Certificate of Analysis

ICP/MS Calibration Standard #2

Catalog Number: IMS-102
Lot Number: M00891
Job Number: J00013514
Lot Issue Date: 08/18/2011
Expiration Date: 09/30/2015

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentrations were verified by our ISO 17025 accredited laboratory to be within ± 5.0%, when 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	10.00	±	0.05	µg/mL	ICP / ICP-MS	3101a
arsenic	10.00	±	0.05	µg/mL	ICP / ICP-MS	3103a
barium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3104a
beryllium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3105a
bismuth	10.00	±	0.05	µg/mL	ICP / ICP-MS	3106
cadmium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3108
calcium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3109a
cesium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3111a
chromium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3112a
cobalt	10.00	±	0.05	µg/mL	ICP / ICP-MS	3113
copper	10.00	±	0.05	µg/mL	ICP / ICP-MS	3114
gallium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3119a
indium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3124a
iron	10.00	±	0.05	µg/mL	ICP / ICP-MS	3126a
lead	10.00	±	0.05	µg/mL	ICP / ICP-MS	3128
lithium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3129a
magnesium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3131a
manganese	10.00	±	0.05	µg/mL	ICP / ICP-MS	3132
nickel	10.00	±	0.05	µg/mL	ICP / ICP-MS	3136
potassium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3141a
rubidium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3145a
selenium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3149
* silver	10.00	±	0.05	µg/mL	ICP / ICP-MS	3151
sodium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3152a
strontium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3153a
thallium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3158
uranium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3164
* vanadium	10.00	±	0.05	µg/mL	ICP / ICP-MS	3165
zinc	10.00	±	0.05	µg/mL	ICP / ICP-MS	3168a

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

** light sensitive*

ULTRA uses purified acids, 18 megohm double deionized water, calibrated Class A glassware & 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

William J. Leary
Quality Assurance Manager

ISO 9001 Registered Quality System – TUV USA