

Certificate of Analysis

ICP-MS Calibration Standard

Catalog Number: IMS-120
Lot Number: T00007
Job Number: J00017503
Lot Issue Date: 01/06/2014
Expiration Date: 02/28/2018

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentration(s) were 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
	Value	±	Uncertainty		
aluminum	10.00	±	0.05 µg/mL	ICP / ICP-MS	3101a
arsenic	100.0	±	0.5 µg/mL	ICP / ICP-MS	3103a
barium	10.00	±	0.05 µg/mL	ICP / ICP-MS	3104a
beryllium	100.0	±	0.5 µg/mL	ICP / ICP-MS	3105a
bismuth	10.00	±	0.05 µg/mL	ICP / ICP-MS	3106
boron	100.0	±	0.5 µg/mL	ICP / ICP-MS	3107
cadmium	10.00	±	0.05 µg/mL	ICP / ICP-MS	3108
calcium	1000	±	5 µg/mL	ICP / ICP-MS	3109a
chromium	10.00	±	0.05 µg/mL	ICP / ICP-MS	3112a
cobalt	10.00	±	0.05 µg/mL	ICP / ICP-MS	3113
copper	10.00	±	0.05 µg/mL	ICP / ICP-MS	3114
gallium	10.00	±	0.05 µg/mL	ICP / ICP-MS	3119a
iron	100.0	±	0.5 µg/mL	ICP / ICP-MS	3126a
lead	10.00	±	0.05 µg/mL	ICP / ICP-MS	3128
lithium	10.00	±	0.05 µg/mL	ICP / ICP-MS	3129a
magnesium	10.00	±	0.05 µg/mL	ICP / ICP-MS	3131a
manganese	10.00	±	0.05 µg/mL	ICP / ICP-MS	3132
molybdenum	10.00	±	0.05 µg/mL	ICP / ICP-MS	3134
nickel	10.00	±	0.05 µg/mL	ICP / ICP-MS	3136
potassium	10.00	±	0.05 µg/mL	ICP / ICP-MS	3141a
rubidium	10.00	±	0.05 µg/mL	ICP / ICP-MS	3145a
selenium	100.0	±	0.5 µg/mL	ICP / ICP-MS	3149
* silver	10.00	±	0.05 µg/mL	ICP / ICP-MS	3151
sodium	10.00	±	0.05 µg/mL	ICP / ICP-MS	3152a

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Analyte	True Value			Analytical Method	NIST SRM
strontium	10.00	±	0.05	µg/mL ICP / ICP-MS	3153a
tellurium	10.00	±	0.05	µg/mL ICP / ICP-MS	3156
thallium	10.00	±	0.05	µg/mL ICP / ICP-MS	3158
uranium	10.00	±	0.05	µg/mL ICP / ICP-MS	3164
* vanadium	10.00	±	0.05	µg/mL ICP / ICP-MS	3165
zinc	100.0	±	0.5	µg/mL ICP / ICP-MS	3168a

Matrix: 5% nitric acid, 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