

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2022-03-18 13:33:45

Date of Next Testing: 2026-03-17 13:33:45

Product Name: **Hafnium oxide**

CAS Number: 12055-23-1

Specifications & Purity:  $\geq 99.9\%$  metals basis, excluding Zr, Zr < 0.5%

Lot #: C2210094

SKU #: **H123380**

Version: **0**

Analysis #: **056041**

Storage Temperature: Room temperature

| Parameter                                           | Limit Values          | Result                |
|-----------------------------------------------------|-----------------------|-----------------------|
| Trace Metal Analysis(excluding ZrContent)           | 0-2000 (ppm)          | 111.00000 ppm         |
| Purity Based On Trace Metals Analysis(excluding Zr) | 99.9-100 (%)          | 99.98890 %            |
| Zirconium(Zr)                                       | 0-0.5 (%)             | 0.44120 %             |
| Appearance (H123380)                                | white powder          | White powder          |
| ICP:Confirms Hafnium Component                      | Confirmed             | Confirmed             |
| X-Ray Diffraction                                   | Conforms to Structure | Conforms to Structure |



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QA & QC Manager