

# Enzyme Treatment

## SIHAZYM<sup>®</sup> Lyso

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### Lysozyme – Extract from Chicken Protein

#### Description

SIHAZYM<sup>®</sup> Lyso is a natural lysozyme extracted from chicken protein for controlling the lactic acid bacteria population. SIHAZYM<sup>®</sup> Lyso attacks the cell wall of gram-positive bacteria such as *Pediococci*, *Lactobacilli* and *Oenococci*, causing the cell to burst and die. SIHAZYM<sup>®</sup> Lyso not attacks gram-negative bacteria such as *Acetobacter* (acetic acid bacteria) and yeasts and molds.

Control over the development of lactic acid bacteria is an important step during the different vinification stages. Growth and multiplication of spontaneous flora such as *Pediococci* and some *Lactobacilli* is particularly critical in red wines with high pH values. For higher pH values, the anti-microbial effect of the added sulfur is significantly lower. Appropriate control of the bacterial flora is therefore more difficult to achieve. Uncontrolled growth of bacteria leads to spontaneous MLF, which usually already starts during or towards the end of the alcoholic fermentation. Uncontrolled bacterial growth often results in increased formation of volatile acid and off-flavor. The conditions for the multiplication and the growth of spontaneous bacterial flora is promoted by good availability of sugar and nutrients, which in turn can lead to extreme problems during the re-fermentation of wines that have become stuck.

SIHAZYM<sup>®</sup> Lyso is a natural alternative to the application of high SO<sub>2</sub> dosages for controlling undesirable lactic acid bacteria. SIHAZYM<sup>®</sup> Lyso does not attack the yeast cells, i.e. there is no interaction between the cells. The concentration of ViniPlus for suppressing/controlling lactic acid bacteria depends on the pH value.

#### Application

SIHAZYM<sup>®</sup> Lyso is preferably diluted with lukewarm tap water as a 10 % dilution without strong stirring, which can affect the enzymatic activity.

#### Timing of the application:

**For mash applications,** SIHAZYM<sup>®</sup> Lyso is recommended for controlling and suppressing spontaneous bacterial flora. The aim is to prevent malolactic fermentation during the alcoholic fermentation through spontaneous gram-positive bacteria.

SIHAZYM<sup>®</sup> Lyso can be added directly after settling/clarification or must racking (white wine), or after destemming of red wine grapes:

pH < 3.5: 10 – 15 g/hl  
pH > 3.5: 15 – 20 g/hl

**During alcoholic fermentation,** the addition of SIHAZYM<sup>®</sup> Lyso is recommended if the fermentation is very slow or has become stuck. In this case, the addition of SIHAZYM<sup>®</sup> Lyso serves to suppress lactic acid bacteria, which may lead to the formation of volatile acid or off-flavor, and are in direct competition for nutrients with the yeasts.

Recommended dosage for red and white wine:

pH < 3.5: 15 g/hl  
pH > 3.5: 20 – 30 g/hl

**After the alcoholic fermentation,** the addition of SIHAZYM<sup>®</sup> Lyso in combination with a SO<sub>2</sub> dosage is recommended for controlling the development of lactic acid bacteria during storage of wine. Recommended dosage for red or white wine:

25 – 30 g/hl depending on pH value and SO<sub>2</sub> concentration.

#### Special Notes

The maximum quantity within the EU is 50 g/hl. Note that SIHAZYM<sup>®</sup> Lyso is a protein substance, and that joint contact with bentonite, tannins and chips should be avoided. It is important that wines that have been treated with SIHAZYM<sup>®</sup> Lyso are sulfured and filtered. Prior to bottling, SIHAZYM<sup>®</sup> Lyso should be removed with bentonite, in order to prevent possible protein haze on the bottle. If meta tartaric acid is used for tartrate stabilization, this may lead to protein haze after the application of SIHAZYM<sup>®</sup> Lyso, notwithstanding bentonite fining.

#### Safety and Purity

The product is a white, crystalline fine granulate.

#### Storage

The product should be stored dry at 20 °C. In the unopened original packaging it has a durability of 24 months.

#### Delivery Information

SIHAZYM<sup>®</sup> Lyso has the article number 95.237.005 and is available in the following packaging unit:

500 g PE bottle

HS Customs Tariff: 3507 90 90

## Certified Quality

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During the production process, SIHAZYM® Lyso is constantly monitored to ensure consistently high quality. These inspections cover technical function criteria as well as conformance with the relevant laws governing the production and sale of foodstuffs. Strict controls are carried out immediately before and during final packaging.

SIHAZYM® Lyso conforms to the purity regulations of the International OIV Code for wine treatment products and to the regulations of the German Wine Ordinance.



Reg. No. 000480 QM

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The logo for BEGEROW, featuring the word "BEGEROW" in a bold, red, sans-serif font. Above and below the text are horizontal lines with a small red triangle pointing upwards and downwards respectively, centered under the letter 'O'.