

Product Specification

ICP-MS Calibration Standard 4

Lot Number: SAMPLE

Product Number: RICPMS4

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: Water / trace HF

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Nitric Acid	7697-37-2	Trace Metals
Ammonium Sulfate	7783-20-2	High Purity
Hydrofluoric Acid	7664-39-3	Trace Metals
Ammonium Hydroxide	1336-21-6	Trace Metals

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	N/A	
Sulfur (S)	9.9-10.1 ppm	N/A	3154

Analyte	Analysis (ppm)	Solute	CAS#	Grade	NIST SRM#
Boron (B)	9.9-10.1 ppm	Ammonium Tetrafluoroborate	13826-83-0	High Purity	3107
Silicon (Si)	9.9-10.1 ppm	Ammonium Hexafluorosilicate (IV)	16919-19-0	High Purity	3150
Titanium (Ti)	9.9-10.1 ppm	Ammonium Hexafluorotitanate	16962-40-6	High Purity	3162
Phosphorus (P)	9.9-10.1 ppm	Ammonium Dihydrogen Phosphate	7722-76-1	High Purity	3139
Zirconium (Zr)	9.9-10.1 ppm	Zirconyl Chloride Octahydrate	13520-92-8	High Purity	3169
Germanium (Ge)	9.9-10.1 ppm	Ammonium Hexafluorogermanate	16962-47-3	High Purity	3120
Niobium (Nb)	9.9-10.1 ppm	Ammonium Hexafluoronioate	12062-13-4	High Purity	3137
Molybdenum (Mo)	9.9-10.1 ppm	Ammonium Molybdate	13106-76-8	High Purity	3134
Tantalum (Ta)	9.9-10.1 ppm	Ammonium Heptafluorotantalate	12022-02-5	High Purity	3155
Rhenium (Re)	9.9-10.1 ppm	Ammonium Perrhenate	13598-65-7	High Purity	3143
Tungsten (W)	9.9-10.1 ppm	Ammonium Tungstate	11140-77-5	High Purity	3163

This standard is guaranteed to be stable and accurate provided the product is kept tightly capped and stored under normal laboratory conditions. Balances are calibrated using NIST traceable weights whose verification of maintenance and recalibration is documented per in-house Standard Operating Procedures. Class A glassware is also calibrated and routinely rechecked per in-house Standard Operating Procedures. Trace metal analyzed acids and Trace Metals Analyzed Water are used in the manufacture of this product. Triple cleaned containers are used in the manufacture of this product.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
RICPMS4-100	100 mL natural LDPE	12 months
RICPMS4-1000	1 L natural poly	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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