

# Naturally-derived Functional Polymer

## Application

- Applicable to cosmetics, coatings, papers, fabrics, agriculture, wastewater purification, water treatment agents, etc.
- Applicable to various coating agents imparting unique functions to material surfaces, and to personal care products including cosmetic raw materials.

## Characteristics

- Chitosan has reactive amino groups in the molecule which form water-soluble salts with various acids, and releases cations into the water. Because of these cations, chitosan has been used for many years as a cationic flocculant for clarification, sedimentation, filtration and wastewater treatment in the food industry.
- In recent years, development of applied products has been actively made in various fields by utilizing the functions of chitosan, such as biocompatibility with high safety, antibacterial activity, moisturizing capacity, deposition properties, moisture absorption/desorption properties and deodorant efficacy.
- We have developed a system for integrated production of chitosans starting with the exoskeletons of crabs, which results in a high-quality product. We provide customized products to suit customer needs.
- We also develop various chitosans and their derivatives on request.

## Representative Products

Classification	Product name	Grade	Viscosity(mPa・s)
Chitosan	H	High viscosity product	More than 600* <sup>1</sup>
	M	Medium viscosity product	200 ~ 600* <sup>1</sup>
	PVL	Low viscosity product	7 ± 2* <sup>2</sup>
	VLA	Very low viscosity product	5 ± 1* <sup>2</sup>
Highdeacetylated chitosan	100D	Medium viscosity product	25 ~ 100* <sup>1</sup>
	100D(VL)	Very low viscosity product	5 ~ 10* <sup>2</sup>
Powdered chitosan	80M	80 Mesh-pass powder	—
	325M	325 Mesh-pass powder	—
	FP	Ultra-fine powder	—
Chitin	DS	Standard product	—
	P-DL	Purified product	—
Chitosan solution	W-10	High Concentration product (10% aqueous solution)	100 ~ 5,000
	W-3	Medium concentration product (3% aqueous solution)	50 ~ 5,000
Chitin & Chitosan derivatives	Pyrrolidone carboxylic acid salt	Chitosan derivative	—
	Carboxymethyl chitin	Chitin derivative	—
	Lactic acid salt	Chitosan derivative	—
Agricultural seed coloring		red/green/yellow	—

\* 1 : Chitosan purity 0.5wt%, acetic acid 0.5wt% aqueous solution, 20℃, measured by B-type viscometer.

\* 2 : Chitosan purity 1wt%, acetic acid 1wt% aqueous solution, 20℃, measured by B-type viscometer.