

## Pure Fermentation LALVIN® BM 4x4

### *Saccharomyces Cerevisiae*

LALVIN BM 4x4 yeast is a special dry active yeast produced based on the Lallemand concept of "Synergie Dynamique". It combines the special sensory benefits of the LALVIN BM 4x4 yeast with the safety of a yeast offering stable fermentation. The special advantages are good color preservation and reliable start of fermentation with controlled main fermentation and enhanced final attenuation. The LALVIN BM 4x4 yeast is particularly suitable for spicy and complex Chianti-style red wines.

The specific advantages of LALVIN BM 4x4 yeast:

- Wide temperature range 64 – 82 °F (18 – 28 °C)
- Polysaccharide release
- Quickly displaces wild yeasts and bacteria
- Moderate start of fermentation, therefore extended maceration possible
- Low formation of undesirable fermentation by-products
- Promotes the malolactic fermentation

#### Application

As a basic rule, grape mash/musts should be inoculated with LALVIN BM 4x4 yeast as early as possible. Longer maceration times promote uncontrolled propagation of wild yeast and undesired bacteria. The following dosages will reliably prevent fermentation problems.

Application	Application quantity in lb/1,000 gal (g/hl) for	
	normal fermentation conditions	difficult fermentation conditions
Red mash	2.09 – 2.92 (25 – 35)	2.92 – 3.34 (35 – 40)
Red must	2.09 – 2.92 (25 – 35)	2.92 – 3.34 (35 – 40)

The dosages stated are reference values. They should be adapted to the individual requirements depending on the health of the grapes, the temperature, and the container size etc. Ensure that large containers are adequately chilled.

The best method is to stir LALVIN BM 4x4 yeast into ten times the amount of a must-water mixture (95 – 100.4 °F (35 – 38 °C)). Stir the mixture again after approx. 20 minutes and add it to the mash or must.

The optimum fermentation temperature is between 61 and 82 °F (16 – 28 °C). The minimum starting temperature is 64 °F (18 °C). If the grape mash/must was heated, it must be recooled or cooled to approx. 77 °F (25 °C) before LALVIN BM 4x4 yeast is added.

The addition of 0.005 lb SIHA® Vitamin B<sub>1</sub> yeast nutrient per 1,000 gal of must (600 mg per 1,000 l) leads to even more favorable propagation, fermentation, and metabolism conditions. For final fermentation of stucked wines, we recommend adding an additional dose of 1.25 lb/1,000 gal (15 g/hl) of SIHA PROFERM™ Plus combined yeast nutrient at the abating fermentation stage.

Under these conditions, it is beneficial to accustom the yeast to the fermentation conditions. This is best achieved by adding the quantity of yeast required for the total quantity of wine to approximately 10% of the total product to be fermented and fermenting until approximately half the sugar present is used up. This mixture is then added to the remaining 90% of the wine for final fermentation. Yeasts adapted this way, usually start fermenting more quickly and have a lower tendency to die off than if they are added directly to the total quantity.

#### Product Characteristics

The LALVIN BM 4x4 yeast was developed during several years of selection work. The yeast is highly suitable for producing spicy and full red wine without vegetative nuances. The excellent organoleptic properties of LALVIN BM 4x4 yeast were combined with the robust fermentation profile of an additional yeast. It also forms polysaccharides, leading to improved "mouthfeel" without dominant astringency.

LALVIN BM 4x4 yeast has an advantageous fermentation curve with a high final degree of fermentation. Wild yeast and undesired bacteria are suppressed. LALVIN BM 4x4 yeast does not generate undesired fermentation by-products such as SO<sub>2</sub>, H<sub>2</sub>S, acetaldehyde, pyruvic acid (pyruvate), α-ketoglutaric acid, volatile acid, or ester.



LALVIN BM 4x4 yeast can produce up to 16% alcohol by volume. The practical alcohol yield is approximately 47% of the sugar content. For each lb (kg) of sugar fermented, approx. 247 kJ (546 kJ)/59 kcal (130 kcal) of heat is released.

### Safety

No safety specifications are required for LALVIN BM 4x4 yeast since this product is used directly for food production. Storing, handling, and shipping this product do not create health or environmental hazards.

### Storage

LALVIN BM 4x4 yeast is packed airtight in laminated aluminum foil in an inert gas atmosphere. The integrity of the vacuum pack is easy to check.

LALVIN BM 4x4 yeast can be stored at 39.2 – 50 °F (4 – 10 °C) for a period of four years as long as the packaging remains intact. Short-term storage at 68 °F (20° C) is acceptable.

Once a package has been opened, it should be used up as soon as possible.

### Delivery Information

LALVIN BM 4x4 yeast is sold under article no. 93.354 and is available in the following package sizes:

1.1 lb (500 g)	laminated aluminum foil block pack
20 x 1.1 lb (500 g)	laminated aluminum foil block packs in cartons

### Certified Quality

LALVIN BM 4x4 yeast is inspected regularly during the production process to ensure uniformly high product quality.

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

LALVIN BM 4x4 yeast meets the purity criteria of the International Codex for Wine Processing Agents and complies with the German Wine Law.

*LALVIN® is a registered trademark of Lallemand Inc.*

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