

## Certificate of Analysis

Date of Testing: 2022-09-28 11:48:38  
 Date of Next Testing: 2026-09-27 11:48:38  
 Product Name: **Mannitol**  
 CAS Number: 69-65-8  
 Specifications & Purity: Ultrapure, ≥99.0%(HPLC)  
 Lot #: I2224524  
 SKU #: **M108829**  
**Analysis: 085453**

Parameter	Limit Values	Result
Sulfate(SO42-)	0-200 (ppm)	181.00 ppm
Calcium(Ca)	0-100 (ppm)	0.00 ppm
Phosphorus (P)	0-0.01 (%)	0.01 %
Silicon(Si)	0-0.02 (%)	0.00 %
Melting point	166-170 (°C)	169.93000 °C
Chloride (Cl-)	0-50 (ppm)	24.00 ppm
Copper(Cu)	0-50 (ppm)	0.00 ppm
Sodium(Na)	0-200 (ppm)	0.00 ppm
Purity(HPLC)	99-100 (%)	99.92100 %
Zinc(Zn)	0-10 (ppm)	0.00 ppm
Potassium(K)	0-50 (ppm)	0.00 ppm
loss on drying, 105 °C	0-0.5 (%)	0.41 %
Iron(Fe)	0-50 (ppm)	0.00 ppm
Magnesium(Mg)	0-50 (ppm)	0.00 ppm
Lead(Pb)	0-50 (ppm)	0.00 ppm
Reducing sugars	0-0.2 (%)	0.15 %
Specific Rotation[a] <sub>25</sub> /D(c=1 in 1%acidified Molybdate&H2SO4	137-145 (°)	143.10 °
Appearance (M108829)	White Powder or Crystals	White Powder or Crystals
Infrared spectrum	Conforms to Structure	Conforms to Structure
Solubility in H2O	Almost transparency	almost transparency



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ALADDIN SCIENTIFIC CORPORATION

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A handwritten signature in black ink that reads "John Su".

John Su  
QA & QC Manager