Summary statistics EMEP laboratory intercalibration Round 36

Sulphur dioxide in absorbing solution (A-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
A1	SO2	µg S/ml	7	0.16	0.132	0.154	0.051	38.5
A2	SO2	µg S/ml	7	0.281	0.246	0.28	0.091	36.9
A3	SO2	µg S/ml	6	0.321	0.312	0.321	0.034	10.8
A4	SO2	µg S/ml	6	0.401	0.366	0.393	0.052	14.3

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	16	11.2	11.5	10.95	2.39	20.8
B2	SO2	ug S/filter	16	31.3	30.61	30.32	3.34	10.9
B4	SO2	ug S/filter	16	15.2	15.76	14.95	2.88	18.3
B6	SO2	ug S/filter	17	10	9.59	9.45	3.03	31.6
B1	HNO3	ug N/filter	16	9.16	8.87	9.01	0.55	6.2
B2	HNO3	ug N/filter	17	25.5	23.48	23.95	1.82	7.8
B4	HNO3	ug N/filter	17	12.4	12.51	12.24	1.41	11.3
B6	HNO3	ug N/filter	17	8.18	8.00	8.13	0.51	6.4

Nitrogen dioxide in absorbing solution (C-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
C1	NO2	ug N/ml	28	0.127	0.122	0.124	0.01	8.6
C2	NO2	ug N/ml	28	0.166	0.162	0.164	0.011	7.1
C3	NO2	ug N/ml	27	0.372	0.368	0.37	0.017	4.5
C4	NO2	ug N/ml	27	0.297	0.295	0.294	0.013	4.4

Ammonia on impregnated filters (J-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
J1	NH3	ug N/filter	18	15.3	15.451	15.234	1.439	9.3
J2	NH3	ug N/filter	18	12.5	12.402	12.118	1.435	11.6
J3	NH3	ug N/filter	17	20.5	20.326	20.48	1.345	6.6
J6	NH3	ug N/filter	18	30.5	30.094	30.192	1.381	4.6

Precipitation (G-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
G1	SO4	mg S/l	43	0.251	0.247	0.248	0.009	3.7
G2	SO4	mg S/l	45	0.366	0.364	0.36	0.023	6.4
G3	SO4	mg S/l	45	0.527	0.525	0.518	0.025	4.7
G4	SO4	mg S/l	45	0.463	0.459	0.453	0.021	4.6
G1	NH4	mg N/l	46	0.107	0.105	0.108	0.02	18.7
G2	NH4	mg N/l	45	0.134	0.134	0.134	0.015	11.4
G3	NH4	mg N/l	44	0.481	0.489	0.491	0.029	5.9
G4	NH4	mg N/l	45	0.561	0.574	0.572	0.036	6.3
G1	NO3	mg N/l	47	0.165	0.162	0.166	0.023	14.0
G2	NO3	mg N/l	47	0.26	0.263	0.261	0.014	5.3
G3	NO3	mg N/l	46	0.577	0.575	0.57	0.027	4.7
G4	NO3	mg N/l	48	0.67	0.665	0.66	0.028	4.2
G1	Na	mg/l	47	0.286	0.28	0.284	0.021	7.5
G2	Na	mg/l	47	0.408	0.405	0.406	0.021	5.2
G3	Na	mg/l	48	0.769	0.741	0.743	0.049	6.7
G4	Na	mg/l	44	1.019	0.982	0.99	0.03	3.0
G1	Mg	mg/l	48	0.072	0.07	0.071	0.006	9.0
G2	Mg	mg/l	45	0.103	0.103	0.103	0.005	4.9
G3	Mg	mg/l	48	0.186	0.187	0.188	0.011	5.6
G4	Mg	mg/l	44	0.155	0.155	0.155	0.006	3.8
G1	Cl	mg/l	46	0.386	0.377	0.38	0.027	7.1
G2	Cl	mg/l	46	0.463	0.451	0.455	0.027	6.0
G3	Cl	mg/l	45	1.16	1.136	1.133	0.075	6.6
G4	Cl	mg/l	46	1.54	1.488	1.504	0.083	5.6
G1	Ca	mg/l	47	0.128	0.127	0.127	0.02	15.9
G2	Ca	mg/l	47	0.153	0.152	0.154	0.018	11.5
G3	Ca	mg/l	46	0.192	0.19	0.191	0.017	8.7
G4	Ca	mg/l	47	0.217	0.217	0.219	0.024	11.0
G1	K	mg/l	49	0.102	0.096	0.098	0.012	12.8
G2	K	mg/l	49	0.17	0.161	0.163	0.016	10.1
G3	K	mg/l	48	0.238	0.23	0.234	0.021	9.0
G4	K	mg/l	49	0.272	0.267	0.27	0.02	7.5
G1	pH	pH-unit	48	5.29	5.32	5.29	0.136	2.5
G2	pH	pH-unit	48	5.14	5.153	5.14	0.097	1.9
G3	pH	pH-unit	50	5.1	5.068	5.07	0.1	2.0
G4	pH	pH-unit	49	5.17	5.164	5.17	0.102	2.0
G1	Cond.	µS/cm	46	7.005	7.159	7.005	0.928	13.0
G2	Cond.	µS/cm	47	9.7	9.727	9.7	0.649	6.7
G3	Cond.	µS/cm	50	16.9	17.216	17.2	1.197	7.0
G4	Cond.	µS/cm	50	18.37	18.377	18.37	0.882	4.8

Heavy metals in precipitation (H-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
H1	Arsenic	µg/l	23	0.1	0.105	0.103	0.027	25.7
H2	Arsenic	µg/l	24	0.15	0.192	0.152	0.173	90.3
H3	Arsenic	µg/l	28	0.2	0.231	0.204	0.157	68.1
H4	Arsenic	µg/l	29	0.3	0.303	0.3	0.053	17.5
H1	Cadmium	µg/l	31	0.035	0.033	0.034	0.006	17.0
H2	Cadmium	µg/l	31	0.045	0.044	0.044	0.007	16.1
H3	Cadmium	µg/l	34	0.06	0.058	0.059	0.008	13.9
H4	Cadmium	µg/l	35	0.07	0.071	0.07	0.007	9.2
H1	Chromium	µg/l	24	0.1	0.109	0.1	0.075	69.0
H2	Chromium	µg/l	24	0.15	0.163	0.147	0.082	50.1
H3	Chromium	µg/l	26	0.3	0.306	0.3	0.07	22.9
H4	Chromium	µg/l	29	0.4	0.411	0.39	0.14	34.1
H1	Copper	µg/l	30	0.7	0.669	0.684	0.087	13.0
H2	Copper	µg/l	30	0.9	0.856	0.88	0.084	9.8
H3	Copper	µg/l	33	1.1	1.078	1.08	0.098	9.1
H4	Copper	µg/l	33	1.2	1.161	1.171	0.121	10.4
H1	Lead	µg/l	33	0.45	0.439	0.441	0.031	7.0
H2	Lead	µg/l	37	0.55	0.532	0.54	0.045	8.4
H3	Lead	µg/l	36	0.8	0.768	0.78	0.045	5.9
H4	Lead	µg/l	37	0.9	0.885	0.89	0.082	9.3
H1	Nickel	µg/l	27	0.4	0.371	0.39	0.057	15.4
H2	Nickel	µg/l	29	0.5	0.447	0.479	0.086	19.1
H3	Nickel	µg/l	29	0.7	0.66	0.661	0.054	8.3
H4	Nickel	µg/l	30	0.8	0.749	0.768	0.074	9.9
H1	Zinc	µg/l	35	6	6.091	6	0.614	10.1
H2	Zinc	µg/l	35	7	6.941	7	0.687	9.9
H3	Zinc	µg/l	36	8	8.017	8.049	0.84	10.5
H4	Zinc	µg/l	35	9	9.029	9.06	0.874	9.7