Summary statistics EMEP laboratory intercalibration Round 35

Sulphur dioxide in absorbing solution (A-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
A1	SO2	µg S/ml	14	0.188	0.181	0.185	0.016	8.6
A2	SO2	µg S/ml	14	0.172	0.17	0.168	0.028	16.3
A4	SO2	µg S/ml	9	0.076	0.073	0.073	0.006	7.9
A5	SO2	µg S/ml	10	0.068	0.067	0.066	0.008	12.2

Sulphur dioxide and nitric acid on impregnated filters (B-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
B1	SO2	ug S/filter	19	100.2	101.2	100.96	6.78	6.7
B2	SO2	ug S/filter	19	60.11	59.81	59.90	3.05	5.1
B3	SO2	ug S/filter	19	56.11	56.53	56.20	3.76	6.6
B6	SO2	ug S/filter	18	100.2	100.16	100.03	5.06	5.0
B1	HNO3	ug N/filter	19	40.9	42.54	41.57	2.69	6.3
B2	HNO3	ug N/filter	19	24.54	24.73	24.40	1.42	5.7
B3	HNO3	ug N/filter	18	22.9	23.45	23.16	1.31	5.6
B6	HNO3	ug N/filter	18	40.9	41.79	41.83	2.10	5.0

Precipitation (G-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
G1	SO4	mg S/l	52	1.319	1.342	1.326	0.081	6.1
G2	SO4	mg S/l	51	0.856	0.876	0.855	0.103	11.8
G3	SO4	mg S/l	52	2.08	2.108	2.086	0.113	5.4
G4	SO4	mg S/l	51	2.2	2.231	2.2	0.151	6.7
G1	NH4	mg N/l	49	0.241	0.241	0.243	0.016	6.8
G2	NH4	mg N/l	49	0.16	0.161	0.163	0.015	9.2
G3	NH4	mg N/l	50	0.401	0.404	0.406	0.023	5.8
G4	NH4	mg N/l	50	0.535	0.537	0.542	0.029	5.3
G1	NO3	mg N/l	52	0.546	0.544	0.545	0.019	3.5
G2	NO3	mg N/l	51	0.364	0.363	0.364	0.015	4.0
G3	NO3	mg N/l	52	0.911	0.918	0.919	0.027	3.0
G4	NO3	mg N/l	52	0.942	0.938	0.948	0.084	8.9
G1	Na	mg/l	51	0.548	0.527	0.534	0.026	5.0
G2	Na	mg/l	51	0.365	0.355	0.356	0.025	7.1
G3	Na	mg/l	51	0.913	0.893	0.902	0.042	4.7
G4	Na	mg/l	51	0.73	0.713	0.72	0.033	4.6

G1	Mg	mg/l	48	0.155	0.153	0.153	0.007	4.5
G2	Mg	mg/l	47	0.093	0.09	0.091	0.005	5.9
G3	Mg	mg/l	49	0.206	0.205	0.205	0.009	4.4
G4	Mg	mg/l	49	0.206	0.206	0.207	0.01	5.0
G1	Cl	mg/l	48	0.347	0.337	0.34	0.018	5.4
G2	Cl	mg/l	49	0.232	0.231	0.231	0.022	9.4
G3	Cl	mg/l	52	0.579	0.57	0.573	0.028	5.0
G4	Cl	mg/l	51	0.463	0.457	0.46	0.03	6.7
G1	Ca	mg/l	48	0.192	0.191	0.19	0.039	20.5
G2	Ca	mg/l	48	0.115	0.116	0.112	0.034	29.5
G3	Ca	mg/l	48	0.255	0.254	0.253	0.03	11.9
G4	Ca	mg/l	48	0.255	0.252	0.253	0.02	8.0
G1	K	mg/l	50	0.306	0.294	0.298	0.02	6.9
G2	K	mg/l	50	0.204	0.198	0.2	0.018	9.0
G3	K	mg/l	50	0.509	0.501	0.51	0.032	6.4
G4	K	mg/l	50	0.407	0.399	0.406	0.023	5.8
G1	pH	pH-unit	48	4.22	4.283	4.26	0.096	2.2
G2	pH	pH-unit	48	4.4	4.431	4.43	0.078	1.8
G3	pH	pH-unit	47	4	4.035	4.03	0.06	1.5
G4	pH	pH-unit	47	4	3.999	4	0.062	1.5
G1	Cond.	µS/cm	46	35.3	34.442	35	1.716	5.0
G2	Cond.	µS/cm	46	23.4	23.141	23.215	0.851	3.7
G3	Cond.	µS/cm	47	57.9	56.924	57.3	2.088	3.7
G4	Cond.	µS/cm	47	57.9	59.644	60.27	2.643	4.4

Nitrogen dioxide in absorbing solution (C-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
C1	NO2	ug N/ml	25	0.092	0.094	0.094	0.003	3.1
C2	NO2	ug N/ml	25	0.099	0.102	0.102	0.004	3.6
C3	NO2	ug N/ml	25	0.163	0.167	0.168	0.007	4.0
C4	NO2	ug N/ml	25	0.17	0.175	0.176	0.007	3.9

Ammonia on impregnated filters (J-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
J1	NH3	ug N/filter	18	54.14	51.498	51.616	2.363	4.6
J4	NH3	ug N/filter	18	28.07	27.099	27.17	1.761	6.5
J5	NH3	ug N/filter	18	30.08	30.823	30.286	3.055	9.9
J6	NH3	ug N/filter	18	56.14	54.322	54.556	2.012	3.7

Heavy metals in precipitation (H-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
H1	Arsenic	µg/l	33	0.9	0.873	0.891	0.157	18.0
H2	Arsenic	µg/l	33	0.7	0.712	0.7	0.057	8.0
H3	Arsenic	µg/l	38	8	7.968	7.764	0.706	8.9
H4	Arsenic	µg/l	39	10.5	10.572	10.226	1.021	9.7
H1	Cadmium	µg/l	39	0.09	0.087	0.087	0.011	12.3
H2	Cadmium	µg/l	38	0.1	0.096	0.096	0.008	7.9
H3	Cadmium	µg/l	46	1.5	1.486	1.485	0.09	6.0
H4	Cadmium	µg/l	45	1.3	1.279	1.28	0.081	6.3
H1	Chromium	µg/l	37	1.1	1.042	1.039	0.109	10.5
H2	Chromium	µg/l	35	0.7	0.671	0.66	0.056	8.4
H3	Chromium	µg/l	42	7	6.799	6.8	0.349	5.1
H4	Chromium	µg/l	42	8	7.819	7.827	0.365	4.7
H1	Copper	µg/l	37	1.3	1.278	1.251	0.113	8.9
H2	Copper	µg/l	35	1	0.987	0.98	0.088	9.0
H3	Copper	µg/l	43	9	8.657	8.713	0.395	4.6
H4	Copper	µg/l	41	8	7.764	7.769	0.3	3.9

H1	Lead	µg/l	37	0.8	0.756	0.758	0.06	8.0
H2	Lead	µg/l	39	1.1	1.034	1.04	0.083	8.0
H3	Lead	µg/l	50	25.5	24.811	24.5	1.314	5.3
H4	Lead	µg/l	50	27	26.083	25.95	1.52	5.8
H1	Nickel	µg/l	37	1.2	1.141	1.13	0.117	10.2
H2	Nickel	µg/l	36	0.9	0.872	0.867	0.089	10.2
H3	Nickel	µg/l	45	10	9.795	9.77	0.657	6.7
H4	Nickel	µg/l	45	11	10.726	10.8	0.588	5.5
H1	Zinc	µg/l	39	12	12.065	11.73	1.301	10.8
H2	Zinc	µg/l	41	9	9.088	9.096	1.789	19.7
H3	Zinc	µg/l	47	115	114.681	114.6	8.25	7.2
H4	Zinc	µg/l	47	122	120.844	121.581	8.84	7.3