

To: Invited laboratories

Interlaboratory comparison ILC 16/2024 – Arsenic analyses in Nepal

Within the ICI project *NeAs Towards arsenic safe drinking water in Nepal* an interlaboratory comparison (ILC) will be organized for Nepalese laboratories conducting arsenic analysis from drinking water. The NeAs project provides the ILC for the laboratories, thus there is no participation fee.

Four synthetic samples are provided for the participants (see Table 1).

For the laboratories conducting arsenic analysis in laboratory (with AAS or ICP) samples A1M, A3C and A4pH are provided. The sample A1M is preserved. **All samples should be analysed.**

For digital arsenic test kit (Arsenator or similar) a non-preserved sample A2M is provided.

Table 1. Samples, measurands, concentration ranges and preservations

| Sample code | Measurands | Sample type (sample volume ¹⁾) and preservation | Concentration range |
|----------------------------------|--|---|--|
| A1M | Metals in synthetic sample As, Fe, Mn | Synthetic water sample (125 ml plastic bottle) <i>0.3 ml conc. HNO₃/60 ml</i> | As: 5 – 50 µg/l Fe: 0.1 – 10 mg/l Mn: 0.1 – 5 mg/l |
| A2M for digital arsenic test kit | Metals in synthetic sample As | Synthetic water sample (125 ml plastic bottle) <i>No preservation</i> | As: 20 – 100 µg/l |
| A3C | Conductivity | Synthetic water sample (100 ml glass bottle) <i>No preservation</i> | 80 – 300 µS/cm |
| A4pH | pH | Synthetic water sample (100 ml glass bottle) <i>No preservation</i> | 5 – 8 pH units |

¹⁾ Note! Check the samples volumes and, in case needed, order additional samples.

Timetable

| | | |
|--------------------------|---|--------------------------------------|
| Registration | 26 April – 3 May 2024 | |
| Sample dispatch date | 31 May 2024 (see Chapter 3 <i>Sample delivery</i>) | |
| Analysis of the samples | A3C and A4pH | at the latest on 14 June 2024 |
| | A1M and A2M | at the latest on 28 June 2024 |
| Reporting of the results | 3 June – 2 July 2024 | |



Riitta Koivikko
Coordinator

Organizing the interlaboratory comparison

1 Organizer

ProfTest Syke, Finnish Environment Institute Syke
 Address: Mustialankatu 3, FI-00790 Helsinki, Finland
 Email: profTest@syke.fi

Contact

Coordinator: Riitta Koivikko, tel. +358 295 251 750
 Email: firstname.lastname@syke.fi

Expert laboratory Finnish Environment Institute, Helsinki (T003, finas.fi/sites/en)

The organizing of this interlaboratory comparison is included in the accreditation scope of ProfTest Syke (finas.fi/sites/en).

ProfTest Syke is proficiency testing provider PT01
 (EN ISO/IEC 17043:2010) accredited by FINAS
 (Finnish Accreditation Service, finas.fi/sites/en).



2 Registration

The laboratories invited to participate in this interlaboratory comparison are asked to place an order to the ILC via the electronic client interface, ProfTestWEB: <https://wwwp5.ymparisto.fi/Labtest/en>.

The registration is open until 3 May 2024.

If you already participated in ILC 17/2022, your laboratory already has the profile in the ProfTestWEB. Please log in and fill in the registration form. If you are a new user, you may place an order also without logging in. If there are problems when using ProfTestWEB, please contact coordinator or profTest@syke.fi.

3 Sample delivery

The samples are delivered by DWSSM experts from Finland to Kathmandu on **31 May – 2 June 2024**. From Kathmandu the samples will be further distributed according to the separate agreements, organized by DWSSM.

4 Sample storage and analysis

All samples are stored in dark and cool (4 °C) until analysis. Samples are analysed within the laboratory where they are delivered to, and analyses are conducted according to the participant's normal procedures.

Timetable for sample analysis is on the first page of this letter.

5 Reporting the results

The participant results are reported via ProfTestWEB at the latest on **2 July 2024**.

ProfTest Syke delivers the final report to the participants via email at the latest in September 2024 and it is then available also via ProfTestWEB. After the publication of the final report, a results workshop will be organized for the participants (September-October 2024).

Note! Together with the results, the participants are encouraged to report the measurement uncertainty, at least for some of the parameters. That way the participant can get feedback for their measurement uncertainty evaluation.

6 Assigned values and evaluation of the results

Either the calculated concentration, the result of the expert laboratory, or a consensus value from the participants' results will be used as the assigned value for the measurands. The evaluation of the results will be based on z scores. The preliminary standard deviation for proficiency assessment will be given in the cover letter of the samples. In special cases also E_n or D% scores can be used for the performance evaluation.

7 Confidentiality

The results of participants are treated anonymously.