

To the participants in the laboratory intercomparisons within the European Monitoring and Evaluation Programme (EMEP).

Deres ref./Your ref.:

Vår ref./Our ref.:
KAP/O-7726-QA

Kjeller,
October 2023

Laboratory Intercomparisons within EMEP

Please find enclosed samples for the "41st Intercomparison of methods within EMEP" and / or "EMEP Analytical Intercomparison of Heavy Metals in Precipitation 2023"

Further information regarding samples and deadline for reporting of results is available on the webpage:
<http://www.nilu.no/projects/ccc/intercomparison/index.html>

Yours sincerely,

A handwritten signature in blue ink that reads 'Katrine Aspmo Pfaffhuber'.

Katrine Aspmo Pfaffhuber
Senior Scientist



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
Bank: 5102.05.19030
Foretaksnr./Enterprise no. 941705561

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

Samples distributed to the participants

- B. 6 synthetic samples (two blanks included) for determination of SO₂ and HNO₃ on impregnated filters. The filters, Whatman 40, have been impregnated with 300 µl 1.0 M KOH/10% glycerol in methanol. Different amounts of H₂SO₄ solution and a nitrate salt solution have been added to the filters. Results should be reported as µg S/filter for SO₂ and µg N/filter for HNO₃.
- C. 4 synthetic samples for determination of NO₂. The samples consist of solutions of nitrite that are **to be diluted according to the enclosed instruction**. Results should be reported as µg N/ml.
- G. 4 synthetic precipitation samples. The samples consist of deionized water, containing different amounts of sulphate, nitrate, ammonium, strong acid, magnesium, sodium, chloride, calcium and potassium. Results for K, Na, Mg, Cl, Ca should be reported in mg/l, SO₄ as mg S/l, NH₄ and NO₃ as mg N/l, pH in pH units and conductivity in µS/cm.
- H. 4 synthetic precipitation samples. The samples consist of 0.5% HNO₃ and different amounts of Cr, Ni, Cu, Zn, As, Cd and Pb. Results should be reported in µg/l.
- J. 6 synthetic samples (two blanks included) for determination of NH₃ by a wet chemical method on impregnated filters. The filters, Whatman 40, have been impregnated with 300 µl 3% oxalic acid in methanol and different amounts of an ammonium salt solution have been added to the filters. Results should be reported as µg N/filter.

The bottles and the petri slides are labelled for sample identification.

Analysis

The samples should be analysed for the same constituents, and in the same way as the routine samples collected at your EMEP stations. Only one result should be reported for each of the parameters.

Thank you for your co-operation.

Encl.: Special instruction for the synthetic samples for nitrogen dioxide

Special instructions for the synthetic samples for nitrogen dioxide; sample type C

Since the different laboratories in this intercomparison use different methods for absorbing nitrogen dioxide, samples C 1–4 distributed are to be diluted to match the laboratories own calibration solutions.

Therefore, 1 part of the sample solutions C 1–4 should be diluted with 9 parts of your calibration matrix before the analysis.

In this intercomparison, we want the results to be reported as the concentration of NO₂-N in µg/ml in the **10 times diluted** sample.