

Product Specification

ICP-MS Calibration Standard 1, Method 200.8 (91)

Lot Number: SAMPLE

Product Number: RMSCAL1A

Manufacture Date: N/A

Expiration Date: N/A

This is a multielement solution that was prepared volumetrically to contain the elements and concentrations stated below. The uncertainty associated with the certified values is $\pm 1\%$ relative. The concentrations are confirmed by ICP or ICP-MS.

Matrix: 5% Nitric Acid/trace HF

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Nitric Acid	7697-37-2	Trace Metals
Tartaric Acid	87-69-4	ACS
Hydrochloric Acid	7647-01-0	Trace Metals
Hydrofluoric Acid	7664-39-3	Trace Metals

Test	Specification	Result
Appearance	Colorless liquid	N/A

Analyte	Analysis (ppm)	Solute	CAS#	Grade	NIST SRM#
Aluminum (Al)	9.0-11.0 ppm	Aluminum Nitrate Nonahydrate	7784-27-2	High Purity	3101
Chromium (Cr)	9.0-11.0 ppm	Chromium Nitrate Nonahydrate	7789-02-8	High Purity	3112
Thorium (Th)	9.0-11.0 ppm	Thorium Nitrate	13823-29-5	High Purity	3159
Uranium (U)	9.0-11.0 ppm	Uranium Oxide	1344-58-7	High Purity	3164
Selenium (Se)	9.0-11.0 ppm	Selenium	7782-49-2	High Purity	3149
Zinc (Zn)	9.0-11.0 ppm	Zinc	7440-66-6	High Purity	3168
Vanadium (V)	9.0-11.0 ppm	Vanadium	7440-62-2	High Purity	3165
Copper (Cu)	9.0-11.0 ppm	Copper	7440-50-8	High Purity	3114
Cobalt (Co)	9.0-11.0 ppm	Cobalt	7440-48-4	High Purity	3113
Cadmium (Cd)	9.0-11.0 ppm	Cadmium	7440-43-9	High Purity	3108
Beryllium (Be)	9.0-11.0 ppm	Beryllium	7440-41-7	High Purity	3105
Arsenic (As)	9.0-11.0 ppm	Arsenic	7440-38-2	High Purity	3103
Antimony (Sb)	9.0-11.0 ppm	Antimony	7440-36-0	High Purity	3102
Thallium (Tl)	9.0-11.0 ppm	Thallium	7440-28-0	High Purity	3158
Nickel (Ni)	9.0-11.0 ppm	Nickel	7440-02-0	High Purity	3136
Molybdenum (Mo)	9.0-11.0 ppm	Molybdenum	7439-98-7	High Purity	3134
Manganese (Mn)	9.0-11.0 ppm	Manganese	7439-96-5	High Purity	3132
Lead (Pb)	9.0-11.0 ppm	Lead	7439-92-1	High Purity	3128

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
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RMSCAL1A-100

100 mL natural LDPE

12 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

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