

# Statement on sampling and Measurement Uncertainty (MU)

## Joint statement from EURL-MP, EURL-POP, EURL-MN and EURL-PC

This statement expresses the interpretation of the Measurement Uncertainty (MU), defined in ISO/IEC 17025:2017 “General requirements for the competence of testing and calibration laboratories” of the four EURLs working in the field of contaminants in relation to their scientific scope.

Below are the relevant paragraphs from ISO/IEC 17025:2017.

[...]

### 1 Scope

This document specifies the general requirements for the competence, impartiality and consistent operation of laboratories.

This document is applicable to all organizations performing laboratory activities, regardless of the number of personnel.

Laboratory customers, regulatory authorities, organizations and schemes using peer-assessment, accreditation bodies, and others use this document in confirming or recognizing the competence of laboratories.

[...]

### 7 Process requirements

#### 7.2.1 Selection and verification of methods

7.2.1.1 The laboratory shall use appropriate methods and procedures for all laboratory activities and, where appropriate, for evaluation of the measurement uncertainty as well as statistic techniques for analysis of data.

Note – “Method” as used in this document can be considered synonymous with the term “measurement procedure” as defined in ISO/IEC Guide 99.

[...]

### 7.6 Evaluation of measurement uncertainty

7.6.1 Laboratories shall identify the contributions to measurement uncertainty. When evaluating measurement uncertainty, all contributions that are of significance, including those arising from sampling, shall be taken into account using appropriate methods of analysis.

## Statement

The scope of ISO/IEC 17025:2017 and as directly stated in paragraph 7.2.1.1 concerning the measurement uncertainty, specifies that the laboratory shall use appropriate methods and procedures for all laboratory activities.

Therefore, when paragraph 7.6.1 states that "[...] When evaluating measurement uncertainty, all contributions that are of significance, including those arising from sampling, shall be taken into account [...]", the four EURLs interpret this in paragraph 7.6.1 mentioned sampling as (i) external sampling e.g. at a sampling site and (ii) as the laboratory sampling where a subsample is taken from the laboratory sample received for analysis. Due to the fact that in most cases in the networks of the four EURLs the external sampling is not carried out by the laboratories, only the contribution of measurement uncertainty that arises from sub-sampling or taking aliquots from the laboratory sample in the laboratory can be taken into consideration in the estimation of the overall analytical measurement uncertainty by the laboratory.

In case personnel from the laboratory are collecting the samples from e.g. the market, from manufacturers or producers, the uncertainty contributions due to external sampling and treatment of samples before the material enters the laboratory, is evaluated and reported separately. This is to ensure consistency in reporting of measurement uncertainty of the analytical results reported by the laboratories.

This interpretation is in accordance with the relevant EU legislation for contaminants [1-4] stating that samples obtained according to the methods described therein are considered representative of the complete sample, lot or sub-lot from which they were taken. Therefore, measurement uncertainty is not included for this external procedure and only steps taken within the laboratory are included in the estimation of measurement uncertainty. The statement outlined above also applies to measurement uncertainty mentioned in these regulations.

## Conclusion

Within the scope of the four EURLs for contaminants, including compliance testing, the measurement uncertainty associated with the analytical result reported in the "Test report", will not take into account the uncertainty from external sampling.

In case the laboratory is responsible for the external sampling, information on measurement uncertainty arising from this activity should be given separately, e.g. in the "Report of Sampling".

## References

[1] COMMISSION REGULATION (EU) 2017/644 of 5 April 2017 laying down methods of sampling and analysis for the control of levels of dioxins, dioxin-like PCBs and non-dioxin-like PCBs in certain foodstuffs.

[2] COMMISSION REGULATION (EC) No 333/2007 laying down the methods of sampling and analysis for the control of the levels of trace elements and processing contaminants in foodstuffs.

[3] COMMISSION REGULATION (EC) No 401/2006 laying down the methods of sampling and analysis for the official control of the levels of mycotoxins in foodstuffs.

[4] COMMISSION REGULATION (EC) No 152/2009 of 27 January 2009 laying down the methods of sampling and analysis for the official control of feed.