Specialized Chitosan Supplier

(USA/Canada and ships worldwide)

Chitosans to Accelerate Your R&D

We supply high-quality pure chitosan for biomedical, pharma, medical device, food, and industrial applications

Many Chitosans & Specifications

- Degrees of Deacetylation
- Molecular Weights / Viscosities
- Derivatives

High-Grades

Medical, Pharma, Food, Industrial

Batch-To-Batch Consistency

Our chitosans are continually tested multiple times internally and by independent 3rd party labs

Chitosan to Overcome R&D and Regulatory Challenges

A few of our customers and partners

FedEx Institute of Technology

Université de Nantes

Boston Scientific
Advancing science for life™

Columbia Engineering

Abbott Vascular

Johns Hopkins Biomedical Engineering

INEB
INSTITUTO DE ENGENHARIA BIOMÉDICA

Bruneau Centre for Research and Innovation
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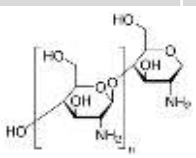
Chitosan

(Crustacean Sources)

Product	Product Number	Degree of Deacetylation (%)	Viscosity (mPa.s / cps) 1 wt. % in 1% acetic acid (20 °C,): Soluble	Degree of Deacetylation (DDA%) - ~Molecular Weight (Mw)	Price ($US)/Gram
Chitosan	B-90-471692	91.5	75	High DDA% - Low Mw	$1.73
Chitosan	B-85-471692	88.3	70	Medium DDA% - Low Mw	**$1.33**
Chitosan	B-95-545381	95.6	66	Very High DDA% - Low Mw	$1.73
Chitosan	A-90101	90.1	33	**High DDA% - Low Mw**	**$1.33**
Chitosan Flake	D-DF-85-751449	86.5	1200	Medium DDA% - Very High Mw	$1.33
Chitosan	AL-801	>80	<400	Medium DDA% - Medium Mw	**$1.33**
Chitosan	AL-120	>80	<100	Medium DDA% - Low Mw	$1.33
Chitosan	AL-476	>90	<30	**High DDA% - Very Low Mw**	**$1.33**
Chitin	C-15301	NA			$0.70



Description

Forms gels with multivalent anions. Provides clear solutions that dry to strong, clear films, and hydrogels.

Crustacean (crab, shrimp) shell derived chitosan, deacetylated chitin (poly β-1,4-D-glucosamine). Can be used as a biocompatible, antibacterial and environmentally friendly polyelectrolyte biomaterial with a variety of applications including uses in additives for cosmetics, textile treatment for antimicrobial activity, fibers for textiles, biodegradable films, hydrogels, biomedical devices, tissue engineering structures and regeneration, medical devices, and micro and nano capsule delivery for controlled release of therapeutics and drugs, implants, cell and tissue adhesion and proliferation, etc. It can also be derivatized to further expand its uses.

Bulk Orders (1 Kilogram+) Contact Us

Packaging

10, 25, 100, 500 g in poly bottle

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Chitosan

(Derivatives & Speciality)

Product	Product Number	Degree of Deacetylation (%)	Molecular Weight (kDa)	Degree of Deacetylation (DDA%) - ~ Molecular Weight (Mw)	Price ($US)/Gram
Chitosan (High Density)	A-HD-877	90.1	15	**High DDA% - Low Mw**	**$1.73**
Chitosan Lactate*	AL-10131	≤95.0	33	**Medium DDA% - Low Mw**	**$1.73**
Chitosan Oligosaccharide	CO-101211	**86.5**	<3	**Medium DDA% - Very Low Mw**	$1.93

Product	Product Number	Quarterisation/ Substitution degree (%)	Viscosity (cps) - (1% in water 20ºC)	Price ($US)/Gram
Trimethyl Chitosan*	TMC-143	≥80		$ 12.14
Carboxymethyl Chitosan*	COMING SOON			

* This product is water soluble.

Bulk Orders
(1 Kilogram+)
Contact Us

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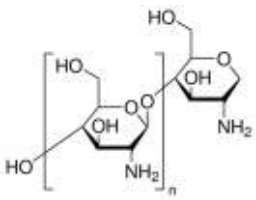
Chitosan

(Non-Animal Vegetal Sources)

Product	Product Number	Degree of Deacetylation (%)	Molecular Weight (kDa)	Degree Deacetylation (DDA%) - Molecular Weight (Mw)	Price ($US)/Gram
* Chitosan Mushroom Oligosaccharide	MO-215241	98.2	≤3	Very High DDA% - Very Low Mw	$1.93
Chitosan Mushroom	C-M-95-401132	98.0	250 - 300	Very High DDA% - Medium Mw	$1.93
Chitosan Mushroom	C-M-98-501441	98.2	600 (cps)	Very High DDA% - High Mw	$1.93
Chitosan Mushroom	C-M-85-401132	90.1	250 - 300	High DDA% - Medium Mw	$1.73

* This product is water soluble.



Description

Forms gels with multivalent anions. Provides clear solutions that dry to strong, clear films, and hydrogels.

Non-animal vegetal (mushroom) derived chitosan, deacetylated chitin (poly β-1,4-D-glucosamine). Can be used as a biocompatible, antibacterial and environmentally friendly polyelectrolyte biomaterial with a variety of applications including uses in additives for cosmetics, textile treatment for antimicrobial activity, fibers for textiles, biodegradable films, hydrogels, biomedical devices, tissue engineering structures and regeneration, medical devices, and micro and nano capsule delivery for controlled release of therapeutics and drugs, implants, cell and tissue adhesion and proliferation, etc. It can also be derivatized to further expand its uses.

Packaging

50, 100, 250g in poly bottle

Bulk Orders
(1 Kilogram+)
Contact Us

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Chitosan

Sterilized and Endotoxin-Free
Ultra-Pure Ultra-Clean

Product	Product Number	Degree of Deacetylation (%)	Viscosity (mPa.s/cps)	Degree Deacetylation (DDA%) - Molecular Weight (Mw)	Price (US$)/Gram
Chitosan Plasma-Treated	PT-90-545381	95.6	66	High DDA% - Low Mw	$34.14
Chitosan Flake Plasma-Treated	PT-DF-85-75144	>85.0	1200	Medium DDA% - Very High Mw	$21.25

Packaging
15, 30g PETG Sterile bottle/pouch

Chitosan (CS) is a biopolymer that has shown tremendous promise in the medical literature for many biomedical applications, such as a hemostatic agent, immune adjuvant, drug delivery vehicle, tissue engineered scaffolds, and many more.[1] However, its clinical use has been limited to mostly topical hemostasis due to difficulties in decontaminating chitosan for its use in human clinical settings. Traditional standard sterilization techniques have been attempted to meet regulatory standards for implantation and/or injection of chitosan while maintaining its advantageous biological properties.[2] But this have yet to be fully overcome, until now.

An Ultra-Pure Ultra Clean Chitosan that's sterile and endotoxin-free has been achieved with a new patented plasma-treatment technology. This innovation overcomes the major barrier that has prevented use of chitosan in many biomedical applications due to the damaging effects of standard sterilization methods, such as harsh chemicals, gamma irradiation, dry or wet heat, and residual toxic compounds. This technology uses non-thermal atmospheric pressure nitrogen plasma for decontaminating chitosans from impurities, pyrogens, and especially endotoxins. This now enables chitosan to be used in a wide-variety of medical applications from bench to market.

However, CS's clinical use has been limited due to its difficulties with there being a consistent and decontaminated CS product, and which meets regulatory standards while maintaining its many biological properties. The contamination of chitosan can occur from a variety of places including;

- The source of the starting material. For example, if shells used to produce chitosan are from shrimp that come from contaminated waters, unwanted residues of heavy metals and pyrogens, such as endotoxin may be found in the end CS product.
- Contamination can also occur in manufacturing processes when controls and assurances are not implemented sufficiently.

Plasma Technology

The technology is a patented non-thermal atmospheric pressure nitrogen plasma technology for decontamination of delicate biomaterials, such as chitosan.
Plasma is the fourth state of matter, after solid, liquid and gas. Lightning, the Northern Lights (aurora borealis), and the sun are natural examples of plasma. Artificial plasmas include arc-welders and fluorescent/neon lights. Gases become plasmas when a specific voltage is applied to a gas, which produces unique properties such as conductivity, magnetism, quasi-neutrality and high concentrations of ionized gas molecules and free radicals that are superb at destroying viruses, microbes, and endotoxins.

Historically chitosan sterilization methods involving harsh conditions was used to inactivate tough microscopic contaminants and pathogens. These conditions alter the CS molecule being sterilized, causing a multitude of chemical, morphological, and mechanical changes. These changes affect the biofunctions of the CS, and ultimately the application the CS is used in.

Conventional sterilization reduces chitosan molecular weight (Mw). For example, electron beam sterilization reduced the Mw of CS by 56%, and gamma irradiation induced main chain scissions in CS fibers, and films that decreased the Mw of CS by 25%.[12,13]

Other challenges caused by traditional sterilization methods include chemical alterations of CS and residual toxic residues.[14-18] Reduction in the Mw of CS reduces its adhesion strength to tissues by limiting chain flexibility for interpenetration and entanglement of tissue proteins and mucus.[19] This effect is demonstrated by the failure of low-Mw CS to form a firm coagulum when exposed to blood in vitro.[20] Other factors that affect the bioadhesivity of CS, like degree of deacetylation and degree of ionization, also may reduce its hemostatic efficacy since it is postulated that CS induces hemostasis via red blood cell agglutination and a 'velcro-like' adhesion to tissue surfaces.[19,21] These are only a few reasons why researchers should consider the sterile CS even in the initial stages of the R&D process.

- ChitoLytic Ultra-Pure Ultra-Clean Chitosan is Plasma-Treated (depyrogenated) with a non-thermal process.
- "Typical" chitosans present with an average endotoxin levels of ~400 EU/g, while the lowest ~200 EU/g.
- ChitoLytic plasma-treated sterile chitosan presents with endotoxin <10 EU/g, or not detected/absent on its certificate of analysis (CoA).
- Tests are performed via the Limulus Amebocyte Lysate (LAL) Test - gel clot method USP <85>

References available upon request

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Chitosan

(By Grades)

Product	Product Number	Degree of Deacetylation(%) / Viscosity (cps)/ Molecular Weight (Mw)	Industrial	Food (GMP)	Medical (GMP)
Chitosan	B-95-545381	95.6 / 66 (cps)		√	√
Chitosan	A-90101	90.1 / 33 (cps)		√	√
Chitosan	AL-801	>80 / <400 (Mw)	√	√	√
Chitosan	AL-120	>80 <100 (Mw)	√	√	√
Chitosan	AL-476	>90 / 80-400 (Mw)	√	√	√
Chitosan Lactate	AL-10131	≤95.0 / 33 (cps)	√	√	√
Trimethyl Chitosan	TMC-143	≥80 (Degree of Quarterisation)		√	√
Chitosan Mushroom	C-M-95-401132	98.0 / 250-300 (Mw)		√	√
Chitosan Mushroom	C-M-98-501441	98.2 / 600 (cps)		√	√
Chitosan Mushroom	C-M-85-401132	90.1 **/ 250-300 (Mw)**		√	√
Chitosan Plasma-Treated	PT-90-545381	95.6 / 66 (cps)		√	√
Chitosan Flake Plasma-Treated	PT-DF-85-75144	>85.0 / 1200 (cps)		√	√
Carboxymethyl Chitosan		COMING SOON		√	√
Chitosan Mushroom Oligosaccharide	MO-215241	98.2 / ≤3 (Mw)		√	
Chitosan (Crustacean) Oligosaccharide	CO-101211	86.5 / <3 (Mw)		√	
Chitosan	B-90-471692	91.5 / 75 (cps)		√	
Chitosan	B-85-471692	88.3 / 70 (cps)		√	
Chitosan Flake	D-DF-85-751449	86.5 / 1200 (cps)		√	
Chitosan (High Density)	A-HD-877	90.1 / 15 (cps)		√	
Chitosan Oligosaccharide	CO-101211	86.5 / ≤3 (Mw)	√	√	
Chitin	C-15301	NA	√	√	

Chitosan is generally categorized by its medical, food, and industrial grades. Whereas, they require Medical Good Manufacturing Practices (GMP), Food GMP, and non-GMP manufacturing certification, respectively. Coinciding with the GMPs and non-GMP certifications are requirements for ISO certifications for particular applications and products.

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How Ordering Works

1. Select your chitosan product(s).
2. Determine if you want 100g or 250g. In special cases approve a 50g purchase.
3. We generate an Invoice or ProForma Invoice.
4. There are 3 ways you can pay:
    - Credit Card or PayPal
    - Bank Wire Transfer
    - Bank Cheque or Money Order
5. Once we receive your payment we will ship your order within 48 hours. If there are delays we will let you know.

Secure Payments By PayPal

Delivery Times

Location	Delivery Services		
	Regular (No Tracking) Delivery (Days)	Fast (Tracking) Delivery (Days)	Express (Tracking) Delivery (Days)
USA/Canada	$65.50	$89.70	$110.50
	10 - 14	5-10	1-2
Europe	$76.25	$98.00	$120.00
	12 - 20	10-14	5-8
Asia (East/South)	$79.50	$101.00	$125.50
	14 - 21	10-14	5-8
Other	$79.50	$101.00	$125.50
	14 - 21	10-14	5-8

Note: these prices and delivery times are based on a 500 gram order, and can vary due to weight and changes in courier prices.

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FAQs

Is the product available now, how soon can I receive it?
This product is usually in our inventory so it can be shipped within 48 hours.

What is the minimum quantities I can purchase?
100 or 250 gram depending on the product

Can I get a free sample ?
Contact us for special requests. We normally do not provide free samples. But sometimes we ship free 50 gram samples for a shipping & handling payment of US$48.16 for each sample requested

How do I get a Certificate of Analysis (CoA) for this product?
Send us an email to request it: info@chitolytic.com

What I do if I need 1 kilogram or more?
Email us here, or phone us at 1-(866) 729-4467 USA/Canada or International/Local: 1-438-930-6453

What is the solubility of these product?
Chitosan is insoluble in water or organic solvents. Suspensions can be prepared in 1M acetic acid at a concentration of 10 mg/mL, but extensive sonication may be required to fully suspend the material. These products are generally soluble at 10 mg/mL in 0.5, 1%+ acetic acid for its viscosity test.

My question is not answered here, how can I get more for assistance?
Email us at: info@chitolytic.com , or phone us toll free at 1-(866) 729-4467 USA/Canada or International/Local: 1-438-930-6453 Website: www.chitolytic.com

A few of our collaborating partners

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