
DE0009R lead	1.247	1.132	0.818	0.928	1.078	0.395	0.434	0.558	1.318	2.552	0.902	1.084
DE0009R zinc	13.120	13.232	19.381	7.533	19.435	9.133	10.514	12.253	13.220	22.710	16.239	9.048

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DE0009R cadmium	0.189	0.028	0.031	0.030	0.052	0.025	0.017	0.025	0.037	0.089	0.033	0.037
DK0008R arsenic	0.486	0.731	0.310	0.247	0.239	0.189	0.300	0.287	0.218	0.413	0.289	0.401
DK0008R cadmium	0.097	0.080	0.028	0.043	0.047	0.039	0.050	0.108	0.047	0.069	0.055	0.062
DK0008R chromium	0.483	0.645	0.254	0.533	0.192	0.179	0.335	0.756	0.120	0.169	0.118	0.105
DK0008R copper	1.102	0.952	0.610	1.792	1.870	0.582	1.639	4.616	1.461	0.999	1.037	0.821
DK0008R lead	2.286	1.569	1.035	2.972	2.667	1.075	2.485	7.821	1.626	2.482	2.033	1.984
DK0008R nickel	0.893	0.424	0.170	0.369	0.243	0.092	0.530	1.582	0.271	0.184	0.237	0.057
DK0008R zinc	20.813	15.098	9.595	7.851	11.269	7.280	10.000	51.691	7.601	9.784	8.350	7.275
DK0020R arsenic	0.158	0.237	0.335	0.138	0.203	0.169	0.198	0.152	0.223	0.321	0.408	0.408
DK0020R cadmium	0.079	0.037	0.043	0.090	0.125	0.047	0.076	0.171	0.320	0.155	0.103	0.103
DK0020R chromium	0.176	0.147	0.207	0.545	0.347	0.126	0.119	0.730	0.188	0.419	0.136	0.136
DK0020R copper	0.936	0.624	0.703	1.441	5.161	0.922	0.866	3.035	6.596	1.496	1.194	1.194
DK0020R lead	1.666	2.479	2.291	5.887	2.474	1.277	1.524	5.773	1.448	2.635	3.037	3.037
DK0020R nickel	0.425	0.166	0.133	0.256	0.763	0.139	0.238	1.507	0.326	0.438	0.114	0.114
DK0020R zinc	24.134	23.024	9.077	20.005	26.418	8.619	17.365	27.204	34.788	12.829	16.300	16.300
DK0031R arsenic	0.098	0.046	0.188	0.205	0.205	0.214	0.111	0.232	0.182	0.132	0.090	0.090
DK0031R cadmium	0.032	0.037	0.034	0.030	0.031	0.080	0.083	0.043	0.041	0.030	0.046	0.046
DK0031R chromium	0.070	0.090	0.182	0.168	0.167	0.130	0.073	0.106	0.075	0.080	0.098	0.098
DK0031R copper	0.304	0.252	0.466	0.631	0.641	1.143	0.975	0.578	0.703	0.421	0.400	0.400
DK0031R lead	0.682	0.578	0.848	1.476	1.485	1.887	0.866	0.787	0.906	0.659	0.585	0.585
DK0031R nickel	0.160	0.126	0.571	0.116	0.117	0.190	0.206	0.355	0.219	0.066	0.169	0.169
DK0031R zinc	8.003	5.617	4.285	13.972	13.961	13.235	9.043	7.508	6.790	5.707	10.038	10.038
EE0009R arsenic	0.300	0.600	0.100	0.100	0.100	0.400	0.400	0.400	0.100	0.200	0.400	0.400
EE0009R cadmium	0.090	0.080	0.060	0.070	0.030	0.060	0.050	0.070	0.050	0.070	0.080	0.200
EE0009R copper	20.000	30.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	10.000
EE0009R lead	0.500	0.500	2.100	2.100	0.500	0.500	0.500	0.500	0.500	1.300	0.500	7.200
EE0009R zinc	-	-	-	10.000	10.000	130.000	30.000	20.000	10.000	-	-	5.000
EE0011R arsenic	0.500	0.100	0.100	0.100	0.300	0.100	1.200	-	-	0.500	0.300	-
EE0011R cadmium	0.140	0.080	0.090	0.060	0.040	0.040	0.050	-	-	0.030	0.080	-
EE0011R copper	10.300	57.100	80.400	1.200	19.800	11.100	11.200	-	-	3.400	0.500	-
EE0011R lead	1.700	1.200	1.400	1.500	0.500	0.500	0.500	-	-	0.500	1.200	-
EE0011R zinc	20.000	30.000	20.000	5.000	5.000	5.000	5.000	-	-	5.000	10.000	-
FI0008R arsenic	0.025	0.069	0.143	0.134	0.105	0.128	0.155	0.122	0.083	0.494	0.136	0.072
FI0008R cadmium	0.005	0.006	0.024	0.045	0.017	0.017	0.019	0.012	0.007	0.112	0.021	0.011
FI0008R chromium	0.010	0.100	0.100	0.200	0.110	0.230	0.140	0.030	0.070	0.410	0.050	0.010
FI0008R copper	0.170	2.100	1.140	1.930	0.780	1.220	0.690	0.810	1.060	4.590	0.770	1.100
FI0008R iron	0.750	6.620	18.740	13.090	20.530	5.270	17.930	21.310	2.000	39.310	13.110	3.810
FI0008R lead	0.150	0.230	1.100	0.770	0.480	0.410	0.510	0.340	0.190	3.600	0.660	0.290
FI0008R manganese	0.080	0.180	0.630	0.640	1.440	1.020	1.240	0.700	0.690	4.860	0.170	0.180
FI0008R nickel	0.080	0.290	0.490	0.460	0.250	0.290	0.420	0.150	0.170	0.790	0.150	0.270
FI0008R vanadium	0.070	0.120	0.140	0.330	0.190	0.120	0.110	0.090	0.040	0.920	0.130	0.200
FI0008R zinc	0.230	2.030	3.090	1.730	1.140	1.310	1.340	1.430	0.630	9.620	1.100	1.560
FI0009R arsenic	2.496	0.563	-	0.448	0.352	0.221	0.163	0.138	0.206	0.877	0.419	0.387
FI0009R cadmium	0.528	0.108	-	0.131	0.091	0.052	0.028	0.029	0.025	0.232	0.182	0.112
FI0009R chromium	2.770	0.580	-	0.260	0.250	0.210	0.130	0.220	0.130	0.470	0.150	0.110
FI0009R copper	9.490	3.940	-	1.760	2.920	1.520	0.880	3.230	1.050	3.460	1.800	1.580
FI0009R lead	10.170	3.870	-	4.840	4.430	1.360	0.710	0.870	0.640	8.790	5.350	3.680
FI0009R manganese	6.170	4.860	-	7.420	8.030	3.490	1.410	3.510	1.170	9.320	2.070	1.250

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FI0009R nickel	2.750	0.950	-	0.580	0.460	0.470	0.180	0.250	0.280	0.910	0.490	0.450
FI0009R zinc	25.690	16.910	-	8.130	9.730	4.910	1.790	4.200	2.670	19.730	9.470	7.940
FI0017R arsenic	0.449	0.370	1.105	0.418	0.377	0.142	0.124	0.064	0.076	0.412	0.361	0.204
FI0017R cadmium	0.046	0.074	0.138	0.141	0.090	0.037	0.035	0.030	0.035	0.214	0.134	0.156
FI0017R iron	51.550	37.070	117.370	48.040	76.250	28.080	34.780	19.090	11.080	38.660	42.370	29.730
FI0017R copper	1.020	1.780	3.520	1.040	1.590	0.810	0.630	0.800	0.760	1.090	0.770	0.660
FI0017R lead	2.270	2.840	4.740	4.520	3.400	1.030	1.130	0.420	1.070	5.350	4.620	2.100
FI0017R manganese	1.720	1.790	3.730	4.680	7.740	3.490	3.780	1.470	0.780	2.740	2.070	1.170
FI0017R nickel	1.000	0.600	0.950	0.400	0.300	0.200	0.190	0.130	0.140	0.470	0.390	0.330
FI0017R vanadium	1.200	1.330	2.220	0.820	0.520	0.360	0.310	0.300	0.200	0.960	0.930	1.000
FI0017R zinc	7.270	7.030	16.680	5.970	8.270	4.540	2.990	2.090	3.340	9.140	6.550	4.460
FI0022R arsenic	0.070	0.052	0.389	0.394	0.119	0.114	0.083	0.149	0.180	0.128	0.101	0.031
FI0022R cadmium	0.017	0.015	0.022	0.094	0.035	0.031	0.019	0.003	0.030	0.039	0.031	0.008
FI0022R chromium	0.040	0.050	0.440	0.260	0.080	0.240	0.090	0.100	0.050	0.100	0.050	0.010
FI0022R copper	0.390	1.230	0.790	1.280	0.940	0.500	0.760	0.600	2.000	0.650	0.420	0.300
FI0022R iron	0.750	22.640	11.090	29.310	29.350	11.490	14.440	8.110	6.780	9.670	11.550	3.310
FI0022R lead	0.400	0.290	0.640	2.750	0.850	0.560	0.460	0.100	0.520	1.220	0.840	0.220
FI0022R manganese	0.270	0.440	1.740	4.360	2.800	3.480	1.990	0.970	2.430	1.160	0.260	0.110
FI0022R nickel	0.100	0.080	0.180	0.370	0.200	0.130	0.110	0.070	0.230	0.170	0.120	0.060
FI0022R vanadium	0.150	0.170	0.270	0.700	0.290	0.270	0.140	0.080	0.150	0.280	0.230	0.130
FI0022R zinc	1.630	1.310	1.720	4.900	3.450	2.300	1.520	1.230	1.710	2.180	1.280	0.710
FI0053R iron	33.460	39.390	32.590	43.890	201.230	14.370	27.930	17.780	11.520	49.570	19.990	9.660
FI0053R arsenic	0.167	0.088	0.194	0.312	0.189	0.114	0.083	0.045	0.151	0.343	0.123	0.066
FI0053R cadmium	0.046	0.030	0.055	0.102	0.041	0.031	0.026	0.014	0.042	0.141	0.045	0.020
FI0053R chromium	0.180	0.120	0.250	0.280	0.390	0.110	0.090	0.010	0.070	0.220	0.060	0.020
FI0053R copper	2.020	1.570	1.930	1.200	1.600	1.050	1.110	0.360	1.620	1.090	0.600	0.450
FI0053R lead	1.640	0.960	1.820	3.320	1.400	1.280	0.730	0.330	0.890	4.690	1.250	0.690
FI0053R manganese	5.260	1.690	3.200	6.510	11.000	2.340	3.270	1.850	2.410	3.000	0.600	0.640
FI0053R nickel	0.460	0.240	0.480	0.450	0.400	0.200	0.180	0.080	0.540	0.340	0.140	0.130
FI0053R vanadium	2.770	0.710	0.850	1.000	2.160	0.390	0.250	0.240	0.350	0.800	0.360	0.360
FI0053R zinc	7.980	3.730	5.690	7.120	6.020	4.220	2.760	1.800	4.240	8.040	2.700	2.110
FI0092R arsenic	0.098	0.049	0.092	0.649	0.143	0.104	0.065	0.029	0.066	0.143	0.103	0.070
FI0092R cadmium	0.037	0.011	0.039	0.256	0.058	0.021	0.017	0.012	0.026	0.080	0.067	0.032
FI0092R chromium	0.060	0.130	0.110	0.460	0.150	0.490	0.060	0.070	0.010	0.090	0.140	0.010
FI0092R copper	0.240	0.610	0.480	3.020	1.190	1.040	0.510	0.510	1.120	0.770	0.230	0.230
FI0092R iron	4.920	5.150	15.170	115.780	23.800	9.250	12.340	7.750	5.340	13.060	10.600	1.540
FI0092R lead	0.830	0.440	0.800	8.980	1.640	0.580	0.490	0.190	0.520	2.160	1.140	0.650
FI0092R manganese	0.460	0.540	0.840	11.520	4.600	3.320	1.390	0.530	0.890	1.290	0.350	0.230
FI0092R nickel	0.170	0.130	0.210	0.880	0.270	0.160	0.090	0.050	0.190	0.260	0.150	0.110
FI0092R vanadium	0.430	0.230	0.380	1.530	0.300	0.140	0.130	0.130	0.230	0.400	0.300	0.310
FI0092R zinc	2.510	1.490	1.750	16.440	9.610	2.180	1.270	0.860	1.520	4.170	1.970	1.460
FI0093R zinc	2.040	3.280	2.470	17.650	5.710	5.680	1.950	1.910	3.340	4.940	2.750	2.900
FI0093R cadmium	0.019	0.027	0.022	0.226	0.033	0.060	0.034	0.009	0.026	0.076	0.077	0.045
FI0093R chromium	0.040	0.090	0.070	0.270	0.070	0.240	0.040	0.050	0.060	0.080	0.010	0.010
FI0093R copper	0.370	0.680	0.620	3.630	0.850	1.220	0.420	0.560	2.360	0.820	0.470	0.440
FI0093R iron	6.150	11.270	20.410	84.650	19.160	14.520	7.720	14.060	11.900	12.960	9.480	5.330
FI0093R lead	0.770	1.080	0.830	7.820	0.870	0.750	0.760	0.330	0.370	2.240	1.460	1.020
FI0093R manganese	1.070	0.910	1.680	19.360	10.810	6.050	1.720	1.400	3.590	6.460	2.150	0.520

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FI0093R nickel	0.190	0.200	0.220	0.860	0.220	0.230	0.100	0.120	0.210	0.210	0.140	0.160
FI0093R vanadium	0.370	0.440	0.360	1.620	0.270	0.240	0.210	0.210	0.230	0.400	0.330	0.410
FI0093R arsenic	0.073	0.112	0.084	0.610	0.137	0.116	0.085	0.047	0.104	0.177	0.126	0.100
FI0096R copper	0.810	0.620	1.800	0.480	0.810	0.640	0.740	0.850	1.140	1.420	0.430	0.360
FI0096R zinc	1.370	0.880	1.140	0.990	1.410	2.270	2.330	1.600	1.770	4.970	1.430	0.770
FI0096R iron	3.500	5.350	16.630	5.470	17.890	6.050	12.870	7.060	4.360	17.200	3.410	0.750
FI0096R nickel	0.120	0.080	0.290	0.230	0.190	0.170	0.230	0.100	0.150	0.330	0.110	0.070
FI0096R arsenic	0.042	0.039	0.124	0.063	0.138	0.171	0.312	0.089	0.045	0.230	0.045	0.014
FI0096R cadmium	0.012	0.016	0.022	0.013	0.021	0.020	0.040	0.014	0.016	0.112	0.013	0.003
FI0096R manganese	0.260	0.190	1.320	0.420	1.490	0.840	3.030	5.330	3.070	2.520	0.170	0.140
FI0096R lead	0.380	0.380	0.650	0.500	0.680	0.510	1.170	0.360	0.410	2.720	0.410	0.140
FI0096R vanadium	0.140	0.150	0.300	0.190	0.230	0.200	0.170	0.150	0.160	0.610	0.140	0.070
FI0096R chromium	0.030	0.010	0.130	0.270	0.190	0.070	0.090	0.050	0.030	0.160	0.010	0.010
FR0090R arsenic	0.060	0.070	0.110	0.070	0.030	0.040	0.090	0.080	0.010	0.020	0.020	0.020
FR0090R cadmium	0.020	0.010	0.040	0.040	0.020	0.040	0.050	0.050	0.010	0.010	0.020	0.020
FR0090R chromium	0.240	0.040	0.040	0.020	0.210	0.380	0.330	0.210	0.170	0.110	0.380	0.090
FR0090R copper	1.170	1.400	0.820	1.090	0.490	1.280	3.170	2.650	0.360	0.530	0.560	0.510
FR0090R lead	3.020	2.160	1.200	1.440	1.370	1.790	4.850	2.350	1.060	1.260	2.200	1.610
FR0090R nickel	0.340	0.770	0.560	1.230	0.540	0.640	4.570	2.700	0.260	0.480	0.400	0.340
FR0090R zinc	3.380	1.270	3.970	3.830	2.110	3.870	7.750	2.250	1.410	1.660	0.860	1.200
GB0014R arsenic	0.130	0.263	0.217	0.170	0.161	0.120	0.110	0.121	0.140	0.111	0.103	0.180
GB0014R cadmium	0.040	0.164	0.086	0.070	0.053	0.030	0.030	0.030	0.030	0.030	0.041	0.060
GB0014R chromium	0.230	0.230	0.337	0.170	0.280	0.400	0.140	0.207	0.090	0.100	0.069	0.050
GB0014R copper	0.700	0.700	2.116	1.110	1.938	1.130	0.970	0.865	0.520	0.656	0.526	0.220
GB0014R lead	1.560	1.560	4.933	3.120	2.894	1.800	1.125	1.550	1.463	1.353	2.148	2.363
GB0014R nickel	0.240	0.240	0.663	0.340	0.325	0.390	0.270	0.316	0.180	0.141	0.110	0.120
GB0014R zinc	4.800	12.784	11.239	7.800	6.778	5.520	8.858	13.647	17.223	11.476	6.151	8.858
GB0090R arsenic	1.072	1.488	1.230	0.570	0.219	0.160	0.122	0.102	0.140	0.083	0.070	0.100
GB0090R cadmium	0.191	0.211	0.140	0.410	0.105	0.050	0.040	0.031	0.040	0.021	0.030	0.040
GB0090R chromium	0.410	0.463	0.490	0.210	0.145	0.070	0.089	0.339	0.510	0.123	0.060	0.150
GB0090R copper	3.310	6.392	7.540	3.830	2.167	1.910	1.367	0.717	0.660	0.575	0.500	1.780
GB0090R nickel	0.542	0.889	0.970	0.610	0.370	0.350	0.379	0.495	0.220	0.097	0.150	0.440
GB0090R lead	2.193	2.660	3.595	3.434	2.476	0.600	1.362	1.405	1.500	0.651	0.800	1.100
GB0090R zinc	20.691	32.422	57.606	42.748	16.403	92.400	18.517	51.727	7.100	35.214	7.100	10.800
GB0091R arsenic	0.040	0.064	0.111	0.123	0.057	0.084	0.102	0.069	0.082	0.059	0.071	0.039
GB0091R cadmium	0.079	0.183	0.062	0.028	0.017	0.076	0.049	0.076	0.056	0.025	0.037	0.025
GB0091R chromium	0.077	0.162	0.553	0.656	0.321	0.382	0.473	0.408	0.117	0.067	0.090	0.062
GB0091R copper	0.300	5.850	2.828	2.025	2.363	2.048	1.488	0.729	0.435	0.329	0.529	0.285
GB0091R nickel	0.442	0.618	0.655	0.664	-	0.428	0.218	0.281	0.147	0.076	0.121	0.119
GB0091R lead	0.675	0.746	1.197	1.320	1.032	1.412	0.982	1.688	0.871	0.586	0.624	0.466
GB0091R zinc	14.400	10.016	14.320	15.600	4.300	11.385	7.833	11.600	8.464	8.100	7.683	4.888
IE0001R aluminium	10.000	34.600	197.000	21.100	10.000	10.000	25.000	25.000	25.000	25.000	25.000	25.000
IE0001R arsenic	0.250	0.250	0.250	0.250	0.250	0.250	0.500	0.500	0.500	0.500	0.500	0.500
IE0001R cadmium	0.025	0.025	0.070	0.025	0.025	0.025	0.050	0.050	0.050	0.050	0.050	0.050
IE0001R chromium	0.250	0.250	0.250	0.250	0.250	0.250	0.500	0.500	0.500	0.500	0.500	0.500
IE0001R copper	0.600	0.250	1.200	0.250	0.600	0.250	0.500	2.000	0.500	0.500	12.100	0.500
IE0001R lead	0.250	0.250	1.000	0.250	0.250	0.250	0.500	0.500	0.500	0.500	1.000	0.500
IE0001R manganese	1.100	2.200	9.000	3.800	3.300	2.800	4.000	1.400	5.400	5.400	1.800	0.500

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
IE0001R nickel	0.250	0.250	0.250	0.250	0.250	0.250	0.500	0.500	0.500	0.500	0.500	0.500
IE0001R vanadium	0.250	0.250	0.600	0.250	0.250	0.250	0.500	0.500	0.500	0.500	0.500	0.500
IE0001R zinc	46.300	38.100	47.600	20.100	16.000	27.800	54.100	34.900	17.000	38.800	36.900	21.700
IE0002R aluminium	10.000	45.000	466.200	34.800	10.000	10.000	35.800	25.000	25.000	25.000	25.000	-
IE0002R arsenic	0.250	0.250	0.250	0.250	0.250	0.250	0.500	0.500	0.500	0.500	0.500	-
IE0002R lead	0.700	1.000	2.800	0.250	1.200	0.250	0.500	0.500	0.500	0.500	0.500	-
IE0002R cadmium	0.025	0.070	0.110	0.100	0.070	0.025	0.050	0.050	0.050	0.100	0.110	-
IE0002R chromium	0.250	0.250	2.000	0.250	0.800	0.250	0.500	0.500	0.500	0.500	0.500	-
IE0002R copper	1.500	1.000	5.300	0.900	1.100	0.250	1.700	0.500	0.500	1.900	25.300	-
IE0002R manganese	0.800	2.600	14.800	6.000	4.100	2.700	6.300	1.700	4.100	15.300	4.000	-
IE0002R nickel	0.250	0.250	1.500	0.600	0.250	0.250	0.500	0.500	0.500	0.500	0.500	-
IE0002R vanadium	0.250	0.250	1.600	0.600	0.250	0.250	0.500	0.500	0.500	0.500	0.500	-
IE0002R zinc	3.600	4.100	9.000	2.000	4.400	0.250	8.800	4.300	3.800	7.900	26.300	-
IS0002R aluminium	31.428	47.793	30.640	325.170	68.078	507.834	11.306	128.190	119.662	65.455	583.238	280.970
IS0002R arsenic	0.025	0.025	0.025	0.025	0.042	0.025	0.025	0.026	0.025	0.025	0.025	0.025
IS0002R cadmium	0.081	0.021	0.012	0.009	0.011	0.010	0.011	0.010	0.006	0.010	0.016	0.042
IS0002R chromium	0.058	0.165	0.050	0.275	0.100	0.336	0.123	1.534	0.113	0.050	0.629	0.602
IS0002R copper	1.828	1.413	1.179	0.992	0.524	1.529	0.433	1.151	0.679	0.456	2.239	3.065
IS0002R iron	22.058	55.200	24.297	374.376	91.974	623.878	5.745	202.869	100.780	84.013	564.129	1122.075
IS0002R lead	0.809	0.804	0.617	0.834	0.399	0.562	0.282	0.328	0.324	0.295	0.635	2.436
IS0002R manganese	0.494	1.051	0.715	3.315	1.465	10.774	0.430	3.847	1.782	1.350	8.538	16.138
IS0002R nickel	0.147	0.231	0.154	0.441	0.334	0.466	0.108	1.591	0.203	0.290	0.894	0.817
IS0002R vanadium	0.487	0.393	0.204	0.864	0.412	1.474	0.122	0.488	0.287	0.269	1.340	2.559
IS0002R zinc	35.512	27.886	36.916	6.700	4.265	5.739	5.781	4.542	7.685	11.736	23.372	45.373
IS0090R aluminium	100.003	39.727	90.435	866.453	331.361	727.945	118.985	105.060	83.443	148.898	263.216	362.554
IS0090R arsenic	0.063	0.036	0.026	0.044	0.064	0.047	0.030	0.031	0.029	0.025	0.025	0.029
IS0090R cadmium	0.028	0.008	0.008	0.016	0.021	0.009	0.012	0.005	0.007	0.006	0.005	0.005
IS0090R chromium	0.205	0.050	0.056	0.784	0.287	0.450	0.355	0.081	0.120	0.050	0.192	0.159
IS0090R copper	1.572	0.777	1.007	3.618	2.581	2.770	1.854	1.285	0.802	1.733	3.461	2.082
IS0090R iron	81.574	45.983	78.319	620.187	257.088	848.207	114.667	96.422	94.062	130.543	383.712	360.084
IS0090R lead	0.441	0.349	0.430	1.633	0.909	0.895	0.673	0.388	0.386	1.192	0.922	0.453
IS0090R manganese	1.794	0.529	1.167	12.709	5.532	14.763	2.330	1.831	1.823	2.148	6.198	5.605
IS0090R nickel	1.395	0.168	0.238	3.022	1.141	0.664	0.474	0.741	0.205	0.592	0.845	0.413
IS0090R vanadium	0.967	0.373	0.254	0.997	0.562	1.872	0.439	0.334	0.295	0.372	0.676	0.705
IS0090R zinc	3.878	1.550	1.461	13.916	9.080	5.965	4.355	2.554	3.237	5.889	11.195	3.629
LT0015R cadmium	0.519	0.241	0.180	0.124	0.134	0.103	0.333	0.235	0.122	0.086	0.555	0.202
LT0015R copper	1.675	1.759	1.434	1.748	1.020	1.832	1.197	1.852	1.655	1.341	3.389	1.437
LT0015R lead	48.122	24.738	10.762	8.211	7.591	10.175	7.994	7.334	2.623	2.322	7.845	4.289
LT0015R zinc	25.402	10.614	17.200	11.319	11.161	14.571	10.381	15.816	8.858	10.038	16.075	11.843
LV0010R cadmium	-	0.090	0.140	0.310	0.010	0.010	-	0.320	0.230	0.110	0.030	0.030
LV0010R copper	-	1.200	0.700	2.000	5.600	0.500	-	1.300	1.000	0.600	0.100	1.200
LV0010R lead	-	5.300	2.500	4.300	0.200	0.300	-	0.500	3.000	0.600	0.400	1.700
LV0010R precipitation_amount	-	53.500	51.700	16.100	28.700	48.800	-	58.200	9.200	44.900	94.100	50.900
LV0010R zinc	-	10.300	22.100	55.000	8.500	17.800	-	28.800	68.300	15.800	14.400	16.200
LV0016R cadmium	-	0.030	0.100	0.060	0.010	0.010	-	0.010	0.060	0.080	0.010	0.170
LV0016R copper	-	1.000	0.700	5.800	1.200	0.300	-	0.200	1.100	1.000	1.900	4.200
LV0016R lead	-	2.700	2.100	0.400	0.100	0.100	-	0.100	1.800	0.900	0.400	3.100
LV0016R precipitation_amount	-	37.600	75.400	30.400	25.700	64.100	-	90.300	16.300	45.900	47.300	36.600

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LV0016R zinc	-	7.800	9.500	3.600	7.500	12.300	-	18.300	25.600	36.700	9.300	9.200
NL0009R arsenic	0.075	0.126	0.298	0.822	0.300	0.202	0.221	0.105	0.302	0.330	-	-
NL0009R cadmium	0.067	0.067	0.075	0.145	0.104	0.083	0.057	0.069	0.097	0.107	-	-
NL0009R chromium	0.260	0.260	0.334	0.340	0.260	0.260	0.260	0.260	0.260	0.260	-	-
NL0009R copper	1.142	1.101	2.607	4.458	2.105	2.932	1.909	1.630	1.522	1.810	-	-
NL0009R lead	1.308	1.766	2.516	4.634	2.585	2.177	1.524	1.685	2.474	2.390	-	-
NL0009R nickel	0.205	0.304	0.498	0.597	0.271	0.492	0.250	0.417	0.205	0.205	-	-
NL0009R zinc	5.206	5.967	7.775	15.089	8.560	6.416	5.647	6.929	9.343	9.900	-	-
NL0091R arsenic	0.075	0.075	0.103	0.197	0.096	0.175	0.092	0.154	0.075	0.075	0.075	0.075
NL0091R cadmium	0.052	0.046	0.080	0.153	0.063	0.089	0.026	0.065	0.043	0.042	0.049	0.054
NL0091R chromium	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260
NL0091R copper	0.970	0.960	1.935	3.598	2.069	4.266	2.247	4.750	0.988	1.263	1.484	1.170
NL0091R lead	2.830	2.541	2.782	6.708	3.213	4.485	3.012	3.674	2.093	2.657	3.183	3.650
NL0091R zinc	4.100	3.028	4.098	14.132	7.517	10.658	5.204	6.483	4.873	5.531	5.555	5.300
NL0091R mercury	8.966	8.541	11.814	19.836	9.820	19.538	8.790	31.416	13.418	5.780	5.823	5.683
NL0091R nickel	0.205	0.205	0.326	0.512	0.243	0.524	0.259	0.542	0.205	0.205	0.205	0.205
NO0001R cadmium	0.017	0.031	0.014	0.065	0.044	0.030	0.019	0.013	0.027	0.045	0.026	0.025
NO0001R lead	0.661	0.937	0.730	2.383	1.224	1.068	0.618	1.029	1.549	2.096	1.423	1.261
NO0001R zinc	2.874	2.320	2.398	4.997	2.999	3.271	2.026	2.841	3.156	3.873	3.032	4.035
NO0001R precipitation_amount	139.682	152.007	63.599	109.299	118.727	73.980	124.872	78.822	216.434	344.459	630.924	200.032
NO0001R zinc	2.874	2.322	2.395	4.996	3.000	3.271	2.025	2.840	3.156	3.874	3.031	4.034
NO0039R cadmium	0.005	0.004	0.003	0.013	0.015	0.010	0.004	0.022	0.021	0.034	0.048	0.025
NO0039R lead	0.151	0.120	0.150	0.245	0.460	0.160	0.222	0.102	0.142	0.502	1.043	0.286
NO0039R precipitation_amount	202.356	138.025	210.509	41.082	60.287	177.962	66.785	148.440	35.605	25.541	1.242	75.288
NO0039R zinc	1.672	0.480	0.711	0.975	1.968	0.619	0.792	0.639	2.107	2.232	3.786	0.680
NO0041R cadmium	0.030	0.021	0.027	0.054	0.077	0.032	0.022	0.047	0.040	0.099	0.022	0.013
NO0041R lead	0.510	0.609	3.120	1.592	1.137	0.855	1.310	2.204	1.920	2.096	0.632	0.428
NO0041R precipitation_amount	25.287	37.580	11.911	94.203	68.248	109.268	101.498	125.287	60.477	213.981	187.325	71.433
NO0041R zinc	4.424	3.320	8.024	13.344	7.386	5.784	7.533	6.253	8.104	4.397	1.615	1.457
NO0047R arsenic	0.334	0.975	1.042	2.320	1.374	1.634	2.982	1.355	1.545	0.580	6.390	2.977
NO0047R cadmium	0.058	0.099	0.124	0.140	0.093	0.079	0.147	0.061	0.124	0.057	0.383	0.215
NO0047R chromium	0.190	0.251	0.569	0.317	0.301	0.308	0.191	0.134	0.238	0.131	0.449	0.220
NO0047R cobalt	0.052	0.261	0.376	0.522	0.651	0.814	0.652	0.361	0.588	0.106	1.856	0.962
NO0047R copper	2.615	16.090	18.045	22.855	24.151	21.728	21.579	13.490	15.867	4.151	85.936	43.949
NO0047R lead	0.497	0.969	1.556	2.077	1.492	2.155	2.435	1.346	2.144	1.330	8.732	2.353
NO0047R nickel	1.490	8.040	12.160	17.069	22.391	25.178	21.298	11.836	19.170	3.513	72.659	31.206
NO0047R precipitation_amount	24.841	19.521	31.019	45.095	28.153	25.987	63.357	65.147	35.446	27.261	14.681	15.160
NO0047R zinc	2.869	2.385	6.048	6.537	3.942	6.686	5.019	6.745	5.762	3.312	9.936	4.249
NO0055R cadmium	0.020	0.014	0.038	0.029	0.014	0.032	0.017	0.008	0.009	0.021	0.014	0.008
NO0055R lead	0.197	0.343	0.212	1.113	0.435	0.903	0.581	0.385	0.249	1.123	0.796	0.358
NO0055R precipitation_amount	24.044	7.994	7.580	16.624	34.618	63.185	28.148	26.147	49.395	12.390	16.846	17.802
NO0055R zinc	3.109	4.565	19.220	7.546	4.880	41.517	3.437	1.435	0.885	5.495	3.631	2.844
NO0056R cadmium	0.021	0.043	0.017	0.067	0.020	0.026	0.029	0.022	0.054	0.071	0.036	0.030
NO0056R lead	0.755	0.867	0.260	2.190	0.791	0.828	0.551	0.585	2.029	1.800	0.923	0.724
NO0056R precipitation_amount	38.154	36.400	16.784	117.197	90.160	103.821	130.860	76.624	52.835	257.707	326.146	82.867
NO0056R zinc	4.354	5.422	1.079	8.247	2.915	7.063	3.690	3.265	18.113	2.852	1.957	1.997
NO0092R arsenic	0.050	0.050	0.050	0.050	0.050	0.065	0.050	0.054	0.170	0.094	0.050	0.087
NO0092R cadmium	0.016	0.021	0.012	0.017	0.029	0.024	0.019	0.022	0.007	0.019	0.015	0.020

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NO0092R chromium	0.100	0.100	0.100	0.100	0.100	0.100	0.109	0.131	0.166	0.191	0.100	0.105
NO0092R cobalt	0.006	0.009	0.005	0.017	0.009	0.021	0.008	0.006	0.005	0.005	0.048	0.044
NO0092R copper	0.338	0.180	0.354	0.473	0.242	0.378	0.487	0.296	0.449	1.060	0.440	0.297
NO0092R iron	6.033	6.819	5.000	5.000	7.419	8.944	6.080	5.664	8.838	14.456	5.000	5.000
NO0092R lead	0.301	0.206	0.241	0.418	0.342	0.303	0.445	0.592	0.332	1.178	1.514	0.198
NO0092R manganese	0.577	0.398	0.363	0.421	0.745	1.543	1.883	0.910	2.381	1.315	0.250	0.324
NO0092R nickel	0.100	0.153	0.324	0.356	0.100	0.372	0.129	0.203	0.144	0.507	0.530	0.118
NO0092R precipitation_amount	107.070	50.796	120.955	35.637	62.325	59.141	51.944	80.255	75.254	30.732	3.121	55.191
NO0092R vanadium	0.095	0.072	0.064	0.074	0.078	0.077	0.061	0.069	0.074	0.103	0.050	0.055
NO0092R zinc	2.168	1.557	1.789	3.187	1.343	2.246	2.122	1.303	1.092	5.568	3.774	1.224
NO0093R arsenic	0.050	0.050	0.050	0.050	0.061	0.055	0.050	0.050	0.069	0.118	0.102	0.251
NO0093R cadmium	0.025	0.036	0.040	0.029	0.023	0.046	0.005	0.002	0.011	0.041	0.033	0.007
NO0093R chromium	0.120	0.100	0.218	0.155	0.122	0.109	0.103	0.100	0.100	0.120	0.199	0.543
NO0093R cobalt	0.011	0.005	0.039	0.016	0.013	0.022	0.005	0.009	0.008	0.026	0.032	0.040
NO0093R copper	0.367	0.415	0.903	0.488	0.513	0.723	0.201	0.142	0.456	0.456	0.574	0.989
NO0093R iron	5.705	5.000	19.272	9.879	7.787	14.879	5.000	8.842	23.605	17.369	17.155	115.439
NO0093R lead	0.497	0.272	0.339	0.869	0.512	0.687	0.336	0.192	0.716	2.295	1.713	0.872
NO0093R manganese	0.721	0.534	1.858	0.928	1.434	17.841	3.004	2.408	5.779	1.291	2.111	1.897
NO0093R nickel	0.170	0.100	0.198	0.175	0.129	0.154	0.100	0.118	0.289	0.134	0.186	0.289
NO0093R precipitation_amount	36.752	32.740	21.020	60.064	79.237	66.305	101.751	82.229	24.459	130.828	146.020	39.969
NO0093R vanadium	0.075	0.095	0.071	0.118	0.071	0.168	0.050	0.093	0.267	0.269	0.207	0.102
NO0093R zinc	3.022	2.759	6.982	5.248	4.362	8.134	1.843	1.699	5.827	3.717	5.598	5.897
NO0094R arsenic	0.050	0.050	0.063	0.089	0.106	0.076	0.050	0.050	0.058	0.073	0.050	0.086
NO0094R cadmium	0.008	0.015	0.043	0.035	0.042	0.039	0.016	0.027	0.048	0.041	0.095	0.038
NO0094R chromium	0.100	0.100	0.107	0.113	0.140	0.127	0.100	0.100	0.100	0.100	0.222	0.100
NO0094R cobalt	0.005	0.017	0.027	0.013	0.018	0.015	0.005	0.005	0.008	0.007	0.038	0.005
NO0094R copper	1.793	2.870	1.632	1.023	1.218	1.299	0.388	0.238	0.906	1.700	4.364	0.795
NO0094R iron	8.316	12.591	10.906	27.053	21.914	8.420	5.000	5.000	5.000	5.000	10.273	5.000
NO0094R lead	0.987	0.566	0.348	1.273	1.014	0.669	0.277	0.371	0.469	1.273	2.310	0.644
NO0094R manganese	0.572	0.273	0.434	1.115	1.616	2.643	0.579	0.956	0.713	0.349	0.524	0.250
NO0094R nickel	0.100	0.100	0.491	0.192	0.228	0.235	0.100	0.100	0.190	0.241	0.890	0.189
NO0094R precipitation_amount	59.201	56.876	46.338	57.514	81.212	121.846	69.770	59.872	66.303	233.757	135.700	59.459
NO0094R vanadium	0.135	0.083	0.064	0.232	0.199	0.145	0.065	0.070	0.190	0.138	0.168	0.104
NO0094R zinc	1.548	2.938	8.940	2.825	4.297	5.216	1.972	1.270	3.237	7.059	17.613	3.016
NO0095R arsenic	0.059	0.050	0.050	0.094	0.068	0.097	0.054	0.092	0.065	0.156	0.083	0.081
NO0095R cadmium	0.010	0.011	0.006	0.038	0.022	0.022	0.006	0.052	0.040	0.020	0.022	0.018
NO0095R chromium	0.100	0.100	0.100	0.100	0.100	0.100	0.162	0.100	0.100	0.143	0.100	0.100
NO0095R cobalt	0.008	0.023	0.013	0.009	0.009	0.007	0.006	0.015	0.005	0.010	0.025	0.005
NO0095R copper	0.181	0.156	0.095	0.321	0.235	0.302	1.699	0.558	0.267	0.158	0.102	0.226
NO0095R iron	5.000	20.851	9.229	11.499	5.874	5.000	5.000	5.000	5.000	5.000	5.000	5.000
NO0095R lead	0.617	0.493	0.286	1.072	0.703	0.807	0.356	0.813	0.803	0.729	0.768	0.867
NO0095R manganese	0.274	0.557	0.371	1.434	0.716	1.087	0.492	0.774	0.395	0.289	0.250	0.250
NO0095R nickel	0.100	0.100	0.111	0.132	0.104	0.100	0.110	0.176	0.315	0.246	0.206	0.100
NO0095R precipitation_amount	256.242	292.261	145.859	118.694	172.834	152.166	49.173	148.058	147.230	477.070	385.797	249.332
NO0095R vanadium	0.368	0.425	0.219	0.405	0.298	0.369	0.107	0.350	0.313	0.805	0.491	0.526
NO0095R zinc	1.299	1.057	0.681	2.384	1.251	1.982	1.132	2.389	1.565	1.167	1.452	2.082
NO0099R precipitation_amount	109.109	144.841	63.822	61.242	66.910	59.522	44.561	88.057	152.644	304.075	275.000	124.237
NO0099R cadmium	0.021	0.014	0.015	0.050	0.050	0.030	0.025	0.029	0.059	0.048	0.036	0.038

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NO0099R copper	4.112	1.314	0.851	0.940	1.140	0.766	1.409	1.234	0.682	0.793	0.747	0.756
NO0099R lead	1.416	0.895	0.589	2.291	1.764	1.566	0.799	1.727	1.810	1.856	1.736	1.385
NO0099R nickel	0.587	0.271	0.209	0.316	0.617	0.313	1.316	0.513	0.261	0.249	0.254	0.201
NO0099R vanadium	2.767	1.806	1.167	0.788	1.284	0.777	2.059	0.831	0.825	1.696	1.518	1.751
NO0099R zinc	19.633	5.631	4.165	6.068	6.868	5.082	7.341	5.149	6.018	5.980	4.852	4.937
NO0099R chromium	0.145	0.160	0.100	0.195	0.193	0.116	0.100	0.180	0.119	0.163	0.181	0.173
NO0099R mercury	6.200	3.300	9.100	12.600	12.400	15.966	7.200	-	3.200	6.800	3.900	11.700
NO0099R cobalt	0.043	0.039	0.019	0.033	0.052	0.025	0.023	0.035	0.022	0.031	0.023	0.029
NO0099R arsenic	0.396	0.215	0.146	0.229	0.310	0.132	0.287	0.159	0.170	0.384	0.309	0.314
PT0001R cadmium	0.425	0.425	0.425	0.425	0.425	-	0.425	-	0.425	0.425	0.425	0.425
PT0001R manganese	1.075	8.120	5.794	2.321	2.918	-	8.453	-	4.188	3.104	2.425	1.367
PT0001R lead	0.645	0.645	0.645	0.645	0.645	-	0.645	-	0.645	0.745	0.645	1.448
PT0001R copper	0.325	0.990	2.900	0.919	1.355	-	1.164	-	2.604	0.567	1.950	0.834
PT0001R nickel	0.775	0.775	0.775	0.775	0.775	-	0.775	-	0.775	0.775	0.775	0.775
PT0001R zinc	3.000	4.000	18.137	28.885	7.905	-	23.714	-	31.994	16.027	88.341	155.686
PT0003R cadmium	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.434	0.425
PT0003R copper	1.723	3.044	5.377	1.484	2.019	2.567	5.399	3.724	4.068	0.899	0.501	0.622
PT0003R lead	0.645	0.645	1.357	1.126	0.645	0.645	0.645	0.645	0.645	0.645	0.984	0.645
PT0003R manganese	1.075	3.681	5.766	1.212	2.003	1.075	10.276	2.007	6.857	2.079	1.191	1.086
PT0003R nickel	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.787	0.782	0.775
PT0003R zinc	24.596	24.870	24.167	6.726	15.241	18.934	47.938	24.300	28.922	16.084	6.050	7.455
PT0004R cadmium	0.425	0.425	0.425	0.425	0.425	-	-	-	0.425	0.425	0.425	0.425
PT0004R copper	0.325	0.325	5.210	0.559	0.325	-	-	-	3.090	0.639	0.478	0.345
PT0004R lead	0.645	0.645	1.680	0.712	0.645	-	-	-	0.645	0.645	0.645	0.645
PT0004R manganese	1.075	1.075	58.120	1.822	1.304	-	-	-	10.250	1.075	1.239	1.675
PT0004R nickel	0.775	0.775	0.775	0.775	0.775	-	-	-	0.775	0.775	0.775	0.775
PT0004R zinc	12.000	9.000	75.000	9.406	4.388	-	-	-	28.000	9.396	10.944	5.510
PT0010R copper	1.932	2.491	2.286	1.186	1.599	2.498	1.646	1.973	1.229	1.571	0.628	0.403
PT0010R lead	1.464	3.713	0.903	1.093	2.114	1.835	1.432	1.051	1.313	4.163	4.516	1.327
PT0010R manganese	1.672	6.179	15.371	2.264	15.802	3.081	3.043	4.748	2.660	6.398	2.867	1.075
PT0010R nickel	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775
PT0010R zinc	31.903	27.988	147.409	13.671	54.440	23.763	20.563	33.205	32.983	55.172	30.557	20.467
PT0010R cadmium	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425
SE0002R mercury	8.300	10.600	6.600	10.400	10.800	6.900	5.800	12.600	10.700	6.500	9.500	8.000
SE0005R arsenic	0.051	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
SE0005R cadmium	0.010	0.030	0.040	0.030	0.082	0.110	0.018	0.011	0.070	0.040	0.020	0.058
SE0005R chromium	0.012	0.389	0.350	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.119
SE0005R copper	0.982	1.609	3.720	0.300	1.427	2.020	0.810	1.242	1.440	0.319	2.180	2.592
SE0005R iron	-	-	-	-	-	-	-	-	-	-	-	-
SE0005R lead	0.468	0.905	0.700	0.790	0.525	0.430	0.448	0.252	2.320	0.995	0.720	0.804
SE0005R manganese	2.961	2.548	4.600	1.200	1.200	-	1.800	2.043	6.100	0.867	0.300	1.750
SE0005R mercury	4.000	4.900	15.300	6.900	11.900	6.000	5.000	5.100	6.600	3.100	3.700	3.600
SE0005R zinc	5.388	7.199	5.890	2.900	2.900	-	5.700	20.349	25.880	2.497	2.590	7.649
SE0005R nickel	0.122	0.445	0.230	0.170	0.199	0.210	0.155	0.170	0.170	0.073	0.180	0.355
SE0005R cobalt	0.020	0.040	0.040	0.010	0.026	0.000	0.000	0.010	0.010	0.000	0.000	0.031
SE0005R vanadium	0.070	0.160	0.150	0.280	0.159	0.090	0.072	0.062	0.260	0.133	0.190	0.129
SE0011R mercury	17.600	19.100	11.000	12.200	28.800	11.200	9.100	10.800	9.200	8.700	10.100	12.200
SE0012R arsenic	0.150	0.155	0.250	0.340	-	0.130	-	-	-	-	-	-

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SE0012R cadmium	0.060	0.060	0.060	0.170	-	0.120	-	-	-	-	-	-
SE0012R chromium	0.810	0.801	0.640	0.320	-	0.150	-	-	-	-	-	-
SE0012R copper	1.580	1.574	1.460	1.390	-	5.720	-	-	-	-	-	-
SE0012R iron	-	-	-	-	-	-	-	-	-	-	-	-
SE0012R lead	2.540	2.515	2.050	6.160	-	2.730	-	-	-	-	-	-
SE0012R manganese	3.600	3.533	2.300	5.800	-	10.800	-	-	-	-	-	-
SE0012R nickel	0.720	0.701	0.350	0.390	-	0.430	-	-	-	-	-	-
SE0012R vanadium	0.790	0.773	0.460	0.600	-	0.600	-	-	-	-	-	-
SE0012R zinc	16.280	16.077	12.320	25.610	-	13.140	-	-	-	-	-	-
SE0012R cobalt	0.070	0.068	0.030	0.060	-	0.040	-	-	-	-	-	-
SE0051R arsenic	0.170	0.180	0.120	0.220	0.140	0.050	0.050	0.050	0.100	0.270	0.190	0.180
SE0051R cadmium	0.120	0.080	0.080	0.080	0.050	0.020	0.020	0.040	0.040	0.070	0.050	0.040
SE0051R chromium	0.050	0.050	0.050	0.190	0.090	0.050	0.050	0.050	0.170	0.050	0.050	0.050
SE0051R copper	2.070	1.530	0.730	3.230	4.990	0.430	1.500	2.290	2.030	1.050	0.970	1.210
SE0051R iron	-	-	-	-	-	-	-	-	-	-	-	-
SE0051R lead	2.680	2.540	1.930	3.140	2.480	0.790	1.120	1.780	1.820	3.610	2.820	1.810
SE0051R manganese	2.100	5.500	1.700	2.700	11.500	1.300	1.400	2.400	2.100	5.300	1.400	1.400
SE0051R nickel	0.320	0.530	0.270	0.300	0.280	0.120	0.120	0.370	0.270	0.210	0.260	0.120
SE0051R vanadium	0.850	0.930	0.530	0.400	0.360	0.200	0.340	0.630	0.400	0.590	0.500	0.670
SE0051R zinc	7.890	7.370	4.570	21.940	38.120	13.800	33.390	49.720	5.530	18.850	7.640	6.830
SE0051R cobalt	0.020	0.080	0.020	0.020	0.040	0.000	0.010	0.020	0.000	0.020	0.010	0.010
SE0097R arsenic	0.154	0.067	0.050	0.178	0.060	0.050	0.050	0.052	0.180	0.180	0.120	0.063
SE0097R cadmium	0.026	0.033	0.100	0.083	0.024	0.025	0.080	0.053	0.047	0.070	0.050	0.050
SE0097R chromium	0.070	0.112	0.180	0.069	0.050	0.050	0.050	0.059	0.457	0.050	0.050	0.050
SE0097R lead	1.421	1.324	1.810	2.921	1.329	1.126	0.760	1.418	1.967	2.450	1.610	1.090
SE0097R nickel	0.236	0.356	0.450	0.270	0.139	0.193	0.230	0.449	0.488	0.120	0.190	0.239
SE0097R zinc	3.564	8.422	10.360	9.727	10.807	27.814	33.300	53.608	18.614	10.760	3.960	3.132
SK0002R aluminium	33.000	22.000	21.000	24.000	33.000	24.000	12.000	32.000	16.000	40.000	35.000	16.000
SK0002R iron	166.000	37.000	7.000	-	-	-	30.000	36.000	24.000	28.000	40.000	26.000
SK0002R manganese	4.300	2.500	2.300	7.400	9.900	7.500	2.600	9.600	11.500	8.300	4.200	2.600
SK0002R zinc	181.000	38.000	100.000	12.000	53.000	48.000	64.000	96.000	47.000	36.000	23.000	67.000
SK0002R cadmium	0.900	0.200	0.300	0.300	1.500	1.900	1.900	3.000	0.900	0.500	0.300	0.400
SK0002R lead	7.000	5.000	6.000	4.000	6.000	4.000	3.000	5.000	2.000	6.000	5.000	2.000
SK0004R aluminium	35.000	20.000	14.000	22.000	21.000	28.000	13.000	20.000	38.000	138.000	27.000	33.000
SK0004R iron	36.000	11.000	-	-	-	-	13.000	12.000	26.000	75.000	15.000	34.000
SK0004R manganese	4.500	2.200	1.200	7.100	4.100	5.400	3.300	4.000	5.400	13.000	2.100	1.700
SK0004R zinc	28.000	9.000	-	4.000	-	1.000	8.000	7.000	8.000	29.000	5.000	3.000
SK0004R cadmium	2.600	1.000	0.200	0.300	0.100	0.200	0.400	0.100	0.100	0.400	0.200	0.100
SK0004R lead	5.000	3.000	2.000	1.000	2.000	2.000	1.000	2.000	3.000	10.000	2.000	4.000
SK0005R manganese	6.700	6.900	3.100	6.100	5.600	6.300	3.500	5.000	5.000	7.300	3.100	6.400
SK0005R aluminium	56.000	47.000	17.000	27.000	16.000	27.000	6.000	14.000	13.000	30.000	8.000	30.000
SK0005R iron	48.000	44.000	-	-	-	-	6.000	9.000	6.000	11.000	7.000	26.000
SK0005R zinc	29.000	17.000	5.000	5.000	5.000	7.000	9.000	9.000	10.000	11.000	5.000	8.000
SK0005R cadmium	0.100	0.100	0.100	0.400	0.200	0.100	0.100	0.100	0.100	0.200	0.100	0.100
SK0005R lead	4.000	5.000	2.000	2.000	2.000	2.000	1.000	2.000	1.000	3.000	1.000	2.000
SK0006R aluminium	31.000	39.000	28.000	59.000	18.000	50.000	14.000	21.000	22.000	34.000	40.000	35.000
SK0006R manganese	1.300	2.400	3.600	7.100	8.500	8.700	1.800	5.100	2.700	6.500	3.000	9.000
SK0006R zinc	14.000	14.000	2.000	-	2.000	5.000	10.000	11.000	12.000	13.000	9.000	8.000

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK0006R iron	7.000	1.000	-	-	-	-	7.000	13.000	7.000	11.000	11.000	8.000
SK0006R cadmium	0.100	0.200	0.200	0.100	0.200	0.100	-	0.100	0.100	0.200	0.300	0.300
SK0006R lead	4.000	5.000	4.000	1.000	1.000	3.000	2.000	2.000	2.000	3.000	4.000	5.000
SK0007R aluminium	31.000	29.547	59.000	18.000	50.000	14.000	21.000	22.000	34.000	40.000	35.000	-
SK0007R cadmium	0.100	0.200	0.100	0.200	0.100	-	0.100	0.100	0.200	0.300	0.300	-
SK0007R iron	7.000	1.000	-	-	-	7.000	13.000	7.000	11.000	11.000	8.000	-
SK0007R lead	4.000	4.141	1.000	1.000	3.000	2.000	2.000	2.000	3.000	4.000	5.000	-
SK0007R manganese	1.300	3.431	7.100	8.500	8.700	1.800	5.100	2.700	6.500	3.000	9.000	-
SK0007R precipitation_amount	40.100	83.200	28.300	24.900	7.700	62.600	18.500	41.500	26.400	56.000	41.700	-
SK0007R zinc	14.000	3.688	-	2.000	5.000	10.000	11.000	12.000	13.000	9.000	8.000	-

Annex 6

Monthly mean values for heavy metals in air

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
BE0004R copper	20.000	20.000	21.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000
BE0004R nickel	22.000	22.000	24.000	23.000	25.000	23.000	24.000	24.000	22.000	21.000	20.000	21.000
BE0004R lead	54.000	45.000	39.000	33.000	40.000	35.000	30.000	34.000	44.000	47.000	51.000	52.000
BE0004R zinc	89.000	77.000	71.000	70.000	67.000	64.000	54.000	53.000	82.000	84.000	92.000	91.000
CZ0001R cadmium	0.365	0.298	0.340	0.434	0.434	0.244	0.117	0.120	0.292	0.504	0.346	0.310
CZ0001R lead	7.625	9.430	10.330	8.282	8.282	5.670	3.730	6.188	10.658	21.556	10.978	11.625
CZ0003R cadmium	0.356	0.284	0.260	0.262	0.275	0.225	0.327	0.154	0.412	0.560	0.310	0.410
CZ0003R lead	6.794	5.168	8.446	6.830	8.725	4.442	6.205	4.842	12.546	20.794	11.930	29.547
DE0001R lead	7.300	6.600	3.000	7.900	6.600	4.200	2.200	3.500	8.300	10.700	8.000	9.300
DE0003R lead	1.300	1.500	3.500	3.200	3.000	4.800	3.100	3.800	3.800	2.400	2.000	1.900
DE0004R lead	13.200	10.800	8.000	7.300	8.100	8.500	5.700	10.500	9.900	9.400	10.600	8.700
DE0005R lead	5.400	4.100	3.700	7.300	5.500	4.700	3.300	5.500	5.700	4.900	2.500	2.100
DE0007R lead	12.000	6.200	3.000	10.400	17.900	14.000	15.600	4.200	10.700	15.400	12.700	15.700
DE0008R lead	6.900	5.100	5.500	8.400	11.900	4.700	5.300	5.300	9.400	7.600	2.700	5.100
DE0009R lead	5.800	4.500	2.100	7.600	3.000	3.300	3.000	2.300	8.100	17.000	16.100	13.500
DK0003R chromium	0.520	0.568	0.313	0.544	1.512	0.230	0.543	0.452	0.605	0.947	0.709	0.976
DK0003R copper	0.906	1.288	0.957	2.040	2.540	0.918	0.828	0.716	1.725	2.086	2.105	2.972
DK0003R lead	6.084	5.248	3.555	7.834	4.931	1.642	1.396	2.277	6.234	10.480	8.288	10.655
DK0003R nickel	0.815	1.020	0.670	1.617	1.288	0.515	0.706	0.839	1.166	1.029	1.162	1.116
DK0003R zinc	10.318	12.419	9.046	16.886	17.432	5.889	4.667	6.628	14.394	18.006	18.602	20.516
DK0003R arsenic	0.394	0.388	0.494	0.953	0.775	0.319	0.235	0.303	0.572	0.801	0.604	0.930
DK0003R cadmium	0.295	0.233	0.168	0.242	0.490	0.122	0.140	0.183	0.281	0.420	0.265	0.306
DK0003R iron	39.013	71.645	64.994	196.106	450.789	40.882	85.675	57.181	105.445	90.038	74.581	59.025
DK0003R manganese	1.830	2.478	2.320	6.817	14.143	2.064	3.247	2.500	4.068	3.451	2.833	2.574
DK0005R lead	7.055	6.449	4.008	10.183	5.310	4.527	2.717	3.320	9.440	15.457	11.816	10.342
DK0005R nickel	1.368	1.421	1.553	4.079	3.577	2.218	1.453	1.678	1.991	2.022	1.699	1.311
DK0005R zinc	16.845	14.583	9.463	21.306	12.641	9.866	5.890	8.048	15.443	24.321	27.766	20.332
DK0005R copper	1.572	1.616	0.637	2.690	1.600	1.646	0.919	1.063	1.799	2.998	3.391	2.491
DK0005R arsenic	0.332	0.387	0.379	0.842	0.348	0.380	0.356	0.273	0.458	0.759	0.526	0.514
DK0005R cadmium	0.333	0.344	0.177	0.357	0.205	0.221	0.163	0.174	0.297	0.519	0.444	0.326
DK0005R chromium	0.946	0.877	0.653	0.707	1.372	0.534	0.347	0.292	0.551	1.040	1.027	0.666
DK0005R iron	70.091	74.245	66.200	128.742	163.980	97.091	32.732	68.535	95.676	128.355	110.091	70.493
DK0005R manganese	2.369	2.438	1.917	3.741	5.168	2.902	1.290	2.399	3.333	3.886	3.479	2.229
DK0005R arsenic	0.332	0.387	0.379	0.842	0.348	0.380	0.356	0.273	0.458	0.759	0.526	0.514
DK0008R arsenic	0.242	0.278	0.213	0.600	0.292	0.301	0.133	0.152	0.423	0.609	0.570	0.423
DK0008R cadmium	0.085	0.161	0.110	0.131	0.065	0.113	0.070	0.036	0.159	0.272	0.219	0.168
DK0008R chromium	0.598	0.484	0.232	0.421	0.705	0.651	-0.062	0.058	0.367	0.484	0.579	0.327
DK0008R copper	0.888	1.172	0.543	1.494	1.195	1.312	0.289	0.685	1.271	1.869	2.119	1.460
DK0008R iron	34.142	53.076	39.336	94.668	129.326	69.518	31.939	72.649	64.486	72.912	69.859	36.654
DK0008R lead	4.388	3.745	1.866	6.987	3.122	3.277	1.309	2.183	6.196	10.843	9.268	6.071
DK0008R manganese	1.610	1.716	1.630	3.136	4.164	2.479	1.377	2.392	2.657	2.563	2.340	1.505
DK0008R nickel	0.819	1.112	1.112	2.830	1.913	2.063	1.402	1.076	1.212	1.497	1.353	1.025
DK0008R zinc	9.334	9.674	4.878	15.822	8.290	8.086	4.675	5.104	10.779	16.737	18.624	11.601
DK0010G aluminium	7.176	9.300	12.111	33.606	44.071	17.995	17.467	35.446	52.127	5.039	25.087	7.883
DK0010G arsenic	0.163	0.511	0.273	0.108	0.038	0.009	0.007	0.012	0.013	0.004	0.010	0.072
DK0010G chromium	0.054	0.146	0.049	0.064	0.049	0.065	0.034	0.040	0.026	0.031	0.030	0.036
DK0010G copper	0.267	0.306	0.256	0.142	0.085	0.020	0.016	0.019	0.059	0.089	0.416	0.073
DK0010G lead	1.162	2.427	1.638	0.702	0.324	0.065	0.019	0.015	0.029	0.061	0.240	0.547

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DK0010G manganese	0.391	0.677	0.511	0.609	0.629	0.177	0.206	0.372	0.657	0.046	0.293	0.197
DK0010G nickel	0.061	0.132	0.124	0.057	0.037	0.015	0.022	0.029	0.016	0.048	0.223	0.131
DK0010G selenium	0.054	0.059	0.056	0.038	0.022	0.011	0.018	0.008	0.007	0.006	0.008	0.022
DK0010G zinc	1.341	2.451	1.442	0.845	0.363	0.096	0.142	0.183	0.150	0.499	2.239	0.370
DK0010G mercury	1.767	1.702	1.456	1.044	0.839	1.426	1.521	1.383	-	-	-	-
DK0015G mercury	-	-	-	-	1.924	1.961	1.338	0.880	1.180	1.109	1.116	1.186
DK0031R arsenic	0.186	0.240	0.200	0.561	0.376	0.216	0.111	0.153	0.324	0.419	0.281	0.485
DK0031R cadmium	0.117	0.170	0.116	0.193	0.057	0.136	0.049	0.020	0.159	0.176	0.212	0.300
DK0031R chromium	0.114	0.178	0.182	0.617	1.009	0.664	-0.070	0.196	0.410	0.438	0.557	0.197
DK0031R copper	0.710	0.703	0.242	1.541	1.379	1.109	0.371	0.324	1.158	1.546	1.372	1.451
DK0031R nickel	0.722	0.889	0.779	1.590	1.169	1.227	0.834	0.786	0.856	0.767	0.841	0.706
DK0031R lead	3.446	4.055	1.933	6.815	3.669	3.477	1.619	1.524	5.173	7.832	6.137	5.695
DK0031R zinc	7.494	8.710	6.303	14.408	11.717	7.902	4.344	4.370	11.450	16.739	13.852	14.825
DK0031R iron	23.140	47.572	44.513	109.228	182.634	71.651	22.146	32.579	67.484	63.168	49.895	39.013
DK0031R manganese	1.355	1.778	1.580	3.853	5.330	2.038	0.862	1.142	2.320	2.055	1.843	1.646
FI0096R arsenic	0.110	0.124	0.229	0.165	0.103	0.218	0.524	0.192	0.094	0.201	0.247	0.139
FI0096R cadmium	0.032	0.059	0.040	0.035	0.024	0.027	0.047	0.023	0.024	0.096	0.039	0.025
FI0096R chromium	0.120	0.164	0.163	0.157	0.099	0.119	0.209	0.130	0.136	0.225	0.147	0.110
FI0096R copper	0.209	0.480	0.967	0.432	0.189	0.409	0.718	0.491	0.329	0.482	0.611	0.464
FI0096R iron	15.000	16.477	23.768	23.814	55.612	13.497	28.665	25.604	24.976	37.295	11.033	9.041
FI0096R lead	0.825	0.902	1.069	0.846	0.859	0.659	1.386	0.454	0.867	2.749	1.439	0.745
FI0096R manganese	0.264	0.380	0.613	0.460	1.136	0.501	0.790	1.003	0.595	1.371	0.276	0.190
FI0096R nickel	0.272	0.482	0.798	0.469	0.209	0.360	0.567	0.287	0.160	0.371	0.514	0.474
FI0096R vanadium	0.406	0.578	0.557	0.473	0.297	0.216	0.227	0.139	0.191	0.504	0.401	0.518
FI0096R zinc	1.780	2.196	1.652	1.580	1.762	1.317	2.216	1.213	2.286	4.462	2.083	1.421
FI0096R mercury	1.475	1.533	1.450	1.400	1.320	1.425	1.320	1.267	1.233	1.220	-	1.238
GB0014R arsenic	1.240	0.429	0.716	0.030	0.387	0.750	0.100	0.242	0.440	0.353	0.803	0.420
GB0014R cadmium	0.700	0.266	0.149	0.230	0.145	0.120	0.110	0.101	0.420	0.130	0.260	0.120
GB0014R chromium	1.200	1.335	2.166	1.380	2.081	1.540	1.090	0.762	0.780	1.041	0.821	1.260
GB0014R copper	3.170	3.083	4.533	3.720	8.837	4.160	3.060	1.332	1.410	1.749	2.303	1.220
GB0014R lead	6.600	5.055	4.106	5.100	4.990	4.500	4.600	6.694	8.600	9.665	9.600	9.600
GB0014R nickel	3.140	0.861	3.215	4.750	2.104	1.130	-	2.135	2.270	2.967	2.140	2.840
GB0014R zinc	237.700	45.176	40.587	63.800	36.084	30.600	70.700	29.500	40.500	37.306	28.280	44.800
GB0090R cadmium	0.427	0.211	0.380	0.216	0.094	0.180	0.110	0.189	0.160	0.188	0.360	0.270
GB0090R chromium	1.265	2.467	2.411	1.536	1.120	2.280	0.669	0.405	0.560	0.429	0.450	0.640
GB0090R copper	3.288	2.472	2.546	2.049	1.771	2.050	1.257	1.766	1.950	2.287	3.810	2.480
GB0090R nickel	1110.976	1341.517	1068.581	1020.200	577.032	716.000	574.032	524.194	890.000	836.677	1235.000	1561.000
GB0090R lead	20.068	10.617	8.823	6.470	3.587	6.200	8.290	9.087	8.700	9.168	25.100	15.900
GB0090R zinc	22.484	24.476	27.300	18.660	13.694	24.300	21.252	43.148	44.600	50.587	33.400	42.300
GB0090R arsenic	1.802	1.584	0.974	1.479	0.287	1.050	0.414	0.364	0.490	0.593	1.350	0.750
GB0091R cadmium	0.067	0.033	0.025	0.015	0.090	0.051	0.024	0.030	0.056	0.053	0.042	0.040
GB0091R chromium	0.930	0.883	0.970	1.150	1.140	1.382	0.337	0.200	0.573	0.296	0.372	0.293
GB0091R nickel	0.203	0.231	0.420	0.800	0.590	0.561	0.632	0.920	0.790	0.748	0.457	0.526
GB0091R lead	1.673	1.154	1.337	1.710	2.080	1.307	2.017	2.020	3.381	2.982	2.945	2.561
GB0091R zinc	9.121	7.289	8.407	10.420	7.910	13.304	25.243	21.890	21.223	41.813	28.343	37.805
GB0091R arsenic	0.090	0.338	0.252	0.035	0.340	0.321	0.212	0.090	0.324	0.345	0.448	0.403
IE0031R mercury	1.855	1.875	1.934	2.025	1.995	1.801	1.788	1.663	1.531	1.686	1.677	1.681
IS0091R aluminium	44.285	196.536	201.581	2013.143	298.426	197.867	99.403	82.390	1147.000	283.903	1542.000	1622.387

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
IS0091R arsenic	0.043	0.140	0.113	0.171	0.113	0.079	0.076	0.060	0.124	0.076	0.100	0.106
IS0091R cadmium	0.127	0.171	0.181	0.071	0.151	0.022	0.076	0.048	0.023	0.027	0.032	0.141
IS0091R chromium	6.588	12.005	14.958	4.628	4.744	14.764	15.476	8.879	16.850	9.861	3.690	5.394
IS0091R copper	0.774	1.584	0.976	2.986	1.101	0.827	0.645	0.459	1.935	0.841	1.901	2.153
IS0091R iron	81.178	361.107	440.452	2960.807	867.929	506.400	191.742	147.174	1546.000	554.806	2175.500	2533.065
IS0091R lead	0.668	0.815	0.625	0.776	0.526	0.382	0.640	0.243	0.491	0.220	0.502	0.562
IS0091R manganese	1.391	6.399	7.034	41.333	13.934	8.155	3.181	2.598	24.675	8.929	26.740	29.248
IS0091R mercury (aerosols, pg/m3)	0.324	1.482	1.106	2.029	1.426	1.379	2.368	1.336	1.900	2.343	2.400	1.998
IS0091R nickel	3.705	9.741	9.346	2.837	3.305	8.072	8.897	6.160	9.810	6.707	2.940	3.827
IS0091R vanadium	0.407	1.704	2.063	8.202	3.033	1.852	0.889	0.551	4.725	1.950	4.790	5.225
IS0091R zinc	12.208	25.657	11.657	8.685	16.907	2.369	4.085	3.217	4.540	2.919	6.900	7.574
LT0015R cadmium	0.164	0.118	0.102	0.267	0.132	0.125	0.080	0.028	0.149	0.230	0.395	0.306
LT0015R copper	1.993	1.558	1.107	1.666	1.148	3.881	1.391	1.488	1.375	2.146	2.647	2.347
LT0015R lead	8.097	4.469	2.910	8.820	3.065	2.627	2.452	1.590	2.940	9.700	12.960	9.807
LT0015R zinc	15.710	14.779	14.413	19.740	17.116	8.030	13.794	10.903	13.493	18.229	21.733	20.350
LV0010R copper	1.767	0.911	0.859	2.384	2.257	1.343	1.195	2.223	1.003	1.417	2.170	2.421
LV0010R lead	5.603	3.438	3.296	27.307	45.722	15.550	25.164	9.017	5.993	10.991	17.123	17.147
LV0010R cadmium	0.158	0.088	0.107	1.016	1.236	0.763	0.470	0.211	0.243	0.520	0.577	0.691
LV0010R zinc	39.203	22.067	19.239	103.067	128.948	40.250	25.012	23.200	20.337	21.974	28.937	43.452
LV0016R lead	4.275	1.272	2.624	8.763	3.061	3.020	11.601	2.523	2.354	7.401	7.449	4.654
LV0016R cadmium	0.090	0.048	0.160	0.560	0.190	0.165	0.180	0.113	0.156	0.377	0.261	0.227
LV0016R zinc	25.996	10.640	10.168	11.890	8.492	7.963	6.328	8.512	7.968	15.045	14.260	12.054
LV0016R copper	1.289	0.694	0.642	0.522	0.748	0.947	0.595	0.591	0.424	1.336	0.950	0.806
NL0009R arsenic	0.600	0.346	0.347	0.764	0.560	0.396	0.140	0.451	0.941	0.631	0.359	0.579
NL0009R cadmium	0.293	0.150	0.149	0.293	0.122	0.125	0.052	0.080	0.210	0.243	0.164	0.220
NL0009R lead	22.126	6.375	6.530	12.319	6.428	5.083	2.446	4.847	10.752	11.247	7.858	9.754
NL0009R zinc	59.578	18.994	22.584	28.969	16.355	19.244	18.616	13.002	24.949	31.724	29.029	28.402
NO0042G arsenic	0.236	0.327	0.286	0.175	0.491	0.208	0.178	0.246	0.223	0.267	0.493	0.440
NO0042G cadmium	0.039	0.053	0.047	0.022	0.010	0.002	0.000	0.006	0.000	0.007	0.005	0.017
NO0042G chromium	0.048	0.133	0.092	0.042	0.022	0.020	0.070	0.084	0.022	0.047	0.048	0.037
NO0042G cobalt	0.006	0.013	0.010	0.012	0.013	0.004	0.018	0.038	0.003	0.010	0.002	0.010
NO0042G copper	0.470	0.830	0.708	0.330	0.641	0.211	0.377	0.458	0.215	0.163	0.198	0.278
NO0042G lead	1.278	1.733	1.646	0.815	0.391	0.071	0.062	0.050	0.027	0.260	0.303	0.553
NO0042G manganese	0.413	0.620	0.708	0.407	0.353	0.079	0.187	0.344	0.073	0.363	0.188	0.353
NO0042G nickel	0.082	0.190	0.143	0.093	0.067	0.029	0.075	0.314	0.022	0.030	0.025	0.020
NO0042G vanadium	0.091	0.263	0.163	0.095	0.057	0.027	0.045	0.020	0.015	0.060	0.018	0.053
NO0042G zinc	2.014	4.100	2.475	1.698	1.541	0.522	1.075	1.730	0.770	0.713	0.589	1.563
NO0042G mercury	-	1.952	1.895	1.155	0.885	1.407	1.467	1.353	1.623	1.551	1.621	1.674
NO0099R arsenic	0.118	0.141	0.485	0.401	0.446	0.213	0.220	0.167	0.324	0.360	0.317	0.325
NO0099R cadmium	0.047	0.041	0.071	0.107	0.080	0.052	0.028	0.044	0.110	0.083	0.055	0.078
NO0099R chromium	0.884	1.178	0.891	1.080	1.170	1.023	0.527	0.526	0.643	0.689	0.841	0.717
NO0099R cobalt	0.007	0.027	0.020	0.070	0.059	0.028	0.015	0.014	0.025	0.014	0.017	0.032
NO0099R copper	0.475	0.468	0.406	0.891	0.616	0.585	0.390	1.120	0.793	0.693	0.700	0.723
NO0099R lead	0.923	1.251	2.733	3.677	2.580	2.368	1.154	1.230	3.823	3.719	2.897	2.959
NO0099R nickel	0.122	0.352	0.347	3.245	2.362	0.936	0.391	0.488	0.574	0.551	0.350	0.396
NO0099R vanadium	0.462	0.944	0.992	2.545	2.546	2.483	1.145	1.402	1.476	1.296	1.013	1.115
NO0099R zinc	3.636	2.890	13.379	7.258	7.654	4.790	4.662	2.979	7.810	6.752	5.780	5.876
NO0099R mercury	2.000	1.700	1.250	-	1.775	1.880	1.470	-	1.640	2.190	0.560	1.518

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SE0002R mercury	1.386	1.350	1.389	1.300	1.386	1.338	1.233	1.125	1.178	1.617	1.562	1.571
SK0002R cadmium	0.054	0.075	0.242	0.355	0.221	0.110	0.258	0.175	0.136	0.076	0.143	0.064
SK0002R chromium	1.468	3.147	4.046	2.237	2.254	1.920	0.544	0.783	0.485	0.386	0.480	0.620
SK0002R copper	1.315	0.953	2.872	2.831	2.392	2.768	2.027	2.505	1.332	1.953	2.965	1.924
SK0002R lead	0.748	1.561	2.487	9.843	7.091	4.168	2.260	4.628	5.642	2.925	2.567	0.413
SK0002R manganese	2.597	1.072	1.752	10.593	4.124	2.763	1.298	3.014	2.319	1.290	0.756	0.426
SK0002R nickel	1.663	2.351	4.512	2.309	2.463	1.363	0.722	0.661	0.705	0.514	0.796	0.546
SK0004R cadmium	0.387	0.261	0.322	0.356	0.402	0.309	0.125	0.249	0.319	0.512	0.382	0.370
SK0004R chromium	2.762	1.171	1.210	1.464	1.183	1.539	1.468	2.948	3.745	2.063	0.846	0.540
SK0004R copper	2.925	1.783	1.686	2.014	3.222	4.168	1.776	2.759	2.590	3.840	3.139	3.091
SK0004R lead	9.468	6.278	6.304	8.334	10.935	9.284	4.369	7.483	11.604	21.358	15.768	12.302
SK0004R manganese	4.787	4.262	3.445	8.448	8.492	6.666	3.232	4.280	5.287	8.952	5.237	3.034
SK0004R nickel	2.060	1.273	1.660	1.645	2.298	1.862	0.992	1.964	3.695	0.823	1.067	0.764
SK0005R cadmium	0.388	0.543	0.478	0.403	0.438	0.425	0.165	0.444	0.453	0.628	0.233	0.316
SK0005R chromium	9.820	6.791	6.413	2.462	2.279	2.300	1.395	1.339	1.537	1.982	1.000	1.849
SK0005R copper	15.715	11.303	11.139	12.436	8.013	11.359	5.332	4.961	5.347	5.167	4.188	4.472
SK0005R lead	12.165	11.058	11.173	12.232	13.975	13.512	4.952	9.632	13.436	14.390	10.142	13.857
SK0005R manganese	41.725	27.444	27.729	18.046	28.588	31.229	22.367	18.701	20.598	28.713	14.381	26.267
SK0005R nickel	4.743	3.114	2.787	1.629	1.825	2.598	0.788	1.109	1.092	1.086	1.599	0.932
SK0006R cadmium	0.646	0.482	0.384	0.579	0.360	0.245	0.254	0.586	0.324	1.154	1.063	0.684
SK0006R chromium	1.083	1.247	1.568	5.370	2.077	2.222	1.233	1.360	0.808	1.666	1.972	2.696
SK0006R copper	5.044	4.855	3.085	4.304	3.638	3.096	3.792	2.675	2.421	4.350	3.615	3.892
SK0006R lead	17.548	13.299	11.746	12.794	10.652	9.004	8.485	18.812	9.336	42.568	36.696	24.760
SK0006R manganese	3.686	4.029	5.604	13.471	8.270	3.457	5.913	7.539	2.714	11.208	4.192	3.528
SK0006R nickel	1.495	1.218	1.580	2.717	1.219	1.255	0.895	1.180	0.860	1.622	1.779	2.657
SK0007R cadmium	0.705	0.575	0.420	0.617	0.345	0.280	0.177	0.322	0.596	0.646	0.849	0.649
SK0007R chromium	8.578	2.483	2.310	4.238	2.650	3.427	2.421	2.279	1.882	2.164	2.851	2.715
SK0007R copper	5.704	4.046	3.942	4.966	4.679	4.682	3.233	6.092	5.405	5.355	5.248	5.098
SK0007R lead	21.758	13.077	11.853	17.367	12.777	12.038	7.206	11.787	23.913	26.600	30.555	26.281
SK0007R manganese	5.675	6.522	6.101	12.765	12.750	13.182	4.984	8.205	9.266	8.567	6.272	4.368
SK0007R nickel	5.294	2.596	2.399	3.344	2.491	3.420	1.857	2.649	1.592	1.911	2.418	3.817

Annex 7

Monthly mean values on data for POPs in precipitation

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
BE0004R alpha_HCH	0.745	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
BE0004R aldrin	1.490	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
BE0004R pp_DDD	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
BE0004R pp_DDE	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
BE0004R pp_DDT	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
BE0004R dieldrin	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
BE0004R endrin	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
BE0004R gamma_HCH	6.062	5.202	29.947	62.614	52.307	14.929	6.394	7.964	6.000	6.705	8.000	3.000
BE0004R heptachlor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DE0001R HCB	0.830	0.252	0.355	2.609	0.203	0.297	0.497	0.305	0.371	0.264	0.377	0.260
DE0001R alpha_HCH	0.410	0.549	0.524	0.727	0.687	0.607	0.801	0.865	0.773	0.690	0.677	0.540
DE0001R anthracene	1.100	5.821	4.526	55.990	4.897	4.876	7.042	9.616	6.376	2.389	4.743	6.500
DE0001R benz_a_anthracene	2.500	5.247	4.285	33.667	4.673	3.886	6.411	13.343	5.835	2.637	6.248	8.200
DE0001R benzo_a_pyrene	1.300	2.167	1.251	3.950	3.206	3.390	3.231	11.396	3.289	1.948	3.229	4.400
DE0001R chrysene	4.800	9.472	5.992	20.630	6.073	5.224	6.108	19.159	7.223	5.444	16.976	16.000
DE0001R dieldrin	0.440	0.318	0.250	0.234	0.139	0.102	0.161	0.201	0.217	0.318	0.526	0.350
DE0001R gamma_HCH	1.800	4.123	5.244	28.230	16.441	8.083	4.810	5.488	5.219	4.174	3.478	2.600
DE0001R inden_123cd_pyrene	1.500	3.584	3.106	3.356	2.676	1.862	0.935	9.509	3.212	2.241	6.004	10.200
DE0001R phenanthrene	24.100	81.634	68.433	536.874	74.902	73.226	113.559	134.654	86.514	29.918	56.325	53.300
DE0001R pyrene	6.700	12.259	8.706	39.154	9.985	9.579	12.159	34.778	14.950	9.748	21.448	23.400
FI0096R anthracene	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	2.000	0.500
FI0096R benz_a_anthracene	6.000	5.000	5.000	5.000	7.000	18.000	7.000	11.000	7.000	27.000	36.000	29.000
FI0096R benzo_a_pyrene	0.500	3.000	0.500	3.000	2.000	0.500	0.500	5.000	0.500	5.000	0.500	0.500
FI0096R inden_123cd_pyrene	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	8.000	15.000	1.000
FI0096R phenanthrene	5.000	3.000	2.000	5.000	11.000	15.000	6.000	11.000	16.000	19.000	27.000	7.000
FI0096R pyrene	4.000	0.500	0.500	0.500	6.000	4.000	2.000	10.000	5.000	12.000	20.000	4.000
FI0096R alpha_HCH	0.040	0.020	0.080	0.170	1.290	1.220	0.090	0.300	0.170	1.460	0.290	0.040
FI0096R gamma_HCH	0.040	0.040	0.050	0.180	5.460	4.670	0.120	0.200	0.210	3.930	0.430	0.070
FI0096R PCB_101	0.020	0.030	0.005	0.040	0.005	0.100	0.040	0.040	0.050	0.080	0.100	0.050
FI0096R PCB_118	0.010	0.005	0.005	0.005	0.005	0.050	0.010	0.005	0.005	0.020	0.030	0.005
FI0096R PCB_138	0.030	0.030	0.020	0.030	0.050	0.130	0.060	0.050	0.040	0.050	0.070	0.050
FI0096R PCB_153	0.030	0.050	0.020	0.040	0.120	0.150	0.070	0.050	0.030	0.080	0.100	0.060
FI0096R PCB_180	0.010	0.010	0.005	0.010	0.005	0.080	0.030	0.040	0.010	0.020	0.040	0.020
FI0096R PCB_28	0.030	0.030	0.010	0.050	0.820	0.100	0.040	0.070	0.110	0.140	0.140	0.030
FI0096R PCB_52	0.080	0.120	0.015	0.015	0.500	0.190	0.120	0.130	0.130	0.120	0.210	0.090
IE0002R dieldrin	7.000	3.000	8.500	-	-	2.000	1.000	1.000	0.500	0.500	0.500	1.000
IE0002R alpha_HCH	7.000	3.000	8.500	-	-	9.000	1.000	1.000	0.500	0.500	0.500	1.000
IE0002R gamma_HCH	7.000	3.000	8.500	-	-	1.000	2.000	2.500	0.500	0.500	1.000	3.500
IE0002R aldrin	7.000	3.000	8.500	-	-	2.000	1.000	1.000	0.500	0.500	0.500	1.000
IE0002R endrin	7.000	3.000	8.500	-	-	2.500	1.000	1.000	0.500	0.500	0.500	1.000
IE0002R heptachlor	7.000	3.000	8.500	-	-	2.000	1.000	1.000	0.500	0.500	0.500	1.000
IE0002R op_DDD	7.000	3.000	8.500	-	-	1.000	1.000	1.000	0.500	0.500	0.500	1.000
IE0002R op_DDT	7.000	3.000	8.500	-	-	1.000	1.000	1.000	0.500	0.500	0.500	1.000
IE0002R pp_DDD	7.000	3.000	8.500	-	-	1.000	1.000	1.000	0.500	0.500	0.500	1.000
IE0002R pp_DDE	7.000	3.000	8.500	-	-	1.000	1.000	1.000	0.500	0.500	0.500	1.000
IE0002R pp_DDT	7.000	3.000	8.500	-	-	1.000	1.000	1.000	0.500	0.500	0.500	1.000
IE0002R PCB_52	7.000	3.000	8.500	-	-	2.000	1.000	1.500	1.000	0.500	0.500	1.000
IE0002R PCB_101	14.500	6.000	8.500	-	-	2.000	1.000	1.500	1.000	1.000	0.500	1.000

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
IE0002R PCB_118	14.500	6.000	8.500	-	-	4.500	1.000	1.500	1.000	0.500	0.500	1.000
IE0002R PCB_153	7.000	6.000	16.500	-	-	2.000	1.000	4.000	1.000	0.500	0.500	1.000
IE0002R PCB_138	7.000	6.000	16.500	-	-	2.000	1.000	4.000	1.000	0.500	0.500	1.000
IE0002R PCB_180	7.000	6.000	8.500	-	-	2.000	1.000	1.500	1.000	0.500	0.500	1.000
IS0091R HCB	0.023	0.019	0.016	0.143	0.021	0.027	0.010	0.008	0.014	0.011	0.033	0.022
IS0091R alpha_HCH	0.300	0.219	0.147	0.247	0.174	0.313	0.153	0.273	0.211	0.285	0.339	0.254
IS0091R beta_HCH	0.006	0.010	0.007	0.008	0.003	0.011	0.005	0.005	0.005	0.005	0.055	0.008
IS0091R op_DDT	0.012	0.007	0.005	0.015	0.006	0.038	0.002	0.002	0.001	0.002	0.005	0.002
IS0091R pp_DDD	0.006	0.004	0.003	0.007	0.003	0.022	0.004	0.004	0.002	0.003	0.009	0.005
IS0091R pp_DDE	0.017	0.018	0.008	0.008	0.003	0.011	0.015	0.005	0.001	0.002	0.005	0.007
IS0091R dieldrin	0.072	0.065	0.064	0.085	0.040	0.054	0.018	0.013	0.025	0.041	0.094	0.047
IS0091R gamma_HCH	0.076	0.091	0.079	0.130	0.224	0.249	0.090	0.060	0.072	0.086	0.122	0.078
IS0091R pp_DDT	0.009	0.017	0.004	0.016	0.024	0.016	0.004	0.004	0.002	0.017	0.009	0.005
IS0091R PCB_101	0.017	0.011	0.008	0.049	0.009	0.032	0.004	0.004	0.004	0.003	0.041	0.005
IS0091R PCB_118	0.012	0.007	0.005	0.049	0.006	0.022	0.004	0.004	0.003	0.003	0.046	0.008
IS0091R PCB_138	0.020	0.012	0.009	0.086	0.011	0.038	0.006	0.006	0.007	0.004	0.041	0.013
IS0091R PCB_153	0.020	0.012	0.009	0.107	0.011	0.038	0.013	0.007	0.008	0.004	0.053	0.012
IS0091R PCB_180	0.014	0.009	0.007	0.113	0.008	0.027	0.008	0.004	0.004	0.003	0.014	0.005
IS0091R PCB_28	0.138	0.085	0.064	0.175	0.073	0.259	0.037	0.035	0.043	0.026	0.083	0.130
IS0091R PCB_52	0.052	0.032	0.024	0.065	0.027	0.097	0.028	0.016	0.016	0.011	0.037	0.039
LT0015R benzo_a_pyrene	42.300	24.300	18.300	34.700	18.000	15.000	12.300	16.700	16.700	10.700	33.300	50.300
NL0091R gamma_HCH	5.000	5.000	16.825	66.836	70.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000
NO0099R HCB	0.339	0.308	0.202	0.149	0.336	0.276	0.237	0.298	0.405	0.644	0.700	0.768
NO0099R alpha_HCH	0.699	0.406	0.378	0.663	0.528	0.367	0.676	0.400	0.598	0.686	0.505	0.410
NO0099R gamma_HCH	0.635	0.820	0.679	14.116	9.216	2.884	1.527	1.795	2.090	2.553	1.693	1.443
SE0002R alpha_HCH	0.035	0.210	0.035	1.260	1.130	0.035	0.035	0.035	0.035	0.035	0.035	0.035
SE0002R anthracene	0.500	2.000	2.000	1.000	2.000	0.500	0.500	0.500	1.000	2.000	9.000	3.000
SE0002R benz_a_anthracene	7.000	20.000	9.000	9.000	10.000	2.000	0.500	0.500	28.000	24.000	92.000	41.000
SE0002R benzo_a_pyrene	2.000	16.000	11.000	13.000	15.000	3.000	0.500	0.500	0.500	10.000	100.000	26.000
SE0002R gamma_HCH	0.035	0.470	0.035	7.120	18.910	0.035	0.070	0.035	0.080	0.470	0.100	0.080
SE0002R inden_123cd_pyrene	2.500	22.000	14.000	18.000	19.000	2.500	2.500	2.500	2.500	18.000	167.000	33.000
SE0002R phenanthrene	17.000	45.000	40.000	41.000	43.000	15.000	5.000	13.000	10.000	25.000	94.000	64.000
SE0002R pyrene	9.000	43.000	31.000	31.000	39.000	8.000	1.000	5.000	4.000	20.000	156.000	57.000
SE0002R PCB_101	0.060	0.190	0.120	0.080	0.290	0.110	0.015	0.070	0.140	0.160	0.070	0.260
SE0002R PCB_118	0.015	0.070	0.090	0.060	0.110	0.050	0.015	0.015	0.320	0.090	0.050	0.090
SE0002R PCB_138	0.090	0.240	0.410	0.160	0.370	0.160	0.090	0.100	0.360	0.230	0.200	0.310
SE0002R PCB_153	0.140	0.280	0.380	0.160	0.380	0.240	0.110	0.130	0.500	0.280	0.160	0.350
SE0002R PCB_180	0.060	0.180	0.220	0.110	0.250	0.100	0.060	0.110	0.180	0.190	0.190	0.210
SE0002R PCB_28	0.035	0.110	0.060	0.060	0.200	0.120	0.035	0.130	0.670	0.110	0.035	0.090
SE0002R PCB_52	0.070	0.120	0.060	0.010	0.160	0.020	0.020	0.100	0.430	0.150	0.080	0.100
SE0012R alpha_HCH	0.000	0.000	0.000	0.140	2.370	0.760	2.350	0.310	0.000	0.640	3.970	0.730
SE0012R anthracene	1.000	5.000	2.000	7.000	-	2.000	2.000	1.000	1.000	1.000	23.000	3.000
SE0012R benzo_a_pyrene	3.000	20.000	0.000	22.000	0.000	0.500	1.500	1.000	0.500	2.000	186.000	0.500
SE0012R gamma_HCH	0.000	0.000	0.000	0.090	25.150	5.930	3.640	0.430	0.000	2.960	12.490	1.900
SE0012R inden_123cd_pyrene	3.000	2.000	0.000	13.000	6.000	0.500	1.500	1.500	0.500	0.000	168.000	1.000
SE0012R phenanthrene	33.000	96.000	24.000	77.000	49.000	24.000	16.000	12.000	8.000	9.000	318.000	34.000
SE0012R pyrene	20.000	83.000	17.000	87.000	59.000	9.000	6.000	3.000	3.000	10.000	590.000	22.000
SE0012R benz_a_anthracene	1.000	10.000	2.000	14.000	3.000	1.000	1.000	1.500	0.500	2.000	159.000	1.000

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SE0012R PCB_101	0.120	0.110	0.090	0.130	0.060	0.050	0.050	0.020	0.020	0.010	0.050	0.040
SE0012R PCB_118	0.160	0.070	0.070	0.100	0.050	0.030	0.040	0.010	0.020	0.010	0.070	0.020
SE0012R PCB_138	0.140	0.130	0.140	0.150	0.080	0.050	0.050	0.020	0.020	0.010	0.150	0.050
SE0012R PCB_153	0.180	0.110	0.100	0.130	0.090	0.060	0.060	0.020	0.030	0.020	0.090	0.060
SE0012R PCB_180	0.080	0.080	0.090	0.080	0.510	0.050	0.020	0.010	0.020	0.010	0.090	0.030
SE0012R PCB_28	0.170	0.230	0.140	0.260	0.360	0.460	0.110	0.200	0.020	0.010	0.060	0.020
SE0012R PCB_52	0.130	0.150	0.070	0.150	0.060	0.260	0.060	0.100	0.020	0.010	0.050	0.030

Annex 8

Monthly mean values on data for POPs in air

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CZ0003R acenaphtene	0.563	0.223	0.201	0.043	0.060	0.036	0.034	0.057	0.111	0.108	0.195	0.620
CZ0003R alpha_HCH	29.000	24.250	29.000	35.500	44.600	24.500	12.000	10.400	12.500	19.750	7.000	5.500
CZ0003R benz_a_anthracene	0.582	0.321	0.244	0.058	0.013	0.008	0.010	0.010	0.089	0.087	0.197	0.673
CZ0003R benzo_a_pyrene	0.447	0.256	0.222	0.059	0.015	0.010	0.013	0.013	0.116	0.128	0.267	0.555
CZ0003R gamma_HCH	25.667	37.250	45.400	90.250	69.200	66.500	67.333	39.200	15.500	25.750	10.000	11.000
CZ0003R inden_123cd_pyrene	0.504	0.222	0.220	0.078	0.032	0.010	0.021	0.015	0.168	0.158	0.287	0.664
CZ0003R phenanthrene	10.944	6.501	6.921	2.042	1.992	1.442	1.470	2.101	3.507	6.369	7.111	12.117
CZ0003R pyrene	2.684	1.452	1.355	0.364	0.223	0.135	0.181	0.243	0.549	1.059	1.376	2.417
CZ0003R anthracene	0.310	0.184	0.144	0.040	0.032	0.027	0.034	0.048	0.035	0.129	0.138	0.268
CZ0003R pp_DDD	2.000	0.500	0.500	0.875	0.600	0.750	0.667	1.100	1.125	1.125	0.500	0.500
CZ0003R pp_DDE	7.667	17.500	34.000	30.000	31.400	33.500	26.000	30.200	27.750	40.750	16.000	11.000
CZ0003R pp_DDT	2.167	2.750	2.800	2.000	5.400	5.500	2.667	3.600	4.750	5.250	2.800	2.000
CZ0003R PCB_101	18.667	16.250	18.400	23.750	22.000	22.250	19.000	29.200	38.500	37.000	24.000	24.000
CZ0003R PCB_118	5.000	3.500	4.000	4.250	5.400	5.500	4.667	6.800	6.250	6.500	4.400	4.500
CZ0003R PCB_138	12.667	8.750	9.200	7.750	16.800	14.000	10.333	18.000	19.750	22.000	17.200	17.500
CZ0003R PCB_153	22.000	15.000	17.200	16.000	24.200	24.250	18.667	25.400	26.000	26.500	20.200	21.500
CZ0003R PCB_180	7.000	3.750	4.000	4.500	10.200	9.000	3.333	4.800	5.500	6.000	5.200	6.750
CZ0003R PCB_28	22.000	19.250	24.600	26.750	35.200	35.750	28.333	38.400	40.750	44.500	25.200	26.000
CZ0003R PCB_52	43.667	30.500	36.800	37.750	82.600	53.000	25.000	24.600	33.750	36.000	26.600	27.000
FI0096R alpha_HCH	9.000	9.000	15.000	16.000	20.000	21.000	28.000	27.000	11.000	24.000	15.000	11.000
FI0096R anthracene	0.004	0.005	0.004	0.003	0.002	0.003	0.004	0.006	0.005	0.005	0.009	0.005
FI0096R gamma_HCH	2.000	3.000	5.000	8.000	29.000	18.000	12.000	7.000	4.000	19.000	9.000	5.000
FI0096R benzo_a_pyrene	0.005	0.007	0.002	0.006	0.003	0.003	0.001	0.003	0.006	0.017	0.014	0.001
FI0096R benzo_ghi_perylene	0.011	0.013	0.002	0.008	0.002	0.002	0.002	0.002	0.002	0.019	0.032	0.002
FI0096R phenanthrene	0.200	0.320	0.090	0.180	0.230	0.290	0.370	0.310	0.300	0.340	0.860	0.370
FI0096R pyrene	0.050	0.060	0.020	0.030	0.020	0.030	0.020	0.040	0.050	0.060	0.160	0.050
FI0096R benz_a_anthracene	0.007	0.061	0.092	0.007	0.024	0.025	0.029	0.033	0.029	0.075	0.077	0.097
FI0096R inden_123cd_pyrene	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.011	0.020	0.033	0.005
FI0096R pp_DDD	0.005	0.110	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.040
FI0096R pp_DDE	0.570	0.560	0.960	0.660	0.640	0.410	0.410	0.270	0.620	2.570	2.360	1.130
FI0096R pp_DDT	0.150	0.130	0.180	0.220	0.350	0.260	0.270	0.190	0.210	0.640	0.360	0.180
FI0096R PCB_101	0.383	0.376	0.652	0.833	1.202	1.259	1.697	1.340	0.937	1.312	0.934	0.567
FI0096R PCB_138	0.134	0.113	0.268	0.301	0.456	0.532	0.724	0.409	0.324	0.484	0.379	0.244
FI0096R PCB_153	0.153	0.160	0.285	0.342	0.501	0.510	0.587	0.479	0.397	0.636	0.411	0.237
FI0096R PCB_180	0.049	0.015	0.015	0.063	0.120	0.172	0.015	0.141	0.090	0.117	0.091	0.056
FI0096R PCB_28	0.644	0.791	1.322	1.608	2.050	2.598	4.664	2.701	1.536	2.388	2.155	1.172
FI0096R PCB_52	0.666	0.809	1.228	1.665	2.457	3.468	5.774	3.847	2.444	2.435	1.934	1.116
FI0096R PCB_118	0.100	0.127	0.260	0.304	0.332	0.369	0.528	0.423	0.228	0.534	0.371	0.190
IS0091R HCB	5.136	6.606	5.250	6.675	6.265	5.189	3.619	4.264	6.855	6.060	5.565	8.537
IS0091R alpha_HCH	6.244	7.683	5.643	7.968	7.872	7.838	6.971	8.295	11.515	8.340	6.830	8.208
IS0091R beta_HCH	0.090	0.104	0.087	0.104	0.191	0.340	0.047	0.049	0.048	0.050	0.053	0.049
IS0091R cis_CD	0.828	0.790	0.878	1.039	1.053	1.060	1.409	1.308	1.215	1.128	0.925	0.844
IS0091R pp_DDD	0.090	0.104	0.087	0.104	0.092	0.097	0.091	0.097	0.093	0.097	0.102	0.101
IS0091R gamma_HCH	1.883	1.959	3.046	4.637	6.464	4.610	3.308	2.860	5.255	3.645	4.950	3.524
IS0091R op_DDT	0.185	0.208	0.174	0.206	0.185	0.194	0.047	0.049	0.048	0.050	0.053	0.049
IS0091R dieldrin	0.970	1.151	1.272	1.208	1.380	1.439	1.164	0.880	0.965	0.974	1.065	0.922
IS0091R pp_DDE	0.235	0.207	0.307	0.118	0.176	0.097	0.299	0.215	0.170	0.195	0.390	0.322
IS0091R pp_DDT	0.140	0.156	0.132	0.154	0.137	0.268	0.091	0.097	0.093	0.097	0.102	0.101

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
IS0091R PCB_101	0.275	0.314	0.261	0.309	0.277	0.289	0.318	0.212	0.390	0.105	0.290	0.566
IS0091R PCB_105	0.140	0.156	0.132	0.154	0.137	0.144	0.047	0.049	0.082	0.050	0.053	0.049
IS0091R PCB_118	0.185	0.208	0.174	0.206	0.185	0.194	0.091	0.097	0.140	0.097	0.102	0.191
IS0091R PCB_138	0.320	0.366	0.306	0.361	0.322	0.338	0.138	0.146	0.140	0.149	0.152	0.150
IS0091R PCB_153	0.320	0.366	0.306	0.361	0.322	0.338	0.355	0.162	0.238	0.149	0.152	0.232
IS0091R PCB_156	0.090	0.104	0.087	0.104	0.092	0.097	0.091	0.097	0.093	0.097	0.102	0.101
IS0091R PCB_180	0.230	0.262	0.219	0.257	0.230	0.241	0.091	0.097	0.093	0.104	0.102	0.101
IS0091R PCB_28	2.203	2.508	2.097	2.475	2.205	2.309	0.813	0.875	0.840	0.881	0.920	2.356
IS0091R PCB_31	1.698	1.936	1.618	1.908	1.701	1.779	0.722	0.778	0.745	0.784	0.817	2.200
IS0091R PCB_52	0.825	0.941	0.785	0.928	0.828	0.866	0.364	0.390	0.375	0.390	0.407	1.367
LT0015R benzo_a_pyrene	1.540	1.400	0.710	1.050	0.520	0.450	0.410	0.440	0.730	0.990	0.650	1.410
NO0042G gamma_HCH	4.248	4.703	4.902	7.617	9.151	6.313	5.140	4.202	4.723	8.408	7.225	4.710
NO0042G op_DDD	0.090	0.035	0.044	0.047	0.042	0.093	0.032	0.058	0.022	0.047	0.030	0.034
NO0042G pp_DDD	0.080	0.030	0.072	0.100	0.050	0.143	0.045	0.098	0.042	0.050	0.025	0.028
NO0042G HCB	42.883	52.375	48.200	54.775	53.422	65.244	60.775	62.480	58.975	58.825	58.775	51.460
NO0042G op_DDE	0.195	0.160	0.174	0.108	0.042	0.047	0.032	0.058	0.030	0.093	0.138	0.194
NO0042G cis_NO	0.053	0.027	0.030	0.037	0.057	0.099	0.095	0.100	0.100	0.078	0.050	0.042
NO0042G cis_CD	0.525	0.537	0.558	0.758	0.690	0.614	0.605	0.624	0.692	0.767	0.735	0.754
NO0042G op_DDT	0.735	0.497	0.402	0.285	0.158	0.164	0.118	0.096	0.098	0.262	0.295	0.348
NO0042G pp_DDT	0.610	0.268	0.168	0.117	0.097	0.203	0.135	0.118	0.070	0.172	0.143	0.142
NO0042G pp_DDE	1.163	0.890	0.770	0.300	0.138	0.233	0.132	0.168	0.230	0.605	0.722	0.978
NO0042G alpha_HCH	12.595	15.100	16.960	22.925	21.989	21.878	23.675	28.220	24.550	24.000	20.800	15.880
NO0042G dibenzothiophene	0.046	0.045	0.017	0.004	0.004	0.007	0.008	0.005	0.004	0.011	0.014	0.025
NO0042G dibenzofuran	2.490	2.477	1.455	0.309	0.090	0.065	0.053	0.048	0.075	0.350	0.703	1.272
NO0042G acenaphtene	0.021	0.025	0.005	0.003	0.007	0.006	0.005	0.005	0.007	0.006	0.004	0.012
NO0042G biphenyl	1.427	1.951	0.836	0.146	0.097	0.112	0.082	0.058	0.054	0.167	0.440	0.994
NO0042G phenanthrene	0.337	0.296	0.085	0.037	0.043	0.067	0.072	0.045	0.037	0.056	0.040	0.112
NO0042G acenaphtylene	0.007	0.010	0.003	0.001	0.003	0.002	0.002	0.002	0.002	0.001	0.001	0.001
NO0042G anthracene	0.004	0.009	0.002	0.001	0.002	0.002	0.035	0.001	0.000	0.001	0.000	0.002
NO0042G benzo_a_pyrene	0.014	0.029	0.011	0.006	0.009	0.016	0.016	0.004	0.007	0.009	0.006	0.008
NO0042G chrysene_triphenylene	0.030	0.053	0.014	0.002	0.001	0.001	0.001	0.001	0.001	0.004	0.003	0.017
NO0042G benz_a_anthracene	0.010	0.021	0.003	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.004
NO0042G perylene	0.002	0.003	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NO0042G benzo_ghi_perylene	0.012	0.024	0.006	0.001	0.001	0.000	0.000	0.000	0.000	0.002	0.001	0.007
NO0042G dibenzo_ac_ah_anthracenes	0.002	0.006	0.001	0.000	0.001	0.000	0.001	0.000	0.000	0.001	0.000	0.001
NO0042G anthanthrene	0.002	0.004	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NO0042G inden_123cd_pyrene	0.016	0.039	0.010	0.002	0.002	0.000	0.000	0.000	0.000	0.002	0.001	0.007
NO0042G pyrene	0.053	0.097	0.024	0.009	0.008	0.009	0.009	0.007	0.004	0.012	0.009	0.029
NO0042G PCB_101	2.878	0.720	0.566	1.045	0.561	0.861	0.540	0.610	0.392	0.550	0.537	0.606
NO0042G PCB_153	1.512	0.515	0.276	0.347	0.279	0.503	0.355	0.310	0.170	0.212	0.178	0.222
NO0042G PCB_156	0.070	0.030	0.016	0.015	0.016	0.027	0.045	0.066	0.030	0.025	0.020	0.028
NO0042G PCB_180	0.258	0.110	0.054	0.078	0.068	0.103	0.135	0.144	0.087	0.090	0.062	0.066
NO0042G PCB_28	6.355	5.473	2.562	11.287	4.423	7.097	6.215	4.944	4.577	4.108	2.570	3.240
NO0042G PCB_31	5.823	5.188	2.424	10.550	4.220	6.776	5.980	4.656	4.355	3.897	2.410	3.054
NO0042G PCB_52	2.518	1.890	1.238	3.725	1.350	2.052	1.655	1.486	1.292	1.600	1.057	1.244
NO0042G PCB_105	0.300	0.110	0.072	0.067	0.059	0.114	0.103	0.138	0.045	0.060	0.042	0.062
NO0042G PCB_118	1.045	0.395	0.242	0.252	0.196	0.318	0.215	0.266	0.123	0.175	0.153	0.198
NO0042G PCB_138	1.055	0.403	0.198	0.220	0.349	0.362	0.335	0.318	0.138	0.118	0.115	0.140

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NO0099R HCB	47.075	45.300	47.478	60.723	57.627	52.360	59.701	57.860	64.225	58.650	57.000	46.668
NO0099R gamma_HCH	6.810	8.075	7.400	47.575	40.494	45.640	18.428	23.380	32.775	32.065	21.840	10.439
NO0099R alpha_HCH	11.150	10.150	10.860	19.008	21.075	18.340	26.950	27.100	30.725	23.567	15.940	12.155
SE0002R pyrene	0.320	0.430	0.420	0.290	0.050	0.090	0.040	0.080	0.270	0.400	0.780	0.510
SE0002R anthracene	0.016	0.021	0.042	0.024	0.003	0.005	0.013	0.008	0.022	0.025	0.066	0.072
SE0002R benz_a_anthracene	0.126	0.145	0.146	0.056	0.015	0.030	0.241	0.024	0.089	0.114	0.239	0.186
SE0002R benzo_a_pyrene	0.037	0.101	0.111	0.060	0.005	0.005	0.005	0.005	0.059	0.102	0.267	0.181
SE0002R benzo_ghi_perylene	0.050	0.146	0.129	0.080	0.015	0.015	0.015	0.015	0.077	0.158	0.317	0.045
SE0002R gamma_HCH	5.000	9.000	6.000	17.000	55.000	69.000	19.000	17.000	10.000	51.000	17.000	12.000
SE0002R inden_123cd_pyrene	0.035	0.137	0.136	0.065	0.035	0.035	0.035	0.035	0.074	0.154	0.370	0.274
SE0002R phenanthrene	1.330	1.340	1.280	1.220	0.300	0.710	0.270	0.600	0.850	1.320	3.050	1.700
SE0002R alpha_HCH	5.000	7.000	4.000	6.000	14.000	17.000	23.000	21.000	16.000	24.000	10.000	10.000
SE0002R pp_DDD	0.210	0.330	0.600	0.620	0.050	0.400	0.050	0.050	0.050	0.300	0.560	0.050
SE0002R pp_DDE	1.430	2.270	1.760	3.700	2.120	2.900	0.640	2.730	1.580	16.710	9.530	4.090
SE0002R pp_DDT	0.290	0.800	0.310	0.630	0.880	1.870	0.050	1.340	0.660	3.850	2.230	1.050
SE0002R PCB_101	1.056	1.557	1.261	2.349	3.389	7.951	3.383	2.615	1.630	3.305	2.674	1.859
SE0002R PCB_118	0.357	0.551	0.455	1.086	0.935	2.397	1.132	0.997	0.567	0.975	0.825	0.562
SE0002R PCB_138	0.616	1.008	0.898	1.619	1.201	3.280	1.208	1.709	1.068	2.027	2.261	1.195
SE0002R PCB_153	0.692	1.092	0.898	1.568	1.420	3.776	1.239	2.055	1.190	2.341	2.443	1.360
SE0002R PCB_180	0.242	0.454	0.484	0.572	0.342	0.904	0.300	0.554	0.362	0.821	1.228	0.461
SE0002R PCB_28	0.962	1.508	1.448	2.471	2.709	5.980	2.477	1.543	1.719	4.355	3.029	2.014
SE0002R PCB_52	1.291	1.841	1.709	2.712	5.093	11.175	5.189	2.340	1.760	3.958	2.869	2.053
SE0012R alpha_HCH	17.000	18.000	32.000	33.000	37.000	56.000	145.000	41.000	90.000	163.000	148.000	22.000
SE0012R anthracene	0.021	0.021	0.013	0.015	0.007	0.007	0.011	0.007	0.010	0.033	0.117	0.014
SE0012R benz_a_anthracene	0.021	0.031	0.007	0.016	0.005	0.001	0.004	0.007	0.020	0.187	0.261	0.027
SE0012R benzo_a_pyrene	0.072	0.068	0.007	0.038	0.008	0.002	0.003	0.003	0.003	0.094	0.262	0.010
SE0012R benzo_ghi_perylene	0.033	0.022	0.002	0.043	0.002	0.002	0.002	0.002	0.005	0.001	0.002	0.010
SE0012R gamma_HCH	12.000	15.000	13.000	101.000	133.000	98.000	93.000	19.000	35.000	199.000	149.000	22.000
SE0012R inden_123cd_pyrene	0.028	0.016	0.002	0.054	0.002	0.003	0.004	0.004	0.005	0.002	0.002	0.015
SE0012R phenanthrene	2.870	1.760	0.770	0.980	0.650	0.680	0.880	0.710	0.420	1.270	6.460	1.540
SE0012R pp_DDE	5.280	5.670	3.260	4.730	4.800	3.430	5.640	1.800	3.920	0.000	55.900	13.660
SE0012R pyrene	0.410	0.350	0.140	0.210	0.070	0.060	0.110	0.080	0.120	0.530	1.510	0.260
SE0012R PCB_101	1.421	1.235	0.890	1.793	2.910	2.860	2.889	3.017	1.950	2.891	2.304	1.929
SE0012R PCB_118	0.483	0.456	0.382	0.704	1.145	0.842	0.793	1.432	0.824	1.095	0.981	0.653
SE0012R PCB_138	0.632	0.617	0.509	0.828	1.556	1.498	1.467	2.132	1.201	1.454	1.182	1.004
SE0012R PCB_153	0.765	0.790	0.602	1.087	1.817	1.938	1.976	2.354	1.222	1.677	1.374	1.313
SE0012R PCB_180	0.203	0.251	0.168	0.271	0.463	0.454	0.445	0.792	0.354	0.499	0.381	0.333
SE0012R PCB_28	2.826	2.272	1.451	2.946	4.382	2.998	2.763	2.831	2.642	7.567	6.454	2.774
SE0012R PCB_52	2.656	2.163	1.441	2.786	4.803	4.993	3.868	4.443	3.298	4.636	3.706	2.490

Annex 9

Overview of sampling and analytical methods

This Annex gives an overview of the sampling methods used in the participating countries. The information given is mostly based on answered questionnaires issued by the CCC. Most countries have not reported this information.

Table 9.1: Techniques for sampling of precipitation and aerosols.

Country	Heavy metals in precipitation	Heavy metals in air/ air particles	POPs in precipitation	POPs in air
Belgium	Bulk/Wet-only	Filter-1pack		
Czech Republic	Bulk	Filter-1pack		High vol.
Denmark	Bulk	Filter-3pack Hg-monitor (Teran)		
Estonia	Bulk			
Finland	Bulk	Low volume sampler Hg: gold traps	Bulk	High vol.
France	Bulk			
Germany	DE1,9: Wet-only DE2,4:Bulk	Machery/Nagel MN 85/90 (glassfiber) High Vol	Wet only	
Iceland	IS02: Wet-only IS90: Bulk	High vol.	Bulk (Steel funnel 1m^2/PUR foam)	PUR-foam 1000m^3/15days
Ireland	Bulk	Hg-monitor (Teran)	Bulk	
Latvia	Bulk	Filter-1pack		
Lithuania	Bulk	Filter-1pack		
Netherlands	Wet-only	Filter-1pack		
Norway	Bulk	NO42: 20 l/h Whatman 40 fine fraction Hg: Hg-monitor (Teran) NO99: 10 l/min Gelman Zefluor teflon filter 2.5 μm / Nucleopore PC-membran 8 μm Hg: gold traps	Bulk Funnel and bottle of glass	NILU's High Vol. Sampler Gelman AE filter + 2 PUR foams 20m^3/h NO42: 1000m^3 NO99: 500m^3
Portugal	Bulk/Wet-only			
Slovak Republic	1.3.94→ Wet-only (Bulk earlier)	Nitrocellulose filters 45mm, 15-60 m3/day (Earlier: Nitrocellulose filters 35mm, 12 m3/day)		
Sweden	Bulk	Hg: gold traps	Bulk	High vol.
United Kingdom	Bulk	Filter-1pack		

Annex 10

List of data reports

Data Report October 1977-September 1978.
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An Atlas of monthly and seasonal maps of precipitation amount, non-marine sulphate, nitrate, ammonium and hydrogen ion concentrations and depositions based on the EMEP precipitation network: October 1977 to September 1982.
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