

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2025-07-18 10:35:00  
 Date of Next Testing: 2026-01-14 10:35:00  
 Product Name: **Titanium butoxide(TNBT)**  
 CAS Number: 5593-70-4  
 Specifications & Purity:  $\geq 99.0\%$   
 Lot #: A2507213  
 SKU #: **T104105**  
 Version: **0**  
 Analysis #: **542879**  
 Storage Temperature: Room temperature, Argon charged, Desiccated, Cool

| Parameter                                                      | Limit Values                                       | Result                                             |
|----------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| Ignition Residue                                               | 23.2-24.5 (%)                                      | 23.20000 %                                         |
| Refractive index n <sub>20</sub> /D                            | 1.489-1.493                                        | 1.49100                                            |
| Ti(Gravimetric Analysis After Ignition to 13.6-14.6 (%) Oxide) |                                                    | 13.60000 %                                         |
| Density (20°C)                                                 | 0.996-1.007                                        | 1.00250                                            |
| Appearance (T104105)                                           | Colorless to light yellow liquid or viscous liquid | Colorless to light yellow liquid or viscous liquid |
| Proton NMR spectrum                                            | Conforms to Structure                              | Conforms to Structure                              |



John Su  
QA & QC Manager