EMEP – 43ʳᵈ intercomparison of analytical methods - 2025

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

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃ µg N/filter	3.796	3.91	3.834	0.507	-0.074	S
J2		4.529	4.71	4.53	0.603	-0.002	S
J4		9.659	9.12	9.142	0.692	0.747	S
J5		6.139	6.32	5.963	0.604	0.292	S

¥ Reported values are blank corrected. Corrections are done by subtracting the average 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

      Q – Questionable: Your result deviates between ±20-40% of the expected value

      U – Unsatisfactory: Your result deviates more than ±40% of the expected value

      B – Blank: You reported either no value or the detection limit

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EMEP – 43rd intercomparison of analytical methods - 2025

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

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	3.455	3.91	3.834	0.507	-0.748	S
J2		4.215	4.71	4.53	0.603	-0.522	S
J4	µg N/filter	8.955	9.12	9.142	0.692	-0.27	S
J5		5.655	6.32	5.963	0.604	-0.511	S

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EMEP – 43rd intercomparison of analytical methods - 2025

Laboratory 5, Finnish Meteorological Institute, Atmospheric Composition, Air Quality (Finland)

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	3.955	3.91	3.834	0.507	0.239	S
J2		4.405	4.71	4.53	0.603	-0.207	S
J4	µg N/filter	8.865	9.12	9.142	0.692	-0.4	S
J5		5.765	6.32	5.963	0.604	-0.329	S

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EMEP – 43rd intercomparison of analytical methods - 2025

Laboratory 6, SGS France - EHS (France)

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	3.232	3.91	3.834	0.507	-1.189	S
J2		4.101	4.71	4.53	0.603	-0.712	S
J4	µg N/filter	8.291	9.12	9.142	0.692	-1.23	S
J5		5.084	6.32	5.963	0.604	-1.457	S

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EMEP – 43rd intercomparison of analytical methods - 2025

Laboratory 8, Umweltbundesamt, Langen (Germany)

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	4.4	3.91	3.834	0.507	1.117	S
J2		5.11	4.71	4.53	0.603	0.963	S
J4	µg N/filter	9.58	9.12	9.142	0.692	0.633	S
J5		6.6	6.32	5.963	0.604	1.054	S

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EMEP – 43rd intercomparison of analytical methods - 2025

Laboratory 10, Air Quality Reference Centre (Hungary)

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH$_3$	4.426	3.91	3.834	0.507	1.167	S
J2		5.327	4.71	4.53	0.603	1.324	S
J4		10.624	9.12	9.142	0.692	2.143	S
J5	µg N/filter	7	6.32	5.963	0.604	1.716	S

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EMEP – 43rd intercomparison of analytical methods - 2025

Laboratory 13, C.N.R. Istituto Inquinamento Atmosferico(Italy)

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	3.002	3.91	3.834	0.507	-1.643	Q
J2		4.583	4.71	4.53	0.603	0.088	S
J4	µg N/filter	8.693	9.12	9.142	0.692	-0.649	S
J5		5.23	6.32	5.963	0.604	-1.215	S

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EMEP – 43rd intercomparison of analytical methods - 2025

Laboratory 15, NILU (Norway)

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	3.592	3.91	3.834	0.507	-0.477	S
J2		4.643	4.71	4.53	0.603	0.187	S
J4	µg N/filter	9.062	9.12	9.142	0.692	-0.115	S
J5		5.982	6.32	5.963	0.604	0.032	S

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      B – Blank: You reported either no value or the detection limit

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EMEP – 43rd intercomparison of analytical methods - 2025

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

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	4.29	3.91	3.834	0.507	0.9	S
J2		4.37	4.71	4.53	0.603	-0.265	S
J4	µg N/filter	9.26	9.12	9.142	0.692	0.171	S
J5		6.6	6.32	5.963	0.604	1.054	S

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EMEP – 43rd intercomparison of analytical methods - 2025

Laboratory 19, Centro Nacional de Sanidad Ambiental (Spain)

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	1.845	3.91	3.834	0.507	-3.926	U
J2		2.039	4.71	4.53	0.603	-4.134	U
J4	µg N/filter	6.316	9.12	9.142	0.692	-4.085	Q
J5		3.594	6.32	5.963	0.604	-3.924	U

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EMEP – 43rd intercomparison of analytical methods - 2025

Laboratory 31, Slovak Hydrometeorological Institute (Slovakia)

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	3.957	3.91	3.834	0.507	0.242	S
J2		4.51	4.71	4.53	0.603	-0.034	S
J4	µg N/filter	8.591	9.12	9.142	0.692	-0.797	S
J5		5.535	6.32	5.963	0.604	-0.71	S

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EMEP – 43rd intercomparison of analytical methods - 2025

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

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	3.95	3.91	3.834	0.507	0.23	S
J2		5.405	4.71	4.53	0.603	1.453	S
J4	µg N/filter	9.245	9.12	9.142	0.692	0.15	S
J5		6.005	6.32	5.963	0.604	0.07	S

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EMEP – 43rd intercomparison of analytical methods - 2025

Laboratory 34, Ministry of Environment and Urbanisation (Turkey)

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	3.088	3.91	3.834	0.507	-1.473	Q
J2		3.942	4.71	4.53	0.603	-0.976	S
J4	µg N/filter	7.547	9.12	9.142	0.692	-2.305	S
J5		5.511	6.32	5.963	0.604	-0.749	S

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EMEP – 43rd intercomparison of analytical methods - 2025

Laboratory 35, Meteorological and Hydrological Service of Croatia (Croatia)

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	4.411	3.91	3.834	0.507	1.139	S
J2		4.942	4.71	4.53	0.603	0.684	S
J4	µg N/filter	9.675	9.12	9.142	0.692	0.771	S
J5		6.447	6.32	5.963	0.604	0.801	S

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EMEP – 43rd intercomparison of analytical methods - 2025

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

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH$_3$	4.66	3.91	3.834	0.507	1.63	S
J2		4.84	4.71	4.53	0.603	0.515	S
J4	µg N/filter	9.88	9.12	9.142	0.692	1.067	S
J5		6.78	6.32	5.963	0.604	1.352	S

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EMEP – 43rd intercomparison of analytical methods - 2025

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

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	3.24	3.91	3.834	0.507	-1.173	S
J2		2.78	4.71	4.53	0.603	-2.904	U
J4	µg N/filter	8.81	9.12	9.142	0.692	-0.48	S
J5		4.91	6.32	5.963	0.604	-1.745	Q

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EMEP – 43rd intercomparison of analytical methods - 2025

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

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	3.845	3.91	3.834	0.507	0.022	S
J2		4.765	4.71	4.53	0.603	0.39	S
J4	µg N/filter	9.525	9.12	9.142	0.692	0.554	S
J5		6.225	6.32	5.963	0.604	0.433	S

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EMEP – 43rd intercomparison of analytical methods - 2025

Laboratory 200, FUB AG (Switzerland)

Ammonia on impregnated filters (J-samples)

Sample name	Determinand	Reported value ¥	Expected value	Mean value	Standard deviation	Z score *	EMEP quality norm ¤
J1	NH₃	3.88	3.91	3.834	0.507	0.091	S
J2		4.54	4.71	4.53	0.603	0.017	S
J4	µg N/filter	9.15	9.12	9.142	0.692	0.012	S
J5		5.91	6.32	5.963	0.604	-0.089	S

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