Matexcel

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Chitosan

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Chitosan

Chitosan is a linear polysaccharide composed of randomly distributed β-(1→4)-linked D-glucosamine (deacetylated unit) and N-acetyl-D-glucosamine (acetylated unit). Due to its physical and chemical properties, chitosan is being used in a vast array of widely different products and applications, ranging from pharmaceutical and cosmetic products to water treatment and plant protection. Chitosan is produced commercially from chitin, which is the building material that gives strength to the exoskeletons of crustaceans (crab, lobster, and shrimp), insects, and the cell walls of fungi. Through enzymatic or chemical deacetylation, chitin can be converted to chitosan. The degree of deacetylation (%DD) can be determined by NMR spectroscopy, and the %DD in commercial chitosan ranges from 60 to 100%. The molecular weight of commercially produced chitosan is between 3,800 and up to 400,000 Daltons. Our chitosan can also be categorized by its application, such as research, medical, cosmetic and food grades.

Applications

- Water treatment: Due to its polycationic nature, chitosan can be used as flocculating agent, chelating agent, and heavy metals trapper.
- Chitosan is compatible with lots of biologically active components incorporated in cosmetic products composition. It has been used in those area: skin care, hair care and oral care.
- Chitosan is used to treat obesity, high cholesterol, and Crohn's disease. Its biomedical applications include artificial kidney membrane, wound healing, artificial skin, and other engineered tissues.
- The use of chitosan to produce designed nanocarriers and to enable microencapsulation techniques is under increasing investigation for the delivery of drugs, biologics and vaccines.
- Due to its biodegradable property, chitosan is already involved in paper industry. E.g., making paper, packing materials for food wrap, and other products.

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Products List

Medical Grade Chitosan

NAT-0030 Medical grade cihtosan,69mpa.s	
Ashes: <1%	**Drying loss:** <12.5%
Heavy metals: <1ppm	**As:** <0.2ppm
Degree of deacetylation: 95%	**Total plate count:** <10cfu/g
This product is extracted from Alaska Snow Crab. We use acid and alkanic treatment in the production process. The virus removal process is achieved by dry heat. It can be used in gel, antibacterial and anti-inflammatory applications.	

Research Grade Chitosan

NAT-0032 Research grade chitosan, 8-15mpa.s	NAT-0033 Research grade chitosan, 15-30mpa.s
NAT-0034 Research grade chitosan, 30-70mpa.s	NAT-0035 Research grade chitosan, 70-150mpa.s
NAT-0036 Research grade chitosan, 150-350mpa.s	NAT-0037 Research grade chitosan, 350-750mpa.s
NAT-0038 Research grade chitosan, 20-300mpa.s	NAT-0039 Research grade chitosan, 200-800mpa.s
NAT-0040 Research grade chitosan, 800-2000mpa.s	NAT-0043 Research grade chitosan, 750-1250mpa.s
NAT-0079 Research grade chitosan, 1250-1750mpa.s	NAT-0080 Research grade chitosan, 1750-2250mpa.s
NAT-0081 Research grade chitosan, 2250-2750mpa.s	NAT-0082 Research grade chitosan, 2750-3252mpa.s
Ashes: <1%	**Drying loss:** <15%
Hg: <0.2ppm	**Cd:** <5ppm
Degree of deacetylation: 85%; 90%; 95%	
Extracted from Alaska Snow Crab. We can offer products with different viscosity values.	

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Food and Cosmetic Grade Chitosan

NAT-0088 Food grade chitosan, 12mpa.s	NAT-0098 Food grade chitosan oligosaccharide, 3000Da
NAT-0083 Cosmetic grade chitosan, 40mpa.s	NAT-0084 Cosmetic grade chitosan, 125mpa.s
Ashes: <1%	**Water loss:** <12.5%
Heavy metals: <1ppm	**As:** <0.2ppm
Degree of deacetylation: 92%	**Total plate count:** <10cfu/g
Extracted from Alaska Snow Crab and can be used in food and cosmetic additive.	

Chitosan for Water Treatment

NAT-0031 Chitosan for water treatment	
Ashes: <1%	**Water loss:** <12.5%
Heavy metals: <10ppm	**As:** <1ppm
Deacetylation: 90%	
Extracted from shrimp and crab shell and can be used in environment protection or agriculture.	

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