

# Certificate of Analysis

## ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525

Lot Number: 3-62MKBY2

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	7440-89-8	100 µg/mL	100 µg/mL	3108*	Bi	99.99+	Lu	7439-94-3	100 µg/mL	100 µg/mL	3130a*	Lu <sub>2</sub> O <sub>3</sub>	99.99+
Ge	7440-56-4	100 µg/mL	100 µg/mL	3120a*	GeO <sub>2</sub>	99.99+	Rh	7440-16-8	100 µg/mL	101 µg/mL	3144*	Rh(NO <sub>3</sub> ) <sub>3</sub> ·H <sub>2</sub> O	99.99+
In	7440-74-6	100 µg/mL	101 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	100 µg/mL	3148a*	Sc(NO <sub>3</sub> ) <sub>3</sub> ·4H <sub>2</sub> O	99.99+
Li*	7439-93-2	100 µg/mL	101 µg/mL	3129a*	Li <sub>2</sub> CO <sub>3</sub>	99.99+	Tb	7440-27-8	100 µg/mL	99.7 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: 23-79VY, 23-78VY.

### 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	<0.5	Co	<0.4	Hf	<0.4	Nb	0.3	Ru	<2	Tl	<0.01
Al	<10	Cr	2	Hg	<0.6	Nd	<0.2	Sb	<0.8	Tl	<0.7
As	<4	Cs	<0.1	Ho	<0.06	Ni	<1	Se	<100	Tm	<0.06
Au	<0.8	Cu	<2	Ir	1	P	<300	Si	<200	U	<0.4
B	6	Dy	5	K	30	Pb	2	Sm	<0.2	V	<1
Ba	3	Er	0.8	La	4	Pd	<1	Sn	<0.9	W	<3
Be	<2	Eu	<0.04	Mg	3	Pr	0.2	Sr	<1	Y	0.8
Ca	<100	Fe	20	Mn	<2	Pt	<1	Ta	<0.5	Yb	3
Cd	<0.8	Ga	<0.01	Mo	<0.2	Rb	<0.9	Te	<1	Zn	<3
Ce	<0.2	Gd	<0.4	Na	100	Rf	<0.2	Th	0.7	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: February 15, 2017

Date of expiration: August 31, 2018

*Brijender S Tonk*  
 QC Coordinator