



BCSIR Dhaka Laboratories, BCSIR

Process

Production of chitosan from shrimp shell waste

Use

Agriculture, Food preservative, Drug delivery, Waste water treatment, Cosmetics etc

Area

Food & Pharmaceutical Industry, ETP

Salient features



Fig. : Chitosan Powder

Chitosan is a cationic polysaccharide with linear chain consisting of β -(1,4)-linked 2-acetamino-2-deoxy- β -D- glucopyranose and 2-amino-2-deoxy- β -D- glucopyranose. It does not show any adverse effects when in contact with human cells and this property has attracted chemist's scientific attention to chitosan. The biological activities of chitosan make it promising agent in controlled drug delivery systems, which can control the release of drug for long period of time. Chitosan also has antimicrobial activity, wound- healing properties, and can decrease the level of cholesterol inhuman body

Scale of development

The process is standardized at bench scale.

Status of development

Major Raw Material

Shrimp processing waste (Head, body, Tail), Sodium hydroxide, Hydrochloric Acid

Major Plant Equipment/Machinery

S.S.Still container, mechanical stirrer and hot plate

Commercialization status

This process is accepted by the BCSIR authority and it is ready for commercialization

Techno-Economics

The developed process is environment friendly. All raw materials used in the process are nontoxic. None of the consumables or procedures has adverse impact on ecology or environment.

Cost

20000/Kg

Key words

Chitin, Shrimp shell, Hydrochloric acid

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