

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2022-05-07 19:24:29  
Date of Next Testing: 2026-05-06 19:24:29  
Product Name: (2-Hydroxypropyl)- $\beta$ -cyclodextrin  
CAS Number: 128446-35-5  
Specifications & Purity: 97%  
Lot #: D2229046  
SKU #: H108813  
Analysis: 083879

| Parameter   | Limit Values                 | Result                       |
|---|------------------------------|------------------------------|
| Purity(HPLC)  | 97-100 (%)                   | 99.91000%                    |
| Water by Karl Fischer   | 0-7.5 (%)                    | 3.21%                        |
| beta-cyclodextrin (dry basis)   | 0-2 (%)                      | 1.40%                        |
| NMR (degree of substitution)  | 2-6                          | 3.50                         |
| Specific Rotation [a] <sub>D</sub> 20 (c=1 in H <sub>2</sub> O)                     | 120-135 (°)                  | 134.76°                      |
| Appearance (H108813)  | White to Off-White<br>Powder | White to Off-White<br>Powder |
| Proton NMR spectrum   | Conforms to Structure        | Conforms to Structure        |
| Solubility in H <sub>2</sub> O , Colorless to Very Faint Yellow, Clear, 2g plus 5ml | pass                         | Pass                         |



John Su  
QA & QC Manager