



Certificate of Analysis

ICP Calibration Standard

Catalog Number: ICM-106

Lot Number: T00473

Lot Issue Date: 04/23/2014

Expiration Date: 05/31/2018

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
arsenic	50.00	±	0.25	ng/mL	ICP / ICP-MS	3103a
barium	50.00	±	0.25	ng/mL	ICP / ICP-MS	3104a
beryllium	20.00	±	0.10	ng/mL	ICP / ICP-MS	3105a
bismuth	10.00	±	0.05	ng/mL	ICP / ICP-MS	3106
boron	100.0	±	0.5	ng/mL	ICP / ICP-MS	3107
cadmium	20.00	±	0.10	ng/mL	ICP / ICP-MS	3108
calcium	35000	±	175	ng/mL	ICP / ICP-MS	3109a
chromium	20.00	±	0.10	ng/mL	ICP / ICP-MS	3112a
cobalt	25.00	±	0.13	ng/mL	ICP / ICP-MS	3113
copper	20.00	±	0.10	ng/mL	ICP / ICP-MS	3114
iron	100.0	±	0.5	ng/mL	ICP / ICP-MS	3126a
lead	25.00	±	0.13	ng/mL	ICP / ICP-MS	3128
magnesium	15000	±	75	ng/mL	ICP / ICP-MS	3131a
manganese	30.00	±	0.15	ng/mL	ICP / ICP-MS	3132
molybdenum	100.0	±	0.5	ng/mL	ICP / ICP-MS	3134
nickel	50.00	±	0.25	ng/mL	ICP / ICP-MS	3136
potassium	3000	±	15	ng/mL	ICP / ICP-MS	3141a
selenium	10.00	±	0.05	ng/mL	ICP / ICP-MS	3149
sodium	8000	±	40	ng/mL	ICP / ICP-MS	3152a
strontium	100.0	±	0.5	ng/mL	ICP / ICP-MS	3153a
thallium	10.00	±	0.05	ng/mL	ICP / ICP-MS	3158
* vanadium	50.00	±	0.25	ng/mL	ICP / ICP-MS	3165
zinc	50.00	±	0.25	ng/mL	ICP / ICP-MS	3168a

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

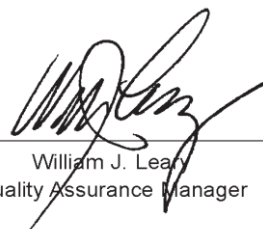
* *Light Sensitive*

ULTRA uses purified acids, 18 megaohm double deionized water, calibrated Class A glassware, and meticulously cleaned bottles in the manufacturing of ULTRA grade standards. Balances used in the manufacturing of this standard are calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z-540-1 and ISO 9001.



ISO 17025:2005
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