

Certificate of Analysis

ICP-MS Tuning Solution 10 ppm 100mL

Agilent Part Number: 5190-0465
Lot Number: 22-245VYY2

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	9.89 µg/mL	3110*	Ce(NO ₃) ₂ ·6H ₂ O	99.99+	Mg	7439-95-4	10.0 µg/mL	9.96 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	9.99 µg/mL	3158*	TlNO ₃	99.99+
Li	7439-93-2	10.0 µg/mL	9.88 µg/mL	3129a*	Li ₂ CO ₃	99.99+	Y	7440-85-5	10.0 µg/mL	9.97 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: 20-11VY, 19-91VY.

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	<0.03	Cs	<0.05	Ho	<0.01	Nd	<0.03	Ru	<0.05	Te	<0.2
Al	0.8	Cu	0.3	In	<0.02	Ni	<1	Sb	<0.07	Th	<0.05
As	<2	Dy	<0.01	Ir	<0.04	P	<100	Sc	<0.2	Ti	<0.2
Au	<0.02	Er	<0.01	K	<3	Pb	<0.03	Se	<4	Tm	<0.01
B	<1	Eu	<0.01	La	<0.01	Pd	<0.07	Si	<100	U	<0.01
Ba	<0.07	Fe	<2	Lu	<0.01	Pr	0.1	Sm	<0.03	V	<0.01
Be	<0.1	Ga	0.8	Mn	<0.5	Pl	<0.03	Sn	<0.01	W	<0.01
Bi	<0.01	Gd	0.2	Mo	<1	Rb	<0.1	Sr	<0.08	Yb	<0.01
Ca	<6	Ge	<1	Na	<5	Re	<0.01	Ta	<0.01	Zn	<0.6
Cd	<0.06	Hf	<0.01	Nb	0.05	Rh	<0.1	Tb	0.6	Zr	<0.2
Cr	<1	Hg	<0.1								

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: December 31, 2015

Date of expiration: June 30, 2017

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