

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2025-12-26 15:27:45  
 Date of Next Testing: 2026-06-24 15:27:45  
 Product Name: **Zirconium butoxide solution**  
 CAS Number: 1071-76-7  
 Specifications & Purity: 80 wt. % in n-butanol  
 Lot #: L2516570  
 SKU #: **Z106334**  
 Version: **1**  
 Analysis #: **615476**  
 Storage Temperature: Room temperature, Argon charged

| Parameter                                       | Limit Values                       | Result                             |
|-------------------------------------------------|------------------------------------|------------------------------------|
| Hydrolyzable Chloride                           | 0-1000 (ppm)                       | 52.12000 ppm                       |
| Density (20°C)                                  | 1.06-1.08                          | 1.06910                            |
| Iron(Fe)                                        | 0-300 (ppm)                        | 13.00000 ppm                       |
| ZrO <sub>2</sub> basis                          | 27-29 (%)                          | 28.60000 %                         |
| Concentration(Chelometric Method)               | 80-86 (%)                          | 85.40000 %                         |
| Appearance (Z106334)                            | Colorless to Yellow Viscous Liquid | Colorless to Yellow Viscous Liquid |
| Proton NMR spectrum                             | Conforms to Structure              | Conforms to Structure              |
| Solubility in EtOH , Clear, Colorless to Yellow | pass                               | Pass                               |
| Solvent(C <sub>4</sub> H <sub>10</sub> O)       | Conform                            | Conform                            |



John Su  
QA & QC Manager