

Summary statistics EMEP laboratory intercalibration Round 38

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

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
B3	SO2	ug S/filter	18	20.13	21.1	19.96	9.47	44.9
B4	SO2	ug S/filter	18	12	13.16	11.84	8.39	63.8
B5	SO2	ug S/filter	18	18	18.31	17.83	7.99	43.6
B6	SO2	ug S/filter	18	16	17.31	15.79	9.23	53.4
B3	HNO3	ug N/filter	18	8.18	8.64	8.09	6.19	71.7
B4	HNO3	ug N/filter	18	9.82	10.70	9.55	9.32	87.1
B5	HNO3	ug N/filter	18	14.7	14.04	14.40	6.72	47.9
B6	HNO3	ug N/filter	18	13.1	14.59	12.97	12.22	83.8

Nitrogen dioxide in absorbing solution (C-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
C1	NO2	ug N/ml	20	0.06	0.06	0.06	0.005	7.9
C2	NO2	ug N/ml	19	0.066	0.066	0.066	0.004	5.9
C3	NO2	ug N/ml	20	0.104	0.104	0.103	0.007	6.3
C4	NO2	ug N/ml	20	0.11	0.111	0.11	0.006	5.8

Ammonia on impregnated filters (J-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
J2	NH3	ug N/filter	17	17.215	17.254	17.215	1.498	8.7
J4	NH3	ug N/filter	17	15.88	15.943	15.88	1.186	7.4
J5	NH3	ug N/filter	16	12.81	12.674	12.811	0.569	4.5
J6	NH3	ug N/filter	17	11.82	11.734	11.82	0.588	5.0

Precipitation (G-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
G1	SO4	mg S/l	45	0.18	0.179	0.181	0.009	4.8
G2	SO4	mg S/l	46	0.205	0.201	0.203	0.009	4.5
G3	SO4	mg S/l	46	0.617	0.61	0.609	0.02	3.3
G4	SO4	mg S/l	47	0.499	0.492	0.494	0.019	3.8
G1	NH4	mg N/l	42	0.06	0.061	0.06	0.014	22.7
G2	NH4	mg N/l	45	0.172	0.171	0.172	0.013	7.7
G3	NH4	mg N/l	43	0.296	0.297	0.297	0.015	5.2
G4	NH4	mg N/l	44	0.344	0.345	0.344	0.018	5.3
G1	NO3	mg N/l	46	0.204	0.203	0.204	0.009	4.3
G2	NO3	mg N/l	47	0.336	0.334	0.336	0.012	3.6
G3	NO3	mg N/l	48	0.489	0.486	0.489	0.017	3.5
G4	NO3	mg N/l	48	0.587	0.586	0.587	0.022	3.7
G1	Na	mg/l	44	0.254	0.25	0.25	0.011	4.4
G2	Na	mg/l	44	0.326	0.314	0.314	0.014	4.3
G3	Na	mg/l	48	0.848	0.835	0.834	0.04	4.7
G4	Na	mg/l	48	1.1	1.069	1.07	0.055	5.1
G1	Mg	mg/l	45	0.072	0.07	0.072	0.008	10.7
G2	Mg	mg/l	45	0.083	0.08	0.081	0.006	7.6
G3	Mg	mg/l	46	0.258	0.256	0.259	0.014	5.4
G4	Mg	mg/l	46	0.206	0.202	0.204	0.011	5.4
G1	Cl	mg/l	45	0.27	0.27	0.267	0.043	15.8
G2	Cl	mg/l	46	0.386	0.374	0.375	0.026	6.8
G3	Cl	mg/l	48	1.16	1.136	1.131	0.042	3.7
G4	Cl	mg/l	48	1.54	1.512	1.51	0.072	4.8
G1	Ca	mg/l	45	0.089	0.09	0.09	0.018	20.2
G2	Ca	mg/l	46	0.102	0.097	0.099	0.021	21.9
G3	Ca	mg/l	45	0.319	0.313	0.315	0.028	9.1
G4	Ca	mg/l	45	0.255	0.245	0.251	0.024	9.6
G1	K	mg/l	44	0.272	0.262	0.261	0.016	6.1
G2	K	mg/l	46	0.325	0.325	0.325	0.022	6.9
G3	K	mg/l	46	0.374	0.369	0.37	0.023	6.2
G4	K	mg/l	45	0.509	0.501	0.502	0.027	5.3
G1	pH	pH-unit	46	5.49	5.475	5.49	0.162	3.0
G2	pH	pH-unit	45	5.49	5.485	5.49	0.126	2.3
G3	pH	pH-unit	44	5.44	5.433	5.44	0.127	2.3
G4	pH	pH-unit	43	5.44	5.422	5.44	0.134	2.5
G1	Cond.	µS/cm	43	5.96	5.957	5.96	0.467	7.8
G2	Cond.	µS/cm	42	7.9	7.869	7.871	0.528	6.7
G3	Cond.	µS/cm	43	15.66	15.556	15.53	0.632	4.1
G4	Cond.	µS/cm	41	17.15	16.944	16.9	0.548	3.2

Heavy metals in precipitation (H-samples)

Sample	Component	Unit	N	Expected value	Mean value	Median	Standard deviation	RSD (%)
H1	Arsenic	µg/l	29	0.418	0.419	0.413	0.114	27.1
H2	Arsenic	µg/l	26	0.315	0.306	0.308	0.04	13.0
H3	Arsenic	µg/l	27	0.365	0.36	0.354	0.038	10.6
H4	Arsenic	µg/l	28	0.31	0.306	0.305	0.043	14.2
H1	Cadmium	µg/l	34	0.048	0.053	0.049	0.021	40.4
H2	Cadmium	µg/l	35	0.059	0.057	0.059	0.011	18.7
H3	Cadmium	µg/l	34	0.045	0.048	0.047	0.01	21.1
H4	Cadmium	µg/l	33	0.044	0.045	0.044	0.013	28.5
H1	Chromium	µg/l	28	0.396	0.384	0.388	0.044	11.6
H2	Chromium	µg/l	26	0.276	0.271	0.269	0.033	12.2
H3	Chromium	µg/l	27	0.278	0.262	0.269	0.055	20.9
H4	Chromium	µg/l	25	0.288	0.273	0.277	0.044	16.1
H1	Copper	µg/l	29	0.484	0.548	0.491	0.253	46.1
H2	Copper	µg/l	27	0.355	0.381	0.38	0.092	24.1
H3	Copper	µg/l	26	0.278	0.321	0.311	0.084	26.2
H4	Copper	µg/l	27	0.465	0.485	0.48	0.094	19.4
H1	Lead	µg/l	37	0.968	0.96	0.941	0.205	21.4
H2	Lead	µg/l	34	1.01	0.942	0.96	0.09	9.6
H3	Lead	µg/l	35	0.94	0.916	0.91	0.089	9.7
H4	Lead	µg/l	37	0.797	0.759	0.766	0.178	23.4
H1	Nickel	µg/l	31	0.528	0.533	0.52	0.179	33.6
H2	Nickel	µg/l	28	0.394	0.389	0.394	0.093	23.9
H3	Nickel	µg/l	28	0.383	0.403	0.386	0.149	36.9
H4	Nickel	µg/l	28	0.381	0.362	0.375	0.092	25.4
H1	Zinc	µg/l	33	5.5	5.87	5.764	0.629	10.7
H2	Zinc	µg/l	34	4.53	4.743	4.591	0.696	14.7
H3	Zinc	µg/l	33	4.25	4.467	4.431	0.649	14.5
H4	Zinc	µg/l	34	4.21	4.419	4.29	0.744	16.8