

Certificate of Analysis

ICP Calibration Standard

Catalog Number: ICM-104

Lot Number: CM-1764

Lot Issue Date: 04/10/2015

Expiration Date: 05/31/2018

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentration(s) were 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	500.7	±	2.5	µg/mL	ICP / ICP-MS	3101a
arsenic	100.1	±	0.5	µg/mL	ICP / ICP-MS	3103a
beryllium	100.2	±	0.5	µg/mL	ICP / ICP-MS	3105a
cadmium	25.0	±	0.1	µg/mL	ICP / ICP-MS	3108
chromium	100.2	±	0.5	µg/mL	ICP / ICP-MS	3112a
cobalt	100.1	±	0.5	µg/mL	ICP / ICP-MS	3113
copper	100.1	±	0.5	µg/mL	ICP / ICP-MS	3114
iron	100.1	±	0.5	µg/mL	ICP / ICP-MS	3126a
lead	100.2	±	0.5	µg/mL	ICP / ICP-MS	3128
manganese	100.1	±	0.5	µg/mL	ICP / ICP-MS	3132
* mercury	5.01	±	0.03	µg/mL	ICP / ICP-MS	3133
nickel	100.2	±	0.5	µg/mL	ICP / ICP-MS	3136
selenium	25.1	±	0.1	µg/mL	ICP / ICP-MS	3149
* vanadium	250.2	±	1.3	µg/mL	ICP / ICP-MS	3165
zinc	100.2	±	0.5	µg/mL	ICP / ICP-MS	3168a

Matrix: 2% nitric acid, and trace hydrofluoric acids, in low TOC water (< 50 ppb)

* *light sensitive*

ULTRA uses purified acids, 18 megaohm double deionized water, calibrated Class A glassware, and meticulously cleaned bottles in the manufacturing of ULTRA grade 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.