



**ULTRAGrade™ Solution**  
**Beryllium ICP / ICP-MS Standard**  
**10000 µg/mL**

**Catalog Number:** ICP-104  
**Lot Number:** R00171  
**Job Number:** J00015896  
**Lot Issue Date:** 02/26/2013  
**Expiration Date:** 03/31/2020

Starting Material: beryllium acetate  
 Starting Material Purity: 99.999%  
 Starting Material Lot #: BH00365  
 Matrix: 7% nitric acid in low TOC water (< 50 ppb)  
 Atomic Weight Be: 9.01

**Certified Value: 10018 ± 20 µg/mL**

This Certified Reference Material (CRM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system. The analyte concentration(s) were prepared and verified by an ISO Guide 34 / ISO 17025 accredited laboratory, and 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 3105a**

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/NCCL 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 Tb
s_ Be	_n Ho	*_ Pt <0.005 ND	*_ Tl <0.005 ND
*_ Bi <0.005 ND	*_ In <0.005 ND	*_ K <0.005 ND	_n Th
*_ B <0.005 ND	_n Ir	_n Pr	_n Tm
*_ Cd <0.005 ND	*_ Fe <0.030 D	_n Re	*_ Sn <0.005 ND
*_ Ca <0.030 D	*_ La <0.005 ND	_n Rh	*_ Ti <0.005 ND
_n Ce	*_ Pb <0.005 ND	_n Rb	_n W
_n Cs	*_ Li <0.005 ND	_n Ru	_n U
*_ Cr <0.005 ND	_n Lu	_n Sm	*_ V <0.005 ND
_ Co <0.005 ND	*_ Mg <0.005 ND	_n Sc	_n Yb
*_ Cu <0.005 ND	*_ Mn <0.005 ND	*_ Se <0.005 ND	_n Y
_n Dy	*_ Hg <0.005 ND	*_ Si <0.030 D	*_ Zn <0.005 ND
*_ Er <0.005 ND	*_ Mo <0.005 ND	*_ Ag <0.005 ND	_n Zr
*_ Eu <0.005 ND	_n Nd	*_ Na <0.005 ND	
*_ Gd <0.005 ND	*_ Ni <0.005 ND	*_ Sr <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 19.99°C ± 0.05°C): 1.0693 g/mL**