

# MALOSTART®

Malolactic bacteria activator for facilitating malolactic fermentation (MLF) start-up and accelerating fermentation kinetics.  
*Qualified for the elaboration of products for direct human consumption in the field of the regulated use in Oenology.*  
*In accordance with the International Oenological Codex and the Food Chemical Codex.*

## SPECIFICATIONS

By combining nutritive elements (inactivated yeasts) and detoxification agents (yeast cell walls) **MALOSTART®**:

- **optimises** lactic acid bacterial **survival** (by adsorbing short or medium-chain fatty acid-type inhibitors).
- **encourages** lactic acid bacteria **activity** (by supplying them with nutrients that they directly assimilate).

The composition of **MALOSTART®** has been optimised to bring the essential amino acids for lactic acid bacteria (glutamic acid, valine...) while reducing the quantities of amino acids that are precursors of biogenic amines (histidine, tyrosine).

**MALOSTART®** is also rich in essential vitamins for malolactic bacteria and in minerals salts (magnesium and manganese) that are essential co-factors for the malolactic enzyme.

## OENOLOGICAL APPLICATIONS

Recommended for wines with a low nutrient content (thermovinification, absence of lees, very low turbidity...), sluggish alcoholic and malolactic fermentations, or in difficult conditions (high % alcohol, late or «spring» MLF...).

**MALOSTART®** increases lactic acid bacteria populations and fastens MLF.

**MALOSTART®** can be used on all types of wine.

**MALOSTART®** is neutral from an organoleptic point of view.

## EXPERIMENTAL RESULTS

- **MALOSTART®** encourages MLF start-up (Figure 1).
- In order to optimise detoxification (Figure 2), the most effective yeast cell walls for adsorbing short and medium-chain fatty acids are integrated in the composition of **MALOSTART®**.

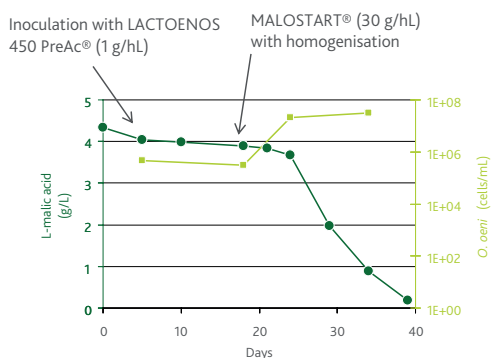


Figure 1: Illustration of the benefits of using **MALOSTART®** on a wine inoculated with selected bacteria (**LACTOENOS 450 PreAc®**) for initiating MLF in difficult conditions

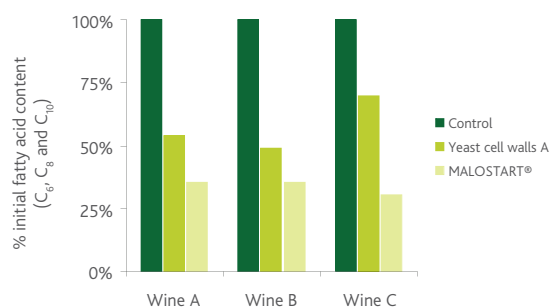


Figure 2: **MALOSTART®** is a highly specialised product for adsorbing short and medium-chain fatty acids and consequently for reducing their inhibiting effect.



## PHYSICAL CHARACTERISTICS

Aspect ..... powder  
Colour ..... beige

Density ..... < 600g/L

## CHEMICAL AND BIOLOGICAL ANALYSES

Humidity ..... < 7 %  
Total nitrogen ..... about 9 %  
Proteinaceous materials ..... about 60 %  
Carbohydrates ..... about 25 %  
Minerals ..... about 8 %  
Arsenic ..... < 3 ppm

Lead ..... < 2 ppm  
Cadmium ..... < 1 ppm  
Mercury ..... < 1 ppm  
*Salmonella*/25g ..... none  
*Staphylococcus aureus*/g ..... none  
*E. coli*/g ..... none

## PROTOCOL FOR USE

- Use in combination with selected lactic acid bacteria.

**MALOSTART®** can be added with the commercial bacteria during early or late co-inoculation, after pressing or 15 days after inoculation if MLF has not started yet.

For curative or spring MLF, when nutritional deficiencies are more frequent and inhibitor compound contents are higher, we recommend the addition of **MALOSTART®** 24h following bacterial inoculation with anaerobic homogenisation.

- Do not use opened bags.
- Use an inert, clean container. Mix the total quantity of **MALOSTART®** required in 10 times its weight in water or wine. Incorporate into the wine with anaerobic homogenisation.
- Dosage: 30 g/hL (300 ppm).
- UE regulation: maximum legal dose < 106 g/hL.

*For optimal management of malolactic fermentation, please refer to the Technical Booklet « Good MLF management ». For co-inoculation implementation, please refer to the technical booklet «Particular case of fermentation management, yeast / bacteria coinoculation».*

## STORAGE

- Store in original sealed packages, in a cool dry place and in an odour-free environment.
- Optimal date of use: 3 years.

## PACKAGING

- 1 kg bags.



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