

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2022-09-24 14:49:26

Date of Next Testing: 2026-09-23 14:49:26

Product Name: **Hafnium oxide**

CAS Number: 12055-23-1

Specifications & Purity: $\geq 98\%$, powder, Zr < 1.5%

Lot #: I2215655

SKU #: **H119447**

Version: **0**

Analysis #: **130133**

Storage Temperature: Room temperature

Parameter	Limit Values	Result
Loss on Ignition (1100 °C, 1 Hr)	0-1 (%)	0.24890 %
Total metallic impurities(Na, K, Mg, Ca, Ba, Zn, Zr, B, Al, Zirconium(Zr)	0-30000 (ppm)	1.27100 ppm
Purity(Based On Trace Metals Analysis)	0-1.5 (%)	1.13900 %
Appearance (H119447)	98-100 (%)	99.60230 %
ICP:Confirms Hafnium Component	White to Tan Powder or Granules	White to Tan Powder or Granules
X-Ray Diffraction	Confirmed	Confirmed
	Conforms to Structure	Conforms to Structure



John Su
QA & QC Manager