

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2022-06-30 11:48:09  
 Date of Next Testing: 2026-06-29 11:48:09  
 Product Name: **Chondroitin sulfate sodium salt from shark cartilage**  
 CAS Number: 9007-28-7  
 Specifications & Purity:  $\geq 95\%$   
 Lot #: F2228165  
 SKU #: **C107703**  
 Version: **0**  
 Analysis #: **093073**  
 Storage Temperature: Store at 2-8°C

| Parameter                                                 | Limit Values                                      | Result                                            |
|-----------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Water by Karl Fischer                                     | 0-10 (%)                                          | 2.54810 %                                         |
| Specific Rotation $[\alpha]_{20/D(c=1 \text{ in } H_2O)}$ | -20--10 (°)                                       | -18.03000 °                                       |
| Sulfur by Elemental Analysis                              | $\geq 4$ (%)                                      | 4.00000 %                                         |
| Sodium(ICP)                                               | $\geq 4$ (%)                                      | 4.60000 %                                         |
| Residual solvents                                         | 0-4 (%)                                           | 2.10000 %                                         |
| Purity(HPLC)                                              | 95-100 (%)                                        | 99.52700 %                                        |
| Appearance (C107703)                                      | White to Off-White Powder                         | White to Off-White Powder                         |
| 6-Sulfate:4-Sulfate ratio(HPLC)                           | $\geq 0.33:1$                                     | $\geq 0.33:1$                                     |
| Solubility in 0.9% Sodium Chloride                        | Colorless to faint yellow, Clear to hazy, 10mg/ml | Colorless to faint yellow, Clear to hazy, 10mg/ml |
| Infrared spectrum                                         | Conforms to Structure                             | Conforms to Structure                             |



John Su  
QA & QC Manager