

# Certificate of Analysis

## ICP-MS Tuning Solution 10 ppm 100mL

**Agilent Part Number: 5190-0465**
**Lot Number: 18-72VY**

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	10.1 mg/L	3110*	Ce(NO <sub>3</sub> ) <sub>2</sub> · 6H <sub>2</sub> O	99.99+	Mg	7439-95-4	10.0 mg/L	10.1 mg/L	3131a*	Mg	99.99+
Co	7440-48-4	10.0 mg/L	10.0 mg/L	3113*	Co	99.99+	Tl	7440-28-0	10.0 mg/L	9.98 mg/L	3158*	TlNO <sub>3</sub>	99.99+
Li	7439-93-2	10.0 mg/L	10.0 mg/L	3129a*	Li <sub>2</sub> CO <sub>3</sub>	99.99+	Y	7440-65-5	10.0 mg/L	9.99 mg/L	3167a*	Y <sub>2</sub> O <sub>3</sub>	99.99+

\* - indicates NIST SRM

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

**Purity grades:**

Starting Materials: Shown above

Matrix:

 2% HNO<sub>3</sub>: HNO<sub>3</sub> (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: 13-165VY,4-203BD,27-36JB.

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

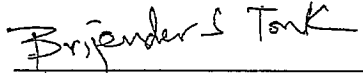
Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	0.2	Cs	<0.1	Ho	0.02	Nd	<0.1	Ru	<0.4	Te	<2
Al	<10	Cu	2	In	<0.06	Ni	<2	Sb	<1	Th	<0.2
As	<20	Dy	<0.01	Ir	<0.01	P	<200	Sc	<2	Tl	<0.6
Au	<9	Er	<0.1	K	<5	Pb	<6	Se	<4	Tm	<0.04
B	<5	Eu	<0.07	La	0.4	Pd	<2	Si	<200	U	<0.04
Ba	<0.2	Fe	2	Lu	<0.01	Pr	0.1	Sm	<0.1	V	<0.2
Be	<0.01	Ga	<1	Mn	<1	Pt	<4	Sn	<0.4	W	<1
Bi	<0.09	Gd	1	Mo	<0.2	Rb	<0.2	Sr	<0.2	Yb	<0.07
Ca	30	Ge	<5	Na	<1	Re	<0.05	Ta	<0.07	Zn	<20
Cd	<0.2	Hf	<0.01	Nb	<0.1	Rh	<0.06	Tb	1	Zr	<0.06
Cr	<0.6	Hg	<8								

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: November 15, 2011

Date of expiration: May 31, 2013


  
 QC Coordinator  
 CertiPrep, Inc.