

# Certificate of Analysis

## ICP-MS Internal Std Mix

**Agilent Part Number: 5188-6525**
**Lot Number: 5-221MKBY2**

Analyte	CAS#	Labeled Conc.	Measured Conc.	SRM	Start Mat1 Formula	Start Mat1 Purity	Analyte	CAS#	Labeled Conc.	Measured Conc.	SRM	Start Mat1 Formula	Start Mat1 Purity
Bi	7440-69-9	100 µg/mL	99.5 µg/mL	3106*	Bi	99.99+	Lu	7439-94-3	100 µg/mL	99.9 µg/mL	3130e*	Lu <sub>2</sub> O <sub>3</sub>	99.99+
Ge	7440-56-4	100 µg/mL	99.2 µg/mL	3120a*	GeO <sub>2</sub>	99.99+	Rh	7440-16-6	100 µg/mL	99.3 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	99.1 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	98.8 µg/mL	3148a*	Sc <sub>2</sub> O <sub>3</sub>	99.99+
Li*	7439-93-2	100 µg/mL	98.6 µg/mL	3129a*	*Li <sub>2</sub> CO <sub>3</sub>	99.99+	Tb	7440-27-9	100 µg/mL	100 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, 5-66MKB.

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

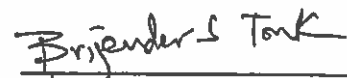
Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	<0.3	Co	0.08	Hf	<0.01	Nb	<0.08	Ru	0.4	Ti	<3
Al	<2	Cr	<0.4	Hg	<0.3	Nd	<0.02	Sb	0.1	Tl	0.2
As	<1	Cs	0.06	Ho	0.02	Ni	0.5	Se	<20	Tm	0.06
Au	<0.2	Cu	0.9	Ir	20	P	<100	Si	<100	U	<0.01
B	9	Dy	<0.02	K	<200	Pb	3	Sm	<0.04	V	<0.2
Ba	1	Er	0.2	La	0.1	Pd	<0.1	Sn	<0.3	W	<0.1
Be	<0.08	Eu	<0.02	Mg	3	Pr	<0.01	Sr	7	Y	0.3
Cs	<100	Fe	4	Mn	<0.4	Pt	0.2	Ta	<0.05	Yb	0.5
Cd	0.2	Ga	<0.6	Mo	<0.2	Rb	<0.08	Te	<0.9	Zn	3
Ce	<0.04	Gd	<0.08	Na	<200	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: May 31, 2018

Date of expiration: November 30, 2019


  
 QC Coordinator