

## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	17.419	17.215	17.254	1.498	0.11	S
J3		16.273	15.88	15.943	1.186	0.278	S
J4		13.022	12.81	12.674	0.569	0.612	S
J5		11.972	11.82	11.734	0.588	0.404	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 – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	16	17.215	17.254	1.498	-0.837	S
J3		16.8	15.88	15.943	1.186	0.723	S
J4		12.45	12.81	12.674	0.569	-0.393	S
J5		11.71	11.82	11.734	0.588	-0.041	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 – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	16.035	17.215	17.254	1.498	-0.814	S
J3		14.255	15.88	15.943	1.186	-1.424	S
J4		12.145	12.81	12.674	0.569	-0.929	S
J5		11.565	11.82	11.734	0.588	-0.288	S

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	15.777	17.215	17.254	1.498	-0.986	S
J3		14.651	15.88	15.943	1.186	-1.09	S
J4		12.811	12.81	12.674	0.569	0.241	S
J5		11.239	11.82	11.734	0.588	-0.842	S

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	18.92	17.215	17.254	1.498	1.112	S
J3		17.61	15.88	15.943	1.186	1.406	S
J4		12.81	12.81	12.674	0.569	0.239	S
J5		11.89	11.82	11.734	0.588	0.265	S

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	18.501	17.215	17.254	1.498	0.833	S
J3		18.039	15.88	15.943	1.186	1.768	S
J4		13.474	12.81	12.674	0.569	1.406	S
J5		12.956	11.82	11.734	0.588	2.076	S

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	17.91	17.215	17.254	1.498	0.438	S
J3		15.9	15.88	15.943	1.186	-0.037	S
J4		12.73	12.81	12.674	0.569	0.099	S
J5		11.87	11.82	11.734	0.588	0.231	S

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	16.76	17.215	17.254	1.498	-0.33	S
J3		15.88	15.88	15.943	1.186	-0.053	S
J4		11.98	12.81	12.674	0.569	-1.218	S
J5		11.08	11.82	11.734	0.588	-1.112	S

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	14.931	17.215	17.254	1.498	-1.551	S
J3		17.952	15.88	15.943	1.186	1.694	S
J4		9.412	12.81	12.674	0.569	-5.729	Q
J5		10.795	11.82	11.734	0.588	-1.596	S

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	18.157	17.215	17.254	1.498	0.603	S
J3		15.816	15.88	15.943	1.186	-0.107	S
J4		13.117	12.81	12.674	0.569	0.778	S
J5		12.466	11.82	11.734	0.588	1.244	S

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	21.337	17.215	17.254	1.498	2.726	Q
J3		14.258	15.88	15.943	1.186	-1.422	S
J4		11.398	12.81	12.674	0.569	-2.242	S
J5		10.648	11.82	11.734	0.588	-1.847	S

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	15.98	17.215	17.254	1.498	-0.85	S
J3		15.54	15.88	15.943	1.186	-0.34	S
J4		13.03	12.81	12.674	0.569	0.626	S
J5		11.35	11.82	11.734	0.588	-0.653	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 – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	17.273	17.215	17.254	1.498	0.012	S
J3		14.947	15.88	15.943	1.186	-0.84	S
J4		12.908	12.81	12.674	0.569	0.411	S
J5		12.248	11.82	11.734	0.588	0.872	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.

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	0.905	17.215	17.254	1.498	-10.915	U
J3		10.28	15.88	15.943	1.186	-4.776	Q
J4		8.8	12.81	12.674	0.569	-6.804	Q
J5		8.718	11.82	11.734	0.588	-5.126	Q

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	17.215	17.215	17.254	1.498	-0.026	S
J3		16.796	15.88	15.943	1.186	0.719	S
J4		13.525	12.81	12.674	0.569	1.496	S
J5		12.015	11.82	11.734	0.588	0.478	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 – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	16.44	17.215	17.254	1.498	-0.543	S
J3		15.04	15.88	15.943	1.186	-0.762	S
J4		12.04	12.81	12.674	0.569	-1.113	S
J5		11.74	11.82	11.734	0.588	0.01	S

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

Laboratory 158, Asia Center for Air Pollution Research (ACAP) (Japan)

### 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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	16.86	17.215	17.254	1.498	-0.263	S
J3		15.34	15.88	15.943	1.186	-0.509	S
J4		12.43	12.81	12.674	0.569	-0.428	S
J5		11.82	11.82	11.734	0.588	0.146	S

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## EMEP – 38<sup>th</sup> intercomparison of analytical methods

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>
J1	NH <sub>3</sub> <i>µg N/filter</i>	17.8	17.215	17.254	1.498	0.365	S
J3		15.94	15.88	15.943	1.186	-0.003	S
J4		12.91	12.81	12.674	0.569	0.415	S
J5		12.12	11.82	11.734	0.588	0.655	S

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