

Certificate of Analysis

CLP ICP Graphite Furnace Standard #4

Catalog Number: ICM-464

Lot Number: CM-5793

Lot Issue Date: 11/10/2015

Expiration Date: 12/31/2019

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	
antimony	120.0	±	0.6	µg/mL	ICP / ICP-MS	3102a
arsenic	20.0	±	0.1	µg/mL	ICP / ICP-MS	3103a
cadmium	10.0	±	0.1	µg/mL	ICP / ICP-MS	2108
lead	20.0	±	0.1	µg/mL	ICP / ICP-MS	3128
selenium	10.0	±	0.1	µg/mL	ICP / ICP-MS	3149
thallium	20.0	±	0.1	µg/mL	ICP / ICP-MS	3158

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

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.