

uvaferm® 43™ RESTART



ORIGIN AND APPLICATION

Optimised and pre-acclimated Uvaferm 43 yeast resulting in a very robust culture, now called Uvaferm 43™ RESTART. The most fructophilic yeast in the Lallemmand portfolio.

Under oenological conditions, glucose and fructose are the main fermentable sugars used by *Saccharomyces cerevisiae*. Although both of these hexoses are generally present in musts in equivalent quantities, *Saccharomyces cerevisiae* prefers to consume glucose, which explains why the main residual sugar in stuck ferments is fructose. In a Lallemmand research project, the results showed that in oenological conditions where nitrogen, sugar and glucose/fructose ratios were varied, the yeast strain Uvaferm 43® proved to be the most efficient at metabolising fructose under conditions similar to those found in stuck ferments.

Uvaferm 43® is now available in a more robust form called **Uvaferm 43™ Restart**. This new yeast adapts more quickly after inoculation as it has been optimised and pre-acclimatised to perform well under the challenging conditions of stuck fermentation. It is highly fructophilic.



MICROBIAL AND OENOLOGICAL PROPERTIES

- *Saccharomyces cerevisiae* var. *bayanus*
- Competitive factor: active
- Excellent for restarting stuck ferments with high fructose/glucose ratio
- Very fructophilic yeast
- Relatively low nitrogen demand, low H₂S and low SO₂ production
- High tolerance to alcohol: up to 16% * *Subject to conditions.*
- High fermentation vigor
- Neutral sensory effect on the finished wine

PACKAGING AND STORAGE

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

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 α-amino nitrogen (provided by **Fermaid K™**) 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™ RESTART

Products required (*Lallemand have an excel spreadsheet that can be used to calculate the correct amounts and volumes of adds.*)

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

Procedure for 10hL (1000L) of stuck wine

Step 1: Prepare the stuck wine

The addition of **ResKue™** helps remove potential inhibitory substances in the wine.

- Ensure 7-8ppm of free SO₂ to help control potential spoilage organisms.
- Rehydrate 40g/hL of **ResKue™** (400g) as per datasheet. Once rehydrated, stir the suspension into the stuck wine. Allow **ResKue™** to settle for 48hours, then rack or filter.

Step 2: Prepare the 'initial starter mixture'

The nutrient content of the stuck fermentation will most likely be quite low and unable to adequately support yeast growth. In addition this step will help the yeast adapt to the conditions of the wine.

- Prepare the following initial starter mixture and adjust the temperature to 25-30°C
 - 2.5% of volume (25L) of stuck wine
 - 2.5% of volume (25L) as water
 - 50g/hL of wine/water mix) of **Fermaid K™** (25g)
 - Adjust sugar level of this solution to approximately 9 Brix with grape juice or grape concentrate.

Step 3: Prepare the yeast **Uvaferm 43® RESTART**

- Add 30g/hL of Go-Ferm Protect Evolution™ (GPE) (300g) into 20x its weight of 40-43°C clean chlorine-free water (not distilled).
- Stir until an homogenous suspension, free of lumps is achieved. Due to the high sterol content, **Go-Ferm Protect Evolution™** does not easily dissolve. Once the powder is added to the water and stirred, leave for 10 minutes, within which time the powder will have dissolved.
- When the temperature of this GPE / water suspension is between 35-40°C gently sprinkle 50g/hL of **Uvaferm 43™ RESTART** yeast (500g), slowly and evenly, onto surface of the suspension, whilst gently stirring. Use 100g/hL of **Uvaferm 43™ RESTART** if the winery lacks good temperature control.
 - *slow addition of yeast to the suspension surface is necessary to allow rehydration while yeast is in suspension.*
 - *The aim is to achieve uniform hydration (whilst avoiding clumping/mass deposits where moisture uptake is inconsistent) in the rehydration vessel.*
- Allow the yeast/GPE suspension to stand for 20 minutes, before further gentle mixing.

Step 4: Restart the fermentation by sequential acclimitisation of the yeast to the stuck wine

- Slowly add the GPE / Yeast suspension (**Step 3**) to the 'initial starter mixture' (from **Step 2**). Ensure the temperature never changes by more than ±10°C. Mix well and maintain the temperature at 20-24°C
- Monitor the sugar level of this starter. When the level has dropped by half, begin to add the stuck wine to the starter and maintain between 20-24°C, until the volume is doubled. Add 25g/hL of rehydrated (as per datasheet) **ResKue™** to each batch prior to adding to the starter (this will promote active fermentation). Monitor until the sugar has reduced by half.
- Repeat the addition of the problematic wine (with ResKue added) as per **Step 4b**, until the total volume has been added.
- Only the last batch of added stuck wine should be allowed to completely go to dryness.

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.



WINE
YEASTS



WINE
BACTERIA



NUTRIENTS
/PROTECTORS



SPECIFIC
INACTIVATED YEASTS



ENZYMES



CHITOSAN



VINEYARD
SOLUTIONS



LALLEMAND OENOLOGY

Original by culture