



Certificate of Analysis

Internal Standard Mix

Agilent Part Number: 5183-4681

Lot Number: 3-88MKBY2

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	7440-89-9	10.0 µg/mL	9.97 µg/mL	3106*	Bi	99.99+	Sc	7440-20-2	10.0 µg/mL	9.88 µg/mL	3148a*	Sc ₂ O ₃	99.99+
Ge	7440-56-4	10.0 µg/mL	9.88 µg/mL	3120a*	(NH ₄) ₂ GeF ₆	99.99+	Tb	7440-27-9	10.0 µg/mL	9.88 µg/mL	3157a*	Tb ₄ O ₇	99.99+
In	7440-74-6	10.0 µg/mL	10.1 µg/mL	3124a*	In	99.99+	Y	7440-65-5	10.0 µg/mL	9.90 µg/mL	3167a*	Y ₂ O ₃	99.99+
Li*	7439-93-2	10.0 µg/mL	9.90 µg/mL	3129a*	*LiCO ₃	99.99+							

* - indicates NIST SRM

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

Purity grades:

Starting Materials: Shown above

Matrix:

5% 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: CL1-46MKB, CL2-12MKB.

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	<0.06	Cr	<0.5	Hg	<0.7	Nb	<0.1	Rh	<0.06	Th	0.05
Al	<2	Cs	<0.02	Ho	<0.01	Nd	<0.01	Ru	<0.3	Tl	<0.4
As	<0.7	Cu	<0.2	Ir	<0.03	Ni	<0.3	Sb	<0.06	Tl	<0.06
Au	<0.3	Dy	<0.01	K	<3	P	<100	Se	<10	Ym	<0.01
B	<2	Er	<0.01	La	0.01	Pb	0.9	Si	<200	U	<0.01
Ba	<0.09	Eu	<0.01	Lu	<7	Pd	<0.3	Sm	<0.01	V	<0.1
Be	<0.2	Fe	<2	Mg	<0.8	Pr	<0.01	Sn	<0.2	W	<0.4
Ca	8	Ga	<0.06	Mn	<0.2	Pt	<0.06	Sr	<0.2	Yb	<0.01
Cd	<0.1	Gd	<0.01	Mo	<0.09	Rb	<0.06	Ta	<0.06	Zn	<0.3
Ce	<0.01	Hf	0.03	Na	2	Re	<0.02	Te	<0.2	Zr	<0.7
Co	<0.09										

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: January 15, 2017

Date of expiration: July 31, 2018

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QC Coordinator

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