

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2023-05-10 19:11:25

Date of Next Testing: 2027-05-09 19:11:25

Product Name: **Hafnium oxide**

CAS Number: 12055-23-1

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

Lot #: E23061315

SKU #: **H301462**

Version: **0**

Analysis #: **156966**

Storage Temperature: Room temperature

Parameter	Limit Values	Result
Loss on Ignition (1100 °C, 1 Hr)	0-2 (%)	1.28500 %
Zirconium(Zr)	0-3000 (ppm)	34.00000 ppm
Purity Based On Trace Metals Analysis(excluding Zr)	99.99-100 (%)	99.99100 %
Total metallic impurities (excluding Zr)	0-3000 (ppm)	90.00000 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