

Certificate of Analysis

ICP-MS Tuning Solution 10 ppm 100mL

Agilent Part Number: 5190-0465
Lot Number: 20-98VYY2

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(NO ₃) ₂ · 6H ₂ O	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	10.2 mg/L	3113*	Co	99.99+	Tl	7440-28-0	10.0 mg/L	10.1 mg/L	3158*	TlNO ₃	99.99+
Li	7439-93-2	10.0 mg/L	10.1 mg/L	3129a*	LiCO ₃	99.99+	Y	7440-65-5	10.0 mg/L	10.0 mg/L	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. 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,20-50VY.

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

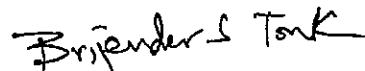
Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	<0.01	Cs	<0.01	Ho	<0.01	Nd	<0.01	Ru	<0.01	Te	<0.04
Al	0.7	Cu	2	In	<0.01	Ni	<0.1	Sb	0.1	Th	<0.01
As	<6	Dy	<0.01	Ir	<0.06	P	20	Sc	<0.3	Ti	<0.2
Au	<0.01	Er	<0.01	K	0.5	Pb	0.3	Se	<1	Tm	<0.01
B	<0.2	Eu	<0.01	La	0.3	Pd	0.09	Si	<100	U	<0.01
Ba	0.2	Fe	1	Lu	<0.01	Pr	0.07	Sm	<0.01	V	<0.01
Be	<0.02	Ga	0.4	Mn	0.2	Pt	<0.01	Sn	2	W	<0.01
Bi	<0.01	Gd	0.6	Mo	<0.01	Rb	0.02	Sr	0.08	Yb	<0.01
Ca	<30	Ge	<0.04	Na	2	Re	<0.01	Ta	<0.01	Zn	10
Cd	<0.01	Hf	<0.01	Nb	<0.01	Rh	<0.01	Tb	1	Zr	<0.02
Cr	0.06	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. 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: January 31, 2014

Date of expiration: July 31, 2015



 QC Coordinator