

IAEA Stable Isotope Reference Materials: Results of Technical Meeting at the IAEA, November 21-25, 2016

Sergey Assonov and Manfred Gröning

IAEA, Terrestrial Environment Laboratory, Vienna, Austria (s.assonov@iaea.org)

The Technical Meeting held at the IAEA (Vienna, November 2016) with 20 expert scientists from analytical laboratories and metrology institutes was focused on the development of Stable Isotope Reference Materials (RMs) and related products, with the major focus on metrological requirements for RMs. All the participants expressed the opinion that the IAEA is considered as the custodian of stable isotope scales and primary RMs used for the scale realisation. The items under discussions included the following:

- Primary RM used for the scale realisation - impact of introducing replacements of primary RMs on the scale consistency,
- Metrology of primary and secondary RMs, with the focus on ^{13}C -RMs,
- Addressing the most critical applications (e.g. atmosphere monitoring) by RMs with minimal possible uncertainty (RMs in the form of carbonates, CO_2 gases and gas mixtures).
- Other products needed by end-users - dissemination of a good analytical practice, recommendations on the best calibration approaches and uncertainty propagation,
- Requirements for new characteristics of existing RMs and for new RMs.

The presentation will give brief overview of the meeting and major discussions.