

Certificate of Analysis

ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525
Lot Number: 23-170VYY2

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	99.3 µg/mL	3108*	Bi	99.99+	Lu	7439-94-3	100 µg/mL	100 µg/mL	3130a*	Lu ₂ O ₃	99.99+
Ge	7440-58-4	100 µg/mL	99.7 µg/mL	3120a*	GeO ₂	99.99+	Rh	7440-18-8	100 µg/mL	100 µg/mL	3144*	Rh(NO ₃) ₃ ·H ₂ O	99.99+
In	7440-74-8	100 µg/mL	100 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	99.5 µg/mL	3148a*	Sc(NO ₃) ₃ ·4H ₂ O	99.99+
Li*	7439-93-2	100 µg/mL	99.9 µg/mL	3129a*	*LiCO ₂	99.99+	Tb	7440-27-8	100 µg/mL	101 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. 7897-37-2) 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: 23-78VY, 22-205VY.

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

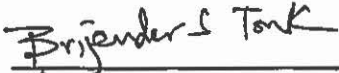
Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	<2	Cu	<0.3	Hf	<0.3	Nb	<4	Ru	<0.8	Tl	<2
Al	4	Cr	<0.9	Hg	<1	Nd	<0.2	Sb	<2	Tl	<4
As	5	Ca	<0.2	Ho	<0.1	Ni	<9	Se	<100	Tm	<0.06
Au	<2	Cu	<2	Ir	2	P	<200	Si	<200	U	<0.04
B	<20	Dy	<0.3	K	<20	Pb	1	Sm	<0.2	V	<0.3
Ba	3	Er	<0.4	La	0.5	Pd	<2	Sn	<0.9	W	<1
Be	<3	Eu	<0.2	Mg	<2	Pr	0.3	Sr	<4	Y	0.8
Ce	<100	Fe	10	Mn	<4	Pt	<0.3	Ta	<0.4	Yb	3
Cd	<0.4	Ga	<1	Mo	<4	Rb	<0.3	Te	<2	Zn	2
Ce	0.3	Gd	<0.5	Na	200	Re	<0.2	Th	<0.9	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: December 15, 2016

Date of expiration: June 30, 2018



 QC Coordinator