PRODUCT DATASHEET

ALPHAMAX AN

by ALPHA-CHITIN®

DESCRIPTION

AlphaMax is a premium Chitosan product derived from *Aspergillus Niger* (AlphaMax AN).

The unique extraction and purification process developed by Alpha-Chitin® sets *AlphaMax* apart from conventional chitosan products found on the market ensuring a fine grade of chitosan composed of highly tunable polysaccharides content (> 90 %), molecular mass and quality specifications on client's demand.

ANALYTICAL SPECIFICATIONS

Analysis	*AlphaMax AN*
Organoleptic properties	
Appearance	White to light yellow powder
Odor/taste	No odor
Physico-chemical datas	
Moisture (%)	< 5
Polysaccharides content (%) (complex chitosan+glucans)	> 95
Deacetylation ratio (%)	> 95
Average molecular weight (kDa)	> 100
pH	9.2
Particle size (µm)	100-200

Technical specifications of final products can be fine-tuned upon application and customer requests ; as well as the corresponding analytical plan. Our unique process capacity allows us to tune highly pure, deacetylated product with very low molecular masses.

CAS number : 9012-76-4
HS code : 3913.90

QUALITY GUARANTEES

The process is designed under the strict HACCP methodology. Thus, following the standards for feed materials, we can tune our process to meet your quality specifications for undesirable substances and microbiology in accordance with the (CE) 2002/32 directive :

	AlphaMax AN
Undesirable substances	
Total heavy Metals	< 10 ppm
Arsenic	< 1 ppm
Lead	< 0,5 ppm
Mercury	< 3 ppm
Microbiology	
Total Plate	< 1000 CFU / g
Yeasts and Molds	< 100 CFU / g
Enterobacteria	Negative
Salmonella absence in 25g	Negative

In addition, Alpha-Chitin can certify that *AlphaMax AN* is allergen and endotoxin free.

STATEMENTS & PROPERTIES

Chitosan is the only natural polymer to exert stable positive charges over a range of pH. Chitosan is widely used because of well recognized properties as;

Filmogenic property – it is the ability to form films and coatings is crucial in applications such as wound dressings, drug delivery systems, cosmetics and agriculture. Its film-forming ability provides protective barriers, controls the release of active ingredients, and enhances the texture and stability of products.

Bacteriostatic effect - Chitosan has inherent antibacterial properties, which are primarily due to its positive charge. This charge allows it to interact with the negatively charged cell membranes of bacteria, leading to disruptions in their function and growth inhibition. This antibacterial property is vital in medical applications (e.g., wound dressings, antibacterial coatings), and personal care products (e.g., toothpaste, deodorants).

Natural origin, Biodegradability and Biocompatibility - Being derived from chitin, chitosan is a natural polymer, making it an attractive option for eco-friendly and sustainable products. Chitosan is biodegradable and biocompatible, meaning it can be broken down by natural processes and is safe for use in biological systems. These properties are essential for biomedical applications, such as drug delivery, tissue engineering, and biodegradable packaging, ensuring that products are environmentally friendly and safe for human use.

The manufacturing process of ALPHA CHITIN **products** has received the **GMP+ certification** and ensures the safety of raw material for feed applications.

	AlphaMax AN
Feed Material Registration (*FMR*)	002283-EN

AlphaMax product range is better than competitor fungi based chitosans because :

- *AlphaMax* production is assuring repeatability from batch to batch and full traceability by following GMP+ requirements for all bioresource transformation and having a full control on each supply chain. In this regard, the whole production process is auditable and all the chitosans will behave the same way in your manufacturing process whatever the batch number.

- *AlphaMax AN* have a lower glucan content than competition, owing to our specific manufacturing process.

Moreover, *AlphaMax AN* product range is highly tunable : formulation & functionalization on demand. The quaternization or trimethylation of chitosan enable to maximize its biological activity.

APPLICATIONS

AlphaMax product range excels in various **cosmetic**, **pharmaceutical, personal care, beverages, feed** applications where is acts as *binder, emulsifier, stabilizer, thickener and/or preservative.*

- Formulation of natural skin care, hair care and makeup products
- Excipient in pharmaceutical and medical formulations
- Technical adjuvant
- Stabilization of color, pigments and aromas
- Anti-bacterial activity
- Prevention of oxidation
- Restructuring of vegetable, fruit and meat purees
- Immobilization of enzymes or cells (*cheese dairy, dietetics, aquaculture*)

RECOMMANDATIONS FOR USE & SUPPORT

All our chitosans are delivered at pH 9.2. To solubilize them, you need to add 1% m/V of our chitosan in a 1% V/V acetic (or succinic) solution and stir it at least 15 minutes ; in order to reajust the pH below 6, where chitosans are commonly soluble.

Average molecular weight and deacetylation degree are driving chitosans solubility and functional properties. Therefore, we can support your formulation team and help you to select the best AlphaMax chitosan for your application.

For any technical support, inquiries, or to explore custom solutions, please contact our Alpha-Chitin R&D team.

PACKAGING, TRANSPORT & SHELF-LIFE

AlphaMax is available in bags of 1kg or 25kg. Our packaging is designed to maintain product integrity and is aligned with our commitment to sustainability.

We offer hassle-free transport and delivery options to ensure your procurement experience is smooth and convenient.

It is to be stored in a dry and cool place to ensure a 2-year shelf-life in regards of packaging integrity.