

Certificate of Analysis

Custom Standard

Catalog Number: ICUS-1076

Lot Number: CM-3314

Lot Issue Date: 06/17/2015

Expiration Date: 07/31/2016

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
arsenic	50.1	±	0.3	µg/mL	ICP / ICP-MS	3103a
cadmium	50.0	±	0.3	µg/mL	ICP / ICP-MS	3108
chromium	50.1	±	0.3	µg/mL	ICP / ICP-MS	3112a
cobalt	50.0	±	0.3	µg/mL	ICP / ICP-MS	3113
lead	50.1	±	0.3	µg/mL	ICP / ICP-MS	3128
nickel	50.1	±	0.3	µg/mL	ICP / ICP-MS	3136
* vanadium	50.1	±	0.3	µg/mL	ICP / ICP-MS	3165
copper	50.1	±	0.3	µg/mL	ICP / ICP-MS	3114
manganese	50.1	±	0.3	µg/mL	ICP / ICP-MS	3132
beryllium	5.01	±	0.03	µg/mL	ICP / ICP-MS	3105a
iron	500.9	±	2.5	µg/mL	ICP / ICP-MS	3126a
zinc	501.0	±	2.5	µg/mL	ICP / ICP-MS	3168a
aluminium	500.7	±	2.5	µg/mL	ICP / ICP-MS	3101a
magnesium	500.4	±	2.5	µg/mL	ICP / ICP-MS	3131a
calcium	501.0	±	2.5	µg/mL	ICP / ICP-MS	3109a
titanium	500.9	±	2.5	µg/mL	ICP / ICP-MS	3162a
molybdenum	500.9		2.5	µg/mL	ICP / ICP-MS	3134

Matrix: 5% nitric acid with trace hydrofluoric acid 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.