Pinnacle MaloSafe

Product information

Type:
Pinnacle MaloSafe is a pure, concentrated and freeze-dried culture of *Oenococcus oeni* sp selected to secure malolactic fermentation.

Characteristics:
- Thanks to its high concentration formula and high purity standards, Pinnacle MaloSafe can adapt to many different conditions: high alcohol, high concentration in polyphenols, low pH, etc. Pinnacle MaloSafe is fast, SO2 resistant and does not produce detectable biogenic amines.

Application:
- It covers a wide spectrum of wine applications: from low pH white wines to high-alcohol red wines rich in polyphenols.
- It ensures stability of the wine and provides softness and aromatic complexity to the wine.
- Pinnacle MaloSafe is suitable for sequential or co-inoculation (except Pinnacle Robust).

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

Instructions for use:
Open the sachet, add directly to the wine and mix gently without oxygenating. 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).

One and a half years from date of manufacture when stored at 4°C (39°F).

Packaging:
25g laminate sachets.

Scientific background:
Malolactic fermentation is complete when a malic acid result of ‘not detected’, which is usually <0.05g/L by enzymatic analysis. However, a result of 0.1 g/L or less is low enough for the maloactic fermentation to be considered virtually complete and to minimise the risk of spoilage.

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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Product approved for oenological use, in accordance with the regulation (EC) n° 606/2009 and OIV codex.
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<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
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<tbody>
<tr>
<td>Minimum - maximum temperature range</td>
<td>18-27°C (64-81°F)</td>
</tr>
<tr>
<td>pH tolerance</td>
<td>≥ 3.25</td>
</tr>
<tr>
<td>Maximum free SO₂ resistance (mg/L)</td>
<td>&lt; 18</td>
</tr>
<tr>
<td>Max total SO₂ resistance (mg/L)</td>
<td>&lt; 50</td>
</tr>
<tr>
<td>Alcohol resistance (%v/v)</td>
<td>≤ 16.5%</td>
</tr>
<tr>
<td>Fermentation rate (malic-to-lactic conversion speed)</td>
<td>fast</td>
</tr>
<tr>
<td>Fruity notes</td>
<td>moderate</td>
</tr>
<tr>
<td>Diacetyl notes</td>
<td>very low</td>
</tr>
<tr>
<td>Volatile acidity</td>
<td>very low</td>
</tr>
<tr>
<td>Biogenic Amines production</td>
<td>no</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>MICROBIOLOGICAL ANALYTICS</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Viable bacteria cells:</td>
<td>&gt; 10¹¹ cells/g</td>
</tr>
<tr>
<td>Yeast:</td>
<td>&lt; 10¹ CFU/g</td>
</tr>
<tr>
<td>Moulds:</td>
<td>&lt; 10¹ CFU/g</td>
</tr>
<tr>
<td>Acetic acid bacteria:</td>
<td>&lt; 10¹ CFU/g</td>
</tr>
<tr>
<td>E. coli:</td>
<td>Absent in 1g</td>
</tr>
<tr>
<td>Salmonella:</td>
<td>Absent in 25g</td>
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<tr>
<td>Lead:</td>
<td>&lt; 2 mg/Kg d.m</td>
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<tr>
<td>Mercury:</td>
<td>&lt; 1 mg/Kg d.m</td>
</tr>
<tr>
<td>Arsenic:</td>
<td>&lt; 3 mg/Kg d.m</td>
</tr>
<tr>
<td>Cadmium:</td>
<td>&lt; 1 mg/Kg d.m</td>
</tr>
</tbody>
</table>

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