

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2023-08-07 13:42:37
Date of Next Testing: 2026-08-06 13:42:37
Product Name: **Hafnium chloride**
CAS Number: 13499-05-3
Specifications & Purity: Ultra dry, 99.9% (metals basis), Zr<0.5%
Lot #: H2303988
SKU #: **H284098**
Analysis: **252663**
Storage Temperature: Argon charged

Parameter	Limit Values	Result
Purity(Based On Trace Rare Earth Analysis)	99.9-100(%)	99.90 %
Trace Metal Analysis	0-1500(ppm)	1000.00 ppm
Zirconium(Zr)	0-0.5(%)	0.09 %
Purity (Chloride Titration by AgNO ₃)	43.4-45.2 (%)	43.41 %
Water by Karl Fischer	< 50 (ppm)	49.00 ppm
ICP:Confirms Hafnium Component	Confirmed	Confirmed
Appearance(H284098)	White Powder	White powder



John Su
QA & QC Manager