

## Enzyme Treatment

### SIHAZYM Fine™

## Granulated Enzyme Compound for Improving the Filtration and Extraction of Mannoproteins from Yeast Cell Walls

SIHAZYM Fine enzyme is a pectolytic enzyme compound with secondary  $\beta$ -glucanase activity. The combination of pectolytic main activity and  $\beta$ -glucanase activity enables increased wine filtration. The increase in filtration is due to the breakdown of fibrilous substances (origin grapes) and filtration-inhibiting residual pectins. Beside botrytis cinerea, further microorganisms present on the grapes, are able to form fibrilous substances that can lead to problems during must clarification and young wine filtration. SIHAZYM Fine enzyme is the enzymatic solution to these problems.

Due to its  $\beta$ -glucanase activity, SIHAZYM Fine enzyme is used for the extraction of mannoproteins during storage of young wines on yeast. The oenological aim is to break the yeast cell wall enzymatically, thereby achieving increased extraction of mannoproteins. Higher mannoprotein content promotes the mouthfeel and the complexity of wines.

The specific advantages of SIHAZYM Fine enzyme:

- Increased filtration capacity → lower production costs
- Release of mannoproteins
- Increased mouthfeel of wines
- Increased complexity
- Suitable for "sur lie" storage; batonnage development

### Application

SIHAZYM Fine enzyme is a special enzymes for treating young wines with the aim of increasing the filtration capacity. The application of SIHAZYM Fine enzyme specifically promotes the breakdown of filtration-inhibiting substances such as botrytis glucan and further polysaccharide complexes.

Based on the dosage recommendation add SIHAZYM Fine enzyme directly into the tank as a 10% solution in water towards or after the end of the alcoholic fermentation (utilization of fermentation heat). For the clarification of must reserve from grapes infected by botrytis, add SIHAZYM Fine enzyme to the must clarification container. It is important to ensure optimum distribution of the enzyme solution.

### Dosage

| Application   | Dosage<br>lb/1,000gal<br>(g/100 kg)<br>must/mash | Duration                               |
|---|--|--|
| Young wine:   |  |  |
| End of alcoholic fermentation<br>(approx. 62.6 – 68 °F<br>(17 – 20 °C)) | 0.25 – 0.42<br>(3 – 5)                           | 2 – 3 weeks                            |
| After alcoholic fermentation<br>(approx. 55.4 - 59 °F<br>(13 – 15 °C))  | 0.42 – 0.67<br>(5 – 8)                           | 4 – 6 weeks<br>(stirring once per day) |
| Must reserve preparation<br>(approx. 46.4 – 50 °F<br>(8 – 10 °C))       | up to 0.67<br>(8)                                | 4 – 6 h                                |

### Activity

SIHAZYM Fine enzyme has a pectolytic activity of 4,400 PGNU/dr (2,500 PGNU/g, polygalacturonase) and  $\beta$ -glucanase activity (exo-1,3) of 177 BGXU/dr (100 BGXU/g). The product is cleaned of cinnamyl esterase activity.

### Special Notes

Contact with bentonite causes irreversible damage to enzymes through adsorption.

The enzymatization reaction must be completed prior to using bentonite, or the bentonite must be removed before the enzyme is added.

Any bentonite treatment that may be required should therefore be carried out before the enzyme treatment, because otherwise the enzyme would be adsorbed and deactivated by the bentonite. The application of up to 8.4 lb/1,000 gal (1,000 mg/l SO<sub>2</sub>) has no influence on enzyme activity.

Each 0.22 lb (100 g) can includes a 0.01 lb (5 g) dosing spoon.



## Safety and Purity

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The product is a white, virtually dust-free, and soluble micro-granulate without preservatives. It meets the requirements of the FAO/WHO JEFCA and FCC recommendations for food enzymes.

Further safety information can be found in the relevant Material Safety Data Sheet, which can be downloaded from our website.

## Storage

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SIHAZYM Fine enzyme is a micro-granulate that can be stored for up to three years at 39.2 – 42.8 °F (4 – 6 °C, ~ refrigerator temperature) without losing its designated activity. The product should be stored dry and well-sealed once opened.

## Delivery Information

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SIHAZYM Fine enzyme is sold under article no. 95.231.001 and are available in the following package size:

0.22 lb (100 g)      can

## Certified Quality

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During the production process, SIHAZYM Fine enzyme is regularly monitored to ensure consistently high quality.

These inspections include technical functional criteria as well as safeness in accordance with relevant laws governing production of foods. Strict controls are additionally carried out immediately prior to and during final packaging.

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