



Certificate of Analysis

ICP/MS Calibration Standard #2

Catalog Number: IMS-102

Lot Number: CS-1404

Lot Issue Date: 03/26/2018

Expiration Date: 04/30/2022

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentration(s) were prepared and verified by an ISO Guide 34 / ISO 17025 accredited laboratory, and compared to calibration standards independently prepared using NIST SRM(s). The certified value and uncertainty value at the 95% confidence level for each analyte is determined gravimetrically.


Analyte	True Value	Analytical Method	NIST SRM
aluminum	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3101
arsenic	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3103
barium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3104
beryllium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3105
bismuth	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3106
cadmium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3108
calcium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3109
cesium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3111
chromium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3112
cobalt	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3113
copper	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3114
gallium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3119
indium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3124
iron	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3126
lead	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3128
lithium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3129
magnesium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3131
manganese	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3132
nickel	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3136
potassium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3141
rubidium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3145
selenium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3149
* silver	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3151
sodium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3152
strontium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3153
thallium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3158
uranium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	second source
* vanadium	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3165
zinc	10.00 ± 0.1 µg/mL	ICP / ICP-MS	3168a

Matrix: 5% nitric acid, with trace hydrofluoric acid in low TOC water (< 50 ppb)

* light sensitive

ULTRA uses purified acids, 18 megohm double deionized water, calibrated Class A glassware & meticulously cleaned bottles in the manufacturing of ULTRAgrade standards. Balances used in the manufacturing of this standard are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001


John Russo
President


Monica Bourgeois
Director of QA/RA



ISO 9001 Registered Quality System – TUV USA