Agilent Technologies

Certificate of Analysis

ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525 **Lot Number:** 58-222CRY2

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	99.1 µg/mL	3106*	Bi	99.99+	Lu	7439-94-3	100 µg/mL	99.4 µg/mL	3130a*	Lu_2O_3	99.99+
Ge	7440-56-4	100 µg/mL	99.1 µg/mL	3120a*	GeO2	99.99+	Rh	7440-16-6	100 µg/mL	99.0 µg/mL	3144*	Rh	99.99+
In	7440-74-6	100 µg/mL	99.1 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	99.1 µg/mL	3148a*	Sc_2O_3	99.99+
Li^6	7439-93-2	100 µg/mL	99.4 µg/mL	3129a*	$^6Li_2CO_3$	99.99+	Tb	7440-27-9	100 µg/mL	99.1 µg/mL	3157a*	Tb_4O_7	99.99+

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

Purity grades:

Starting Materials: Shown above

Matrix:

10% HNO_3: HNO_3 (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: 58-027CR, 58-221CR, 56-139CR.

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	<0.6	Hf	0.3	Nb	0.2	Ru	<0.5	Ti	3
Al	4	Cr	<6	Hg	<0.4	Nd	<0.05	Sb	0.2	Tl	<0.05
As	8	Cs	<0.2	Ho	<0.2	Ni	<0.3	Se	<10	Tm	<0.01
Au	0.2	Cu	<2	Ir	2	P	<200	Si	<100	U	0.2
B	6	Dy	<0.1	K	2	Pb	0.4	Sm	<0.05	V	<0.3
Ba	1	Er	<0.4	La	0.05	Pd	<0.4	Sn	<0.3	W	<0.06
Be	<0.6	Eu	<0.03	Mg	3	Pr	0.6	Sr	5	Y	0.8
Ca	70	Fe	<4	Mn	<0.7	Pt	<0.2	Ta	<0.08	Yb	0.4
Cd	<0.2	Ga	<0.4	Mo	<0.7	Rb	<0.2	Te	<0.5	Zn	<0.3
Ce	<0.2	Gd	<0.08	Na	2	Re	<0.04	Th	0.1	Zr	9

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: May 15, 2022

Date of expiration: November 30, 2023

Brijender S Tonk

QC Coordinator