

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2022-11-23 18:14:12

Date of Next Testing: 2026-11-22 18:14:12

Product Name: **Hafnium oxide**

CAS Number: 12055-23-1

Specifications & Purity: $\geq 99.99\%$ metals basis, excluding Zr, Zr < 0.3%

Lot #: K2218872

SKU #: **H301462**

Version: **0**

Analysis #: **151504**

Storage Temperature: Room temperature

Parameter	Limit Values	Result
Purity Based On Trace Metals Analysis(excluding Zr)	99.99-100 (%)	99.99090 %
Loss on Ignition (1100 °C, 1 Hr)	0-2 (%)	1.22000 %
Zirconium(Zr)	0-3000 (ppm)	0.00000 ppm
Total metallic impurities (excluding Zr)	0-100 (ppm)	91.00000 ppm
Appearance (H301462)	White powder	White powder
ICP:Confirms Hafnium Component	Confirmed	Confirmed
X-Ray Diffraction	Conforms to Structure	Conforms to Structure



John Su
QA & QC Manager