



INSTRUCTION SHEET

March 14, 2016

1. Name of the proficiency test

10th UILI Interlaboratory Practice 2016 “Cations and Anions in Natural Water”

Aimed as a global exercise for laboratories in different countries of the world

2. Provider

Union Internationale des Laboratoires Indépendants (UILI), ILP Committee.

3. Time schedule

- a) Deadline of application: End-April, 2016
- b) Distribution of test samples: End-May, 2016
- c) Deadline of reporting: August 31, 2016
- d) Issue of final report: December, 2016

[NOTE]

- No reports, including resubmitting, after due date are accepted.
- Date of sample distribution differs among participants according to application date and shipping condition.

4. Method of participation

Send E-mail to Mrs. Melissa Fernández Valero (UILI secretary)
E-mail: secretariat@uili.org or register on the UILI website www.uili.org.

Please use the Appendix “**participant contact details**” form attached or include always the following information in your e-mail:

ILP Number / Name

Participant: Company name, Contact person, Subscriber e-mail, Phone

Sample delivery: Company name, House name, Street, House number, P.O. Box, Section, Postal code, City, State, Country

Invoicing: Company name, VAT / Tax ID / NIF / CIF number, Contact person, Invoice e-mail

Reporting: Contact person, Report e-mail



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5. Participation fee

a) Participation fee

UILI Member : € 200.00 (for 1 set, not for 1 bottle)
UILI Non-Member : € 300.00 (for 1 set, not for 1 bottle)

b) Method of payment

Invoice will be sent to you by e-mail after your application is completed.

Payments should be made to our bank account at:

DEN DANSKE BANK - BIC: DABADKKK - IBAN: DK2130004180668861

c) Participation fee includes:

- 1) Testing samples
- 2) Shipping charge for samples
- 3) Final report (electronic media; issued by UILI)
- 4) Certificate / diploma

6. Samples for analysis

a) Name of test sample (printed on each label)

- 1) Sample 1: UILI-ILP 10-2016 natural water-1
- 2) Sample 1: UILI-ILP 10-2016 natural water-2

b) Container of testing sample et al.

100 mL of sample is contained in 100 mL volume plastic bottle.

7. Target compounds for analysis

a) Cations and Anions (9 items)

| | | |
|---|--|--|
| Calcium ion (Ca ²⁺) | Potassium ion (K ⁺) | Magnesium ion (Mg ²⁺) |
| Sodium ion (Na ⁺) | Chloride ion (Cl ⁻) | Fluoride ion (F ⁻) |
| Nitrate ion (NO ₃ ⁻) | Phosphate ion (PO ₄ ³⁻) | Sulfate ion (SO ₄ ²⁻) |

b) Expected concentration range

| Target Compounds | Concentration Range (mg/L) | |
|--|---|--|
| | UILI-ILP-10-2016 natural water-1 (Sample 1) | UILI-ILP-10-2016 natural water -2 (Sample 2) |
| Calcium ion (Ca ²⁺) | 1 - 200 | 1 - 200 |
| Potassium ion (K ⁺) | 1 - 100 | 1 - 100 |
| Magnesium ion (Mg ²⁺) | 1 - 50 | 1 - 50 |
| Sodium ion (Na ⁺) | 0.1 - 50 | 0.1 - 50 |
| Chloride ion (Cl ⁻) | 1 - 50 | 1 - 50 |
| Fluoride ion (F ⁻) | 0.05 - 5 | 0.05 - 5 |
| Nitrate ion (NO ₃ ⁻) | 1 - 50 | 1 - 50 |
| Phosphate ion (PO ₄ ³⁻) | 0.1 - 50 | 0.1 - 50 |
| Sulfate ion (SO ₄ ²⁻) | 1 - 50 | 1 - 50 |

c) Samples have no "Assigned Value" such as "Reference Value" and/or "Certified Value" related for "True Value".

8. Analytical procedure

Pretreatment and analytical method is not designated in the test. Participating laboratories are to select from the Appendix “**Methods for pre-treatment and instrumental measurement**”, and should indicate the number in the reporting sheet for each target ion.

Methods for pre-treatment and instrumental measurement

(A) Pre-treatment

| No. | Method | Abbreviation |
|-----|-------------------|--------------|
| 1 | Non pre-treatment | NON |
| 2 | Distillation | D |
| 3 | Others | Others |

(B) Measurement by Instrument

| No. | Instrument | Abbreviation |
|-----|---|--------------|
| 1 | Titration | Tit |
| 2 | Absorption photometry | AS |
| 3 | Atomic absorption spectrophotometry (flame) | AAS |
| 4 | Atomic absorption spectrophotometry (furnace) | ETAAS |
| 5 | ICP-AES | ICP-AES |
| 6 | ICP-MS | ICP-MS |
| 7 | Ion-chromatography | IC |
| 8 | Ion-selective electrode | IE |
| 9 | Flow injection analysis | FIA |
| 10 | Continuous flow analysis | CFA |
| 11 | Others | Others |



9. Reporting analytical results

- a) Independent analyses are requested to be carried out twice from sample preparation including weighing. Report the “mean value” of these 2 data (Original data before the calculation of “mean value”, nor statistical values such as “standard deviation” are needed). If you cannot analyze twice (e.g. in case of sample lack), reporting one data is acceptable.
- b) Pretreatment for both Sample 1 and 2 are required in this test according to need.
- c) Report a data set of Sample 1 and 2. The data is requested to be rounded in 3 significant figures.
- d) A “non-full set result” is acceptable (e.g. In case that your laboratory prefers to report only “Calcium ion”, report only the result of “Calcium ion”).
- e) Method of Reporting
 - i. Participants are requested to indicate method No. indicated in Appendix “**Methods for pre-treatment and instrumental measurement**” for both “Pre-treatment” and “Measurement by Instrument” referring to table (A) and (B), for Sample 1 and 2.
 - ii. Participant who selects pretreatment method as “others” should indicate the method name in column “notes”. In the case “others” were selected and “notes” were left blank, UILI will require resubmitting of the report.
 - iii. Use unit “mg/L” for reporting data for Sample 1 and 2.
 - iv. Data reporting/resubmitting is requested to use format “Result of Analysis for 10th UILI-ILP”. Reporting in different format is unacceptable. In the case non-UILI format is submitted, UILI will require resubmitting of the report.
- f) Send the report/resubmitting report to secretariat@uili.org (Mrs. Melissa M. Fernández Valero, UILI Secretariat) by August 31, 2016. Reports after due date are unacceptable.



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10. Issue of the final report by UILI

- a) Final report will be issued on December 2016.
- b) Final report will be issued in electronic media.
- c) Final report includes statistical analysis following standards below.
 - i. z-score: by ISO/IEC 17043 and related standards
 - ii. Quartile Method (robust statistics method): by APLAC "T002"
 - iii. Confidence Ellipse for "Youden Plot" by ISO 13528
- d) As far as analytical method is not designated for this test and median value is not always equal to "true value", evaluation by statistic will be inadequate.
- e) A list of participating laboratories will be included in the report with each result followed by "laboratory identification numbers". Relationship between these numbers and laboratory names will not be indicated in the report. Your identification number will be informed in the letter, separated with the report.

11. Others

- a) The test or test results (final report) is not aimed to evaluate the performance of the laboratories or relating personnel by the test organizer nor third person.
- b) Participant will be issued a Certificate by UILI for its participation.
- c) This document is not the final version until sample distribution. We encourage applicants to check the latest version.

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