

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-09-01 17:03:12

Date of Next Testing: 2027-08-31 17:03:12

Product Name: **Hafnium oxide**

CAS Number: 12055-23-1

Specifications & Purity:  $\geq 99.95\%$  metals basis, excluding Zr, Zr < 1%

Lot #: H2330558

SKU #: **H299352**

Version: **1**

Analysis #: **264994**

Storage Temperature: Room temperature

| Parameter                                             | Limit Values          | Result                |
|-------------------------------------------------------|-----------------------|-----------------------|
| Zirconium(Zr)                                         | 0-1 (%)               | 0.00020 %             |
| Total metallic impurities(excluding Zr)               | 0-500 (ppm)           | 52.00000 ppm          |
| Purity Based on Trace Metals Impurities(excluding Zr) | 99.95-100 (%)         | 99.99480 %            |
| Appearance (H299352)                                  | 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