

Certificate of Analysis

ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525
Lot Number: 53-103CRY2

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	99.9 µg/mL	3106*	Bi	99.99+	Lu	7439-94-3	100 µg/mL	99.9 µg/mL	3130a*	Lu ₂ O ₃	99.99+
Ge	7440-56-4	100 µg/mL	99.7 µg/mL	3120a*	GeO ₂	99.99+	Rh	7440-16-6	100 µg/mL	98.8 µg/mL	3144*	Rh(NO ₃) ₃ -H ₂ O	99.99+
In	7440-74-6	100 µg/mL	100 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	99.6 µg/mL	3148a*	Sc ₂ O ₃	99.99+
Li*	7439-93-2	100 µg/mL	100 µg/mL	3129a*	⁶ Li ₂ CO ₃	99.99+	Tb	7440-27-9	100 µg/mL	99.0 µg/mL	3157a*	Tb ₄ O ₇	99.99+

* - indicates NIST SRM

† - indicates CRM (when NIST SRM is not available)

Purity grades:

Starting Materials: Shown above

Matrix:

 10% HNO₃: HNO₃ (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: 51-164CR, 52-080CR, 53-104CR, 52-230CR.

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

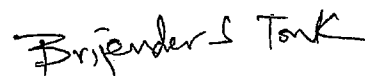
Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	0.2	Co	<0.2	Hf	0.3	Nb	<0.2	Ru	<0.2	Ti	<0.01
Al	10	Cr	<1	Hg	<0.1	Nd	<0.06	Sb	0.3	Tl	0.7
As	<0.8	Cs	<0.1	Ho	0.02	Ni	<0.4	Se	<20	Tm	0.07
Au	<0.09	Cu	1	Ir	10	P	<100	Si	<200	U	<0.1
B	6	Dy	<0.07	K	<100	Pb	2	Sm	<0.01	V	<0.3
Ba	1	Er	<0.05	La	0.09	Pd	0.1	Sn	<0.01	W	<0.07
Be	<0.9	Eu	0.03	Mg	<10	Pr	0.03	Sr	<6	Y	0.5
Ca	50	Fe	10	Mn	<5	Pt	<0.2	Ta	<0.04	Yb	<0.4
Cd	<0.1	Ga	<0.09	Mo	<0.1	Rb	<0.4	Te	<0.4	Zn	3
Ce	0.09	Gd	<0.05	Na	<100	Re	<0.03	Th	0.6	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 17034 regulations.

Date of release: December 31, 2019

Date of expiration: June 30, 2021



 QC Coordinator