

## CLASSIC METHOD SPARKLING WINE PRODUCTION WITHOUT RIDDLING

**PROELIF** is an encapsulated yeast product developed by Proenol for secondary fermentation. The yeast cells are encapsulated in an alginate matrix.

**PROELIF** can be directly inoculated into the bottle with the following advantages:

- ▶ **Direct Inoculation:** The encapsulated yeasts are introduced directly into the bottle and thus the inoculum preparation step is eliminated. More control of the number of cells per bottle.
- ▶ **Reduction of production costs and labor time** thanks to the suppression of the riddling step: Upon fermentation completion, the beads have greater density than the wine and will quickly drop to the neck of the bottle when inverted.
- ▶ **Better space management** in the cellar as riddling equipment becomes unnecessary.
- ▶ **Fast response to the market needs and efficient planning of deliveries** to satisfy urgent orders. **PROELIF** is easily removed from the bottle, which allows the wine ready to be dispatched.
- ▶ **Use of special bottles** that don't fit in the gyropallet.

Proenol is the only company in the world to produce direct inoculation encapsulated yeasts for sparkling wines production. **PROELIF** is currently used by sparkling wine producers worldwide.

Traditional freezing and disgorging methods are used to finish the process. The use of **PROELIF** result in a fresh sparkling wine. If greater yeast character is desired, you may make changes to the base wine with this in mind. For example, **PROELIF** has been used with Opti-White treated base wine with good results.

## PROELIF APPLICATION REQUIREMENTS

### BASE WINE

- ▶ Molecular  $SO_2 \leq 0,6$  mg/L
- ▶ pH  $\geq 3.0$
- ▶ Alcohol content  $\leq 11.5\%$  (v/v)
- ▶ No antimicrobial agents added (velcorin, sorbate)
- ▶ Free assimilable nitrogen (FAN)\*  $\geq 100$ mg/L
- ▶ Calcium  $\leq 80$  mg/L
- ▶ Protein stability
- ▶ Tartaric stability\*\*: Saturation temp.  $< 10^\circ C$

\* DAP (diammonium phosphate) could be used for FAN adjustment.

\*\*The base wine must have tartaric stability to avoid agglomeration of the beads which could cause subsequent difficulty during disgorging.

- ▶ Tartaric stabilization by electrodialysis and/or cationic resins may result in a significant reduction of pH. After using these techniques, it is important to verify that pH  $\geq 3.0$ .
- ▶ CMC is very effective in preventing crystallization of potassium tartrates but may react with proteins so it is important to evaluate protein stability after the addition of CMC.
- ▶ For **PROELIF** application no inoculum preparation or adjuvant additions its required.
- ▶ As with the application of active dry yeasts, it is advisable to add nutritional supplements to the base wine: 0.3 mg/L thiamine.
- ▶ All of these parameters act in synergy with one another. It is critical to manage them together. If one parameter is over the limit, try to compensate with the others or ferment at a higher temperature.

### BOTTLING LINE

- ▶ Rigorous equipment hygiene before **PROELIF** application.
- ▶ Final filtration through a 0.45  $\mu m$  membrane (microbiological filter with microorganism retention) to avoid any post filtration contamination.

### FERMENTATION

- ▶ Temperature  $> 12^\circ C$
- ▶ During fermentation avoid bottle storage in a place with high temperature variation and air currents.

Consult **PROELIF** User Guide for additional information.  
Useful tool: Checklist application in the **PROELIF** User Guide.



↑ **PROELIF**  
User Guide

# ENCAPSULATED DRY YEAST

# PROELIF

## QUALITY AND FOOD SAFETY

- ▶ Genetic Modification (GMO) - Are neither Genetically Modified Organisms, nor are manufactured from raw materials or ingredients of GMO origin.
- ▶ Ionisation - Were not submitted to an ionising treatment.
- ▶ Allergens - Do not contain the substances or products causing allergies or intolerances, referred in the annex II of the EU Regulation 1169/2011.
- ▶ Nanotechnology and Nanomaterials - Have not been produced with the use of nanotechnology and do not contain any engineered nanomaterials, as defined in article 2.2 of EU Regulation 1169/2011.
- ▶ International Oenological Codex - (COEI) and European Legislation - According to current version of the COEI and Delegated Regulation (EU) 2019/934.

## DOSAGE AND INSTRUCTION FOR USE

Recommended: 1.2 to 1.5g / bottle depending on the wine characteristics.

This dose is equivalent to 4-6 million living yeast cells /mL of wine. Insert the beads directly into the bottle preferably before filling. Dosing can be done manually or through the use of **PROELIF** dosing equipment. The temperature differential between **PROELIF** and wine should not exceed 10°C.

## SPECIFICATIONS

Appearance and odor: Light brown beads with typical yeast smell.

Ingredients: Encapsulated dry yeast *Saccharomyces cerevisiae* in alginate. Yeast isolated in grape must.

Living yeast cells > 3 x 10<sup>9</sup>/g; Solids > 86%; Moulds < 10<sup>3</sup>cfu/g; Total Coliforms < 10<sup>2</sup>cfu/g;

E.coli - Absent/g; Lactic bacteria < 10<sup>5</sup>cfu/g; Acetic bacteria < 10<sup>4</sup>cfu/g;

*Salmonella* - Absent/25g; *Staphylococcus* - Absent/g; Arsenic < 3mg/Kg<sup>(a)</sup>;

Lead < 2mg/Kg<sup>(a)</sup>; Cadmium < 1mg/Kg<sup>(a)</sup>; Mercury < 1mg/Kg<sup>(a)</sup>

<sup>(a)</sup> Dry Substance

## PACKAGE AND STORAGE

1 Kg

Unopened package: +4°C (39°F) ± 2°C

Opened package: Use immediately

We guarantee the quality of this product in the original package and used according to the expiration date and storage conditions. The information presented in this document is herein 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.