

Reference Material Certificate

**Product Name:** ICP-MS Calibration Standard      **Lot Number:** 0006675818  
**Product Number:** IMS-103      **Lot Issue Date:** 15-Apr-2022  
**Storage Conditions:** Store at Room Temperature (15° to 30°C).  
 Light Sensitive.      **Expiration Date:** 31-May-2023

| Component Name  | CERTIFIED VALUES |          |             | CAS#        | Analyte Lot |
|---|------------------|----------|-------------|-------------|-------------|
|   | Concentration    | Expanded | Uncertainty |             |             |
| antimony ( ICP grade )  | 10.0             | ±        | 0.1 µg/mL   | 007440-36-0 | RM18106     |
| gold ( ICP grade )  | 10.0             | ±        | 0.1 µg/mL   | 007440-57-5 | RM18508     |
| hafnium oxide (ICP grade) (as hafnium)                            | 10.0             | ±        | 0.1 µg/mL   | 012055-23-1 | RM11371     |
| iridium (III) chloride ( ICP grade ) (as iridium)                 | 10.0             | ±        | 0.1 µg/mL   | 010025-83-9 | RM07895     |
| palladium ( ICP grade )   | 10.0             | ±        | 0.1 µg/mL   | 007440-05-3 | RM19307     |
| platinum ( ICP grade )  | 10.0             | ±        | 0.1 µg/mL   | 007440-06-4 | RM19219     |
| rhodium (III) chloride hydrate ( ICP grade ) (as rhodium)         | 10.0             | ±        | 0.1 µg/mL   | 010049-07-7 | RM19295     |
| ruthenium (III) trichloride trihydrate (ICP grade) (as ruthenium) | 10.0             | ±        | 0.1 µg/mL   | 007440-18-8 | RM09654     |
| tellurium ( ICP grade )   | 10.0             | ±        | 0.1 µg/mL   | 013494-80-9 | RM11196     |
| ammonium hexafluorostannate (IV) ( ICP grade ) (as tin)           | 10.0             | ±        | 0.1 µg/mL   | 016919-24-7 | RM07846     |

**Matrix:** water with 10% hydrochloric acid and trace tartaric, nitric, and hydrofluoric acids

**Description:**

This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system. The analyte concentration(s) were prepared and verified by an ISO 17034 / ISO 17025 accredited laboratory and compared to calibration standards independently prepared using NIST SRM(s) when available. The certified value and uncertainty value at the 95% confidence level for each analyte is determined gravimetrically.

**Traceability:**

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

**Homogeneity:**

This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Instructions for Use:**

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

**Safety:**

Refer to the Safety Data Sheet on [www.agilent.com](http://www.agilent.com) for information regarding this analytical reference material.

**Intended Use:**

This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

**Expiration of Certification:**

The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

**Maintenance of Certification:**

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

**Sample lot approver:**



Monica Bourgeois  
QMS Representative



ISO 17034 Cert  
No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015  
Quality Management System. Cert# 951215321

Page: 2 of 2

[www.agilent.com/quality/](http://www.agilent.com/quality/)  
CSD-QA-040.1



ISO 17025 Cert  
No. AT-1937