



Certificate of Analysis

ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525

Lot Number: 20-138VYY2

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 mg/L	99.8 mg/L	3106*	Bi	99.99+	Lu	7439-94-3	100 mg/L	99.9 mg/L	3130a*	Lu ₂ O ₃	99.99+
Ge	7440-56-4	100 mg/L	100 mg/L	3120a	GeO ₂	99.99+	Rh	7440-16-6	100 mg/L	100 mg/L	3144*	Rh(NO ₃) ₃ ·H ₂ O	99.99+
In	7440-74-6	100 mg/L	99.5 mg/L	3124a*	In	99.99+	Sc	7440-20-2	100 mg/L	99.9 mg/L	3148a*	Sc ₂ O ₃	99.99+
Li *	7439-93-2	100 mg/L	101 mg/L	3129a*	*Li ₂ CO ₃	99.99+	Tb	7440-27-9	100 mg/L	100 mg/L	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. 7697-37-2) high purity grade

Traceability:

This standard has been produced gravimetrically and volumetrically using ISO 9001 quality procedures. 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: 19-72VY,20-40VY,20-41VY.

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

Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	<5	Co	<1	Hf	<0.2	Nb	<1	Ru	<2	Tl	<10
Al	30	Cr	<2	Hg	<5	Nd	<0.3	Sb	20	Tl	<3
As	10	Cs	<0.2	Ho	<0.04	Ni	<7	Se	<20	Tm	0.3
Au	<3	Cu	3	Ir	<5	P	<200	Si	<500	U	<0.2
B	<20	Dy	<0.2	K	<10	Pb	2	Sm	<0.2	V	<3
Ba	5	Er	<0.01	La	<0.08	Pd	<0.4	Sn	<1	W	<3
Be	<5	Eu	<0.2	Mg	<9	Pr	<0.07	Sr	8	Y	2
Ca	50	Fe	3	Mn	<0.5	Pt	<3	Ta	<1	Yb	<0.5
Cd	<0.8	Ga	0.4	Mo	<0.4	Rb	<0.8	Te	<0.01	Zn	<10
Ce	<0.3	Gd	<0.2	Na	600	Re	<0.04	Th	7	Zr	10

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. 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.

Date of release: September 30, 2013

Date of expiration: March 31, 2015

Brijender S. Tonk
 QC Coordinator
 CertiPrep, Inc.