Certificate of Analysis

ICP Calibration Standard

Catalog Number: ICM-102
Lot Number: CS-2521
Lot Issue Date: 05/09/2018
Expiration Date: 06/30/2022

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	100.1	±	0.5	µg/mL	ICP / ICP-MS	3101a
barium	5.00	±	0.025	µg/mL	ICP / ICP-MS	3104a
beryllium	1.00	±	0.005	µg/mL	ICP / ICP-MS	3105a
bismuth	200.0	±	1.0	µg/mL	ICP / ICP-MS	3106
boron	15.0	±	0.08	µg/mL	ICP / ICP-MS	3107
cadmium	20.0	±	0.10	µg/mL	ICP / ICP-MS	3108
chromium	25.0	±	0.13	µg/mL	ICP / ICP-MS	3112a
cobalt	20.0	±	0.10	µg/mL	ICP / ICP-MS	3113
copper	20.0	±	0.10	µg/mL	ICP / ICP-MS	3114
gallium	150.0	±	0.8	µg/mL	ICP / ICP-MS	3119a
indium	200.0	±	1.0	µg/mL	ICP / ICP-MS	3124a
iron	15.0	±	0.08	µg/mL	ICP / ICP-MS	3126a
lead	200.3	±	1.0	µg/mL	ICP / ICP-MS	3128
manganese	5.0	±	0.025	µg/mL	ICP / ICP-MS	3132
nickel	50.1	±	0.25	µg/mL	ICP / ICP-MS	3136
*silver	50.1	±	0.25	µg/mL	ICP / ICP-MS	3151
strontium	1.00	±	0.005	µg/mL	ICP / ICP-MS	3153a
thallium	400.5	±	2.0	µg/mL	ICP / ICP-MS	3158
zinc	20.0	±	0.10	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.

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ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ISO 9001 Registered Quality System – TUV USA