

Certificate of Analysis

ICP-MS Tuning Solution 10 ppm 100mL

Agilent Part Number: 5190-0465
Lot Number: 1-135YJY2

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 ₂ (CO ₃) ₃ ·x(H ₂ O)	99.99+	Mg	7439-95-4	10.0 µg/mL	10.1 µg/mL	3131a*	Mg	99.99+
Co	7440-48-4	10.0 µg/mL	10.0 µg/mL	3113*	Co	99.99+	Tl	7440-28-0	10.0 µg/mL	10.0 µg/mL	3158*	TlNO ₃	99.99+
Li	7439-93-2	10.0 µg/mL	10.1 µg/mL	3129a*	Li ₂ CO ₃	99.99+	Y	7440-65-5	10.0 µg/mL	10.1 µg/mL	3167a*	Y ₂ O 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. 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: 23-115VY, 21-168VY, 4-127MKB, 3-150MKB.

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	<0.2	Cs	<0.01	Ho	<0.01	Nd	<0.01	Ru	<0.01	Te	<0.08
Al	1	Cu	0.07	In	<0.01	Ni	0.2	Sb	<0.01	Th	<0.01
As	0.4	Dy	<0.01	Ir	<0.01	P	<100	Sc	<0.09	Tl	0.4
Av	<0.01	Er	<0.01	K	30	Pb	0.01	Se	<0.4	Tm	<0.01
B	0.8	Eu	<0.01	La	<0.01	Pd	0.05	Si	<100	U	<0.01
Ba	0.07	Fe	1	Lu	<0.01	Pr	0.1	Sm	<0.01	V	<0.01
Be	<0.01	Ga	0.5	Mn	0.4	Pt	<0.02	Sr	0.02	W	<0.01
Bi	<0.01	Gd	0.2	Mo	<0.03	Rb	<0.01	Sr	0.05	Yb	<0.01
Cs	4	Ge	<0.03	Na	<0.9	Re	<0.01	Ta	<0.01	Zn	0.3
Cd	<0.01	Hf	<0.01	Nb	<0.01	Rh	<0.02	Tb	1	Zr	<0.02
Cr	0.2	Hg	<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. 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: June 15, 2018

Date of expiration: December 31, 2019



 QC Coordinator