

SPECIFICATION SHEET

BACTILESS NATURE™

FOR OENOLOGICAL USE

Chitosan qualified for the elaboration of products for direct human consumption in the field of the regulated use in oenology, packaged in laminated foil.

Pure Chitosan from *Aspergillus niger* produced in EU.

50125-06-27: 20 x 500 g sachet in a 10 kg carton

CHITOSAN SPECIFICATIONS

in compliance with OIV Codex
RES. OIV-OENO 368-2009 and
RES. OIV-OENO 728-2025

Residual glucans.....	> 2 % (w/w)
Viscosity 1% in HAc 1%.....	< 15 cPs
Settled density	≥ 0.7 g/cm ³
Degree of acetylation.....	< 30%

Isotopic ratios ¹³C/¹²C and ¹⁵N/¹⁴N:

..... δ ¹³ C > -14.2‰ or δ ¹³ C < -24.9‰
..... but if -25.1 ‰ ≤ δ ¹³ C ≤ -24.9‰,
..... then δ ¹⁵ N > +2.7‰

Dry matter	> 90%
Ash.....	≤ 3%
Soluble residues	≤ 5%
Total Aerobic Bacteria	< 10 ³ CFU/g
Coliform.....	< 10 ² CFU/g
<i>Salmonella</i>	Absent in 25 g
Moulds	< 10 ² CFU/g
Yeast.....	< 10 ² CFU/g
Enterobacteriaceae.....	< 10 CFU/g
Ochratoxin A	≤ 5 µg/kg
Lead	< 1 mg/kg
Zinc	< 50 mg/kg
Iron.....	< 100 mg/kg
Copper	< 30 mg/kg
Cadmium.....	< 1 mg/kg
Chromium	< 10 mg/kg
Arsenic	< 1 mg/kg
Mercury	< 0.1 mg/kg

INSTRUCTIONS FOR USE

Recommended average dosage from 20 g/hL up to 50 g/hL in case of high level contamination.

Maximum legal dosage: 50 g/hL.

Add it to must or wine. Introduce into the wine at the top of the tank and mix thoroughly the whole volume of the tank.

PHYSICAL PROPERTIES

APPEARANCE

- Beige to light brown powder

INGREDIENTS

- Pure chitosan from *Aspergillus niger* and yeast cell walls *Saccharomyces cerevisiae*.

YEAST CELL WALLS SPECIFICATIONS

in compliance with OIV Codex

Dry matter	≥ 94 %
Lactic Bacteria	< 10 ³ CFU/g
Acetic bacteria	< 10 ³ CFU/g
Coliform	< 10 ² CFU/g
<i>E. coli</i>	Absent in 1 g
<i>S. aureus</i>	Absent in 1 g
<i>Salmonella</i>	Absent in 25 g
Moulds	< 10 ³ CFU/g
Yeast	< 10 ² CFU/g
Lead.....	< 2 mg/kg
Mercury.....	< 1 mg/kg
Arsenic.....	< 3 mg/kg
Cadmium	< 1 mg/kg

STORAGE & SHELF LIFE

Store in a dry and cool place.

Shelf life: 4 years in original sealed packaging.

CHITOSAN ORIGIN

The Chitosan presents in BACTILESS NATURE™ is 100% fungal origin from *Aspergillus niger* and in compliance with OIV International Oenological Codex.

It is guaranteed through 4 different characteristics:

- Three characteristics established by Resolution OIV-OENO 368-2009:
 - a content of residual glucans > at 2 %,
 - a settled density \geq at 0.7 g/cm³,
 - a viscosity in solution 1 % in acetic acid 1 % < at 15 cPs.
- One characteristic established by Resolution OIV-OENO 728-2025:
 - isotopic ratios ¹³C/¹²C and ¹⁵N/¹⁴N: $\delta^{13}\text{C} > -14.2\text{‰}$ or $\delta^{13}\text{C} < -24.9\text{‰}$ but if $-25.1\text{‰} \leq \delta^{13}\text{C} \leq -24.9\text{‰}$, then $\delta^{15}\text{N} > +2.7\text{‰}$.

These characteristics guarantee the authenticity of fungal chitosan from *Aspergillus niger* and exclude any animal origin, that is not admitted by the OIV.

As part of our commitment to quality, transparency, traceability and responsibility towards our customers and wine consumers, we can provide—upon request— a product certificate with the four characteristics listed above, confirming the fungal origin (*Aspergillus niger*) of the chitosan used in BACTILESS NATURE™.



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