MeTra – TRACEABILITY FOR MERCURY MEASUREMENTS

What is MeTra?

The MeTra-project (Oct-14 – Sep-17) will establish a metrological infrastructure for traceable mercury measurements in relevant environmental media (air, water, biota), as required by current and future national and international legislation aimed at controlling mercury emissions and releases.

An overarching target of the Joint Research Project (JRP) is to support the implementation and assessment of the Minamata Convention on Mercury together with EC Directives and Member State objectives to reduce the presence of mercury in the environment.

The project also addresses stable isotope measurements, an important tool for tracing sources and deposition of Hg. Mercury isotopic signatures enable clarification and better understanding of the mercury cycle e.g. bioaccumulation in aquatic and terrestrial environment and uptake by humans.

The JRP is conducted under the European Metrology Research Programme (EMRP). The EMRP is jointly funded by the EMRP participating countries within EURAMET and the European Union. The project is coordinated by LNE (Laboratoire national de métrologie et d'essais, France) and the consortium consists of 13 JRP-partners from nine countries.

JRP Partners are:
LNE (Laboratoire national de métrologie et d'essais, FR), University of Pau (FR), UBA (Umweltbundesamt, DE), BAM (Bundesanstalt für Materialforschung und -prüfung, DE), PTB (Physikalisch-Technische Bundesanstalt, DE), IJS (Jožef Stefan Institute, SI), LGC (Laboratory of the Government Chemist, UK), NPL (National Physical Laboratory, UK), SYKE (Finish Environment Institute, FI), University of Oviedo (ES), TUBITAK (Scientific and Technological Research Council of Turkey, TR), VSL (Dutch National Metrology Institute, NL), CNR (National Research Council, IT)

Workshop on mercury monitoring and regulation – Berlin 04.-05.04.2017

In the context of MeTra Umweltbundesamt organises a workshop in Berlin.

The workshop is open to all National Metrology Institutes, stakeholders, those involved in mercury measurements, regulatory and standardisation bodies, and instrument manufacturers.

The workshop will combine science, technology, policy and regulation.

It addresses five major questions:

- What are the needs for better legislation and regulation for mercury in the environment?
- How can the results of MeTra support monitoring including the Minamata effectiveness evaluation?
- What is the role of global environmental specimen banks in mercury monitoring?
- Where can isotopic signatures help to unravel the geochemical mercury cycle?
- How do we organise case studies and systematic approaches in the future?

For further information please contact:

Ina Fettig (Ina.Fettig@uba.de, telephone: +49 (0)30 8903 5605),
(Paola.Fisicaro@lne.fr) or Jan Koschorreck (Jan.Koschorreck@uba.de)

http://projects.lne.eu/jrp-metra/

What are the scientific and technical objectives of MeTra?

Traceability for mercury measurements in air

- Calibration infrastructure for robust assessment of mercury concentration and emission rates
- Establish in-line continuous and semi-continuous Hg(0) and Hg(II) measurement methods
- Measure mercury in indoor air from the use of mercury in fluorescent lamps

Dissolved gaseous & oxidised Hg

Traceability for speciation of mercury in water and biota

- Develop primary measurement procedures for mercury speciation in water and biota
- Optimisation and standardisation for environmental sample collection and preparation to control transformation artefacts

Biota samples from ESB

Traceability for mercury isotopic measurements

- Traceable methodology for mercury isotope ratio measurements in biota
- Methodologies for compound-specific light isotope ratio measurements in biota
- Application of developed methods to samples from Environmental Specimen Banks (ESB)

How can MeTra support mercury risk management and chemical policy?

Environment

Traceable measurements with defensible uncertainties will help to show spatial and temporal trends in mercury concentrations, its speciation in different media, and its movement between environmental compartments.

Health and Social

Traceable measurements will help to better understand human and environmental exposure to mercury, thereby working towards improving environmental sustainability and the health of the EU citizen, especially those more susceptible to mercury (pregnant women and children).

Economic

Traceable measurement with lower uncertainties will help European industry meet the requirements of mercury abatement and emissions legislations with greater confidence and at low cost, resulting in huge overall savings across the EU making EU industry cleaner and more competitive globally.

Metrology

The outcome of this JRP will provide end users with the underpinning infrastructure for producing primary calibration standards and traceable measurement results. Quantitative determination of Hg is of the utmost importance to a variety of applications, e.g. ambient air and water quality monitoring programmes as well as industrial sectors such as energy production and refineries.

EMRP
European Metrology Research Programme
Programme of EURAMET
The EMRP is jointly funded by the EMRP participating countries within EURAMET and the European Union

EURAMET

LNE
Sharing a passion for progress

Umwelt Bundesamt

http://projects.lne.eu/jrp-metra/