Agilent Technologies

Certificate of Analysis

ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525 **Lot Number:** 5-67MKBY2

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	98.7 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	99.7 µg/mL	3120a*	GeO2	99.99+	Rh	7440-16-6	100 µg/mL	99.5 µg/mL	3144*	$Rh(NO_3)_3$-H_2O	99.99+
In	7440-74-6	100 µg/mL	101 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	98.7 µg/mL	3148a*	Sc_2O_3	99.99+
Li †	7439-93-2	100 µg/mL	98.3 µg/mL	3129a*	†Li_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: 3-198MKB, 4-24MKB, 4-25MKB, 4-75MKB.

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	2	Co	1	Hf	<0.5	Nb	<0.3	Ru	<0.8	Ti	<5
Al	40	Cr	<3	Hg	<0.4	Nd	<0.1	Sb	<2	Tl	2
As	<3	Cs	<0.1	Ho	<0.03	Ni	6	Se	<100	Tm	0.07
Au	<4	Cu	2	Ir	20	P	<500	Si	200	U	<0.2
B	20	Dy	1	K	<500	Pb	2	Sm	<0.2	V	<1
Ba	50	Er	<0.1	La	0.3	Pd	<0.2	Sn	0.4	W	<5
Be	<0.8	Eu	<0.05	Mg	8	Pr	0.03	Sr	<8	Y	0.9
Ca	100	Fe	4	Mn	<1	Pt	0.8	Ta	<0.5	Yb	0.6
Cd	<0.3	Ga	<0.01	Mo	<1	Rb	<0.3	Te	<6	Zn	6
Ce	<0.2	Gd	<0.1	Na	300	Re	<0.06	Th	2	Zr	7

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: December 31, 2017

Date of expiration: June 30, 2019

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QC Coordinator

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