



## Global Requirements of Chitosan for Medical and Food Applications

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### Abstract

*Chitosan is a biopolymer obtained by deacetylation of chitin which widely distribute in nature and biologically safe. This polymer exhibits several favor properues, such us biodegradability, biocompatibility, low toxicity and ability to form film hydrogel. Chitosan offers a wide range of unique application such as in medical application for hypocholesterolemic, antimicrobial, and wound-healing properues, drug delivery, and biologically active agent. For food application, chitosan is used for dietary ingredient, food preservative, edible film and coatings.*

*To fulfill the requirement of medical and food application, it is necessary to prepare several tests, grouped in preliminary, confirmatory and other tests. The characterization of chitosan used for the applications including moisture content, form identification, ash and protein content, insolubility, turbidity, color, UV absorption, chemical identification tests, viscosity and molecular weight determination.*

*The main limitations in the use of chitosan in several applications are its high viscosity and low solubility at neutral pH. Low molecular weight (Mw) chitosans and oligomers can he prepared by degradation of chitosan such as chemical hydrolysis, oxidative degradation, irradiation of chitosan and enzymatic hydrolysis. For medical application, high degrees of deacetylation of chitosan is the important parameter of chitosan for medical and food applications. For some specific applications, these smaller molecules have been found to he much more usefull.*

**Keywords:** chitosan; medical and food application; characterization of chitosan