

# Pure Fermentation

## SIHA Active Yeast 4

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### (*Saccharomyces bayanus*, strain CH 158)

**SIHA Active Yeast 4 is a highly active dry yeast formulated especially for making champagne and for fermentation in the bottle by the “Méthode traditionnelle”. Through permanent selection a yeast with excellent oenological properties has been developed. It is equally suitable for completing the fermentation of wine that has stopped fermenting.**

The special advantages of SIHA Active Yeast 4 are:

- ▶ Secondary fermentation soon starts
- ▶ Very good fermentation properties in the cold
- ▶ Formation of a fine champagne bouquet with simultaneous intensification of the typical wine aroma
- ▶ Easy separation of the yeasts by agitation
- ▶ Produces a sparkle with fine bubbles
- ▶ Good properties for re-fermentation and fermentation of wines that have stopped fermenting.

#### Application

For rapid start of fermentation and suppression of undesired extra-neous organisms the addition of a high number of living yeast cells is recommended. In the case of champagne one should operate with an inoculation of approx. 1 mill. cells/ml.

In the case of wine that has stopped fermenting the number of cells must be two to three times higher in order to achieve rapid completion of the fermentation process. In such wines the yeast multiplication is usually negligible.

The following quantities are given as a guide and should be adapted according to the respective conditions of the wine to be fermented such as health, temperature, presence of residual fungicides, tank size, possibility of temperature control and regulation.

Use	Quantity required	
	g/hl (lb/1000 gal) under normal fermentation	g/hl (lb/1000 gal) under difficult conditions
Champagne and sparkling wine	15 – 25 (1.3 – 2)	30 – 40 (2.5 – 3.3)
Fermentation in bottle	15 – 25 (1.3 – 2)	30 – 40 (2.5 – 3.3)
Final fermentation of wines that have stopped fermenting		40 – 60 (3.3 – 5)

#### Wines that have stopped fermenting:

Final fermentation of wines that have come to a stop always involves a risk. Frequent and careful inspections of the fermentation process must be carried out. We recommend the following procedure:

1. Before re-inoculation of the wine, check whether excessive bacteria have started to develop (formation of volatile acid, excessive development of lactic acid, microscopic control!). Check the degree of fermentation (sugar content) in order to get an idea of how the fermentation process will continue. If a lot of bacteria have developed, it may be possible to sup-press this by means of sulphurization with approx. 10 g SO<sub>2</sub> per hl (0.8 lb/1000 gal). If addition of SO<sub>2</sub> is not desired or prevented by legislation, the partly fermented wine should be flush pasteurized at approx. 80 °C (176 °F). Counter pressure during heating will prevent froth formation in the wine. During clarification with normal separators (not fine separators) bacteria are only separated to a small extent. Normal centrifuging is therefore not a substitute for heating or sterile filtration (with filter sheets such as BECO Steril 40 or BECO Steril 60).
2. Wetting or suspension of the yeast is best done using must at a temperature of 30 °C (86 °F).
3. The fermentation conditions in wines that have stopped prematurely fermenting are very unfavourable (high alcohol content, reduction of yeast nutrients, possible products of bacteria metabolism such as lactic acid or acetic acid, temperature too high or too low). Such unfavourable influences should therefore be compensated as much as possible prior to adding the yeast. The temperature should be between 16 and 25 °C (60 – 77 °F). In the case of bright wines, approx. 10 – 20 g (0.8 – 1.7 lb/1000 gal) cellulose in powder form (BECOCEL<sup>®</sup> 150) are added per hl to increase the „inner surface“. If the content of lactic or acetic acid is high, blending with fresh must is recommended. Adding 10 – 20 g (0.8 – 1.7 lb/1000 gal) SIHA Fermentation Salt per hl will facilitate the yeast growth.
4. It is better to get the yeast accustomed to the fermentation conditions. This is done by first adding the necessary quantity of yeast to a part of the total volume of wine to be fermented (approx. 10 %) and allowing it to ferment until about half of the sugar present has been consumed. This start is then added to the remaining 90 % of wine. Yeasts that have been adjusted in this way usually ferment faster and are less likely to die than yeasts that are added to the total quantity of wine directly.

## Making of Champagne and Sparkling Wine:

### 1. Fermentation in fermenting tank

When making champagnes, sparkling wines or dessert wines SIHA Active Yeast 4 can be added directly. To achieve optimum distribution we recommend the following procedure: Mix the weighed quantity of yeast into approx.

5 to 8 times the amount of water at a temperature of 38 °C (100 °F) in a suitable vessel. This water temperature should be maintained. Continue mixing until there are no lumps in the mixture and then allow to swell for 15 min. The yeast will froth up.

Then dilute the yeast solution with must or the sugary wine that is to be inoculated, stirring well. This mixture now contains highly active yeast cells and can be used for inoculation immediately or after a short standing time.

### 2. Fermentation in the bottle

With fermentation in the bottle "Méthode traditionnelle" it is recommended that the base wines are filtered sterile once more prior to inoculation through filter sheets e. g. BECO Steril 40 or BECO Steril 60.

This prevents a possible decomposition of acid on the bottle. With wines that have passed through a complete acid decomposition stage this risk is not present.

The dry yeast should be reactivated in a win-water-mixture at 30 °C (86 °F) 1 kg (2.2 lb) dry yeast suspended in 20 l (5 gal) of mixture consisting of 15 l (4 gal) wine and 5 l (1 gal) water.

Adjust the yeast mixture with "tirage liqueur" to 60 – 80 g (0.5 – 0.7 lb/gal) sugar per ltr. After a standing time of 3 – 6 hours and a distinct CO<sub>2</sub> development, the mixture can be inoculated into the main batch.

After inoculation of champagne base wines the content of free SO<sub>2</sub> should not be higher than 20 mg/l (0.17 lb/1000 gal). If this figure is over 25 mg/l (0.21 lb/1000 gal) initial fermentation will be delayed by at least 2 – 3 weeks. The toxic effect of the free SO<sub>2</sub> is retained until the SO<sub>2</sub> has dropped to less than 20 mg/l (0.17 lb/1000 gal).

Adding SIHA Brillant and SIHA Tannin liquid prevents the yeasts from sticking to the surface of the bottle and therefore considerably facilitates the separating (agitating) process.

### Product Characteristics

SIHA Active Yeast 4 was selected especially for making sparkling wines and champagnes and is excellently suited for fermentation in the bottle by the "Méthode traditionnelle".

In breeding this yeast strain particularly high requirements were made with respect to the fruitiness, juiciness and purity of the typical bouquet of champagne wines that are fermented with this product.

The selected mother strain of the Saccharomyces Bayanus family is therefore monitored regularly for positive oenological properties.

SIHA Active Yeast 4 will still develop sufficient fermentation strength under difficult conditions, e. g. wines with a small "inner surface" or higher alcohol or CO<sub>2</sub> contents. For this reason it is suitable for fermentation of champagnes and sparkling wines as well as for the treatment of wines that have stopped fermenting.

SIHA Active Yeast 4 settles quickly after the fermentation process and can therefore be easily and neatly separated from the wine when making champagne and sparkling wine. It can be easily resuspended thanks to a special drying process and almost completely dispersed into single cells.

The yeast is multiplied under ideal conditions and is dried in a particularly careful and gentle process. A special inert gas combination prevents detrimental effects due to oxygen when it is packaged into gas-tight aluminium sandwich foil.

### Safety

No safety data are required for SIHA Active Yeast 4 as this product is used directly in food manufacture. Storage, handling and transport involve no risk to people or the environment.

### Storage

SIHA Active Yeast 4 is supplied in air-tight aluminium sandwich foil using inert gas. The package is vacuum sealed and can be easily checked for intactness. The packaging date is engraved in the seam. The yeast can be stored for 18 months at 4 – 10 °C (39 – 50 °F) in an undamaged package. After that time we still guarantee more than 20 milliards vital cells per gramme of yeast substance. Temperatures up to 20 °C (68 °F) are briefly possible if the package is undamaged.

### Delivery Information

SIHA Active Yeast 4 is sold under article no. 93.040 and is available in the following packages:

100 g (0.22 lb)	aluminium sandwich foil, package
25 x 100 g (0.22 lb)	package in cardboard box
500 g (1.1 lb)	aluminium sandwich foil, block package
20 x 500 g (1.1 lb)	block packages in cardboard box
1 x 10 kg (22 lb)	aluminium sandwich foil in cardboard box

H. S. Customs-Tariff No. 2102 10 90

### Certified Quality

SIHA Active Yeast 4 is monitored constantly during the production process to ensure consistently high quality. This covers the technical function criteria as well as approval in accordance with the law governing the production and sale of foodstuffs. Strict controls are carried out immediately before and during final packing.



Reg. No. 000480 QM

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