



CERTIFICATE OF ANALYSIS

Product Name	D-Mannose (Bio-based)
Batch Number	WDM-2501-003
Manufacture Date	2025/01/06
Expiry Date	2028/01/05
Issue Date	2025/01/07

Physical & Chemical Characteristics

Analysis Item	Specification	Result
Appearance	White crystalline powder	Conforms
Odor & Taste	Characteristic	Characteristic
Assay (D-Mannose)	≥99%	99.96%
Particle Size	95% pass 30 mesh	Conforms
Identification	Positive	Conforms
Melting Point	126–134°C	128.0°C
Optical Rotation	+13.3° – +14.3°	13.8°
Bulk Density	0.30–0.50 g/mL	0.47 g/mL
Tapped Density	0.45–0.75 g/mL	0.67 g/mL
Loss on Drying	≤0.5%	0.16%
Residue on Ignition	≤0.1%	0.05%
Solubility	Clear and colorless	Conforms

Heavy Metals

Analysis Item	Specification	Result
Heavy Metals (Total)	NMT 10 ppm	ND (<10 ppm)
Lead (Pb)	NMT 1 ppm	ND (<0.1 ppm)
Arsenic (As)	NMT 1 ppm	ND (<0.1 ppm)
Mercury (Hg)	NMT 0.1 ppm	ND (<0.01 ppm)
Cadmium (Cd)	NMT 0.5 ppm	ND (<0.01 ppm)

Microbiological Tests

Analysis Item	Specification	Result
Total Plate Count	NMT 1,000 CFU/g	<10 CFU/g
Total Yeast & Mold	NMT 100 CFU/g	<10 CFU/g
E. coli	Absence/10g	Conforms

Packaging & Storage

Packaging	25 kg/drum, packing in paper-drums and 2 layers PE bags inside, and adding eight units of desiccants (50 g/unit) between two bags.
Storage	Keep in cool & dry place. Store in a well-closed container away from moisture, direct light and heat.