

uvaferm® 43®

YSEO™
PROCESS
Research in collaboration
with Washington State University

ORIGIN AND APPLICATION

The yeast for restarting stuck alcoholic fermentation – Lallemand’s most fructophilic yeast.

Uvaferm 43® was selected by the technical service of Inter-Rhone in partnership with Lallemand. **Uvaferm 43®** was chosen from more than 30 yeasts, through selection in stuck fermentations. When compared to the five yeasts recommended by the Oenology Commission of the ONIVINS on the treatment of the stuck fermentations, **Uvaferm 43®** was superior.

Many trials have validated the ability of **Uvaferm 43®** to more easily use fructose than other yeast, making it the preferred choice for restarting stuck ferments with high fructose to glucose ratios. It has a high fructophilic index. In trials this yeast had the highest fructose uptake capacity, whatever the glucose – fructose ratio, nitrogen or temperature levels of the ferment.

The **Uvaferm 43®** yeast, was selected from nature, and has since been improved using the Lallemand proprietary process called YSEO®



MICROBIAL AND OENOLOGICAL PROPERTIES

- Recommended to restart stuck alcoholic fermentations. Not recommended for primary fermentations
- *Saccharomyces cerevisiae var. bayanus*
- Alcohol tolerance to 18% v/v *Australian winery feedback. Subject to fermentation conditions.
- Low relative nitrogen demand (under controlled laboratory conditions)
- Very short lag phase and high fermentation vigour.
- Low levels of H₂S under low YAN conditions.
- Low relative potential for SO₂ production.
- Killer factor active.
- Low foam producer.

RESTARTING A STUCK ALCOHOLIC FERMENTATION

Before restarting with fresh yeast culture the removal of spent yeast requires special comment. Where problem ferments have been going for some time it is best to remove the yeast which may contain or remain to be a source of inhibitory compounds to the fresh active culture. The addition of **ResKue™** (100% yeast walls) prior to yeast removal will help remove short and medium chain fatty acids and fungicides that are toxic to yeast cells.

Note on use of yeast nutrient in restart procedure

The conditions prevailing in wine where the primary ferment has been arrested short of dryness provides winemakers with various challenges including:

1. Minimising the risk of excess nutrient following a successful restart and completion of fermentation
2. Limiting the toxic effect of ethanol on the permeability of cell plasma membranes which affects the uptake of glucose/fructose and amino acids.
 - *The use of Fermaid AT in the first fermentation phase of the restart procedure is a key prerequisite to limiting the impact of ethanol toxicity on the yeast cell membrane.*

The yeast is able to take up the alpha-amino nitrogen (provided by **Fermaid AT™**) in an environment where the cell membrane permeability and intracellular pH control ATPase functions are not compromised by the alcohol present. As a result, the intracellular reserve of alpha-amino nitrogen is increased and in readiness for an acceleration of metabolic activity when the yeast inoculum is introduced into the problem wine.

PROCEDURE TO RESTART A STUCK ALCOHOLIC FERMENTATION USING UVAFERM 43™

Products required:

- **ResKue™** – 65g/hL of stuck wine volume
- **Go-Ferm Protect Evolution™ (GPE)** – 30g/hL of stuck wine volume
- **Uvaferm 43®** – 50g/hL of Stuck Wine Volume
- **Fermaid AT™** – 50g/hL of initial starter mixture volume (in step 2).
- Juice or Grape concentrate.

Procedure for 10hL (1000L) of stuck wine

1. Preparation of the wine

- Ensure 7-8 ppm free SO₂.
- Rehydrate 400 g ResKue™ (40g/hL), as per the data sheet.
- Stir resuspended ResKue™ into the wine.
- Allow to settle for 48 hrs, then rack or filter the wine

2. Preparation of the 'initial starter mixture'

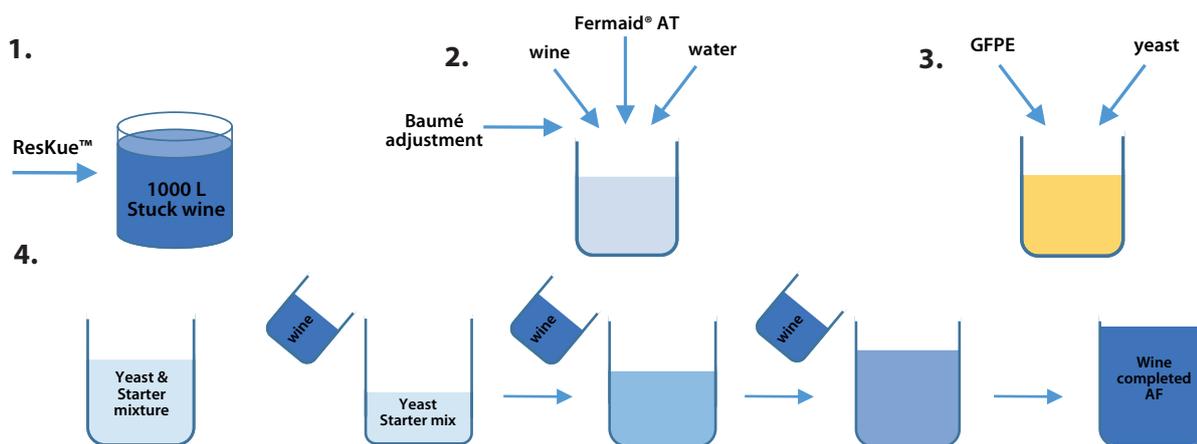
- Prepare the initial starter mixture and adjust temperature to 25-30°C.
- 25 L stuck wine.
- 25 L water.
- 25 g Fermaid® AT (50 g/hL)
- Adjust sugar to approx. 5° Baume (e.g. with grape juice or grape concentrate).

3. Preparation of the yeast

- Add 300 g GoFerm Protect Evolution™ (30 g/hL) into 6 L water, 40-43°C.
- Stir until a homogenous suspension.
- Leave for 10 minutes.
- Sprinkle 500 g Uvaferm 43 (50 g/hL) slowly & evenly onto GFPE/water, 35-40°C.
- Wait 20 minutes.
- Further gentle mixing.

4. Restart the fermentation of the stuck wine

- Slowly add yeast (Step 3) into the initial starter mixture (Step 2).
- Ensure temperature does not change more than 10°C.
- Mix well; maintain temperature at 20-24°C.
- Monitor the sugar level of the starter.
- When sugar has dropped by half, slowly double the volume with stuck wine
- Monitor the sugar level
- Maintain temperature at 20-24°C
- When sugar has dropped by half, slowly double the volume with stuck wine
- Maintain temperature at 20-24°C
- Repeat adding stuck wine, as above, until all the stuck wine has been added
- Only allow the last batch of added stuck wine to go to complete dryness



PACKAGING AND STORAGE

- All Active Dried Yeast should be stored dry, best practice between 4-12°C and the vacuum packaging should remain intact.

The information herein 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.



LALLEMAND OENOLOGY
Original by culture