Agilent Technologies

Certificate of Analysis

ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525 **Lot Number:** 18-74VY

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	101 mg/L	3106*	Bi	99.99+	Lu	7439-94-3	100 mg/L	99.0 mg/L	3130a*	Lu_2O_3	99.99+
Ge	7440-56-4	100 mg/L	99.8 mg/L	3120a	GeO_2	99.99+	Rh	7440-16-6	100 mg/L	98.5 mg/L	3144*	Rh	99.99+
In	7440-74-6	100 mg/L	99.3 mg/L	3124a*	In	99.99+	Sc	7440-20-2	100 mg/L	98.5 mg/L	3148a*	Sc_2O_3	99.99+
Li †	7439-93-2	100 mg/L	99.4 mg/L	3129a*	*Li_2CO_3	99.99+	Tb	7440-27-9	100 mg/L	98.7 mg/L	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. 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: 11-4VY,15-124VY,16-160VY,17-211VY.

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	<0.4	Co	<0.6	Hf	<0.2	Nb	0.6	Ru	<0.3	Tl	0.9
Al	50	Cr	<0.7	Hg	<0.4	Nd	<0.2	Sb	<0.7	Tl	<0.1
As	<5	Cs	<0.08	Ho	<0.04	Ni	<90	Se	<9	Tm	0.6
Au	<0.3	Cu	4	Ir	20	P	<300	Si	<200	U	<0.1
B	<4	Dy	<0.2	K	<400	Pb	4	Sm	<0.3	V	<0.1
Ba	100	Er	<0.2	La	<0.1	Pd	0.8	Sn	<0.6	W	<0.8
Be	2	Eu	<0.2	Mg	20	Pr	<0.06	Sr	<4	Y	0.8
Ca	<70	Fe	<5	Mn	0.6	Pt	0.6	Ta	<0.2	Yb	0.3
Cd	<0.2	Ga	<0.2	Mo	<0.6	Rb	<0.07	Te	6	Zn	9
Ce	<0.1	Gd	<0.2	Na	1200	Re	<0.2	Th	8	Zr	8

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.

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Brijender S Tonk
QC Coordinator
CertiPrep, Inc.