

# Certificate of Analysis

## ICP-MS Internal Std Mix

**Agilent Part Number: 5188-6525**
**Lot Number: 59-098CRY2**

Analyte	CAS#	Labeled Conc.	Measured Conc.	SRM	Start Mat'l Formula	Start Mat'l Purity	Analyte	CAS#	Labeled Conc.	Measured Conc.	SRM	Start Mat'l Formula	Start Mat'l Purity
Bi	7440-69-9	100 µg/mL	101 µg/mL	3106*	Bi	99.99+	Lu	7439-94-3	100 µg/mL	99.7 µg/mL	3130a*	Lu <sub>2</sub> O <sub>3</sub>	99.99+
Ge	7440-56-4	100 µg/mL	99.7 µg/mL	3120a*	GeO <sub>2</sub>	99.99+	Rh	7440-16-6	100 µg/mL	99.5 µg/mL	3144*	Rh	99.99+
In	7440-74-6	100 µg/mL	99.2 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	99.8 µg/mL	3148a*	Sc <sub>2</sub> O <sub>3</sub>	99.99+
Li*	7439-93-2	100 µg/mL	99.0 µg/mL	3129a*	<sup>6</sup> Li <sub>2</sub> CO <sub>3</sub>	99.99+	Tb	7440-27-9	100 µg/mL	99.2 µg/mL	3157a*	Tb <sub>2</sub> O <sub>3</sub>	99.99+

\* - indicates NIST SRM

† - indicates CRM (when NIST SRM is not available)

**Purity grades:**

Starting Materials: Shown above

Matrix:

 10% HNO<sub>3</sub>: HNO<sub>3</sub> (CAS No. 7697-37-2) high purity grade

**Traceability:**

This standard has been produced gravimetrically and volumetrically using ISO 9001 quality procedures. Agilent ICP / ICP-MS Spectrometer was used to determine the concentration of the main elements via NIST SRMs shown above, as well as the impurities. Other reference standards used: 59-046CR, 59-099CR.

**Trace Metallic Impurities in the Actual Solution, in µg/L, via Agilent ICP-MS Analysis, results are accurate to ±10%:**

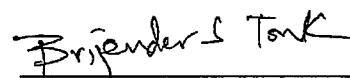
Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	<0.09	Co	0.6	Hf	0.3	Nb	0.4	Ru	<0.5	Ti	4
Al	6	Cr	<2	Hg	<0.4	Nd	<0.05	Sb	0.4	Tl	<0.4
As	<10	Cs	<0.2	Ho	0.02	Ni	<2	Se	<20	Tm	0.06
Au	<0.1	Cu	<0.2	Ir	4	P	<300	Si	100	U	0.5
B	10	Dy	<0.07	K	5	Pb	0.8	Sm	<0.07	V	<0.7
Ba	2	Er	<0.2	La	0.1	Pd	<0.05	Sn	<0.7	W	0.2
Be	<0.1	Eu	0.02	Mg	4	Pr	0.7	Sr	<8	Y	2
Ca	<50	Fe	<8	Mn	<2	Pt	<0.3	Ta	<0.04	Yb	<0.5
Cd	<0.4	Ga	<0.1	Mo	1	Rb	<0.4	Te	<0.5	Zn	4
Ce	0.08	Gd	<0.07	Na	4	Re	<0.02	Th	0.2	Zr	10

Balances are calibrated regularly with weight sets traceable to NIST.

Agilent reference standards are guaranteed stable and accurate to ±0.5% of measured analyte concentration. This uncertainty is at 95% confidence interval, a coverage factor of 2. For these solutions we use the highest purity acids applicable, 18 megohm double deionized water and acid-leached, triple rinsed bottles. All glassware used is class A. This standard was manufactured following the guidelines set forth under ISO 17025 and ISO 17034 regulations.

**Date of release:** November 15, 2022

**Date of expiration:** May 31, 2024


  
 QC Coordinator