



Certificate of Analysis

ULTRAgrade™ Solution
Iron ICP / ICP-MS Standard
10000 µg/mL

Catalog Number: ICP-126
Lot Number: CM-0567
Lot Issue Date: 02/17/2015
Expiration Date: 03/31/2022

Starting Material: iron (III) nitrate nonahydrate
Starting Material Purity: 99.9999%
Starting Material Lot #: RM07199
Matrix: 2% nitric acid in low TOC water (< 50 ppb)
Atomic Weight Fe: 55.85

Certified Value: 10008± 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 3126a

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	* Nb	<0.005	ND	n S		
* Sb	<0.005	ND	n Ge			n Os			* Ta	<0.005	ND
* As	<0.005	ND	* Au	<0.005	ND	* Pd	<0.005	ND	n Te		
* Ba	<0.005	ND	* Hf	<0.005	ND	n P			* Tb	<0.005	ND
* Be	<0.005	ND	* Ho	<0.005	ND	* Pt	<0.005	ND	n Tl		
n Bi			* In	<0.005	ND	* K	<0.005	ND	* Th	<0.005	ND
* B	<0.005	ND	n Ir			* Pr	<0.005	ND	* Tm	<0.005	ND
* Cd	<0.200	D	s Fe			* Re	<0.005	ND	* Sn	<0.005	ND
* Ca	<0.005	D	* La	<0.005	ND	* Rh	<0.005	ND	* Ti	<0.005	ND
n Ce			* Pb	<0.005	ND	n Rb			* W	<0.005	ND
n Cs			* Li	<0.005	ND	* Ru	<0.005	ND	* U	<0.005	ND
* Cr	<0.005	ND	n Lu			* Sm	<0.005	ND	* V	<0.005	ND
* Co	<0.200	D	* Mg	<0.005	ND	* Sc	<0.005	ND	* Yb	<0.005	ND
* Cu	<0.005	ND	* Mn	<0.005	ND	n Se			* Y	<0.005	ND
* Dy	<0.005	ND	n Hg			n Si			* Zn	<0.400	D
* Er	<0.005	ND	* Mo	<0.005	ND	* Ag	<0.005	ND	* Zr	<0.005	ND
* Eu	<0.005	ND	* Nd	<0.005	ND	* Na	<0.005	ND			
* Gd	<0.005	ND	* Ni	<0.100	D	* 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 20.00°C ± 0.05°C): 1.0458 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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