

# Certificate of Analysis

## ICP-MS Internal Std Mix

**Agilent Part Number: 5188-6525**
**Lot Number: 15-124VY**

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 mg/L	100 mg/L	3106*	Bi	99.99+	Lu	7439-94-3	100 mg/L	101 mg/L	3130a*	Lu2O3	99.99+
Ge	7440-56-4	100 mg/L	100 mg/L	3120*	GeO2	99.99+	Rh	7440-16-6	100 mg/L	99.3 mg/L	3144*	Rh	99.99+
In	7440-74-6	100 mg/L	100 mg/L	3124a*	In	99.99+	Sc	7440-20-2	100 mg/L	100 mg/L	3148a*	Sc2O3	99.99+
Li*	7439-93-2	100 mg/L	101 mg/L	3129*	<sup>6</sup> Li2CO3	99.99+	Tb	7440-27-9	100 mg/L	99.7 mg/L	3157a*	Tb4O7	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. 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: 41-54AS,13-71VY,11-4VY,10-136VY.

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

Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	<2	Co	<0.9	Hf	<0.01	Nb	1	Ru	<1	Tl	<4
Al	<50	Cr	<0.4	Hg	<0.7	Nd	<0.3	Sb	0.4	Tl	<0.4
As	10	Cs	0.3	Ho	<0.09	Ni	60	Se	<30	Tm	0.7
Au	1	Cu	7	Ir	20	P	<200	Si	<200	U	0.06
B	<20	Dy	0.4	K	<20	Pb	4	Sm	<0.2	V	<0.1
Ba	100	Er	<0.1	La	0.2	Pd	0.1	Sn	<3	W	<2
Be	<4	Eu	<0.2	Mg	<20	Pr	<0.4	Sr	7	Y	2
Ca	70	Fe	20	Mn	<10	Pt	<0.4	Ta	<0.07	Yb	<0.4
Cd	<2	Ga	2	Mo	<0.7	Rb	<0.9	Te	<3	Zn	<10
Ce	<0.2	Gd	<0.2	Na	1500	Re	<0.01	Th	9	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. 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.

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