

# Certificate of Analysis

## ICP-MS Internal Std Mix

**Agilent Part Number: 5188-6525**
**Lot Number: 21-167VYY2**

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	100 µg/mL	3106*	Bi	99.99+	Lu	7439-94-3	100 µg/mL	99.3 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	7440-16-6	100 µg/mL	98.8 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	100 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	101 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	100 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: 21-25VY, 21-24VY.

**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	<0.1	Co	<0.2	Hf	<0.03	Nb	<0.09	Ru	<0.4	Ti	<0.7
Al	2	Cr	2	Hg	<0.3	Nd	<0.2	Sb	2	Tl	<0.09
As	<2	Cs	<0.05	Ho	<0.01	Ni	<1	Se	<5	Tm	0.06
Au	<0.06	Cu	0.5	Ir	0.06	P	<100	Si	<200	U	<0.01
B	<0.7	Dy	0.03	K	2	Pb	<0.2	Sm	<0.02	V	<0.08
Ba	0.4	Er	0.07	La	0.03	Pd	<0.2	Sn	<0.3	W	<0.3
Be	<0.4	Eu	<0.03	Mg	<0.3	Pr	<0.02	Sr	<0.4	Y	0.07
Ca	6	Fe	5	Mn	0.5	Pt	0.07	Ta	<0.5	Yb	<0.3
Cd	<0.3	Ga	<0.2	Mo	<0.5	Rb	<0.2	Te	<0.4	Zn	1
Ce	<0.08	Gd	<0.04	Na	40	Re	<0.05	Th	0.6	Zr	<0.3

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. 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.

**Date of release:** February 15, 2015

**Date of expiration:** August 31, 2016

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