Agilent Technologies

Certificate of Analysis

ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525 **Lot Number:** 4-24MKBY2

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	99.7 µg/mL	3130a*	Lu_2O_3	99.99+
Ge	7440-56-4	100 µg/mL	100 µg/mL	3120a*	GeO2	99.99+	Rh	7440-16-6	100 µg/mL	99.2 µg/mL	3144*	Rh(NO3)3-H2O	99.99+
In	7440-74-6	100 µg/mL	99.6 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	101 µg/mL	3148a*	Sc_2O_3	99.99+
Li*	7439-93-2	100 µg/mL	99.3 µg/mL	3129a*	$^6Li_2CO_3$	99.99+	Tb	7440-27-9	100 µg/mL	99.5 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: 3-198MKB , 3-189MKB.

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	<3	Co	3	Hf	<0.09	Nb	<0.3	Ru	20	Ti	<8
Al	30	Cr	<10	Hg	<1	Nd	<0.07	Sb	<0.3	Tl	<1
As	<4	Cs	<0.6	Ho	<0.05	Ni	4	Se	<20	Tm	<0.07
Au	<2	Cu	5	Ir	<20	P	<300	Si	<300	U	<0.2
B	20	Dy	0.8	K	100	Pb	2	Sm	<0.3	V	<0.9
Ba	<1	Er	<0.2	La	0.2	Pd	<1	Sn	<0.5	W	<2
Be	<1	Eu	<0.1	Mg	10	Pr	<0.05	Sr	5	Y	0.4
Ca	<100	Fe	20	Mn	<3	Pt	<0.4	Ta	<0.2	Yb	0.3
Cd	<0.01	Ga	<0.4	Mo	<0.8	Rb	<1	Te	<8	Zn	5
Ce	0.1	Gd	<0.2	Na	90	Re	<0.2	Th	2	Zr	2

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 Guide 34 regulations.

Date of release: June 30, 2017

Date of expiration: December 31, 2018

Brijender S Tonk

QC Coordinator

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