



Certificate of Analysis

Vanadium
AA Standard

Catalog Number: IAA-223
Lot Number: L00836
Job Number: J00011188
Lot Issue Date: 07/19/2010
Expiration Date: 08/31/2017

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 $\pm 2.5\%$, when compared to calibration standards independently prepared using NIST SRM(s). The certified value and uncertainty value for each analyte is determined gravimetrically.

Analyte	True Value	Analytical Method	NIST SRM
vanadium	1002 $\pm$ 5 $\mu\text{g/mL}$	ICP / ICP-MS	3165
*Light Sensitive			

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

ULTRA uses purified acids, 18 megohm double deionized water, calibrated Class A glassware and clean bottles in the manufacture 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



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