

## Certificate of Analysis

Date of Testing: 2023-10-10 09:48:20  
Date of Next Testing: 2025-10-09 09:48:20  
Product Name: **D-(+)-Mannose**  
CAS Number: 3458-28-4  
Specifications & Purity: 99%  
Lot #: I2328466  
SKU #: **M103969**  
**Analysis:** **273478**  
Storage Temperature: Argon charged

Parameter	Limit Values	Result
Loss on drying	0-0.45 (%)	0.44 %
Heavy metal (as Pb)	0-10 (ppm)	0.00 ppm
Purity(HPLC)	99-100 (%)	99.41000 %
Specific Rotation [α] <sub>20</sub> /D(c=2 in H <sub>2</sub> O)	13.7-14.7 (°)	14.69°
Appearance (M103969)	White to Off-White Solid, Powder, or Crystals	White to Off-White Solid, Powder, or Crystals
13C NMR Spectrum	Conforms to Structure	Conforms to Structure
Solubility in H <sub>2</sub> O , Colorless to Faint Yellow , Clear , 50 mg/ml H <sub>2</sub> O	pass	Pass



John Su  
QA & QC Manager