

# Certificate of Analysis

**Product Name:** ICP-MS Calibration Standard

**Product Number:** IMS-120

**Lot Issue Date:** 03-Nov-2020

**Lot Number:** 0006568995

**Expiration Date:** 31-Dec-2024

**Description:**

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.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
aluminum nitrate nonahydrate ( ICP grade ) (as aluminum)	007784-27-2	RM12658	10.0 ± 0.1 µg/mL
arsenic (III) oxide ( ICP grade ) (as arsenic)	001327-53-3	RM14463	100.2 ± 0.5 µg/mL
barium nitrate ( ICP grade ) (as barium)	010022-31-8	RM11168	10.0 ± 0.1 µg/mL
beryllium acetate ( ICP grade ) (as beryllium)	000543-81-7	RM10258	100.0 ± 0.5 µg/mL
bismuth (ICP grade)	007440-69-9	RM12830	10.0 ± 0.1 µg/mL
boric acid ( ICP grade ) (as boron)	010043-35-3	RM10535	100.1 ± 0.5 µg/mL
cadmium nitrate hydrate ( ICP grade ) (as cadmium)	010022-68-1	RM07888	10.0 ± 0.1 µg/mL
calcium carbonate ( ICP grade ) (as calcium)	000471-34-1	RM15103	1001 ± 5 µg/mL
chromium (III) nitrate nonahydrate ( ICP grade ) (as chromium)	007789-02-8	RM12758	10.0 ± 0.1 µg/mL
cobalt nitrate hexahydrate ( ICP grade ) (as cobalt)	010026-22-9	RM12660	10.0 ± 0.1 µg/mL
copper (II) nitrate hydrate ( ICP grade ) (as copper)	010031-43-3	RM14621	10.0 ± 0.1 µg/mL
gallium ( ICP grade )	007440-55-3	RM11084	10.0 ± 0.1 µg/mL
iron (III) nitrate, ferric nitrate ( ICP grade ) (as iron)	007782-61-8	RM14491	100.1 ± 0.5 µg/mL
lead (II) nitrate ( ICP grade ) (as lead)	010099-74-8	RM10723	10.0 ± 0.1 µg/mL
lithium carbonate ( ICP grade ) (as lithium)	000554-13-2	RM07634	10.0 ± 0.1 µg/mL
magnesium nitrate hexahydrate ( ICP grade ) (as magnesium)	013446-18-9	RM13723	10.0 ± 0.1 µg/mL



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<b>Product Number:</b>	IMS-120	<b>Lot Number:</b>	0006568995
manganese (II) nitrate ( ICP grade ) ( as manganese )	010377-66-9	RM12175	10.0 ± 0.1 µg/mL
molybdenum (VI) oxide ( ICP grade ) ( as molybdenum )	001313-27-5	RM07695	10.0 ± 0.1 µg/mL
nickel (II) nitrate hexahydrate ( ICP grade ) ( as nickel )	013478-00-7	RM11144	10.0 ± 0.1 µg/mL
potassium nitrate ( ICP grade ) ( as potassium )	007757-79-1	RM11275	10.0 ± 0.1 µg/mL
rubidium nitrate ( ICP grade ) ( as rubidium )	007440-17-7	RM09802	10.0 ± 0.1 µg/mL
selenium (IV) oxide ( ICP grade ) ( as selenium )	007446-08-4	RM10704	100.0 ± 0.5 µg/mL
silver nitrate ( ICP grade ) ( as silver )	007761-88-8	RM11944	10.0 ± 0.1 µg/mL
sodium nitrate ( ICP grade ) ( as sodium )	007631-99-4	RM10629	10.0 ± 0.1 µg/mL
strontium nitrate ( ICP grade ) ( as strontium )	010042-76-9	RM09221	10.0 ± 0.1 µg/mL
tellurium ( ICP grade )	013494-80-9	RM11196	10.0 ± 0.1 µg/mL
thallium (I) nitrate ( ICP grade ) ( as thallium )	010102-45-1	RM10594	10.0 ± 0.1 µg/mL
uranium nitrate hydrate ( ICP grade ) ( as uranium )	007440-61-1	RM12636	10.0 ± 0.1 µg/mL
ammonium metavanadate ( ICP grade ) ( as vanadium )	007803-55-6	RM12372	10.0 ± 0.1 µg/mL
zinc nitrate hexahydrate ( ICP grade ) ( as zinc )	010196-18-6	RM12699	100.1 ± 0.5 µg/mL

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

**Storage Conditions:** Store at Room Temperature (15° to 30°C). Light Sensitive.

**Traceability:**

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCCL 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 RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

**Intended Use:**

This RM 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. □



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**Product Number:** IMS-120

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**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.

**Hazards:**

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

**Expiration of Certification:**

The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM 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



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