

Certificate of Analysis

ICP- MS Tuning Solution 10ug/mL 100 mL

Agilent Part Number: 5190-0465
Lot Number: 13-165VY

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 mg/L	10.0 mg/L	3110*	Ce(NO3)3 · 6H2O	99.99+	Mg	7439-95-4	10.0 mg/L	10.0 mg/L	3131a*	Mg	99.99+
Co	7440-48-4	10.0 mg/L	9.97 mg/L	3113*	Co	99.99+	Tl	7440-28-0	10.0 mg/L	10.1 mg/L	3158*	Tl(NO3)	99.99+
Li	7439-93-2	10.0 mg/L	9.93 mg/L	3129a*	Li2CO3	99.99+	Y	7440-65-5	10.0 mg/L	9.94 mg/L	3167*	Y2O3	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. 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: 36-4AS,33-133AS,6-254GS,4-203BD,15-152JB.

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	<0.8	Cs	<0.2	Ho	<0.1	Nd	<0.4	Ru	<4	Te	<4
Al	<10	Cu	<0.6	In	<0.2	Ni	<20	Sb	<1	Th	<0.5
As	<0.01	Dy	<0.1	Ir	<0.9	P	<300	Sc	<3	Ti	<2
Au	<0.3	Er	<0.1	K	<2	Pb	<0.3	Se	<100	Tm	<0.1
B	<8	Eu	<0.01	La	0.3	Pd	<0.6	Si	<100	U	<0.1
Ba	<0.01	Fe	2	Lu	<0.1	Pr	<0.1	Sm	<0.3	V	<0.3
Be	<0.01	Ga	0.8	Mn	<3	Pt	<1	Sn	<2	W	<0.7
Bi	<0.2	Gd	<0.4	Mo	<0.6	Rb	<0.3	Sr	<0.08	Yb	<0.1
Ca	20	Ge	<4	Na	20	Re	<0.1	Ta	<0.6	Zn	<2
Cd	<1	Hf	<0.1	Nb	<2	Rh	<0.4	Tb	<1	Zr	<0.3
Cr	<9	Hg	<5								

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: March 15, 2009

Date of expiration: September 30, 2010

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