

Certificate of Analysis

ICP-MS Stock Tuning Solution (100 mL)

Agilent Part Number: 5188-6564
Lot Number: 23-165VYY2

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	10.0 µg/mL	3110*	Ce ₂ (CO ₃) ₃ ·x(H ₂ O)	99.99+	Tl	7440-28-0	10.0 µg/mL	9.95 µg/mL	3158*	TlNO ₃	99.99+
Co	7440-48-4	10.0 µg/mL	9.96 µg/mL	3113*	Co	99.99+	Y	7440-65-3	10.0 µg/mL	9.99 µg/mL	3167a*	Y ₂ O ₃	99.99+
Li	7439-93-2	10.0 µg/mL	9.91 µg/mL	3129a*	Li ₂ CO ₃	99.99+							

* - Indicates NIST SRM

† - Indicates CRM (when NIST SRM is not available)

Purity grades:

Starting Materials: Shown above

Matrix:

 2% HNO₃: HNO₃ (CAS No. 7897-37-2) 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: 23-30VY,22-151VY.

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

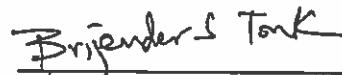
Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	<0.3	Cs	<0.02	Ho	<0.01	Nd	<0.02	Ru	<0.1	Te	<0.2
Al	0.5	Cu	<0.6	In	<0.02	Ni	<0.1	Sb	<0.04	Th	<0.03
As	1	Dy	<0.01	Ir	<0.04	P	<100	Sc	<0.08	Ti	<0.1
Au	<0.3	Er	<0.01	K	<3	Pb	0.05	Se	<6	Tm	<0.01
B	<0.3	Eu	<0.01	La	0.01	Pd	<0.4	Si	<100	U	<0.01
Ba	<0.1	Fe	1	Lu	<0.01	Pr	0.1	Sm	<0.02	V	<0.1
Be	<0.2	Ga	0.5	Mg	<0.05	Pt	<0.02	Sn	<0.04	W	<0.9
Bi	<0.04	Gd	0.2	Mn	<0.1	Rb	<0.03	Sr	<0.1	Yb	<0.01
Ce	3	Ge	<0.3	Mo	<0.1	Re	<0.01	Ta	<0.3	Zn	<0.3
Cd	<0.03	HI	<0.01	Na	4	Rh	<0.02	Tb	0.4	Zr	<0.2
Cr	<0.3	Hg	<0.2	Nb	<0.2						

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. This uncertainty is at 95% confidence interval, a coverage factor of 2. 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. This standard was manufactured following the guidelines set forth under ISO 17025 and ISO Guide 34 regulations.

Date of release: September 15, 2016

Date of expiration: March 31, 2018



 QC Coordinator