Chem-Impex International, Inc.

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Certificate of Analysis

Catalogue Number	38872
Product	D(+)-Mannose
Lot Number	002300-171109
	D-Mannopyranose
CAS Number	3458-28-4
Molecular Formula	$C_6H_{12}O_6$
Molecular Weight	180.16
Appearance	White crystalline powder
Odor	Odorless to slightly sweet odor
Melting Point	128 - 132 °C
Bulk density	0.33 g/mL
Heavy Metals	$< 10 \mu g/g$
Cation	Arsenic (As): Not detected (< 0.1 mg/g)
	Lead (Pb): Not detected (< 0.1 mg/g)
	Mercury (Hg): Not detected (< 0.01 mg/g)
	Cadmium (Cd): Not detected (< 0.01 mg/g)
Mould and Yeast	< 10 cfu/g
Optical Rotation	$[a]^{20}DD = 13.7 \circ$
Infrared Spectrum	Conforms to structure
Loss on Drying	0.19%
Residual Solvents	Complies
Residual Solvents Coliform Organisms	Complies < 10 cfu/g (Total)
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Coliform Organisms E. Coli, Salmonella,	< 10 cfu/g (Total)
Coliform Organisms E. Coli, Salmonella, S.Aureus	< 10 cfu/g (Total) Absence
Coliform Organisms E. Coli, Salmonella, S.Aureus Microbial Count	< 10 cfu/g (Total) Absence < 10 cfu/g (Total plate count) > 90% through 20 mesh
Coliform Organisms E. Coli, Salmonella, S.Aureus Microbial Count Mesh Size	< 10 cfu/g (Total) Absence < 10 cfu/g (Total plate count) > 90% through 20 mesh 70 - 80% through 80 mesh

Certificate of Analysis

Catalog Number: 38872	Lot Number: 002300-171109
Additional Information	Tapped density : 0.48 g/mL Pesticide residues : Complies Aflatoxins : Not detected
Remarks	See material safety data sheet for additional information
	For laboratory use only

The foregoing is a copy of the Certificate of Analysis as provided by our supplier

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Bala Kumar Quality Control Manager