



MTC Industries, Inc.

Nutraceuticals, Foodceuticals, and Pharmaceuticals

SPECIFICATION

PRODUCT NAME: D-Glucosamine HCL

ITEM	STANDARD	METHOD
Appearance	White crystalline powder	Visual
A: Infrared Absorption	Meets the requirements	USP-<197>
B: Tests for Chloride	Meets the requirements	USP-<191>
C: Retention time in the Assay	Meets the requirements	USP-<621>
Transmittance	> 90.0% (10% water solute, -450nm)	USP-<197>
Absorption	<0.25a.u,% (10%water solut, -280nm)	USP-<197>
Assay	98.0-102.0%	HPLC
Loss on Drying	≤1.00%	USP-<731>
Residue on Ignition	≤0.10%	USP-<281>
Specific Rotation	+70.00° ~ +73.00°	USP-<781S>
pH	3.00~5.00	USP-<791>
Chloride	16.2 ~ 16.7%	USP-<541>
Sulfate	≤0.24%	USP<221>
Particle Size	≥95.0%through 40 mesh	USP-<786>
Residue Solvents	Meets the requirements	USP-<467>
Heavy Metals	≤10ppm	USP-<231> Method II
Arsenic	≤1.0ppm	ICP-MS
Lead	≤0.5ppm	ICP-MS
Cadmium	≤0.5ppm	ICP-MS
Mercury	≤0.1ppm	ICP-MS
Bulk density	≥0.68g/ml	USP-<616>
Tapped Density	≥0.90g/ml	
Total Plate Count	≤1,000cfu/g	USP<2021>
Yeasts & Molds	≤100cfu/g	USP-<2021>
Salmonella	Negative/10g	USP-<2022>
E. Coli	Negative/g	USP-<2022>
Staphylococcus Aureus	Negative/10g	USP-<2022>
Enterobacteria & Other Gram Neg	≤100cfu/g	USP-<62>

