



## CERTIFIED WEIGHT REPORT:

Part Number: **59868**  
 Lot Number: **012324**  
 Description: **Multi-Element Mix #3**

Lot # 24002546  
 Solvent: Nitric Acid

4 Components

2.0%

5.0

Nitric Acid

012327

(mL)

Expiration Date:

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): **Varied**

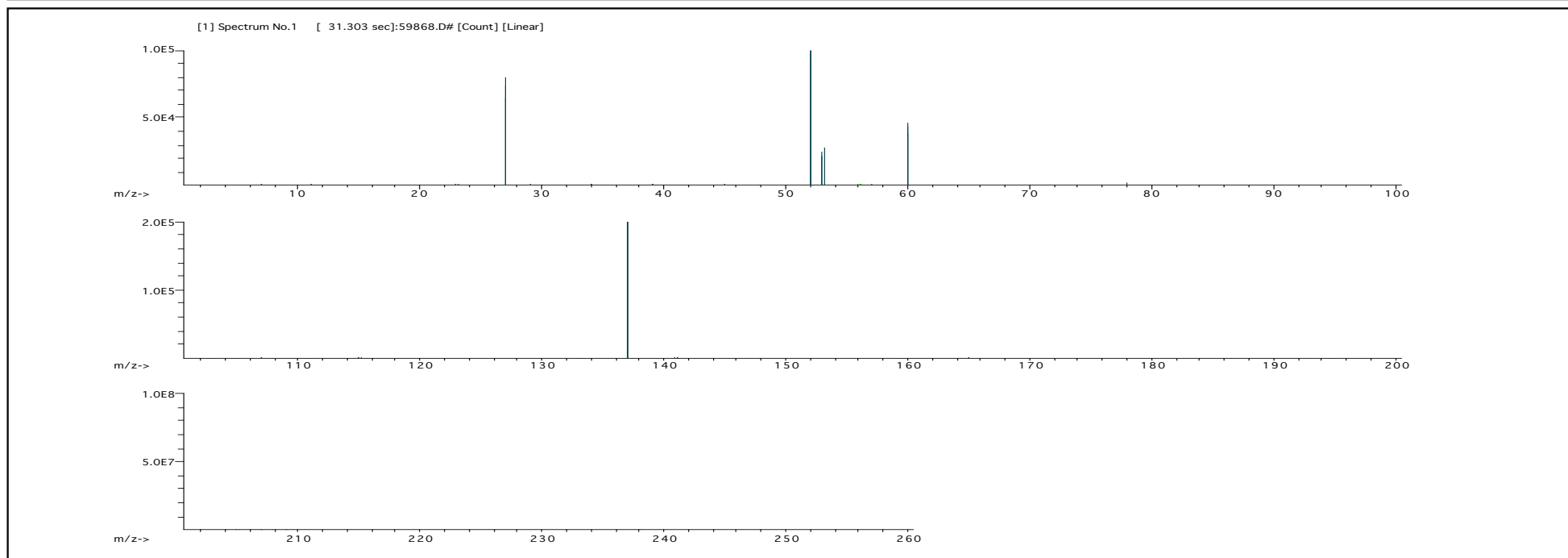
NIST Test Number: 6UTB

5E-05 Balance Uncertainty

Volumes shown below were diluted to (mL): 250.09 0.014 Flask Uncertainty

Formulated By:	Benson Chan	012324
Reviewed By:	Pedro L. Rentas	012324

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)			NIST SRM
										CAS#	OSHA PEL (TWA)	LD50	
1. Aluminum nitrate nonahydrate (Al)	58113	071123	0.0500	12.5	0.084	500	10000.1	<b>500.0</b>	<b>6.8</b>	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a
2. Chromium(III) nitrate nonahydrate (Cr)	58124	092523	0.0900	22.5	0.084	900	10000.0	<b>900.0</b>	<b>7.0</b>	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a
3. Nickel(II) nitrate hexahydrate (Ni)	58128	062023	0.0900	22.5	0.084	900	10000.4	<b>900.0</b>	<b>7.0</b>	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136
4. Barium nitrate (Ba)	58156	121323	0.4400	110.0	0.084	4400	10000.5	<b>4400.0</b>	<b>11.1</b>	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a





**Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):**

Trace Metals Verification by ICP-MS ( $\mu\text{g/mL}$ )																			
Al	T	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	T	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	T	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

**Physical Characterization:**

Homogeneity: No heterogeneity was observed in the preparation of this standard.

**Certified by:**

- \* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- \* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- \* All standard containers are meticulously cleaned prior to use.
- \* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- \* Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- \* All standards should be stored with caps tight and under appropriate laboratory conditions.
- \* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).