Agilent Technologies

Certificate of Analysis

ICP-MS Stock Tuning Solution (100 mL)

Agilent Part Number: 5188-6564 **Lot Number:** 22-84VYY2

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
Ce	7440-45-1	10.0 µg/mL	10.1 µg/mL	3110*	$Ce(NO_3)_3 \cdot 6H_2O$	99.99+	Tl	7440-28-0	10.0 µg/mL	9.96 µg/mL	3158*	$TlNO_3$	99.99+
Co	7440-48-4	10.0 µg/mL	9.97 µg/mL	3113*	Co	99.99+	Y	7440-65-5	10.0 µg/mL	9.91 µg/mL	3167a*	Y_2O_3	99.99+
Li	7439-93-2	10.0 µg/mL	9.96 µg/mL	3129a*	Li_2CO_3	99.99+							

* - indicates NIST SRM † - indicates CRM (when NIST SRM is not available)

Purity grades:

Starting Materials: Shown above
Matrix:
2% 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. 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: 21-218VY,21-113VY.

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	<0.1	Cs	<0.04	Ho	0.2	Nd	<0.05	Ru	<0.09	Te	<0.4
Al	<0.8	Cu	<0.1	In	<0.02	Ni	<0.01	Sb	<0.2	Th	<0.08
As	2	Dy	<0.02	Ir	<0.08	P	<100	Sc	<0.4	Ti	<0.05
Au	<0.3	Er	<1	K	<100	Pb	<0.08	Se	<2	Tm	<0.04
B	<1	Eu	<0.02	La	0.2	Pd	<0.2	Si	<100	U	<0.01
Ba	<0.05	Fe	<3	Lu	<0.02	Pr	0.2	Sm	<0.05	V	<0.2
Be	<0.07	Ga	0.4	Mg	<0.08	Pt	<0.1	Sn	<0.02	W	<0.07
Bi	<0.03	Gd	0.1	Mn	<0.2	Rb	<0.03	Sr	<0.03	Yb	0.1
Ca	<4	Ge	<0.01	Mo	<0.5	Re	<0.04	Ta	<0.04	Zn	<0.3
Cd	<0.01	Hf	<0.03	Na	<0.7	Rh	<0.08	Tb	<0.1	Zr	<0.01
Cr	<0.2	Hg	<2	Nb	<0.07						

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: December 31, 2016

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