Agilent Technologies

Certificate of Analysis

7500 Series PA Tuning 2

Agilent Part Number: 5188-6524 **Lot Number:** 59-056CRY2

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
Ge	7440-56-4	10.0 µg/mL	10.1 µg/mL	3120a*	$(NH_2)_2GeF_6$	99.99+	Sb	7440-36-0	10.0 µg/mL	10.1 µg/mL	3102a*	Sb	99.99+
Mo	7439-98-7	10.0 µg/mL	10.1 µg/mL	3134*	MoO3	99.99+	Sn	7440-31-5	10.0 µg/mL	9.96 µg/mL	3161a*	Sn	99.99+
Pd	7440-05-3	10.0 µg/mL	10.1 µg/mL	3138*	Pd	99.99+	Ir	7439-88-5	5.00 µg/mL	5.03 µg/mL	1112A†	IrCl3-3H2O	99.99+
Ru	7440-18-8	10.0 µg/mL	10.0 µg/mL	0512A†	$RuCl_3$-$3H_2O$	99.99+	Ti	7440-32-6	5.00 µg/mL	5.05 µg/mL	3162a*	(NH4)2TiF6	99.99+

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

Purity grades:

Starting Materials: Shown above

Matrix:

10% HCl: HCl (CAS No. 7647-01-0) high purity grade

1% HNO_3: HNO_3 (CAS No. 7697-37-2) high purity grade

0.1% (v/v) HF: HF (CAS No. 7664-39-3) 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: 52-026CR, 58-238CR, 56-074CR.

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	0.9	Ce	0.05	Gd	<0.02	Mn	<0.3	Re	<0.01	Th	<0.01
Al	10	Co	0.2	Hf	0.06	Na	30	Rh	0.2	Tl	<0.03
As	<0.5	Cr	1	Hg	<0.2	Nb	0.09	Sc	0.2	Tm	<0.01
Au	0.3	Cs	0.3	Ho	<0.01	Nd	0.02	Se	<0.1	U	<0.01
B	4	Cu	<0.4	In	<2	Ni	<0.3	Si	<100	V	1
Ba	0.1	Dy	<0.03	K	3	P	<100	Sm	<0.01	W	2
Be	0.03	Er	<0.01	La	0.4	Pb	<0.05	Sr	<0.3	Y	0.2
Bi	0.6	Eu	<0.01	Li	0.8	Pr	0.04	Ta	0.2	Yb	<0.01
Ca	10	Fe	1	Lu	<0.01	Pt	<0.1	Tb	0.02	Zn	2
Cd	<1	Ga	<0.2	Mg	1	Rb	0.08	Te	0.7	Zr	3

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. This uncertainty is at 95% confidence interval, a coverage factor of 2. 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. This standard was manufactured following the guidelines set forth under ISO 17025 and ISO 17034 regulations.

Date of release: September 15, 2022

Date of expiration: March 31, 2024

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QC Coordinator

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