



Certificate of Analysis

ICP Calibration Standard

Catalog Number: ICM-103

Lot Number: CL-5188

Lot Issue Date: 12/16/2014

Expiration Date: 01/31/2019

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
aluminum	1001	±	5	µg/mL	ICP / ICP-MS	3101a
barium	1002	±	5	µg/mL	ICP / ICP-MS	3104a
bismuth	1000	±	5	µg/mL	ICP / ICP-MS	3106
boron	1002	±	5	µg/mL	ICP / ICP-MS	3107
cadmium	1002	±	5	µg/mL	ICP / ICP-MS	3108
calcium	1002	±	5	µg/mL	ICP / ICP-MS	3109a
chromium	1001	±	5	µg/mL	ICP / ICP-MS	3112a
cobalt	1002	±	5	µg/mL	ICP / ICP-MS	3113
copper	1002	±	5	µg/mL	ICP / ICP-MS	3114
gallium	1000	±	5	µg/mL	ICP / ICP-MS	3119a
indium	1000	±	5	µg/mL	ICP / ICP-MS	3124a
iron	1002	±	5	µg/mL	ICP / ICP-MS	3126a
lead	1002	±	5	µg/mL	ICP / ICP-MS	3128
lithium	1002	±	5	µg/mL	ICP / ICP-MS	3129a
magnesium	1001	±	5	µg/mL	ICP / ICP-MS	3131a
manganese	1001	±	5	µg/mL	ICP / ICP-MS	3132
nickel	1002	±	5	µg/mL	ICP / ICP-MS	3136
potassium	1002	±	5	µg/mL	ICP / ICP-MS	3141a
* silver	1001	±	5	µg/mL	ICP / ICP-MS	3151
sodium	1001	±	5	µg/mL	ICP / ICP-MS	3152a
strontium	1002	±	5	µg/mL	ICP / ICP-MS	3153a
thallium	1002	±	5	µg/mL	ICP / ICP-MS	3158
zinc	1001	±	5	µg/mL	ICP / ICP-MS	3168a

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

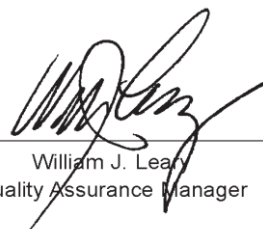
* *light sensitive*

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.



ISO 17025:2005
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ISO 9001:2000
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William J. Leary
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