

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

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

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	14.16	14	13.387	1.215	0.636	S
B2	SO <sub>2</sub>	27.42	28.1	27.038	1.583	0.242	S
B4	SO <sub>2</sub>	63.74	63.9	64.544	3.951	-0.203	S
B5	SO <sub>2</sub>	35.11	33.5	33.303	4.018	0.45	S
B1	HNO <sub>3</sub>	12.03	11.5	11.49	1.41	0.383	S
B2	HNO <sub>3</sub>	22.38	22.9	21.224	1.484	0.779	S
B4	HNO <sub>3</sub>	21.69	23.1	22.948	2.334	-0.539	S
B5	HNO <sub>3</sub>	18.28	18	17.091	1.73	0.687	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

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

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	12.9	14	13.387	1.215	-0.401	S
B2	SO <sub>2</sub>	25.63	28.1	27.038	1.583	-0.89	S
B4	SO <sub>2</sub>	61.82	63.9	64.544	3.951	-0.689	S
B5	SO <sub>2</sub>	33.03	33.5	33.303	4.018	-0.068	S
B1	HNO <sub>3</sub>	10.5	11.5	11.49	1.41	-0.702	S
B2	HNO <sub>3</sub>	20.59	22.9	21.224	1.484	-0.428	S
B4	HNO <sub>3</sub>	20.61	23.1	22.948	2.334	-1.002	S
B5	HNO <sub>3</sub>	17.13	18	17.091	1.73	0.023	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

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

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	13.42	14	13.387	1.215	0.027	S
B2	SO <sub>2</sub>	27.52	28.1	27.038	1.583	0.305	S
B4	SO <sub>2</sub>	63.93	63.9	64.544	3.951	-0.155	S
B5	SO <sub>2</sub>	25	33.5	33.303	4.018	-2.067	Q
B1	HNO <sub>3</sub>	11.46	11.5	11.49	1.41	-0.022	S
B2	HNO <sub>3</sub>	21.79	22.9	21.224	1.484	0.381	S
B4	HNO <sub>3</sub>	24.14	23.1	22.948	2.334	0.511	S
B5	HNO <sub>3</sub>	17.44	18	17.091	1.73	0.202	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre  
ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

Laboratory 8, Umweltbundesamt, Langen (Germany)

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	13.7	14	13.387	1.215	0.257	S
B2	SO <sub>2</sub>	26.9	28.1	27.038	1.583	-0.087	S
B4	SO <sub>2</sub>	62.7	63.9	64.544	3.951	-0.467	S
B5	SO <sub>2</sub>	34.6	33.5	33.303	4.018	0.323	S
B1	HNO <sub>3</sub>	11.75	11.5	11.49	1.41	0.184	S
B2	HNO <sub>3</sub>	21.05	22.9	21.224	1.484	-0.118	S
B4	HNO <sub>3</sub>	23.25	23.1	22.948	2.334	0.129	S
B5	HNO <sub>3</sub>	16.6	18	17.091	1.73	-0.284	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
**Foretaksnr./Enterprise no.** 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

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

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	14.35	14	13.387	1.215	0.792	S
B2	SO <sub>2</sub>	26.5	28.1	27.038	1.583	-0.34	S
B4	SO <sub>2</sub>	70.5	63.9	64.544	3.951	1.507	S
B5	SO <sub>2</sub>	30.9	33.5	33.303	4.018	-0.598	S
B1	HNO <sub>3</sub>	15.1	11.5	11.49	1.41	2.56	Q
B2	HNO <sub>3</sub>	22	22.9	21.224	1.484	0.523	S
B4	HNO <sub>3</sub>	24.6	23.1	22.948	2.334	0.708	S
B5	HNO <sub>3</sub>	17.6	18	17.091	1.73	0.294	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

Please check the EMEP intercalibration website for Youden plots, updated expected values ect:

<http://www.nilu.no/projects/ccc/intercomparison.html>

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre  
ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

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

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	13.51	14	13.387	1.215	0.101	S
B2	SO <sub>2</sub>	26.63	28.1	27.038	1.583	-0.258	S
B4	SO <sub>2</sub>	62.78	63.9	64.544	3.951	-0.446	S
B5	SO <sub>2</sub>	35.68	33.5	33.303	4.018	0.592	S
B1	HNO <sub>3</sub>	11.16	11.5	11.49	1.41	-0.234	S
B2	HNO <sub>3</sub>	19.31	22.9	21.224	1.484	-1.29	S
B4	HNO <sub>3</sub>	23.1	23.1	22.948	2.334	0.065	S
B5	HNO <sub>3</sub>	18.12	18	17.091	1.73	0.595	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

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

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	11	14	13.387	1.215	-1.964	Q
B2	SO <sub>2</sub>	24	28.1	27.038	1.583	-1.92	S
B4	SO <sub>2</sub>	61	63.9	64.544	3.951	-0.897	S
B5	SO <sub>2</sub>	34	33.5	33.303	4.018	0.173	S
B1	HNO <sub>3</sub>	8	11.5	11.49	1.41	-2.475	Q
B2	HNO <sub>3</sub>	18	22.9	21.224	1.484	-2.173	Q
B4	HNO <sub>3</sub>	16	23.1	22.948	2.334	-2.977	Q
B5	HNO <sub>3</sub>	16	18	17.091	1.73	-0.631	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

Laboratory 22, Institute of Global Climate and Ecology (Russian Federation)

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	13.53	14	13.387	1.215	0.118	S
B2	SO <sub>2</sub>	27.17	28.1	27.038	1.583	0.084	S
B4	SO <sub>2</sub>	74	63.9	64.544	3.951	2.393	S
B5	SO <sub>2</sub>	34.17	33.5	33.303	4.018	0.216	S
B1	HNO <sub>3</sub>	12.14	11.5	11.49	1.41	0.461	S
B2	HNO <sub>3</sub>	23.64	22.9	21.224	1.484	1.628	S
B4	HNO <sub>3</sub>	28.21	23.1	22.948	2.334	2.255	Q
B5	HNO <sub>3</sub>	20.25	18	17.091	1.73	1.826	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

Please check the EMEP intercalibration website for Youden plots, updated expected values ect:

<http://www.nilu.no/projects/ccc/intercomparison.html>

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre  
ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
Bank: 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.



## EMEP – 29<sup>th</sup> intercomparison of analytical methods

Laboratory 24, Serbian Environmental Protection Agency (Serbia)

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	12.46	14	13.387	1.215	-0.763	S
B2	SO <sub>2</sub>	25.48	28.1	27.038	1.583	-0.984	S
B4	SO <sub>2</sub>	58.23	63.9	64.544	3.951	-1.598	S
B5	SO <sub>2</sub>	33.53	33.5	33.303	4.018	0.056	S
B1	HNO <sub>3</sub>	10.95	11.5	11.49	1.41	-0.383	S
B2	HNO <sub>3</sub>	20.08	22.9	21.224	1.484	-0.771	S
B4	HNO <sub>3</sub>	23	23.1	22.948	2.334	0.022	S
B5	HNO <sub>3</sub>	15.8	18	17.091	1.73	-0.746	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre  
ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

Laboratory 31, Slovak Hydrometeorological Institute (Slovakia)

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	14.835	14	13.387	1.215	1.191	S
B2	SO <sub>2</sub>	27.942	28.1	27.038	1.583	0.571	S
B4	SO <sub>2</sub>	65.14	63.9	64.544	3.951	0.151	S
B5	SO <sub>2</sub>	31.162	33.5	33.303	4.018	-0.533	S
B1	HNO <sub>3</sub>	11.126	11.5	11.49	1.41	-0.258	S
B2	HNO <sub>3</sub>	20.737	22.9	21.224	1.484	-0.329	S
B4	HNO <sub>3</sub>	23.707	23.1	22.948	2.334	0.325	S
B5	HNO <sub>3</sub>	16.432	18	17.091	1.73	-0.381	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
**Foretaksnr./Enterprise no.** 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

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

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	12.16	14	13.387	1.215	-1.01	S
B2	SO <sub>2</sub>	25.29	28.1	27.038	1.583	-1.104	S
B4	SO <sub>2</sub>	62.17	63.9	64.544	3.951	-0.601	S
B5	SO <sub>2</sub>	40.59	33.5	33.303	4.018	1.814	Q
B1	HNO <sub>3</sub>	10.32	11.5	11.49	1.41	-0.83	S
B2	HNO <sub>3</sub>	20.76	22.9	21.224	1.484	-0.313	S
B4	HNO <sub>3</sub>	24.05	23.1	22.948	2.334	0.472	S
B5	HNO <sub>3</sub>	16.94	18	17.091	1.73	-0.087	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
**Foretaksnr./Enterprise no.** 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

Laboratory 33, Environmental Pollution Observ. Centre (Latvia)

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	15.494	14	13.387	1.215	1.734	S
B2	SO <sub>2</sub>	30.448	28.1	27.038	1.583	2.155	S
B4	SO <sub>2</sub>	65.607	63.9	64.544	3.951	0.269	S
B5	SO <sub>2</sub>	30.599	33.5	33.303	4.018	-0.673	S
B1	HNO <sub>3</sub>	13.591	11.5	11.49	1.41	1.49	S
B2	HNO <sub>3</sub>	18.737	22.9	21.224	1.484	-1.677	S
B4	HNO <sub>3</sub>	25.001	23.1	22.948	2.334	0.88	S
B5	HNO <sub>3</sub>	11.268	18	17.091	1.73	-3.365	Q

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

Please check the EMEP intercalibration website for Youden plots, updated expected values ect:

<http://www.nilu.no/projects/ccc/intercomparison.html>

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre  
ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
Bank: 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

Laboratory 47, Jelenia Gora (Poland)

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	0.095	14	13.387	1.215	-10.938	U
B2	SO <sub>2</sub>	0.201	28.1	27.038	1.583	-16.958	U
B4	SO <sub>2</sub>	0.501	63.9	64.544	3.951	-16.209	U
B5	SO <sub>2</sub>	0.251	33.5	33.303	4.018	-8.227	U
B1	HNO <sub>3</sub>	0.093	11.5	11.49	1.41	-8.083	U
B2	HNO <sub>3</sub>	0.155	22.9	21.224	1.484	-14.201	U
B4	HNO <sub>3</sub>	0.165	23.1	22.948	2.334	-9.762	U
B5	HNO <sub>3</sub>	0.135	18	17.091	1.73	-9.799	U

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

Please check the EMEP intercalibration website for Youden plots, updated expected values ect:

<http://www.nilu.no/projects/ccc/intercomparison.html>

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre  
ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

Laboratory 36, Hydrometeorological Institute of Slovenia (Slovenia)

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	14.355	14	13.387	1.215	0.796	S
B2	SO <sub>2</sub>	29.255	28.1	27.038	1.583	1.401	S
B4	SO <sub>2</sub>	65.355	63.9	64.544	3.951	0.205	S
B5	SO <sub>2</sub>	33.4	33.5	33.303	4.018	0.024	S
B1	HNO <sub>3</sub>	12.29	11.5	11.49	1.41	0.567	S
B2	HNO <sub>3</sub>	22.89	22.9	21.224	1.484	1.123	S
B4	HNO <sub>3</sub>	22.59	23.1	22.948	2.334	-0.154	S
B5	HNO <sub>3</sub>	17.9	18	17.091	1.73	0.467	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

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

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	12.65	14	13.387	1.215	-0.607	S
B2	SO <sub>2</sub>	26.15	28.1	27.038	1.583	-0.561	S
B4	SO <sub>2</sub>	59.65	63.9	64.544	3.951	-1.239	S
B5	SO <sub>2</sub>	33.5	33.5	33.303	4.018	0.049	S
B1	HNO <sub>3</sub>	11.5	11.5	11.49	1.41	0.007	S
B2	HNO <sub>3</sub>	22.3	22.9	21.224	1.484	0.725	S
B4	HNO <sub>3</sub>	24	23.1	22.948	2.334	0.451	S
B5	HNO <sub>3</sub>	16.9	18	17.091	1.73	-0.11	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

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

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	15.33	14	13.387	1.215	1.599	S
B2	SO <sub>2</sub>	29.77	28.1	27.038	1.583	1.727	S
B4	SO <sub>2</sub>	70.12	63.9	64.544	3.951	1.411	S
B5	SO <sub>2</sub>	38.34	33.5	33.303	4.018	1.254	S
B1	HNO <sub>3</sub>	11.91	11.5	11.49	1.41	0.298	S
B2	HNO <sub>3</sub>	22.33	22.9	21.224	1.484	0.745	S
B4	HNO <sub>3</sub>	22.06	23.1	22.948	2.334	-0.381	S
B5	HNO <sub>3</sub>	18.43	18	17.091	1.73	0.774	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre  
ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.



## EMEP – 29<sup>th</sup> intercomparison of analytical methods

Laboratory 164, Pollution Control Department (PCD) (Thailand)

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	12.05	14	13.387	1.215	-1.1	S
B2	SO <sub>2</sub>	26.85	28.1	27.038	1.583	-0.119	S
B4	SO <sub>2</sub>	65.95	63.9	64.544	3.951	0.356	S
B5	SO <sub>2</sub>	24.6	33.5	33.303	4.018	-2.166	Q
B1	HNO <sub>3</sub>	10.54	11.5	11.49	1.41	-0.674	S
B2	HNO <sub>3</sub>	22.84	22.9	21.224	1.484	1.089	S
B4	HNO <sub>3</sub>	22.24	23.1	22.948	2.334	-0.303	S
B5	HNO <sub>3</sub>	18.1	18	17.091	1.73	0.583	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

Laboratory 165, Institute of Meteorology and Hydrology, Ha Noi city (Vietnam)

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	13.9	14	13.387	1.215	0.422	S
B2	SO <sub>2</sub>	26.3	28.1	27.038	1.583	-0.466	S
B4	SO <sub>2</sub>	60.8	63.9	64.544	3.951	-0.948	S
B5	SO <sub>2</sub>	32.5	33.5	33.303	4.018	-0.2	S
B1	HNO <sub>3</sub>	11.7	11.5	11.49	1.41	0.149	S
B2	HNO <sub>3</sub>	22	22.9	21.224	1.484	0.523	S
B4	HNO <sub>3</sub>	21.6	23.1	22.948	2.334	-0.578	S
B5	HNO <sub>3</sub>	17.4	18	17.091	1.73	0.179	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

Laboratory 172, UMR SAS INRA; Rennes (France)

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	11.882	14	13.387	1.215	-1.239	S
B2	SO <sub>2</sub>	26.442	28.1	27.038	1.583	-0.376	S
B4	SO <sub>2</sub>	65.222	63.9	64.544	3.951	0.172	S
B5	SO <sub>2</sub>	39.36	33.5	33.303	4.018	1.508	S
B1	HNO <sub>3</sub>	10.64	11.5	11.49	1.41	-0.603	S
B2	HNO <sub>3</sub>	20.4	22.9	21.224	1.484	-0.556	S
B4	HNO <sub>3</sub>	22.65	23.1	22.948	2.334	-0.128	S
B5	HNO <sub>3</sub>	17.09	18	17.091	1.73	-0.001	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
Foretaksnr./Enterprise no. 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.

## EMEP – 29<sup>th</sup> intercomparison of analytical methods

Laboratory 178, Environmental Chemistry and EANET Monitoring Laboratory, Limnological Institute RAS/SB, Irkutsk (Russian Federation)

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

Sample name	Determinand	Reported value <sup>¥</sup>	Expected value	Mean value	Standard deviation	Z score	EMEP quality norm <sup>¤</sup>
B1	SO <sub>2</sub>	12.67	14	13.387	1.215	-0.59	S
B2	SO <sub>2</sub>	28.02	28.1	27.038	1.583	0.621	S
B4	SO <sub>2</sub>	67.62	63.9	64.544	3.951	0.779	S
B5	SO <sub>2</sub>	32.69	33.5	33.303	4.018	-0.153	S
B1	HNO <sub>3</sub>	11.61	11.5	11.49	1.41	0.085	S
B2	HNO <sub>3</sub>	21.43	22.9	21.224	1.484	0.139	S
B4	HNO <sub>3</sub>	23.52	23.1	22.948	2.334	0.245	S
B5	HNO <sub>3</sub>	17.05	18	17.091	1.73	-0.024	S

¥ If your laboratory reported a value for the blank sample, this value is subtracted from the reported value.

If your laboratory reported the methods detection limit for the blank sample, ½ DL is subtracted from the reported value.

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

S – Satisfactory: Your result deviates less than ±20% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

Q – Questionable: Your result deviates between ±20-40% of the expected value for SO<sub>2</sub> and HNO<sub>3</sub>

U – Unsatisfactory: Your result deviates more than ±40% of the expected value for SO<sub>2</sub> and for HNO<sub>3</sub>

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

**Deltaker i CIENS og Framsenteret / Associated with CIENS and the Fram Centre**  
**ISO-sertifisert etter / ISO certified according to NS-EN ISO 9001/ISO 14001**

NILU – Norsk institutt for luftforskning  
PO Box 100  
NO-2027 KJELLER, Norway  
Phone: +47 63 89 80 00/Fax: +47 63 89 80 50  
Besøk/visit: Instituttveien 18, 2007 Kjeller

NILU – Norsk institutt for luftforskning  
Framsenteret / The Fram Centre  
NO-9296 TROMSØ, Norway  
Phone: +47 77 75 03 75/Fax: +47 77 75 03 76  
Besøk/visit: Hjalmar Johansens gt. 14, 9007 Tromsø

**e-mail:** nilu@nilu.no  
nilu-tromso@nilu.no  
**Internet:** [www.nilu.no](http://www.nilu.no)  
**Bank:** 5102.05.19030  
**Foretaksnr./Enterprise no.** 941705561

Vennligst adresser post til NILU, ikke til enkeltpersoner/Please reply to the institute.