



# Certificate of Analysis

ICP/MS Calibration Standard #1

Catalog Number: IMS-101

Lot Number: CR-1261

Lot Issue Date: 03/23/2017

Expiration Date: 04/30/2021

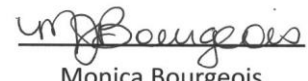
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	True Value			Analytical	NIST
cerium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3110
dysprosium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3115a
erbium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3116a
europium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3117a
gadolinium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3118a
holmium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3123a
lanthanum	10.00	±	0.1	µg/mL	ICP / ICP-MS 3127a
lutetium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3130a
neodymium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3135a
praseodymium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3142a
samarium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3147a
scandium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3148a
terbium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3157a
thorium	10.00	±	0.1	µg/mL	ICP / ICP-MS 2 <sup>nd</sup> source
thulium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3160a
ytterbium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3166a
yttrium	10.00	±	0.1	µg/mL	ICP / ICP-MS 3167a

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

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

  
 John Russo  
 President

  
 Monica Bourgeois  
 Director of QA/RA



ISO 9001 Registered Quality System – TUV USA