

Certificate of Analysis

ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525
Lot Number: 57-135CRY2

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	99.6 µg/mL	3106*	Bi	99.99+	Lu	7439-94-3	100 µg/mL	99.8 µg/mL	3130a*	Lu ₂ O ₃	99.99+
Ge	7440-56-4	100 µg/mL	99.9 µg/mL	3120a*	GeO ₂	99.99+	Rh	7440-16-6	100 µg/mL	101 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	100 µg/mL	3148a*	Sc ₂ O ₃	99.99+
Li*	7439-93-2	100 µg/mL	99.8 µg/mL	3129a*	⁶ Li ₂ CO ₃	99.99+	Tb	7440-27-9	100 µg/mL	100 µg/mL	3157a*	Tb ₂ O ₃	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: 57-017CR, 56-071CR, 56-139CR, 56-164CR.

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

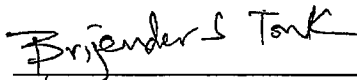
Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	<0.07	Co	0.6	Hf	0.5	Nb	0.4	Ru	<0.07	Ti	<1
Al	7	Cr	<3	Hg	<0.2	Nd	<0.07	Sb	<0.06	Tl	0.4
As	6	Cs	<0.4	Ho	0.03	Ni	0.7	Se	<5	Tm	0.05
Au	<0.1	Cu	0.9	Ir	6	P	<200	Si	<200	U	<0.04
B	9	Dy	0.09	K	<300	Pb	0.8	Sm	<0.04	V	<0.4
Ba	4	Er	<0.06	La	0.2	Pd	<0.3	Sn	0.5	W	<0.2
Be	<0.6	Eu	0.04	Mg	6	Pr	0.01	Sr	7	Y	1
Ca	<100	Fe	6	Mn	<2	Pt	<0.02	Ta	<0.03	Yb	<0.5
Cd	<0.07	Ga	<0.2	Mo	<0.2	Rb	<0.1	Te	<0.3	Zn	<10
Ce	0.1	Gd	<0.05	Na	<9	Re	<0.03	Th	0.5	Zr	4

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: November 15, 2021

Date of expiration: May 31, 2023



 QC Coordinator