Agilent Technologies

Certificate of Analysis

ICP-MS Stock Tuning Solution (100mL)

Agilent Part Number: **5188-6564** **Lot Number:** **21-112VYY2**

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	9.94 µg/mL	3110*	$Ce(NO_3)_3 \cdot 6H_2O$	99.99+	Tl	7440-28-0	10.0 µg/mL	10.0 µg/mL	3158*	$TlNO_3$	99.99+
Co	7440-48-4	10.0 µg/mL	9.96 µg/mL	3113*	Co	99.99+	Y	7440-65-5	10.0 µg/mL	9.98 µg/mL	3167a*	Y_2O_3	99.99+
Li	7439-93-2	10.0 µg/mL	9.88 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. 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: 17-263VY,19-245VY,20-122VY,17-264VY.

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	Cs	<0.01	Ho	<0.01	Nd	<0.01	Ru	<0.04	Te	<0.2
Al	1	Cu	<0.1	In	<0.01	Ni	<0.6	Sb	<0.02	Th	<0.01
As	1	Dy	<0.01	Ir	<0.03	P	<100	Sc	<0.2	Ti	<0.03
Au	<0.08	Er	<0.01	K	<0.9	Pb	<0.02	Se	<0.7	Tm	<0.01
B	<8	Eu	<0.01	La	<0.01	Pd	0.06	Si	<100	U	<0.01
Ba	<0.09	Fe	0.4	Lu	<0.01	Pr	0.1	Sm	<0.02	V	<0.02
Be	<0.04	Ga	<0.5	Mg	<0.2	Pt	<0.03	Sn	<0.06	W	<0.2
Bi	<0.02	Gd	<0.05	Mn	<0.2	Rb	<0.02	Sr	<0.03	Yb	<0.01
Ca	1	Ge	<0.4	Mo	<0.09	Re	<0.01	Ta	<0.07	Zn	<2
Cd	<0.04	Hf	<0.01	Na	<2	Rh	<0.01	Tb	<0.1	Zr	<0.1
Cr	<0.5	Hg	<0.08	Nb	<0.03						

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: August 31, 2014

Date of expiration: February 29, 2016

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QC Coordinator

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