

## Certificate of Analysis

Vanadium  
AA Standard

Catalog Number: IAA-023  
Lot Number: L01087  
Job Number: J00011811  
Lot Issue Date: 09/16/2010  
Expiration Date: 10/31/2017

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 at the 95% confidence level for each analyte is determined gravimetrically.

Analyte	True Value	Analytical Method	NIST SRM
*vanadium	10011 $\pm$ 50 $\mu\text{g/mL}$	ICP / ICP-MS	3165

Matrix: 10% nitric acid, 2% hydrofluoric 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.



ISO 17025:2005  
Accredited  
A2LA  
Cert. No. 0851.01

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



William J. Leahy  
Quality Assurance Manager