



CLOS™

YSEO™
PROCESS
Research in collaboration
with Washington State University

ORIGIN AND APPLICATION

Lalvin CLOS™ has a high alcohol tolerance and wide fermentation temperature range. Respects varietal character, adds complexity and minerality to red wines.

A selection from the prestigious Spanish Priorat region. **Lalvin CLOS™** was selected by the University of Rovira i Virgili in Spain (Biotechnologia Enologica de la Facultad de Enologia de Tarragona). The selection criterion of the yeast was to preserve the typical characteristics of wines from the Priorat D.O.C, where the musts have low nutrient status, high polyphenolic levels and high potential alcohol. It was also deemed important that the yeast respected and expressed the minerality of the terroir.

Winery trials conducted with Carignan, Grenache, Shiraz, Zinfandel and Tempranillo grapes confirmed the yeasts potential as an excellent tool to enhance aroma complexity, structure and mouthfeel.

Since its release into the Australian market in 2010, the versatility and the reliability of the yeast has been well established. It has been used successfully in hot, warm and cooler regions of Australia. Outstanding reports have been received when using **Lalvin CLOS™** to ferment Cabernet Sauvignon, Shiraz, Grenache and Tempranillo. The sensory characteristics include underlying complexity with an overall heightened expression of varietal characters with a good balance between mouthfeel and structure. **Lalvin CLOS™** is a relatively high producer of glycerol, which contributes to the mouthfeel effect of this yeast. Most importantly, its reliability has been commonly reported.

The **Lalvin CLOS™** yeast, was selected from nature, and has since been improved using the propriety process called YSEO®.



MICROBIAL AND OENOLOGICAL PROPERTIES

- Red wines only
- *Saccharomyces cerevisiae var. cerevisiae*
- Fermentation temperature: 13-35°C
- High vigour – Implants well in difficult conditions, fast and regular fermentation rate.
- Medium relative nitrogen demand (under controlled laboratory conditions)
- Alcohol tolerance 17% v/v.
- Low relative potential for SO₂ production.
- High relative glycerol production.
- Killer factor active.
- Good compatibility with malolactic fermentation.
- Suggested varieties – Cabernet Sauvignon, Grenache, Shiraz, Tempranillo, and Zinfandel.

YSEO™ signifies Yeast Security and Sensory Optimization, a unique Lallemmand yeast production process to meet demanding fermentation conditions. While not all yeast benefit from this process, YSEO™ improves the reliability of alcoholic fermentation by improving yeast quality and performance and reduces the risk of organoleptic deviation even under difficult conditions. YSEO™ yeasts are 100% natural and non-GMO.

FURTHER READING *(Please request this booklet from your Lallemand representative).*

'Selecting Yeast in a Unique Terroir', Jose Maria Heras, Carlos Suarez, Ann Dumont, Anne Oritz-Julien, Francoise Raginel, Lallemand Spain, Lallemand Montreal, Lallemand France.

Lallemand Winemaking Update – Number 1 2008: 'The YSEO® Process'

Evaluation of the YSEO® Process to prepare dried winemaking yeast – Summary of a study done by Washington State University and Lallemand

Lallemand 'The Wine Expert' – Practical Winemaking Information – Glycerol and winemaking.

INSTRUCTION FOR USE

Dosage Rate:

- 25g/hL of Active Dried Yeast (this will provide an initial cell population of approximately 5×10^6 viable cells/mL)
- 30g/hL of Go-Ferm Protect® / Go-Ferm Protect Evolution™
- Nitrogen source from the Fermaid range

Procedure for 1000L ferment.

- 1) Add 300g of Go-Ferm Protect® / Go-Ferm Protect Evolution™ to 5L of 40-43°C clean, chlorine free water. Stir until an homogenous suspension free of lumps is achieved.
- 2) When the temperature of this suspension is between 35-40°C, sprinkle 250g of yeast slowly and evenly onto the surface of the water, whilst gently stirring. Ensure any clumps are dispersed.
- 3) Allow to stand for 20 minutes before further gently mixing.
- 4) Mix the rehydrated yeast with a little juice, gradually adjusting the yeast suspension temperature to within 5-10°C of the juice/must temperature.
- 5) Inoculate into the must.

Further Notes

- Steps 1-5 should be completed within 30 minutes.
- It is best to limit first juice/must volume addition to one tenth the yeast suspension volume and wait 10 minutes before the addition to juice.
- To minimize cold shock, ensure temperature changes are less than 10°C.
- It is recommended that juice / must be inoculated no lower than 18°C.
- It is recommended to use complex nutrition nitrogen source, such as either **Fermaid AT™** or **Fermaid O™**.

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.



WINE
YEASTS



WINE
BACTERIA



NUTRIENTS
/PROTECTORS



SPECIFIC
INACTIVATED YEASTS



ENZYMES



CHITOSAN



VINEYARD
SOLUTIONS



LALLEMAND OENOLOGY

Original **by culture**