

SPECIFICATION

Product Name: Microcrystalline Cellulose- 101 USP Grade
Chemical Formula: $(C_6H_{10}O_5)_n$
CAS Number: 9004-34-6
Molecular Weight: 36000 g/mol
Appearance: White fine powder
Odor: Odorless

Chemical Composition

Parameter	Unit	Typical Value	Specification (Min/Max.)
Identification (A) (B) (C)	- - -	Complies Complies 175	(A) By IR (B) Substance becomes violet-blue. (C) The degree of polymerization is NMT 350.
Conductivity	$\mu S\text{-cm}^{-1}$	64 $\mu S\text{-cm}^{-1}$	NMT 75 $\mu S\text{-cm}^{-1}$
pH	-	6.15	5.0 to 7.5
Loss on drying	%	3.2%	NMT 7.0%
Residue on ignition	%	0.05%	NMT 0.1%
Bulk density	g/ml	0.31 g/ml	0.26 to 0.36 g/ml
Water soluble substances	%	0.13%	NMT 0.25%
Ether soluble substances	%	0.014%	NMT 0.05%
Particle size: 60 mesh 200 mesh	% %	0.4% 23.6%	Retention NMT 1.0% Retention NMT 30%
Heavy metals	PPM	Complies	NMT 10 PPM

Microbiological Test			
Aerobic counts	cfu/g	135 cfu/g	NMT 1000 cfu/g
Yeast & Moulds count	cfu/g	25 cfu/g	NMT 100 cfu/g
E. coli	-	Absent	Absent
Salmonella	-	Absent	Absent
Ps. Aeruginosa	-	Absent	Absent
S. aureus	-	Absent	Absent

Physical Properties

- Solubility: Insoluble in water. Insoluble in ethanol. Insoluble in acetone. Insoluble in ether. Insoluble in dilute mineral acids.

Shelf Life & Storage

- Shelf Life: 5 years from date of manufacture under recommended storage.
 - Storage Conditions: Store in a cool, dry, and well-ventilated place at 15–30°C. Protect from moisture, excessive humidity, and contamination, as the material may absorb moisture during storage. Keep the container tightly closed in the original, properly labeled container. Store away from direct sunlight, excessive heat, and incompatible materials to maintain its flowability, compressibility, and product quality in accordance with USP standards.

Applications

- Use: Widely used as a pharmaceutical excipient in tablet, capsule, and nutraceutical formulations. It functions as a diluent (filler), dry binder, disintegrant, and flow aid, providing excellent compressibility and flow properties for direct compression and wet granulation processes. It is commonly incorporated into tablets, capsules, chewable tablets, orally disintegrating tablets (ODTs), and dietary supplements to improve tablet hardness, content uniformity, manufacturing efficiency, and product stability while complying with USP standards.
 - Dosage: Depends on the formulation, manufacturing process, and the desired tablet or capsule properties.

Packaging

- Standard Packing: 25 Kgs woven pp bag with inner liner or as per customer requirement.



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- Labeling: Product name, batch number, net weight, manufacture date, expiry date, and manufacturer details.

* Specifications are based on the manufacturer's provided specifications.



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