

## EMEP – 30<sup>th</sup> intercomparison of analytical methods

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

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.073	0.074	0.074	0.016	-0.039	S
C2	NO <sub>2</sub>	0.088	0.093	0.094	0.023	-0.274	S
C3	NO <sub>2</sub>	0.054	0.056	0.054	0.011	-0.008	S
C4	NO <sub>2</sub>	0.109	0.111	0.111	0.023	-0.08	S

⌘ EMEP quality norm; the letters in the column indicates:

S – Satisfactory: Your result deviates less than  $\pm 10\%$  of the expected value

Q – Questionable: Your result deviates between  $\pm 10\text{-}20\%$  of the expected value

U – Unsatisfactory: Your result deviates more than  $\pm 20\%$  of the expected value

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

Please check the EMEP intercalibration website for Youden plots, updated expected values ect:  
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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 8, Umweltbundesamt, Langen (Germany)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.071	0.074	0.074	0.016	-0.167	S
C2	NO <sub>2</sub>	0.089	0.093	0.094	0.023	-0.239	S
C3	NO <sub>2</sub>	0.053	0.056	0.054	0.011	-0.117	S
C4	NO <sub>2</sub>	0.105	0.111	0.111	0.023	-0.234	S

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 10, Institute for Atmospheric Physics (Hungary)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.067	0.074	0.074	0.016	-0.404	S
C2	NO <sub>2</sub>	0.084	0.093	0.094	0.023	-0.452	S
C3	NO <sub>2</sub>	0.048	0.056	0.054	0.011	-0.553	Q
C4	NO <sub>2</sub>	0.102	0.111	0.111	0.023	-0.388	S

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 12, Met. Eirann, Dublin (Ireland)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.092	0.074	0.074	0.016	1.116	U
C2	NO <sub>2</sub>	0.144	0.093	0.094	0.023	2.21	U
C3	NO <sub>2</sub>	0.06	0.056	0.054	0.011	0.538	S
C4	NO <sub>2</sub>	0.126	0.111	0.111	0.023	0.668	Q

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

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

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.063	0.074	0.074	0.016	-0.648	Q
C2	NO <sub>2</sub>	0.079	0.093	0.094	0.023	-0.674	Q
C3	NO <sub>2</sub>	0.048	0.056	0.054	0.011	-0.553	Q
C4	NO <sub>2</sub>	0.091	0.111	0.111	0.023	-0.872	Q

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

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

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.072	0.074	0.074	0.016	-0.1	S
C2	NO <sub>2</sub>	0.091	0.093	0.094	0.023	-0.141	S
C3	NO <sub>2</sub>	0.056	0.056	0.054	0.011	0.174	S
C4	NO <sub>2</sub>	0.109	0.111	0.111	0.023	-0.08	S

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 19, Centro Nacional de Sanidad Ambiental (Spain)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.1	0.074	0.074	0.016	1.603	U
C2	NO <sub>2</sub>	0.13	0.093	0.094	0.023	1.589	U
C3	NO <sub>2</sub>	< 0.090	0.056	0.054	0.011		B
C4	NO <sub>2</sub>	0.16	0.111	0.111	0.023	2.164	U

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

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

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.18	0.074	0.074	0.016	6.469	U
C2	NO <sub>2</sub>	0.229	0.093	0.094	0.023	5.982	U
C3	NO <sub>2</sub>	0.137	0.056	0.054	0.011	7.536	U
C4	NO <sub>2</sub>	0.278	0.111	0.111	0.023	7.356	U

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 23, Ricardo-AEA Limited (United Kingdom)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.073	0.074	0.074	0.016	-0.021	S
C2	NO <sub>2</sub>	0.093	0.093	0.094	0.023	-0.03	S
C3	NO <sub>2</sub>	0.055	0.056	0.054	0.011	0.065	S
C4	NO <sub>2</sub>	0.112	0.111	0.111	0.023	0.044	S

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Laboratory 24, Serbian Environmental Protection Agency (Serbia)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.065	0.074	0.074	0.016	-0.526	Q
C2	NO <sub>2</sub>	0.082	0.093	0.094	0.023	-0.541	Q
C3	NO <sub>2</sub>	0.05	0.056	0.054	0.011	-0.371	Q
C4	NO <sub>2</sub>	0.1	0.111	0.111	0.023	-0.476	S

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Laboratory 31, Slovak Hydrometeorological Institute (Slovakia)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.075	0.074	0.074	0.016	0.082	S
C2	NO <sub>2</sub>	0.094	0.093	0.094	0.023	-0.008	S
C3	NO <sub>2</sub>	0.054	0.056	0.054	0.011	-0.008	S
C4	NO <sub>2</sub>	0.111	0.111	0.111	0.023	0.008	S

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Laboratory 32, Atmospheric Pollution Research Laboratory, Institute of Physics, Vilnius (Lithuania)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.075	0.074	0.074	0.016	0.082	S
C2	NO <sub>2</sub>	0.097	0.093	0.094	0.023	0.125	S
C3	NO <sub>2</sub>	0.057	0.056	0.054	0.011	0.265	S
C4	NO <sub>2</sub>	0.115	0.111	0.111	0.023	0.184	S

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 33, Environmental Pollution Observ. Centre (Latvia)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.085	0.074	0.074	0.016	0.697	Q
C2	NO <sub>2</sub>	0.105	0.093	0.094	0.023	0.489	Q
C3	NO <sub>2</sub>	0.065	0.056	0.054	0.011	0.983	Q
C4	NO <sub>2</sub>	0.125	0.111	0.111	0.023	0.629	Q

⌘ EMEP quality norm; the letters in the column indicates:

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 34, Refik Saydam Hygiene Center, Ankara (Turkey)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.11	0.074	0.074	0.016	2.211	U
C2	NO <sub>2</sub>	0.126	0.093	0.094	0.023	1.412	U
C3	NO <sub>2</sub>	0.085	0.056	0.054	0.011	2.81	U
C4	NO <sub>2</sub>	0.146	0.111	0.111	0.023	1.548	U

⌘ EMEP quality norm; the letters in the column indicates:

S – Satisfactory: Your result deviates less than  $\pm 10\%$  of the expected value

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

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

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.071	0.074	0.074	0.016	-0.161	S
C2	NO <sub>2</sub>	0.092	0.093	0.094	0.023	-0.097	S
C3	NO <sub>2</sub>	0.054	0.056	0.054	0.011	-0.008	S
C4	NO <sub>2</sub>	0.11	0.111	0.111	0.023	-0.036	S

⌘ EMEP quality norm; the letters in the column indicates:

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 36, Hydrometeorological Institute of Slovenia (Slovenia)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.068	0.074	0.074	0.016	-0.344	S
C2	NO <sub>2</sub>	0.09	0.093	0.094	0.023	-0.186	S
C3	NO <sub>2</sub>	0.052	0.056	0.054	0.011	-0.189	S
C4	NO <sub>2</sub>	0.112	0.111	0.111	0.023	0.052	S

⌘ EMEP quality norm; the letters in the column indicates:

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 39, Environmental Monitoring Laboratory, Institute of Environmental Protection (Poland)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.064	0.074	0.074	0.016	-0.587	Q
C2	NO <sub>2</sub>	0.085	0.093	0.094	0.023	-0.408	S
C3	NO <sub>2</sub>	0.047	0.056	0.054	0.011	-0.644	Q
C4	NO <sub>2</sub>	0.104	0.111	0.111	0.023	-0.3	S

⌘ EMEP quality norm; the letters in the column indicates:

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 41, Micro Pollutants Technology (France)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.075	0.074	0.074	0.016	0.082	S
C2	NO <sub>2</sub>	0.098	0.093	0.094	0.023	0.169	S
C3	NO <sub>2</sub>	0.055	0.056	0.054	0.011	0.083	S
C4	NO <sub>2</sub>	0.117	0.111	0.111	0.023	0.272	S

⌘ EMEP quality norm; the letters in the column indicates:

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 42, State Hydrometeorological Service, Chisnau (Moldova)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.029	0.074	0.074	0.016	-2.716	U
C2	NO <sub>2</sub>	0.035	0.093	0.094	0.023	-2.626	U
C3	NO <sub>2</sub>	0.026	0.056	0.054	0.011	-2.553	U
C4	NO <sub>2</sub>	0.044	0.111	0.111	0.023	-2.94	U

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## EMEP – 30<sup>th</sup> intercomparison of analytical methods

Laboratory 173, Company Petrokemija d.d. (Croatia)

### Nitrogen dioxide in absorbing solution (C-samples)

Sample name	Determinand	Reported value	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>⌘</sup>
C1	NO <sub>2</sub>	0.071	0.074	0.074	0.016	-0.161	S
C2	NO <sub>2</sub>	0.087	0.093	0.094	0.023	-0.319	S
C3	NO <sub>2</sub>	0.055	0.056	0.054	0.011	0.083	S
C4	NO <sub>2</sub>	0.107	0.111	0.111	0.023	-0.168	S

⌘ EMEP quality norm; the letters in the column indicates:

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