

# Product Specification

## Mixed ICP Standard

**Lot Number:** SAMPLE

**Product Number:** 5158

**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.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Nitric Acid	7697-37-2	ACS, Trace Metals
Aluminum Nitrate Nonahydrate	7784-27-2	High Purity
Chromium Nitrate Nonahydrate	7789-02-8	High Purity
Beryllium Basic Acetate	19049-40-2	High Purity
Tin	7440-31-5	High Purity
Hydrofluoric Acid	7664-39-3	Trace Metals
Antimony Trioxide	1309-64-4	High Purity
Selenium	7782-49-2	High Purity
Copper	7440-50-8	High Purity
Cobalt	7440-48-4	High Purity
Arsenic	7440-38-2	High Purity
Thallium	7440-28-0	High Purity
Molybdenum	7439-98-7	High Purity
Lead	7439-92-1	High Purity
Iron	7439-89-6	High Purity
Nickel	7440-02-0	High Purity
Zinc	7440-66-6	High Purity
Cadmium	7440-43-9	High Purity
Silver	7440-22-4	High Purity

Test	Specification	Result	NIST SRM#
Aluminum (Al)	2.97-3.03 ppm	N/A	3101
Antimony (Sb)	4.95-5.05 ppm	N/A	3102
Appearance	Colorless liquid	N/A	
Arsenic (As)	4.95-5.05 ppm	N/A	3103
Beryllium (Be)	0.99-1.01 ppm	N/A	3105
Cadmium (Cd)	0.99-1.01 ppm	N/A	3108
Chromium (Cr)	2.97-3.03 ppm	N/A	3112
Cobalt (Co)	4.95-5.05 ppm	N/A	3113
Copper (Cu)	4.95-5.05 ppm	N/A	3114
Iron (Fe)	4.95-5.05 ppm	N/A	3126
Lead (Pb)	4.95-5.05 ppm	N/A	3128

Molybdenum (Mo)	4.95-5.05 ppm	N/A	3134
Nickel (Ni)	2.97-3.03 ppm	N/A	3136
Selenium (Se)	4.95-5.05 ppm	N/A	3149
Silver (Ag)	0.99-1.01 ppm Ag	N/A	3151
Thallium (Tl)	4.95-5.05 ppm	N/A	3158
Tin (Sn)	9.9-10.1 ppm	N/A	3161
Zinc (Zn)	0.99-1.01 ppm	N/A	3168

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)
5158-100	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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