



Lactic acid bacteria  
selected from nature

A natural and efficient  
alternative to  
chemical deacidification

# MLPrime™

*Lactobacillus plantarum*  
Specific Application  
For Partial Deacidification Of White Wines

- To achieve a partial degradation of malic acid
- No risk of VA production
- To balance your wine
- To reduce the use of chemical compounds in your wine

## APPLICATION

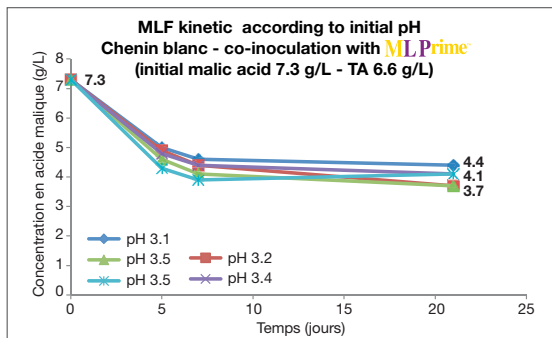
**MLPrime™** is a new concept of freeze-dried starter culture based on a powerful *Lactobacillus plantarum* with a very high malolactic activity and no risk of volatile acidity (VA) production. **MLPrime™** has a facultative heterofermentative metabolism, meaning that this bacteria cannot produce acetic acid out of glucose and fructose.

Selected by Università Cattolica del Sacro Cuore - Piacenza Campus in Italy - for its excellent performance, and produced with an optimized process, **MLPrime™** has a very high deacidification activity. When added into the fermenting must or wine with high initial malic acid content, **MLPrime™** allows a quick partial degradation of the malic acid in white wine vinification process.

The percentage of malic acid degradation depends on the specific must or wine conditions (pH, acid malic content, the total acidity, the SO<sub>2</sub> content) and the grapes varieties, and can vary between 20 and 90% .

Our experience show, when applied at the normal dosage, a precise prediction of how much malic acid will remain in the wine is not possible.

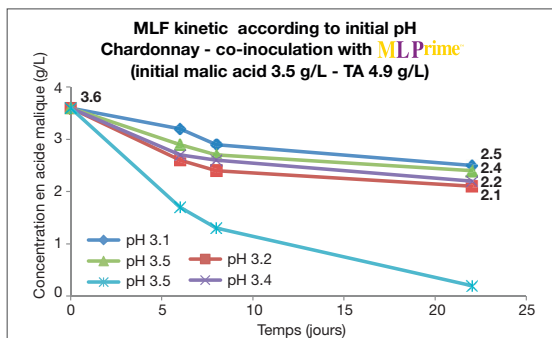
Knowing the specifications above, **MLPrime™** can be a tool for winemakers who want to achieve:



### 1/ A partial MLF in case of white wines vinification

Applied in co-inoculation and properly used, its high malolactic enzyme activity strongly shortens the lag phase and the malic acid degradation will start very fast and will stop before the end of alcoholic fermentation. Due to its specific metabolism, the wines have a good sensory quality without any risk of increase of volatile acidity and without diacetyl production.

**MLPrime™** can also be inoculated at the end of alcoholic fermentation. No further degradation of malic acid can be expected two weeks after inoculation with **MLPrime™** .



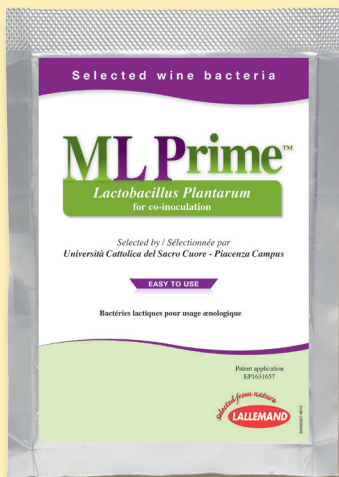
### 2/ A biological deacidification instead of chemical deacidification

- Better acidity balance because **MLPrime™** will degrade only malic acid without any reduction of the tartaric content contrary to the chemical deacidification with potassium bicarbonate or calcium carbonate or neutral potassium tartrate
- Easier to use and to implement than the double salt products
- Better final sensory quality of wines
- Less use of chemical compounds in the winemaking process

**Note :** higher dosage of **MLPrime™** (like double dosage) can help to degrade more malic acid if needed (up to 80-90% of initial malic acid content) .



Alcohol-tolerant malolactic strains for the maturation of wines with average or high pH.



DISTRIBUTOR

May 2018

## OENOLOGICAL PROPERTIES

To obtain a partial degradation of malic acid (at least 20%) the required conditions are:

- pH:  $\geq 3.05$
- Malic acid content:  $\leq 8$  g/L
- Temperature range: from 17 °C to 22 °C
- Total SO<sub>2</sub> tolerance in must up to 5 g/hL
- Free SO<sub>2</sub> tolerance in wines: less than 10 mg/L
- No volatile acidity production: does not produce acetic acid from glucose and fructose (facultative hetero-fermentative strain)
- No production of biogenic amines
- No diacetyl production
- Bacteria cinnamoyl esterase negative
- A very fast malic acid degradation

## INSTRUCTIONS FOR USE

### DIRECT INOCULATION



**MLPrime** behaves very different from *Oenococcus oeni*:

- ▶▶ it does not have the capacity to grow (multiply in wine)
- ▶▶ important to respect the window of applications according to its oenological properties described above.

### CO-INOCULATION

#### 1/ Yeast addition

Rehydrate the selected dry yeast according to the instructions, preferably in presence of a rehydration nutrient, and inoculate the must.

#### 2/ Bacteria addition

SO<sub>2</sub> addition at crush up to 5 g/hL (< 50 ppm SO<sub>2</sub> added): wait for 24 hours after yeast inoculation before adding bacteria. Avoid SO<sub>2</sub> addition > 5 g/hL

- Open the sachet of wine bacteria:
  - Either add it directly into the must at temperature between 17 °C / 68°F and 22 °C / 80 °F.
  - Or for better distribution, quickly rehydrate the bacteria in a mix of must and drinking water (50/50) and add the suspension to the fermenting must.
- Monitor malic acid degradation every 2 days. The speed of degradation of malic acid can be very fast after inoculation with **MLPrime**.
- When the residual malic acid content is stable and when alcoholic fermentation is finished, stabilize wine.

### SEQUENTIAL INOCULATION (post alcoholic fermentation)

- Open the sachet of wine bacteria:
  - Either add it directly into the must at temperature between 17 °C / 68°F and 22°C / 80°F.
  - Or for better distribution, quickly rehydrate the bacteria in a mix of wine and drinking water (50/50) and add the suspension to the wine
- Monitor malic acid degradation every 2 days. The speed of degradation of malic acid can be very fast after inoculation with **MLPrime**.
- Check malolactic fermentation activity (malic acid degradation) every 2 to 4 days.
- Stabilize wine once the residual malic acid content is stable.

## PACKAGING AND STORAGE

- Product in powder form obtained by lyophilisation.
- Available for 25 hL (660 US gal.) and for 100 hL (2.640 US gal.)
- Once the sachet is opened, wine bacteria must be used immediately.
- This product can be stored for 18 months at 4 °C / 40 °F or 36 months at -18 °C / 0 °F in original sealed packaging.
- Sealed packets can be delivered and stored for 3 weeks at ambient temperature (< 25 °C / 77 °F) without significant loss of viability.

The information herein is true and accurate to the best of our knowledge however this data sheet is not to be considered as a guarantee expressed or implied or as a condition of sale of this product. It is offered without guarantees since the application conditions are out of our control. It does not release the user from abiding by the current legislation and applicable health and safety standards.