

CHITOSAN ...

and its application in cosmetics

Chitosan is a polysaccharide, isolated from the chitinous exoskeletons of arthropods (mainly crustaceans such as crab and shrimp) via the deacetylation of chitin. It is a natural, non-toxic, biodegradable, low- to high-molecular-weight biopolymer.

Subject to raw materials and production processes used, it is possible to produce Chitosans as well as Chitosan derivatives with varying chain lengths and differentiated properties. In cosmetics the properties primarily employed are:

- cationic
- bacteriostatic
- fungistatic
- film-forming
- moisture-retaining
- controlled release of active agents



Chitosan can be dissolved in aqueous solutions of low concentrated suitable acids. Viscosity obtained ranges from low to high, depending on the Chitosan used. Preserved solutions remain stable even at low pH values. Chitosan is an unusually effective stabiliser for highly acidic emulsions.

Some of the applications mentioned in literature are:

- hair care (hairspray, setting lotion, colouring products, shampoo)
- creams, lotions
- colour cosmetics (eye shadow, lipstick, nail polish, make-up)
- cleansing products (cleansing milk, face peel, facial toner, soap)
- dental care (toothpaste, toothgel, mouth wash)
- deodorising products (deodorants, foot powder)
- encapsulation of active agents

Chitosan is generally compatible with starch, glucose, saccharose, polyols, oils, fats, waxes, and acids (acetic, hydrochloric, nitric, formic, citric, lactic), as well as with non-ionic emulsifiers and non-ionic water-soluble gums.

Chitosan is, however, incompatible with ionic gums, algin, sulphonated surface-active agents, alkalis with a pH greater than 7, and sulphuric acid and its salts.

Over 100 grades of standard Chitosans and water soluble grades, like Chitosan Hydrochloride, Chitosan Lactate, Chitosan Acetate, Chitosan Oligosaccharide and Carboxymethyl Chitosan are available.

We are looking forward to hearing about your specific area of interest!