

Certificate of Analysis

ICP-MS Tuning Solution 10 ppm 100mL

Agilent Part Number: 5190-0465
Lot Number: 15-153VY

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+	Ti	7440-28-0	10.0 mg/L	10.1 mg/L	3158*	Ti(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	3167a*	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%:

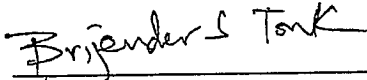
Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	2	Cs	<0.2	Ho	<0.05	Nd	<0.1	Ru	<1	Te	<4
Al	<20	Cu	<2	In	<0.1	Ni	<2	Sb	<0.3	Th	<0.1
As	5	Dy	<0.01	Ir	<0.2	P	<200	Sc	<7	Ti	<2
Au	<0.1	Er	<0.01	K	<3	Pb	<0.2	Se	<9	Tm	0.03
B	<7	Eu	<0.01	La	0.3	Pd	<0.7	Si	<200	U	<0.01
Ba	<0.4	Fe	2	Lu	<0.09	Pr	0.2	Sm	<0.2	V	<0.4
Be	<4	Ga	<0.9	Mn	<0.2	Pt	<0.01	Sn	<0.6	W	<0.9
Bi	<0.1	Gd	0.4	Mo	<0.4	Rb	0.2	Sr	<0.1	Yb	<0.08
Ca	<0.5	Ge	<2	Na	3	Re	<0.07	Ta	<0.3	Zn	5
Cd	<1	Hf	<0.01	Nb	<0.4	Rh	<0.2	Tb	2	Zr	<0.1
Cr	<0.3	Hg	<0.01								

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, 2010

Date of expiration: September 30, 2011



 QC Coordinator
 CertiPrep, Inc.