

Certificate of Analysis

**CLP ICP Interference Check Standard
for ILM 4.0**

Catalog Number: ICM-443

Lot Number: R00922

Lot Issue Date: 9/3/2013

Expiration Date: 10/31/2017

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	60.00	±	0.30 µg/mL	ICP / ICP-MS	3102a
arsenic	10.00	±	0.05 µg/mL	ICP / ICP-MS	3103a
barium	50.00	±	0.25 µg/mL	ICP / ICP-MS	3104a
beryllium	50.00	±	0.25 µg/mL	ICP / ICP-MS	3105a
cadmium	100.0	±	0.5 µg/mL	ICP / ICP-MS	3108
chromium	50.00	±	0.25 µg/mL	ICP / ICP-MS	3112a
cobalt	50.00	±	0.25 µg/mL	ICP / ICP-MS	3113
copper	50.00	±	0.25 µg/mL	ICP / ICP-MS	3114
lead	5.000	±	0.025 µg/mL	ICP / ICP-MS	3128
manganese	50.00	±	0.25 µg/mL	ICP / ICP-MS	3132
nickel	100.0	±	0.5 µg/mL	ICP / ICP-MS	3136
selenium	5.000	±	0.025 µg/mL	ICP / ICP-MS	3149
* silver	20.00	±	0.10 µg/mL	ICP / ICP-MS	3151
thallium	10.00	±	0.05 µg/mL	ICP / ICP-MS	3158
* vanadium	50.00	±	0.25 µg/mL	ICP / ICP-MS	3165
zinc	100.0	±	0.5 µg/mL	ICP / ICP-MS	3168a

Matrix: 5% nitric acid, trace hydrofluoric acid, trace tartaric acid 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 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.