Agilent
ISO 17034

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Trusted Answers

Reference Material Certificate

Product Name:	ICP-MS Calibration Standard	**Lot Number:**	0006679008
Product Number:	IMS-102	**Lot Issue Date:**	25-May-2022
Storage Conditions:	Store at Room Temperature (15° to 30°C). Light Sensitive.	**Expiration Date:**	30-Jun-2026

	CERTIFIED VALUES			
Component Name	**Concentration**	**Expanded Uncertainty**	**CAS#**	**Analyte Lot**
aluminum nitrate nonahydrate (ICP grade) (as aluminum)	10.0	± 0.1 µg/mL	007784-27-2	RM18137
arsenic (III) oxide (ICP grade) (as arsenic)	10.0	± 0.1 µg/mL	001327-53-3	RM16380
barium nitrate (ICP grade) (as barium)	10.0	± 0.1 µg/mL	010022-31-8	RM15901
beryllium acetate (ICP grade) (as beryllium)	10.0	± 0.1 µg/mL	000543-81-7	RM10258
bismuth (ICP grade)	10.0	± 0.1 µg/mL	007440-69-9	RM18332
cadmium nitrate hydrate (ICP grade) (as cadmium)	10.0	± 0.1 µg/mL	010022-68-1	RM07888
calcium carbonate (ICP grade) (as calcium)	10.0	± 0.1 µg/mL	000471-34-1	RM18534
cesium nitrate (ICP grade) (as cesium)	10.0	± 0.1 µg/mL	007789-18-6	RM12568
chromium (III) nitrate nonahydrate (ICP grade) (as chromium)	10.0	± 0.1 µg/mL	007789-02-8	RM17981
cobalt nitrate hexahydrate (ICP grade) (as cobalt)	10.0	± 0.1 µg/mL	010026-22-9	RM12660
copper (II) nitrate hydrate (ICP grade) (as copper)	10.0	± 0.1 µg/mL	010031-43-3	RM11059
gallium (ICP grade)	10.0	± 0.1 µg/mL	007440-55-3	RM19686
indium (ICP grade)	10.0	± 0.1 µg/mL	007440-74-6	RM16357
iron (III) nitrate, ferric nitrate (ICP grade) (as iron)	10.0	± 0.1 µg/mL	007782-61-8	RM16294
lead (II) nitrate (ICP grade) (as lead)	10.0	± 0.1 µg/mL	010099-74-8	RM10723
lithium carbonate (ICP grade) (as lithium)	10.0	± 0.1 µg/mL	000554-13-2	RM07634
magnesium nitrate hexahydrate (ICP grade) (as magnesium)	10.0	± 0.1 µg/mL	013446-18-9	RM16274
manganese (II) nitrate (ICP grade) (as manganese)	10.0	± 0.1 µg/mL	010377-66-9	RM13819
nickel (II) nitrate hexahydrate (ICP grade) (as nickel)	10.0	± 0.1 µg/mL	013478-00-7	RM11144
potassium nitrate (ICP grade) (as potassium)	10.0	± 0.1 µg/mL	007757-79-1	RM14314
rubidium nitrate (ICP grade) (as rubidium)	10.0	± 0.1 µg/mL	007440-17-7	RM20000
selenium (IV) oxide (ICP grade) (as selenium)	10.0	± 0.1 µg/mL	007446-08-4	RM15710
silver nitrate (ICP grade) (as silver)	10.0	± 0.1 µg/mL	007761-88-8	RM16792
sodium nitrate (ICP grade) (as sodium)	10.0	± 0.1 µg/mL	007631-99-4	RM18920
strontium nitrate (ICP grade) (as strontium)	10.0	± 0.1 µg/mL	010042-76-9	RM12874
thallium (I) nitrate (ICP grade) (as thallium)	10.0	± 0.1 µg/mL	010102-45-1	RM10594
uranium nitrate hydrate (ICP grade) (as uranium)	10.0	± 0.1 µg/mL	007440-61-1	RM17084
ammonium metavanadate (ICP grade) (as vanadium)	10.0	± 0.1 µg/mL	007803-55-6	RM12372
zinc nitrate hexahydrate (ICP grade) (as zinc)	10.0	± 0.1 µg/mL	010196-18-6	RM07777

Matrix: 5% nitric acid with trace hydrofluoric acid in water

	CERTIFIED VALUES			
Component Name	Concentration	Extended Uncertainty	CAS#	Analyte Lot

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 20ºC to 25ºC 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 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