

# Certificate of Analysis

**CLP ICP Calibration Verification Standard #1**

**Catalog Number: ICM-431**

**Lot Number: CP-1467**

**Lot Issue Date: 03/29/2016**

**Expiration Date: 04/30/2020**

This Reference Material (RM) 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	1001	±	5	µg/mL	ICP / ICP-MS	3101a
barium	1001	±	5	µg/mL	ICP / ICP-MS	3104a
beryllium	25.0	±	0.1	µg/mL	ICP / ICP-MS	3105a
calcium	2504	±	13	µg/mL	ICP / ICP-MS	3109a
chromium	100.1	±	0.5	µg/mL	ICP / ICP-MS	3112a
cobalt	250.5	±	1.3	µg/mL	ICP / ICP-MS	3113
copper	125.1	±	0.6	µg/mL	ICP / ICP-MS	3114
iron	501.3	±	2.5	µg/mL	ICP / ICP-MS	3126a
magnesium	2504	±	13	µg/mL	ICP / ICP-MS	3131a
manganese	250.1	±	1.3	µg/mL	ICP / ICP-MS	3132
nickel	250.4	±	1.3	µg/mL	ICP / ICP-MS	3136
potassium	2502	±	13	µg/mL	ICP / ICP-MS	3141a
* silver	125.0	±	0.6	µg/mL	ICP / ICP-MS	3151
sodium	2503	±	13	µg/mL	ICP / ICP-MS	3152a
* vanadium	250.2	±	1.3	µg/mL	ICP / ICP-MS	3165
zinc	250.3	±	1.3	µg/mL	ICP / ICP-MS	3168a

**Matrix:** 2% nitric acid with trace hydrofluoric 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.