

Certificate of Analysis

ICP Calibration Standard

Catalog Number: ICM-101

Lot Number: CS-0764

Lot Issue Date: 02/16/2018

Expiration Date: 03/31/2022

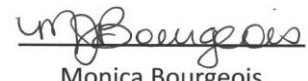
This Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentration(s) were prepared and verified by an ISO Guide 34 / ISO 17025 accredited laboratory, and compared to calibration standards independently prepared using NIST 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	100.2 ± 0.5 µg/mL	ICP / ICP-MS	3101a
barium	100.1 ± 0.5 µg/mL	ICP / ICP-MS	3104a
beryllium	100.2 ± 0.5 µg/mL	ICP / ICP-MS	3105a
bismuth	100.0 ± 0.5 µg/mL	ICP / ICP-MS	3106
boron	100.3 ± 0.5 µg/mL	ICP / ICP-MS	3107
cadmium	100.2 ± 0.5 µg/mL	ICP / ICP-MS	3108
calcium	100.1 ± 0.5 µg/mL	ICP / ICP-MS	3109a
chromium	100.0 ± 0.5 µg/mL	ICP / ICP-MS	3112a
cobalt	100.1 ± 0.5 µg/mL	ICP / ICP-MS	3113
copper	100.1 ± 0.5 µg/mL	ICP / ICP-MS	3114
gallium	100.0 ± 0.5 µg/mL	ICP / ICP-MS	3119a
iron	100.4 ± 0.5 µg/mL	ICP / ICP-MS	3126a
lead	100.2 ± 0.5 µg/mL	ICP / ICP-MS	3128
lithium	100.1 ± 0.5 µg/mL	ICP / ICP-MS	3129a
magnesium	100.1 ± 0.5 µg/mL	ICP / ICP-MS	3131a
manganese	100.1 ± 0.5 µg/mL	ICP / ICP-MS	3132
nickel	100.2 ± 0.5 µg/mL	ICP / ICP-MS	3136
potassium	100.2 ± 0.5 µg/mL	ICP / ICP-MS	3141a
selenium	100.2 ± 0.5 µg/mL	ICP / ICP-MS	3149
sodium	100.1 ± 0.5 µg/mL	ICP / ICP-MS	3152a
strontium	100.2 ± 0.5 µg/mL	ICP / ICP-MS	3153a
tellurium	100.0 ± 0.5 µg/mL	ICP / ICP-MS	3156
thallium	100.1 ± 0.5 µg/mL	ICP / ICP-MS	3158
zinc	100.2 ± 0.5 µg/mL	ICP / ICP-MS	3168a

Matrix: 5% nitric acid, trace hydrochloric 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 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.


 John Russo
 President


 Monica Bourgeois
 Director of QA/RA



ISO 9001 Registered Quality System – TUV USA