



Certificate of Analysis

ICP +A1:G33Calibration Standard

Catalog Number: ICM-103

Lot Number: CR-3965

Lot Issue Date: 08/29/2017

Expiration Date: 09/30/2021

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.

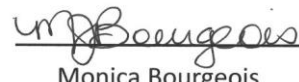
Analyte	True Value				Analytical Method	NIST SRM
aluminum	1001	±	5	µg/mL	ICP / ICP-MS	3101a
barium	1001	±	5	µg/mL	ICP / ICP-MS	3104a
bismuth	1000	±	5	µg/mL	ICP / ICP-MS	3106
boron	1001	±	5	µg/mL	ICP / ICP-MS	3107
cadmium	1002	±	5	µg/mL	ICP / ICP-MS	3108
calcium	1002	±	5	µg/mL	ICP / ICP-MS	3109a
chromium	1001	±	5	µg/mL	ICP / ICP-MS	3112a
cobalt	1000	±	5	µg/mL	ICP / ICP-MS	3113
copper	1001	±	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	1001	±	5	µg/mL	ICP / ICP-MS	3126a
lead	1001	±	5	µg/mL	ICP / ICP-MS	3128
lithium	1001	±	5	µg/mL	ICP / ICP-MS	3129a
magnesium	1001	±	5	µg/mL	ICP / ICP-MS	3131a
manganese	1000	±	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	1002	±	5	µg/mL	ICP / ICP-MS	3151
sodium	1001	±	5	µg/mL	ICP / ICP-MS	3152a
strontium	1000	±	5	µg/mL	ICP / ICP-MS	3153a
thallium	1001	±	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 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.


John Russo
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ISO 9001 Registered Quality System – TUV USA