



# Certificate of Analysis

## ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525

Lot Number: 1-152YJY2

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	101 µg/mL	3130a*	Lu <sub>2</sub> O <sub>3</sub>	99.99+
Ge	7440-56-4	100 µg/mL	101 µg/mL	3120a*	GeO <sub>2</sub>	99.99+	Rh	7440-16-6	100 µg/mL	100 µg/mL	3144*	Rh(NO <sub>3</sub> ) <sub>3</sub> ·H <sub>2</sub> O	99.99+
In	7440-74-8	100 µg/mL	99.0 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	100 µg/mL	3148a*	Sc <sub>2</sub> O <sub>3</sub>	99.99+
Li*	7439-93-2	100 µg/mL	101 µg/mL	3129a*	Li <sub>2</sub> CO <sub>3</sub>	99.99+	Tb	7440-27-9	100 µg/mL	101 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: 3-63MKB; 5-220MKB; 4-25MKB; 5-66MKB.

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	<0.2	Co	<0.08	Hf	<0.02	Nb	<0.1	Ru	0.5	Tl	<0.8
Al	3	Cr	<0.4	Hg	<0.2	Nd	<0.05	Sb	0.3	Tl	0.3
As	1	Cs	0.05	Ho	0.01	Ni	0.3	Se	<3	Tm	0.06
Au	0.07	Cu	1	Ir	20	P	<60	Si	<100	U	<0.03
B	10	Dy	<0.05	K	200	Pb	5	Sm	<0.01	V	<0.09
Ba	1	Er	0.2	La	0.1	Pd	0.1	Sn	0.7	W	<0.07
Be	<0.2	Eu	<0.02	Mg	4	Pr	0.02	Sr	6	Y	0.3
Ca	50	Fe	1	Mn	<0.4	Pt	0.3	Ta	<0.02	Yb	0.5
Cd	0.4	Ga	0.04	Mo	<0.07	Rb	<0.02	Te	<0.8	Zn	2
Ce	0.1	Gd	0.09	Na	10	Re	<0.01	Th	2	Zr	3

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 Guide 34 regulations.

Date of release: July 15, 2018

Date of expiration: January 31, 2020

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