

Wine bacteria *Oenococcus oeni* selected by the Institut Français de la Vigne et du Vin (IFV) of Beaune. To implement a malolactic fermentation under difficult conditions.

The 1-STEP™ starter Kit is a highly efficient Starter culture to promote Malolactic Fermentation (MLF) in a wide range of oenological conditions. The 1-STEP™ starter Kit consists of an *Oenococcus oeni* bacteria and a specific activator. The excellent activity and high vitality of the 1-STEP™ starter culture is achieved during a short acclimatization step that activates their metabolism to induce a fast onset of malolactic fermentation.



1 APPLICATIONS

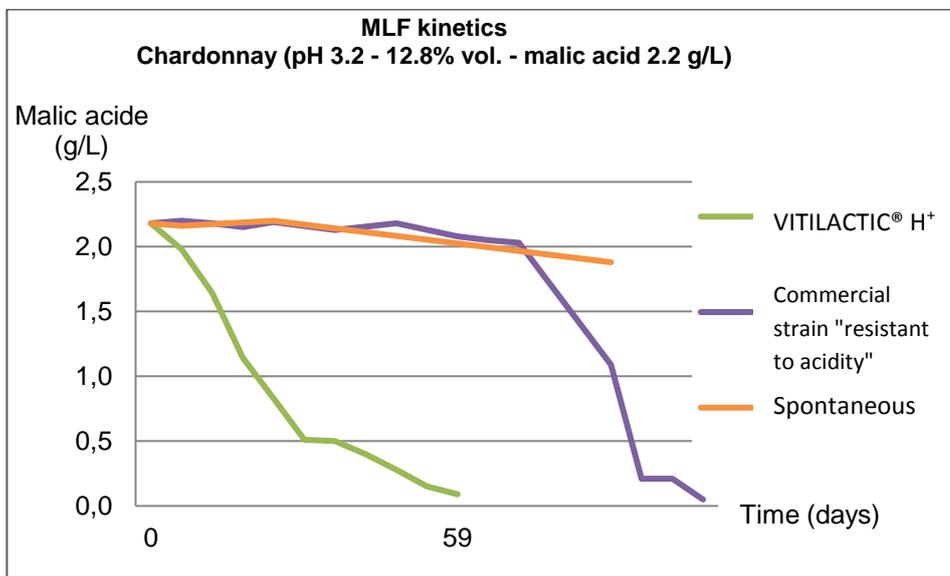


Isolated from a low pH Chardonnay (Burgundy), **VITILACTIC® H+** was selected for its capacity to adapt to the difficult conditions found in white and rosé wines of the Northern Hemisphere and to implement fast and secure malolactic fermentations. Its resistance to low temperatures (> 13°C) ensures good malolactic fermentation kinetics, which minimize the heating up of wine storehouses.

It also acclimatizes very well, and therefore is appropriate for malolactic fermentation in red wines with high alcohol contents. In this case, the optimum fermentation temperature of **VITILACTIC® H+** is between 16 and 18°C.

2 MICROBIOLOGICAL AND OENOLOGICAL PROPERTIES

- pH tolerance ≥ 3.1
- Alcohol tolerance: up to 16% vol
- SO₂ tolerance: up to 45 mg/L total SO₂ (pay attention to molecular SO₂ at low pH)
- Temperature tolerance > 13°C (optimum: 16-18°C)
- Sensory contribution:
 - Very low diacetyl production
 - Maintains a freshness of aroma and the organoleptic quality of the wines
- No production of biogenic amines
- Bacteria cinnamoyl esterase negative: cannot produce precursors for ethylphenol production by *Brettanomyces*
- Very low volatile acidity production
- Suitable for co-inoculation and sequential inoculation



INSTRUCTIONS FOR 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.

Sequential inoculation (post alcoholic fermentation)

- Dissolve content of the activator sachet in 5 L of drinking water (temperature between 18 and 25°C).
- Add content of the lactic acid bacteria sachet and dissolve carefully by gently stirring. Wait for 20 minutes.
- Add to this suspension 5 L of wine with these characteristics: pH > 3.5 - total SO₂ < 45 mg/L - 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.
- Transfer the activated malolactic bacteria starter culture into the 50 hL tank.

Recommendations:

- Temperature range: from 16 to 20°C for white and rose wines - from 17 to 25°C for red wines - from 18 to 22°C in limiting conditions (high alcohol > 14.5% vol. or low pH < 3.1 or high SO₂ > 45 mg/L).
- Check malolactic fermentation activity (malic acid degradation) every 2 to 4 days.
- Stabilize wine once malolactic fermentation is finished.
- In limiting conditions (overclarified wines, low pH, high SO₂ and alcohol level, etc.): rehydrate bacteria with **PRE-LACTIC™** (20 g/hL) and before the bacteria inoculation, add **MALOVIT™ B** for white wines or **MALOVIT™** for red wines (20 g/hL)

Co-inoculation (inoculation of bacteria 24 to 48 hours after addition of yeast)

The 1-STEP™ Kit can be used in co-inoculation without doing an acclimatization step when the conditions and must are suitable (pH > 3.4 and sulphite addition to the grapes < 8 g/hL).

- Dissolve content of the activator sachet in 5 L of drinking water (temperature between 18 and 25°C).
- Add content of the wine bacteria sachet and dissolve gently. Wait for 2 hours maximum.
- Transfer the rehydrated mix (activator and bacteria) into the fermenting must/wine 24 hours after the yeast is added.

Recommendation:

- Carefully monitor must temperature, which must be below 30°C at wine bacteria inoculation (alcohol < 5% vol.) and below 27°C when the level of 10% of alcohol is reached.
- In the case of must with pH < 3.4 or sulphite addition > 8 g/hL, it is recommended to use the 1-STEP™ Kit after alcoholic fermentation.

PACKAGING AND STORAGE

- Dose for 50 hL.
- Store unopened original sealed packaging: 18 months at 4°C or 36 months at -18°C.
- Once opened, use rapidly.
- Sealed packets can be delivered and stored for 3 weeks at ambient temperature (< 25°C) without significant loss of viability.

A Danstar product
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STATION OENOTECHNIQUE DE CHAMPAGNE
79 avenue A.A. Thévenet, CS11031
51530 MAGENTA
Tel.: 33 (0)3 26 51 29 30 / Fax: 33 (0)3 26 51 87 60
www.oenotechnic.com