

## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 3, Czech Hydrometeorological Institute, Praha (Czech Republic)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	22.101	22.9	21.882	1.414	0.155	S
J3		23.319	24.1	23.37	1.537	-0.033	S
J5		30.059	28.5	28.246	1.805	1.004	S
J6		25.31	25.7	25.459	1.229	-0.121	S

¥ Reported values are blank corrected. Corrections are done by subtracting the blank value when a value was reported or 1/2MDL when MDL was reported.

\* Z score is unitless

¤ EMEP quality norm; letters indicate:

S – Satisfactory: Your result deviates less than ±20% of the expected value

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Please check the EMEP intercalibration website for more statistics, Youden plots, updated expected values ect: <http://www.nilu.no/projects/ccc/intercomparison.html>

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 4, Aarhus University, Department of Environmental Science (Denmark)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>‡</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>‡</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	21.67	22.9	21.882	1.414	-0.15	S
J3		23.16	24.1	23.37	1.537	-0.137	S
J5		27.73	28.5	28.246	1.805	-0.286	S
J6		25.01	25.7	25.459	1.229	-0.365	S

<sup>‡</sup> Reported values are blank corrected. Corrections are done by subtracting the blank value when a value was reported or 1/2MDL when MDL was reported.

<sup>\*</sup> Z score is unitless

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 5, Finnish Meteorological Institute. Air Quality Department (Finland)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	21.115	22.9	21.882	1.414	-0.542	S
J3		22.645	24.1	23.37	1.537	-0.471	S
J5		26.585	28.5	28.246	1.805	-0.92	S
J6		24.335	25.7	25.459	1.229	-0.914	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 6, SGS France - EHS (France)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	19.536	22.9	21.882	1.414	-1.659	S
J3		20.766	24.1	23.37	1.537	-1.694	S
J5		24.744	28.5	28.246	1.805	-1.94	S
J6		22.472	25.7	25.459	1.229	-2.43	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 8, Umweltbundesamt, Langen (Germany)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	24.87	22.9	21.882	1.414	2.114	S
J3		25.57	24.1	23.37	1.537	1.431	S
J5		31.7	28.5	28.246	1.805	1.914	S
J6		27.49	25.7	25.459	1.229	1.653	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 10, Air Quality Reference Centre (Hungary)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	22.353	22.9	21.882	1.414	0.333	S
J3		23.121	24.1	23.37	1.537	-0.162	S
J5		27.726	28.5	28.246	1.805	-0.288	S
J6		25.54	25.7	25.459	1.229	0.066	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 15, Norwegian Institute for Air Research NILU (Norway)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	22.35	22.9	21.882	1.414	0.331	S
J3		23.77	24.1	23.37	1.537	0.26	S
J5		28.28	28.5	28.246	1.805	0.019	S
J6		26.06	25.7	25.459	1.229	0.489	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 16, Institute of Meteorology and Water Management, Warsaw (Poland)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	20.02	22.9	21.882	1.414	-1.317	S
J3		21.55	24.1	23.37	1.537	-1.184	S
J5		27.44	28.5	28.246	1.805	-0.446	S
J6		24.96	25.7	25.459	1.229	-0.406	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 19, Centro Nacional de Sanidad Ambiental (Spain)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	24.016	22.9	21.882	1.414	1.51	S
J3		26.912	24.1	23.37	1.537	2.304	S
J5		31.059	28.5	28.246	1.805	1.559	S
J6		27.377	25.7	25.459	1.229	1.561	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 20, Swedish Environmental Research Institute IVL, Gothenburg (Sweden)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	22.928	22.9	21.882	1.414	0.74	S
J3		24.228	24.1	23.37	1.537	0.558	S
J5		28.428	28.5	28.246	1.805	0.101	S
J6		26.028	25.7	25.459	1.229	0.463	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 31, Slovak Hydrometeorological Institute (Slovakia)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	20.584	22.9	21.882	1.414	-0.918	S
J3		21.825	24.1	23.37	1.537	-1.005	S
J5		30.114	28.5	28.246	1.805	1.035	S
J6		25.904	25.7	25.459	1.229	0.363	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 32, Center for Physical Sciences and Technology (Lithuania)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	21.55	22.9	21.882	1.414	-0.235	S
J3		23.37	24.1	23.37	1.537	0	S
J5		26.98	28.5	28.246	1.805	-0.701	S
J6		24.84	25.7	25.459	1.229	-0.503	S

¥ Reported values are blank corrected. Corrections are done by subtracting the blank value when a value was reported or 1/2MDL when MDL was reported.

\* Z score is unitless

¤ EMEP quality norm; letters indicate:

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 33, Latvian Environment, Geology and Meteorology Centre (Latvia)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	21.128	22.9	21.882	1.414	-0.533	S
J3		22.538	24.1	23.37	1.537	-0.541	S
J5		27.008	28.5	28.246	1.805	-0.686	S
J6		24.728	25.7	25.459	1.229	-0.595	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 34, Ministry of Environment and Urbanisation (Turkey)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	12.429	22.9	21.882	1.414	-6.687	U
J3		13.983	24.1	23.37	1.537	-6.106	U
J5		18.644	28.5	28.246	1.805	-5.319	Q
J6		17.09	25.7	25.459	1.229	-6.81	Q

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 38, Estonian Environmental Research Centre, Tallinn (Estonia)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	23.3	22.9	21.882	1.414	1.003	S
J3		25.13	24.1	23.37	1.537	1.145	S
J5		29.37	28.5	28.246	1.805	0.623	S
J6		26.93	25.7	25.459	1.229	1.197	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 39, Central Environmental Analysis Laboratory - CentLab (Poland)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>¤</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	20.95	22.9	21.882	1.414	-0.659	S
J3		23.05	24.1	23.37	1.537	-0.208	S
J5		27.45	28.5	28.246	1.805	-0.441	S
J6		25.35	25.7	25.459	1.229	-0.088	S

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## EMEP – 39<sup>th</sup> intercomparison of analytical methods - 2021

Laboratory 200, FUB AG (Switzerland)

### Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value <sup>‡</sup>	Expected value	Mean value	Standard deviation	Z score <sup>*</sup>	EMEP quality norm <sup>‡</sup>
J2	NH <sub>3</sub> <i>µg N/filter</i>	21.635	22.9	21.882	1.414	-0.174	S
J3		22.965	24.1	23.37	1.537	-0.263	S
J5		27.255	28.5	28.246	1.805	-0.549	S
J6		25.005	25.7	25.459	1.229	-0.369	S

<sup>‡</sup> Reported values are blank corrected. Corrections are done by subtracting the blank value when a value was reported or 1/2MDL when MDL was reported.

<sup>\*</sup> Z score is unitless

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