

Product Specification

Multichem-19 Standard

Lot Number: SAMPLE**Product Number:** RMULTI19**Manufacture Date:** N/A**Expiration Date:** N/A

The certified value for this product is confirmed in independent testing by a second qualified chemist. The uncertainty associated with the certified value is $\pm 0.5\%$ relative, which is the sum of the estimated errors due to the purity of the raw material, the volumetric preparation of the solution and transpiration of the solution through the container wall.

The final solution concentration is confirmed by AA, ICP, or ICP-MS, and is traceable to NIST Standard Reference Material 3104a. All trace level elements were determined by ICP or ICP-MS.

Matrix: 7% Nitric Acid / trace HF

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

Test	Specification	Result
Appearance	Colorless liquid	N/A

Analyte	Analysis (ppm)	Solute	CAS#	Grade	NIST SRM#
Calcium (Ca)	1980-2020 ppm	Calcium Carbonate	471-34-1	High Purity	3109
Magnesium (Mg)	990-1010 ppm	Magnesium	7439-95-4	High Purity	3131
Potassium (K)	495-505 ppm	Potassium Carbonate	584-08-7	High Purity	3141
Boron (B)	29.7-30.3 ppm	Boric Acid	10043-35-3	High Purity	3107
Strontium (Sr)	99-101 ppm	Strontium Carbonate	1633-05-2	High Purity	3153
Silicon (Si)	29.7-30.3 ppm	Silicon	7440-21-3	High Purity	3150
Iron (Fe)	19.8-20.2 ppm	Iron	7439-89-6	High Purity	3126
Barium (Ba)	9.9-10.1 ppm	Barium Nitrate	10022-31-8	High Purity	3104
Manganese (Mn)	4.95-5.05 ppm	Manganese	7439-96-5	High Purity	3132
Zinc (Zn)	0.99-1.01 ppm	Zinc	7440-66-6	High Purity	3168
Lead (Pb)	0.99-1.01 ppm	Lead	7439-92-1	High Purity	3128

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)
RMULTI19-1N	1 L natural poly	12 months

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

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