

## Certificate of Analysis

Date of Testing: 2023-06-08 17:11:40  
 Date of Next Testing: 2025-06-07 17:11:40  
 Product Name: **D-(+)-Mannose**  
 CAS Number: 3458-28-4  
 Specifications & Purity: 99%  
 Lot #: F2303478  
 SKU #: **M103969**  
**Analysis:** **216514**  
 Storage Temperature: Argon charged

Parameter	Limit Values	Result
Purity(HPLC)	99-100 (%)	99.94100%
Heavy metal (as Pb)	0-10 (ppm)	0.60 ppm
Loss on drying	0-0.45 (%)	0.11%
Specific Rotation [α] <sub>20</sub> /D(c=2 in H <sub>2</sub> O)	13.7-14.7 (°)	14.12°
Appearance (M103969)	White to Off-White Solid, Powder, or Crystals	White to Off-White Solid, Powder, or Crystals
Solubility in H <sub>2</sub> O , Colorless to Faint Yellow , Clear , 50 mg/ml H <sub>2</sub> O	pass	Pass
<sup>13</sup> C NMR Spectrum	Conforms to Structure	Conforms to Structure



John Su  
QA & QC Manager