



XI'AN BIOF BIO-TECHNOLOGY CO.,LTD

Room 1601 ,Tower 1 , Building 25 , Gaoke Garden, Gaoxin 5th Rd, High-tech Zone, Xi'an, China

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CERTIFICATE OF ANALYSIS

Product Name	D-Mannose	Country of Origin	China
Quantity	100KG	Manufacture Date	2024.12.20
Batch No.	BF20241220	Expiry date	2026.12.19
Non-Irradiated/Non-ETO/Treat by Heat Only		Solevnts	Ethanol and Water
Analysis Item	Specification	Result	Method
Assay	$\geq 99.0\%$	99.21%	HPLC
Appearance	White crystalline powder	Complies	Visual
Odor	Characteristic	Complies	Organoleptic
Identification	Positive	Complies	FTIR
Melting Point	126 - 134 °C	128.0 - 132.0 °C	USP40 - NF35<741>
Optical Rotation	+13.3° - +14.3°	+13.6°	USP40 - NF35<781>
Powder Size	$\geq 95\%$ through 30 mesh	Complies	USP #30 Sieve
Bulk Density	0.30 - 0.50 g/mL	0.35 g/mL	USP40 - NF35<616>
Tapped Density	0.45 - 0.75 g/mL	0.50 g/mL	USP40 - NF35<616>
Solubility	Clear and colorless	Complies	H ₂ O, 10%
Loss on Drying	$\leq 0.5\%$	0.08%	USP40 - NF35<731>
Residue on Ignition	$\leq 0.1\%$	0.05%	USP40 - NF35<281>
Pesticide Residues	USP<561>	Complies	USP40 - NF35<561>
Total Heavy Metals	$\leq 10 \mu\text{g/g}$	Complies	USP40 - NF35<231>
Arsenic (As)	$\leq 1.0 \mu\text{g/g}$	ND (< 0.1 $\mu\text{g/g}$)	ICP - MS
Cadmium (Cd)	$\leq 0.5 \mu\text{g/g}$	ND (< 0.01 $\mu\text{g/g}$)	ICP - MS
Lead (Pb)	$\leq 1.0 \mu\text{g/g}$	ND (< 0.1 $\mu\text{g/g}$)	ICP - MS
Mercury (Hg)	$\leq 0.5 \mu\text{g/g}$	ND (< 0.01 $\mu\text{g/g}$)	ICP - MS
Total Plate Count	$\leq 1,000 \text{ cfu/g}$	<100cfu/g	USP40 - NF35<2021>
Molds and Yeasts	$\leq 100 \text{ cfu/g}$	<10cfu/g	USP40 - NF35<2021>
Salmonella	Absence	Complies	USP40 - NF35<2022>
E. Coli	Absence	Complies	USP40 - NF35<2022>
Staphylococcus aureus	Absence	Complies	USP40 - NF35<2022>

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Aflatoxins	≤ 20 ppb	ND	USP40 - NF35<561>
Packing	25kg/drum, packing in paper-drums and two sealed plastic-bags inside, and adding four units of desiccants(100 g/unit) between two bags.		
Storage	Store in a well-closed container away from moisture, direct light and heat.		
Conclusion	Conforms to specification		

Analyst: Jiayan Yang

Checked By: Fei Shen

Manager: Xiaoyu Wang

