

## Certificate of Analysis

Date of Testing: 2024-12-04 10:03:10  
Date of Next Testing: 2028-12-03 10:03:10  
Product Name: **(2-Hydroxypropyl)- $\beta$ -cyclodextrin**  
CAS Number: 128446-35-5  
Specifications & Purity:  $\geq 97\%$   
Lot #: K2429456  
SKU #: **H108813**  
Version: **2**  
Analysis #: **433270**

Parameter	Limit Values	Result
Purity(HPLC)	97-100 (%)	99.84700%
Water by Karl Fischer	0-7.5 (%)	4.18%
Molar substitution degree	0.4-1.5	0.68000
Specific Rotation $[\alpha]_{20/D}(c=1 \text{ in H}_2\text{O})$	120-135 ( $^{\circ}$ )	134.97 $^{\circ}$
Appearance (H108813)	White to Off-White Powder	White to Off-White 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