

Certificate of Analysis

Date of Testing: 2023-01-09 14:14:20

Date of Next Testing: 2027-01-08 14:14:20

Product Name: **Hafnium oxide**

CAS Number: 12055-23-1

Specifications & Purity: Powder, 98%, Zr <1.5%

Lot #: A2303395

SKU #: **H119447**

Analysis: 165536

Parameter	Limit Values	Result
Loss on Ignition (1100 °C, 1 Hr)	0-1 (%)	0.82 %
Total metallic impurities (Na, K, Mg, Ca, Ba, Zn, Zr, B, Al, Zirconium (Zr))	0-30000 (ppm)	63.00 ppm
Purity (Based On Trace Metals Analysis)	0-1.5 (%)	0.00 %
Appearance (H119447)	98-100 (%)	99.99 %
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