

Certificate of Analysis

ICP Tuning Standard

Catalog Number: ICM-120

Lot Number: M00355

Job Number: J00012862

Lot Issue Date: 04/06/2011

Expiration Date: 05/31/2015

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 $\pm 5.0\%$, 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
	Value	Uncertainty	Units		
aluminum	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3101a
arsenic	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3103a
barium	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3104a
cadmium	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3108
chromium	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3112a
cobalt	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3113
copper	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3114
lead	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3128
manganese	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3132
molybdenum	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3134
nickel	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3136
potassium	500.0	± 2.5	$\mu\text{g/mL}$	ICP / ICP-MS	3141a
selenium	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3149
strontium	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3153a
zinc	50.00	± 0.25	$\mu\text{g/mL}$	ICP / ICP-MS	3168a

Matrix: 1% nitric acid in low TOC water (< 50 ppb)

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/NC SL Z-540-1 and ISO 9001



ISO 17025:2005
Accredited
A2LA
Cert. No. 0851.01

ISO 9001:2000
Registered
TUV USA, Inc.
Cert. No. 06-1004



William J. Leary
Quality Assurance Manager