Agilent Technologies

Certificate of Analysis

ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525 **Lot Number:** 21-166VYY2

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	100 µg/mL	3106*	Bi	99.99+	Lu	7439-94-3	100 µg/mL	98.8 µg/mL	3130a*	Lu_2O_3	99.99+
Ge	7440-56-4	100 µg/mL	100 µg/mL	3120a	GeO_2	99.99+	Rh	7440-16-6	100 µg/mL	99.9 µg/mL	3144*	$Rh(NO_3)_3$-H_2O	99.99+
In	7440-74-6	100 µg/mL	100 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	99.6 µg/mL	3148a*	$Sc(NO_3)_3$-$4H_2O$	99.99+
Li †	7439-93-2	100 µg/mL	99.7 µg/mL	3129a*	†Li_2CO_3	99.99+	Tb	7440-27-9	100 µg/mL	99.3 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. 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: 21-25VY, 21-24VY.

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	<0.1	Co	<0.2	Hf	<0.03	Nb	<0.1	Ru	<0.4	Ti	<0.7
Al	3	Cr	2	Hg	<0.3	Nd	<0.2	Sb	1	Tl	<0.07
As	<0.8	Cs	<0.05	Ho	<0.01	Ni	<3	Se	<5	Tm	0.05
Au	<0.06	Cu	0.8	Ir	0.05	P	<100	Si	<200	U	<0.01
B	<0.4	Dy	<0.03	K	4	Pb	<0.2	Sm	<0.02	V	<0.08
Ba	0.5	Er	0.04	La	0.03	Pd	<0.2	Sn	<0.2	W	<0.4
Be	<0.4	Eu	<0.03	Mg	<0.3	Pr	<0.02	Sr	<0.5	Y	0.1
Ca	12	Fe	10	Mn	0.7	Pt	0.1	Ta	<0.5	Yb	<0.3
Cd	<0.3	Ga	<0.2	Mo	<0.5	Rb	<0.2	Te	<0.4	Zn	0.2
Ce	<0.08	Gd	<0.04	Na	40	Re	<0.05	Th	0.5	Zr	<0.3

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.

Brijender S Tonk

QC Coordinator

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Date of expiration: July 31, 2016