Information Sheet BIPM.QM-K2-R3
Key Comparison BIPM.QM-K2.a and .b

Please complete this information sheet, providing at least the information which is listed as mandatory. The replies can replace the text provided as instructions, which will be deleted in the final report of the comparison.

This information sheet completes the result form BIPM.QM-K2-R2 (Excel Spreadsheet), in which results of measurement are to be reported. Please indicate here the name of the result form, with the different versions if applicable:

[*Name of result form*]

Measurements of the participant’s standard by the BIPM will start only when a complete version of the result form is received. This information sheet can be sent later, but in any case, prior to the drafting of the comparison report.

Send an electronic version by email to Dr. Joële Viallon (jviallon@bipm.org).

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| --- | --- | --- |
| **Participating institute information** |  |  |
| **Institute** |  | **\*\*\*** |  |  |  |  |
| **Contact** |  | **\*\*\*** |  |  |  |  |
| **Email** |  | **\*\*\*** |  |  |  |  |
|  |  |  |  |  |  |  |
| **Transfer Standards (cylinders) Information** |  |
| **Number of standards** |   |  |  |  |  |
|   |  |  |  |  |  |  |
| **Standard #** | **ID (Serial Number)** |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |

Mandatory information

# Traceability of the measurement results

[Instructions below may be removed]

The Key Comparisons BIPM.QM-K2.a and b are aimed at underpinning the capabilities of the participants to measure the amount fraction of CO2 in air (part a) or in nitrogen (part b) over the amount fraction range from 350 μmol mol−1 to 800 μmol mol−1, with a method ensuring traceability of the measurements to the SI. Explain here how the measurement results reported in the result form are traceable to the SI, including information on:

* The reference method used for value assignment;
* Additional verification measurements;
* Purity assessment of the different gases if applicable;
* Evaluation of CO2 adsorption in cylinders if any.

Replace this text with your reply.

# Uncertainty budget

[Instructions below may be removed]

Explain here how the uncertainties associated with the measurement results were obtained. Describe the sources of uncertainty identified, their values, and how they were combined. Express clearly if uncertainties are reported with a confidence factor (*k*) and its value.

Replace this text with your reply.

Additional non-mandatory information

Participants are invited to further describe their standards and methods below. References to articles published in peer-reviewed journals may be provided. The provided information will be added as annex to the comparison report and referred to when relevant to explain the comparison’s results.

# Mixtures composition

[Instructions below may be removed]

Provide here any useful information on the gas mixture composition which is not already provided in the accompanying result form. If the mixtures contain N2O, describe the source of the gas and measurements performed to estimate its amount fraction if applicable. If the mixtures do not contain N2O, describe the supporting evidence of this statement.

Replace this text with your reply.

# Mixtures preparation

[Instructions below may be removed]

If the mixtures were prepared in your laboratory, describe here the preparation method, including information on the sources of pure gases (with a particular attention to carbon dioxide), the purity of the gases, how they were mixed, and any relevant detail on materials or treatment employed to obtain the mixtures.

If the mixtures were prepared in another laboratory, report here the information provided by this laboratory regarding the mixtures’ preparation.

Replace this text with your reply.

# Second verification of mixtures

[Instructions below may be removed]

If the mixtures were verified after the measurements at the BIPM, describe here the verification procedure, including information on the dates of the measurements, the analytical instruments, their calibration, the calculations performed to obtain the measurements results.

Replace this text with your reply.