

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2022-08-08 10:00:33

Date of Next Testing: 2026-08-07 10:00:33

Product Name: **Hafnium oxide**

CAS Number: 12055-23-1

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

Lot #: J1808078

SKU #: **H119447**

Version: **0**

Analysis #: **122048**

Storage Temperature: Room temperature

Parameter	Limit Values	Result
Loss on Ignition (1100 °C, 1 Hr)	0-1 (%)	0.56400 %
Total metallic impurities(Na, K, Mg, Ca, Ba, Zn, Zr, B, Al, Zirconium(Zr)	0-30000 (ppm)	490.00000 ppm
Purity(Based On Trace Metals Analysis)	0-1.5 (%)	0.71500 %
Appearance (H119447)	98-100 (%)	99.95100 %
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