

INOBACTER™

APPLICATION:

The ideal bacterial strains for conducting MLF in low pH wines, such as sparkling wine.

INOBACTER™ is used following a three-stage protocol (reactivation, acclimatization, and inoculating the tank) which enables bacteria to adapt to low pHs and other extreme wine conditions.



INOBACTER™ can be co-inoculated with yeast or sequentially inoculated after the completion of alcoholic fermentation.

MICROBIAL AND OENOLOGICAL PROPERTIES

- **pH tolerance:** > 2.9
- **Alcohol tolerance:** up to 14 % vol
- **SO₂ tolerance:** up to 50 mg/L total SO₂
- Low production of volatile acidity
- Limited production of diacetyl
- No production of biogenic amines
- Cinnamoyl esterase negative

CHARACTERISTICS

Oenococcus oeni selected by the International Champagne Committee (CIVC). The bacteria is not genetically modified. Each batch is rigorously controlled by the CIVC.

PACKAGING AND STORAGE

- Sachet sizes to treat: 25 hL of wine
 - Each sachet of lyophilized bacteria also contains a packet of Activator to be used during preparation
- The aluminum sachet packaging protects contents from oxygen and moisture
- **Storage:** For short term (<18 months) store at 39°F (4°C). For long term (>18 months) store at 0°F (-18°C).
- Once opened the contents should be used immediately. See dated expiration.

CO-INOCULATION PROTOCOL

See page 2

SEQUENTIAL INOCULATION PROTOCOL

See page 3

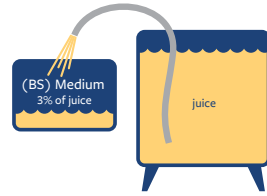
Scott Laboratories guarantees the quality of its products sold in their original packaging, used in conformity with the expiration date and the storage conditions. The information is true and accurate to the best of our knowledge; however, this data sheet is not to be considered as a guarantee expressed or implied, or as a condition of sale of this product.



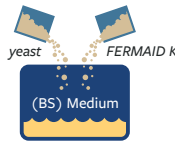
CO-INOCULATION PROTOCOL

PREPARE THE BACTERIA STARTER (BS) MEDIUM

Step 1: Remove at least 3% of clarified juice from the tank into a separate vessel (see Table 1 for an example of the correct ratios). Ensure the total SO₂ < 40ppm, pH 3.2-3.3 (de-acidify this portion if needed).



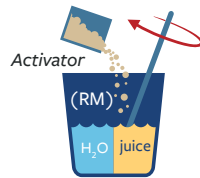
Step 2: Add 20-30 g/hL of yeast (the one that will be used to ferment the base wine) and 50 g/hL of **FERMAID® K**. Maintain the temperature between 68-77°F (20-25°C). Reserve for Step 9.



REACTIVATE THE BACTERIA

PREPARE THE REACTIVATION MEDIUM (RM).

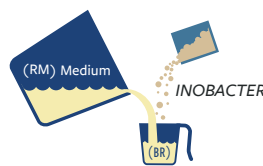
Step 3: Make up a 50:50 mixture of untreated juice and water. Volume of each component should be 0.1% of the total starting volume (see example in Table 1). Ensure the temperature is 77°F (25°C), pH 3.2-3.3, total SO₂ < 40ppm.



Step 4: Add the Activator and mix well.

PREPARE THE BACTERIA REHYDRATION (BR) MEDIUM.

Step 5: Remove 20% of the volume of the Reactivation Medium from step 4 into a separate container (see example Table 1). Ensure the temperature of the medium is 73-77°F (23-25°C).



Step 6: Add the contents of the INOBACTER bacteria sachet to this medium. Wait 15 mins.

CREATE THE REACTIVATION MEDIUM MIXTURE (RM+).

Step 7: Incorporate the Bacteria Rehydration (BR) Medium into the Reactivation Medium (RM). Maintain at 73-77°F (23-25°C).

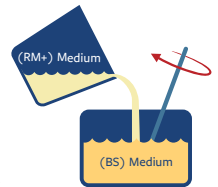


Step 8: WAIT – Allow this **Reactivation Medium mixture (RM+)** to drop to a malic acid level of < 1g/L (this could take up to 3 days depending on initial chemical parameters and environmental conditions).

ACCLIMATIZE THE BACTERIA

PREPARE THE ACCLIMATIZATION MIXTURE (AM).

Step 9: When the **Reactivation Medium (RM+)** from step 7 has dropped below 1 g/L malic acid, add it to the **Bacteria Starter Medium (BS)** from step 2.

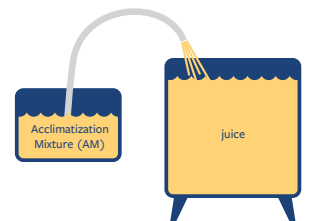


Step 10: Mix well and determine the malic acid concentration of this mixture.

Step 11: Maintain at 68°F (20°C) and monitor malic acid depletion.

INOCULATE THE JUICE

Step 12: When 2/3 of the malic acid has been depleted in the **Acclimatization Mixture (AM)** from step 11, add back to the total volume of juice.



Step 13: Gently mix. Maintain at 64-68°F (18-20°C).

Table 1 (Example of volumes used in protocol assuming starting volume of 2500 L)

Total volume of juice to be inoculated	INOBACTER Kit Size	Bacteria Starter Medium (BS): Step 1	Reactivation Medium (RM): Step 3	Bacteria Rehydration Medium (BR): Step 5
2500 L	25 hL	75 L	5L (2.5L untreated juice + 2.5 L water)	1 L

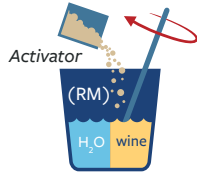


SEQUENTIAL INOCULATION PROTOCOL

REACTIVATE THE BACTERIA

PREPARE THE REACTIVATION MEDIUM (RM).

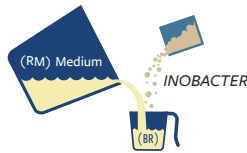
Step 1: Make up a 50:50 mixture of wine and water. Volume of each component should be 0.1% of the total starting volume (see Table 1 for an example of the correct ratios). Ensure the temperature is 77°F (25°C), total SO₂ < 40 ppm, pH 3.2-3.3 (de-acidify this portion if needed).



Step 2: Add the Activator and mix well.

PREPARE THE BACTERIA REHYDRATION (BR) MEDIUM.

Step 3: Remove 20% of the volume of the Reactivation Medium from step 1 into a separate container (see example Table 1). Ensure the temperature of the medium is 73-77°F (23-25°C).



Step 4: Add the contents of the INOBACTER bacteria sachet to this medium. Wait 15 mins.

CREATE THE REACTIVATION MEDIUM MIXTURE (RM+).

Step 5: Incorporate the **Bacteria Rehydration (BR) Medium** from step 4 into the **Reactivation Medium (RM)** from step 2. Maintain at 73-77°F (23-25°C).

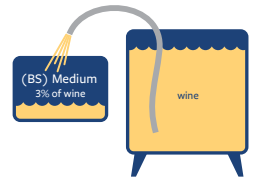


Step 6: WAIT – Allow this **Reactivation Medium mixture (RM+)** to drop to a malic acid level of < 1 g/L (this could take up to 3 days depending on initial chemical parameters and environmental conditions).

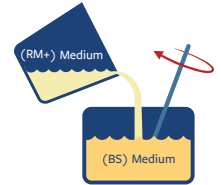
ACCLIMATE THE BACTERIA

PREPARE THE ACCLIMATIZATION MIXTURE (AM).

Step 7: Remove at least 3% of the starting wine volume into a separate vessel (see example in Table 1). This is the **Bacteria Starter Medium (BS)**.



Step 8: When the **Reactivation Medium (RM+)** from step 6 has dropped below 1 g/L malic acid, add it to the **Bacteria Starter Medium (BS)** from step 7.

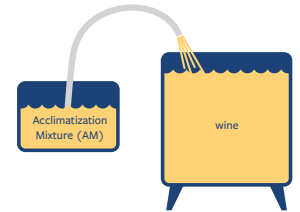


Step 9: Mix well and determine the malic acid concentration of this mixture.

Step 10: Maintain at 68°F (20°C) and monitor malic acid depletion.

INOCULATE THE WINE

Step 11: When $\frac{2}{3}$ of the malic acid has been depleted in the **Acclimatization Mixture (AM)** from step 10, add back to the total volume of wine.



Step 12: Gently mix. Maintain at 64-68°F (18-20°C).

Table 1 (Example of volumes used in protocol assuming starting volume of 2500 L)

Total volume of wine to be inoculated	INOBACTER Kit Size	Reactivation Medium (RM): Step 1	Bacteria Rehydration Medium (BR): Step 3	Bacteria Starter Medium (BS): Step 7
2500 L	25 hL	5L (2.5L wine + 2.5 L water)	1 L	75 L