

Product Specification

Spiking Solution for Water and Soil - CLP

Lot Number: SAMPLE

Product Number: RSPIKE1

Manufacture Date: N/A

Expiration Date: N/A

This is a multielement solution that was prepared gravimetrically to contain the elements and concentrations stated below. The uncertainty associated with the certified values is $\pm 0.5\%$ relative. The concentrations are confirmed by ICP or ICP-MS.

Matrix: 5% Nitric Acid

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

Test	Specification	Result
Appearance	Colorless liquid	N/A

Analyte	Analysis (ppm)	Solute	CAS#	Grade	NIST SRM#
Aluminum (Al)	199-201 ppm	Aluminum Nitrate Nonahydrate	7784-27-2	High Purity	3101
Barium (Ba)	199-201 ppm	Barium Nitrate	10022-31-8	High Purity	3104
Selenium (Se)	199-201 ppm	Selenium	7782-49-2	High Purity	3149
Arsenic (As)	199-201 ppm	Arsenic	7440-38-2	High Purity	3103
Thallium (Tl)	199-201 ppm	Thallium	7440-28-0	High Purity	3158
Chromium (Cr)	19.9-20.1 ppm	Chromium Nitrate Nonahydrate	7789-02-8	High Purity	3112
Iron (Fe)	99.5-100.5 ppm	Iron	7439-89-6	High Purity	3126
Antimony (Sb)	49.7-50.3 ppm	Antimony Trioxide	1309-64-4	High Purity	3102
Zinc (Zn)	49.7-50.3 ppm	Zinc	7440-66-6	High Purity	3168
Vanadium (V)	49.7-50.3 ppm	Vanadium	7440-62-2	High Purity	3165
Cobalt (Co)	49.7-50.3 ppm	Cobalt	7440-48-4	High Purity	3113
Nickel (Ni)	49.7-50.3 ppm	Nickel	7440-02-0	High Purity	3136
Manganese (Mn)	49.7-50.3 ppm	Manganese	7439-96-5	High Purity	3132
Lead (Pb)	49.7-50.3 ppm	Lead	7439-92-1	High Purity	3128
Copper (Cu)	24.9-25.1 ppm	Copper	7440-50-8	High Purity	3114
Cadmium (Cd)	4.97-5.03 ppm	Cadmium	7440-43-9	High Purity	3108
Beryllium (Be)	4.97-5.03 ppm	Beryllium	7440-41-7	High Purity	3105
Silver (Ag)	4.97-5.03 ppm	Silver	7440-22-4	High Purity	3151

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)
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RSPIKE1-100	100 mL amber poly	12 months
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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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