

Pinnacle™ MLF Extreme

product information



Type:

Pinnacle™ MLF Extreme is an *Oenococcus oeni* strain that was isolated in an extensive AWRI screening project for novel bacteria under stressful malolactic fermentation conditions. **Pinnacle™ MLF Extreme** was selected for its ability to tolerate low pH conditions and low temperature environments. **Pinnacle™ MLF Extreme** also produces clean fruit aromas with hints of spice and vanilla.

Characteristics:

Pinnacle™ MLF Extreme is a very concentrated, high cell count bacteria suited to malolactic fermentation in difficult conditions, especially low pH conditions. **Pinnacle™ MLF Extreme** is also suitable to use when cellars are starting to get colder. **Pinnacle™ MLF Extreme** is fast, SO₂ resistant and does not produce biogenic amines.

Application:

- **Pinnacle™ MLF Extreme** covers a wide spectrum of wine applications: from low pH white wines (pH~3.0) to low temperatures (~15°C/59°F) ideal for cool climate wines and/or during early onset of winter when cellars start to get cold.
- It produces clean fruit notes with hints of spice and vanilla.
- **Pinnacle™ MLF Extreme** is suitable for sequential or co-inoculation.

Formulation:

Pure concentrated active freeze-dried culture of *Oenococcus oeni*, maltodextrin as carrier.

Instructions for use:

Open the sachet, add directly to the wine, and mix gently without any oxygen. For more difficult wines (low pH, high alcohol), rehydration with non-chlorinated water is recommended to keep the maximum viability/vitality. To do this, dilute 1:10 for 15 min at room temperature. However, if non-chlorinated water is not available then direct pitch is recommended.

Dosage:

1 g/hL

This will bring a quantity of microorganisms sufficient to complete malolactic fermentation in all wines (even the most difficult) in a short time.

Storage conditions:

-18°C (-0.4°F)

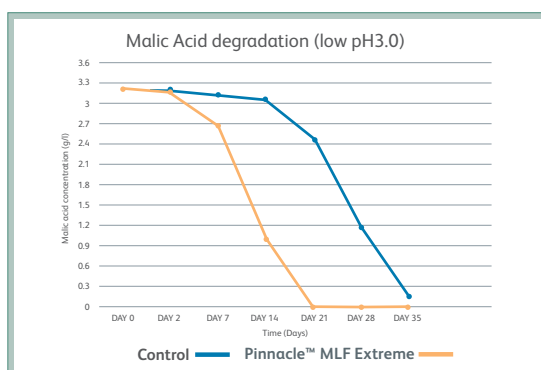
Shelf life:

Three years from date of manufacture when stored at -18°C (-0.4°F).

18 months from date of manufacture when stored at 4°C (39°F).

Packaging:

25g and 250g laminate sachets



Product approved for oenological use, in accordance with the regulation (EC) n° 606/2009 and OIV codex

Malic Acid Degradation Experiment Details:

Both the control and the **Pinnacle™ MLF Extreme** used sequential inoculation in a wine with low pH of 3.0. **Pinnacle™ MLF Extreme** completed the malolactic fermentation in 21 days while the control was only able to finish the malolactic fermentation in 35 days.

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CHARACTERISTICS	
Minimum - maximum temperature range	15-27°C (59-81°F)
pH tolerance	≥ 3.0
Maximum free SO ₂ resistance (mg/L)	< 18
Maximum total SO ₂ resistance (mg/L)	< 50
Alcohol resistance (%v/v)	≤ 14.5%
Fermentation rate (malic-to-lactic conversion speed)	Moderate
Fruity notes	Moderate red berries with good palate weight
Diacetyl notes	Using co-inoculation - Low; using sequential inoculation - Medium to High
Volatile acidity	Very Low
Biogenic Amines production	No
MICROBIOLOGICAL ANALYTICS	
Viable bacteria cells:	> 10 ¹¹ cells/g
Yeast:	< 10 ³ CFU/g
Moulds:	< 10 ³ CFU/g
Acetic acid bacteria:	< 10 ³ CFU/g
E. coli:	Absent in 1g
Salmonella:	Absent in 25g
Lead:	< 2 mg/Kg d.m
Mercury:	< 1 mg/Kg d.m
Arsenic:	< 3 mg/Kg d.m
Cadmium:	< 1 mg/Kg d.m

Physical properties: Color: beige/cream. Form: fine powder. Solubility: water soluble.

Scientific background:

Malolactic fermentations are complete when a malic acid result of 'not detected' appears, which is usually < 0.05g/L by enzymatic analysis. However, a result of 0.1 g/L or less is low enough for the malolactic fermentation to be considered virtually complete and to minimise the risk of spoilage.

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The information presented is based on our research and commercial testing and provides a general assessment of product performance. Nothing contained herein is representative of a warranty or guarantee for which the manufacturer can be held legally responsible.

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