



ALPHA™

1-STEP®

MALOLACTIC FERMENTATION UNDER CONTROL

Oenococcus oeni

Security and mouthfeel for a wide range of wine conditions



As a producer of wine lactic acid bacteria, Lallemand developed a specific 1-STEP™ production process to induce malolactic fermentation (MLF) of most red and white wines, in a wide range of oenological conditions. Highly efficient, the 1-STEP™ starter kit consists of a malolactic active freeze-dried *Oenococcus oeni* strain and specific activator. Excellent activity and high vitality of the 1-STEP™ starter culture are achieved during a short acclimatization step for a fast onset of malolactic fermentation.

DESCRIPTION

ALPHA™ is a wine lactic acid bacteria selected from nature, in collaboration with the Institut Français de la Vigne et du Vin (IFV).

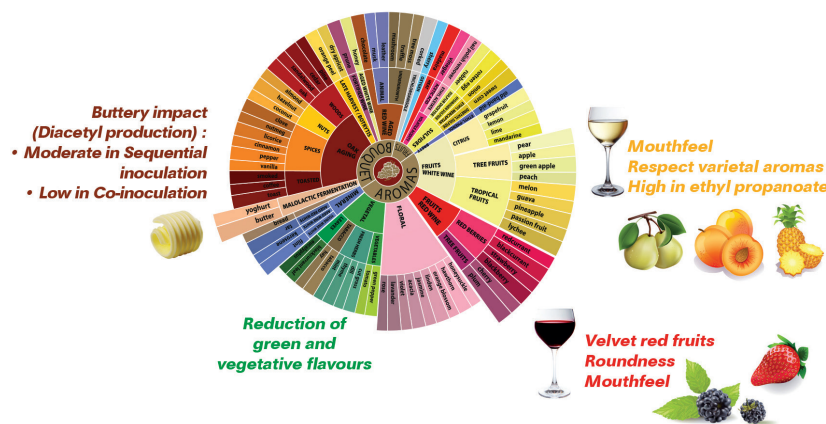
Produced with our specific 1-STEP™ process and with its fast acclimatization protocol, ALPHA 1-STEP™ is able to perform reliable MLF in very different conditions of white and red wines.



BENEFITS & RESULTS

Beyond bio-deacidification, ALPHA 1-STEP™ contributes to the sensory wine profile.

ALPHA 1-STEP™ can not produce histamine or other biogenic amines and helps to secure and preserve wine quality, enhancing wine aroma complexity and mouthfeel, reducing green notes.



ALPHA 1-STEP™ is a bio-protection tool to protect wines against *Brettanomyces* when inoculated as soon as possible to prevent the excessive development of the spoilage yeast.

ALPHA 1-STEP™ is also highly efficient to start and achieve MLF in wine with low malic acid content (>0.7g/L).

PROPERTIES

- pH tolerance: > 3.2
- Alcohol tolerance: up to 15.5% vol.
- SO₂ tolerance: up to 50 mg/L total SO₂ (pay attention to molecular SO₂ at low pH)
- T° tolerance: > 14°C
- Low nutritional demand
- Good implantation
- MLF kinetic: fast
- Low volatile acidity production
- Bacteria cinnamoyl esterase negative : cannot produce precursors for ethylphenol production by *Brettanomyces*
- No production of biogenic amines
- Co-inoculation recommended
- Sensitive to excessive O₂ exposure



INSTRUCTIONS FOR OENOLOGICAL USE

Use one sachet for right quantity of hL indicated on label. Lowering the dosage or doing cross seeding or pitching methods will reduce the bacteria performance.

Co-inoculation (simultaneous alcoholic fermentation)

The 1-STEP™ activator and lactic acid bacteria can be used in co-inoculation without without any acclimatization step.

- 1A. Mix and dissolve content of the activator sachet in drinking water (temperature between 18 and 25 °C) according to the table below.

1-Step™ Kit	Volume of drinking water (L)
For 100 hL	10
For 500 hL	50
For 1000 hL	100

- 1B. Add content of the lactic acid bacteria sachet and dissolve carefully by gently stirring.
2. Transfer immediately the rehydrated mix (activator and lactic acid bacteria) into the fermenting must/wine 24 hours after the yeast is added.
3. Check malolactic fermentation activity (malic acid degradation) every 2 to 4 days, as well as volatile acidity.

In must, sulphite addition >8 g/hL, it is recommended to use the 1-STEP™ activator and lactic acid bacteria after alcoholic fermentation.

Recommended temperatures:

Carefully monitor must temperature, which must be below 30°C at lactic acid bacteria inoculation (alcohol < 5% vol.) and below 27°C when 10% of alcohol is reached.

Sequential inoculation (post-alcoholic fermentation)

- 1A. Mix and dissolve content of the activator sachet in drinking water (temperature between 18 and 25 °C) according to the table below.

	1A	2
1-Step™ Kit	Volume of drinking water (L)	Volume of wine (L)
For 100 hL	10	10
For 500 hL	50	50
For 1000 hL	100	100

- 1B. Add content of the lactic acid bacteria sachet and dissolve carefully by gently stirring. Wait for 20 minutes.
2. Add to this suspension the appropriate volume of wine (see table above) pH > 3.5, total SO₂ <45 ppm, no free SO₂ (temperature between 18 and 25 °C). Wait for 18 to 24 hours. If malic acid content is < 1.2 g/L, wait only for 6 to 10 hours.
3. Transfer the activated malolactic bacteria starter culture into the wine according to the volume indicated on the kit. Check malolactic fermentation activity (malic acid degradation) every 2 to 4 days.

Under more difficult conditions, add a specific bacteria nutrient.

Recommended temperature ranges:

- White wine / rosé wine: from 16 to 20°C.
- Red wine:
 - › If alcohol < 14.5% vol.: from 17 to 25 °C, with an optimal range: 18-22°C
 - › If alcohol > 14.5% vol.: from 18 to 20°C

PACKAGING & STORAGE

- Product in powder form obtained by lyophilization.
- This kit contains one sachet of active freeze-dried bacteria and one sachet of bacteria activator.
- Available in sachet for inoculation for 100 hL (2,640 US gal.), 500 hL (13,200 US gal.) and 1000 hL (26,400 US gal.).
- Once opened, activator and lactic acid bacteria sachet must be used immediately.
- Activator and lactic acid bacteria sachet must not be used separately.
- 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.

Distributed by:

C.A.L LTD

3-34 Mihini Road,
Henderson, Auckland 0610

john@cal.org.nz | www.cal.org.nz

+64 21 505 331

The information in this document is correct to the best of our knowledge. However, this data sheet should not be considered to be an express guarantee, nor does it have implications as to the sales condition of this product. April 2024.



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YEASTS



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