



# Certificate of Analysis

**ULTRAGrade™ Solution**  
**Potassium ICP Standard**  
**1000 µg/mL**

**Catalog Number:** ICP-019  
**Lot Number:** R00017  
**Lot Issue Date:** 01/14/2013  
**Expiration Date:** 02/28/2020

Starting Material: Potassium Nitrate  
Starting Material Purity: 99.998, 99.999%  
Starting Material Lot No.: BH01709, BH02022  
Matrix: 2% nitric acid in low TOC water (< 50 ppb)  
Atomic Weight K: 39.10

### Certified Value: 1002 ± 2 µg/mL

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 ± 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.

Classical Wet Assay Method: Theoretical, based on gravimetric measurements

### Confirmation by Inductively Coupled Plasma Spectroscopy (ICP / ICP-MS) vs. NIST SRM 3141a

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.

### Trace Metallic Impurities in Solution Standard in µg/mL:

* Al <0.005 ND	* Ga <0.005 ND	n Nb	n S
* Sb <0.005 ND	n Ge	n Os	n Ta
* As <0.005 ND	n Au	* Pd <0.005 ND	n Te
* Ba <0.005 ND	n Hf	* P <0.005 ND	n Tl <0.005 ND
* Be <0.005 ND	n Ho	* Pt <0.005 ND	n Th
* Bi <0.005 ND	* In <0.005 ND	s K	n Tm
* B <0.005 ND	n Ir	n Pr	* Sn <0.005 ND
* Cd <0.005 ND	* Fe <0.005 ND	n Re	* Ti <0.005 ND
* Ca <0.005 D	* La <0.005 ND	n Rh	n W
n Ce	* Pb <0.005 ND	* Rb <0.007 D	n U
* Cs <0.005 D	* Li <0.005 ND	n Ru	* V <0.005 ND
* Cr <0.005 ND	n Lu	n Sm	n Yb
* Co <0.005 ND	* Mg <0.005 ND	* Se <0.005 ND	n Y
* Cu <0.005 ND	* Mn <0.005 ND	* Si <0.005 ND	* Zn <0.005 ND
n Dy	* Hg <0.005 ND	* Ag <0.005 ND	n Zr
* Er <0.005 ND	* Mo <0.005 ND	* Na <0.005 D	
* Eu <0.005 ND	n Nd	* Sr <0.005 ND	
* Gd <0.005 ND	* Ni <0.005 ND		

\* - element checked for  
ND - not detected  
i - spectral interference  
D - detected  
n - not checked for  
s - solution standard element

Density of Solution (measured at 20.00°C ± 0.05°C): 1.0107 g/mL



ISO 17025:2005  
Accredited  
A2LA  
Cert. No. 0851.01

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

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