

TO: Laboratories participating in Proftest SYKE proficiency tests

## PROFICIENCY TEST LT 04/2021 – Leaching behavior test for solid waste material: Up-flow percolation test

Proftest SYKE will organize a proficiency test (PT) for the laboratories conducting leaching tests for solid waste material in co-operation with KVVY Tutkimus Oy (KVVY). In this PT the results of the up-flow percolation test (EN 14405:2017) are compared and evaluated. Following determinations are done from the fractions: metals (As, Ba, Cd, Cr, Cu, Hg, Mo, Ni, Pb, Sb, Se, V, Zn), Cl<sup>-</sup>, F<sup>-</sup>, SO<sub>4</sub><sup>2-</sup>, DOC, conductivity, and pH.

The purpose of this proficiency test is to ensure the comparability and accuracy of the results of the participants. About 12 laboratories are expected to participate in this proficiency test. The organizing of this proficiency test is included in the accreditation scope ([www.finas.fi/sites/en](http://www.finas.fi/sites/en)).

### SAMPLE MATRICES

Bottom ash from biofuel combustion.

### TIMETABLE

Registration	<b>26 January – 22 February 2021</b>
Sample dispatch date (national participants)	<b>23 March 2021</b> (see Chapter 4 <i>Sample delivery</i> )
Up-flow percolation test should be done at the latest by	<b>28 May 2021</b>
Reporting the participant results	<b>24 March – 8 June 2021</b>

### PARTICIPATION FEE

The participation fee is **700 €** (+ VAT). See detailed information in Chapter 9 *Participation fee*.



Riitta Koivikko,  
Coordinator



Mirja Leivuori,  
Head of Unit

Proftest SYKE is proficiency testing provider PT01  
(EN ISO/IEC 17043:2010) accredited by FINAS  
(Finnish Accreditation Service, [www.finas.fi/sites/en](http://www.finas.fi/sites/en)).



## ORGANIZING THE PROFICIENCY TEST

### 1 ORGANIZER

Proftest SYKE, Finnish Environment Institute SYKE, Laboratory Centre

ADDRESS: Mustialankatu 3, FI-00790 Helsinki, FINLAND

EMAIL: [proftest@syke.fi](mailto:proftest@syke.fi)

**NOTE!** Our email address is changed. The old address ([@environment.fi](mailto:@environment.fi)) serves as the receiving address alongside the new [@syke.fi](mailto:@syke.fi) address.

#### Contact

Coordinator: Riitta Koivikko, tel. +358 295 251 750

Substitute for coordinator: Mirja Leivuori, tel. +358 295 251 366

Email: [firstname.lastname@syke.fi](mailto:firstname.lastname@syke.fi)

#### Cooperation partner

KVVY Tutkimus Oy (KVVY, T064, [www.finas.fi/sites/en](http://www.finas.fi/sites/en))

#### Analytical experts

Up-flow percolation test Marika Kaasalainen (KVVY)

pH and conductivity Raija Ivalo (KVVY)

Anions (IC) Suvi Pöyhönen (KVVY)

DOC Tea Niemistö (KVVY)

Email: [firstname.lastname@kvvy.fi](mailto:firstname.lastname@kvvy.fi)

Metals Timo Sara-Aho (SYKE)

Email: [firstname.lastname@syke.fi](mailto:firstname.lastname@syke.fi)

#### Subcontracting

KVVY: Sample material preparation, homogenization and dividing into subsamples, leaching test (pretest, homogeneity) and the needed chemical and physico-chemical analysis.

### 2 SAMPLE AND MEASURANDS

The method used in this proficiency test is up-flow percolation test (EN 14405:2017). The sample is bottom ash from biofuel combustion. Sample material is sieved to 1 mm particle size before dividing into subsamples. One sample will be delivered to the participants (about 600 g per sample). Following determinations are done from the test fractions: metals (As, Ba, Cd, Cr, Cu, Hg, Mo, Ni, Pb, Sb, Se, V, Zn), Cl<sup>-</sup>, F<sup>-</sup>, SO<sub>4</sub><sup>2-</sup>, DOC, conductivity, and pH.

### 3 REGISTRATION

**The registration for this proficiency test is open until 22 February 2021.**

Registration is done via the electronic client interface, ProftestWEB: <https://wwwp5.ymparisto.fi/Labtest/en>. If there are problems when using ProftestWEB or you need username and password, please contact [proftest@environment.fi](mailto:proftest@environment.fi).

### 4 SAMPLE DELIVERY

The sample dispatch day for national participants is **Tuesday 23 March 2021**. To ensure timely arrival, the samples are dispatched earlier for participants abroad.

If the sample package does not arrive at the latest **on 26 March 2021**, or there are missing and/or broken sample containers, please contact the provider immediately ([proftest@syke.fi](mailto:proftest@syke.fi)). More contact details in Chapter 1 *Organizer*.

## 5 SAMPLE STORAGE AND ANALYSIS

The sample should be kept at room temperature in a dry place and protected from light. Sample is analysed within the laboratory where it is delivered to and analyses are conducted according to the participant's normal procedures.

**The up-flow percolation test should be done latest by 28 May 2021.** All the eluate fractions are analysed. Replicated analysis should not be done more than according to the method of analysis or the instructions within the sample letter.

## 6 REPORTING THE RESULTS

The participant results are reported to Proftest SYKE latest on **Tuesday 8 June 2021**.

The results are reported as mg/kg (dry weight). One results per measurand is reported for the fractions 1-7 as well as for the cumulative values L/S 2 and L/S 10. If the result in one or more eluate fraction is below the limit of detection, the cumulative values are reported with upper and lower limit values (according to EN 14405:2017).

In the material used for the PT the concentration of some measurands could be below the limit of detection. More detailed instructions for the result reporting are given in the cover letter of the samples. An electronic questionnaire (Webropol) of the analytical details according to the guidelines of the EN 14405:2017 shall be reported to Proftest SYKE together with the results.

Proftest SYKE delivers the preliminary result report to the participants latest in the week 24 (14 – 18 June 2021). The final report will be published at the latest in September 2021 and it is then available on ProftestWEB and on Proftest SYKE website ([www.syke.fi/proftest/en](http://www.syke.fi/proftest/en)). The availability of the report will be informed to the participants.

## 7 ASSIGNED VALUES AND EVALUATION OF THE RESULTS

Either the robust mean, the median, or the mean of the results reported by the participants will be used as the assigned value for the measurand. The calculation of the assigned value is based on the results reported according to the given guidelines. Also the result of the expert laboratory can be used as the assigned value when needed. 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 sample. In special cases also  $E_n$  or D% scores can be used for the performance evaluation

## 8 CONFIDENTIALITY

The results of participants are treated anonymously.

## 9 PARTICIPATION FEE

The participation fee is **700 € (+ VAT)**. If the participant orders additional samples, they are charged **150 €** each.

The invoice will be sent after the delivery of the preliminary result report. If the participant orders additional samples, they are charged according to the prices listed above.

NOTE! In Finland VAT is 24 %. Further, if the invoicing address or any other additional information has to be corrected after the invoicing, the extra handling cost will be charged. The participant is also responsible for possible custom clearance or customs fee of the sample.