

New developments in measurement uncertainty in chemical analysis

Sampling uncertainty and Uncertainty for compliance assessment

Symposium at BAM Berlin



15-16 April 2008

Existing guidance has concentrated mainly on the evaluation of measurement uncertainty arising from the processes carried out in the laboratory itself. Two new guides have just been published, one dealing with the uncertainty arising from taking the initial sample and the other with taking uncertainty into account when assessing compliance with a regulation or specification.

With these two guides we now have guidance starting with sampling, through method validation, traceability, analytical uncertainty and compliance assessment.

This symposium will start by giving an overview of uncertainty and its importance but will concentrate on the application of the two new guides. Day 1 will cover sampling uncertainty and Day 2 compliance assessment.

Day 1: Measurement uncertainty from sampling

Day 1 will cover the estimation of measurement uncertainty that arises from the processes of primary sampling, to complement the existing guidance that covers that arising from chemical analysis. Together they provide a more realistic estimate of the uncertainty of measurements.

An overview will be given of the recently published Eurachem/EUROLAB/ CITAC/Nordtest/ AMC Guide: Measurement uncertainty arising from sampling: a guide to methods and approaches (available from www.eurachem.org).

The Guide explains to the regulators and policy makers why there is a requirement for sampling, and physical sample preparation, to be included in uncertainty estimation. For the designers of sampling protocols, and measurement scientists, the Guide explains the approaches that are required to achieve this.

Case studies with worked examples show how the different approaches can be applied to a wide range of different analytes in foods, animal feed, soils and waters. These examples show that sampling is usually the dominant source of the measurement uncertainty, rather than the chemical analysis, which is usually the only source currently considered.

Day 2: Measurement uncertainty and compliance

Day 2 will cover how to take into account measurement uncertainty when using measurement results to assess compliance with a specification or a regulation.

Why guidance on the use of uncertainty in compliance assessment is needed will be discussed with examples of the problems of compliance assessment in areas such as food, environment and water testing.

An introduction will be given to the recently published EURACHEM/CITAC Guide "Use of uncertainty information in compliance assessment" (available from www.eurachem.org) showing how clear decision rules are required that show how the uncertainty is to be taken into account.

The design of these decision rules will be discussed. Examples will include different types of specifications and regulations, including the difficult cases of where the uncertainty is proportional to the concentration of the analyte and the case where the concentration is near to zero.

Invited Speakers

A Williams (UK)

M Ramsey (University of Sussex, UK)

S Ellison (LGC, UK)

W Wegscheider (University of Leoben, Austria)

B Magnusson (SP, Sweden)

Who should attend

The symposium will be of interest to those who are responsible for drafting regulations and specifications, who have a need to understand the impact of sampling uncertainty and the analytical uncertainty on the assessment of compliance.

It will also address the needs of laboratory managers and staff concerned with designing and implementing sampling protocols and assessing and reporting on compliance.

Poster sessions

Posters are invited on the design of sampling protocols and the evaluation of sampling uncertainty, also on taking into account uncertainty when assessing compliance.

Expression of interest

I should like further details and registration form

I should like to present a poster Yes No

Title First Name Surname

Institute Job Title

Address

Telephone Number Fax Number

E-mail

Mail to: EURACHEM Secretary, LGC, Queens Road, Teddington, Middlesex TW11 OLY, UK
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Registration forms will be available in January 2008