



# OPTI-MUM WHITE™

**For aromatic intensity and longevity  
in white and rosé wines**

## Description

OPTI-MUM WHITE™, a new natural specific inactivated yeast (SIY) rich in glutathione (antioxidant properties) and polysaccharides, is the result of an optimized production process that enhances glutathione availability.

Added to the must at the earliest stage of alcoholic fermentation (after settling), the unique properties of OPTI-MUM WHITE™ protect against oxidation.

In terms of aromatic quality, a better expression and a longer preservation of thiols and esters after one year of aging is observed.

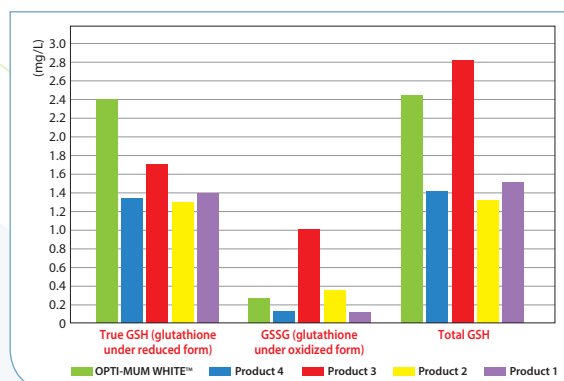
Due to the polysaccharides release, OPTI-MUM WHITE™ addition increases mouthfeel perception and contributes to enhance wine complexity.

## Application and results

### • Optimized effective glutathione availability:

Among Lallemand portfolio, a specific wine yeast was chosen for the production of glutathione-rich inactivated yeast (GSH-rich SIY), and the process from yeast multiplication to inactivation and drying has also been adapted in order to get a high content of **soluble reduced glutathione** in the final SIY. The ability of the inactivated yeast to release GSH in the media after its addition is also an

important criteria. In a reasearch done by Stellenbosch university, different GSH-rich SIY were studied and as presented in Figure n°1, OPTI-MUM WHITE™ was the one showing a higher glutathione (under reduced form) level (*Kritzinger et al, 2012*).



◀ Figure n°1: reduced (GSH), oxidized (GSSG) and total glutathione (reduced + oxidized GSH) content released by various GSH-rich SIY a wine-model solution.



OMRI (Organic Materials Review Institute) is a US national nonprofit organization that determines which input products are allowed for use in organic production and processing.

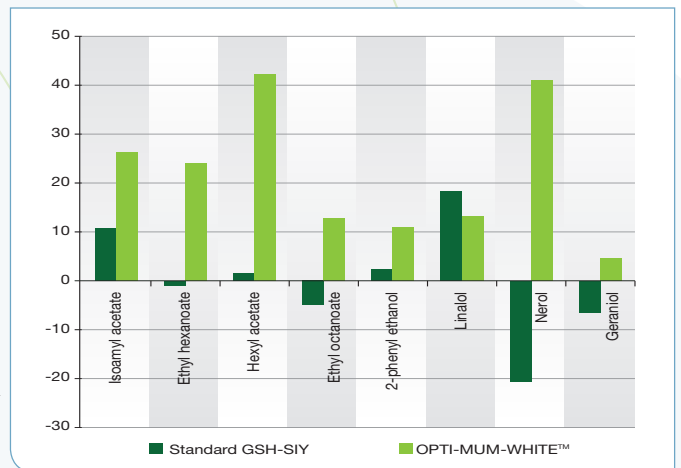
OPTI-MUM WHITE™ is patented in Europe (n°1706478), New Zealand (n°548618), South Africa (n°2006/05985), USA (n°8268372) and Australia (n°2005214101).



• **Optimized impact on aromas' content:**

Many studies have shown the impact of glutathione on various aromas such as terpenes, esters and naturally volatile thiols (Curtin, 2009, Fragasso et al. 2010, Andújar-Ortiz et al. 2010, Aguera et al., 2012). Some results are shown in figure n°2, where different aromas compounds (esters and terpenes) were measured in Roupeiro et Rabo de Ovelha varietal wines (Portugal) treated with a standard glutathione-rich inactivated yeast (standard GSH-SIY) and OPTI-MUM WHITE™, and compared to a control. The wines treated with OPTI-MUM WHITE™ had significantly more different esters and terpenes from both the control and the wine treated with the standard GSH-SIY.

Figure n°2: Trial led on Rupeiro & Rabo de Ovelha (Alentejo, Portugal): comparison between Control, Standard GSH-SIY (20 g/hL) and OPTI-MUM WHITE™ (20 g/hL) added at the beginning of AF.



• **Better preservation of aromas along aging:**

Several studies and trials have shown the positive impact of glutathione on the preservation of thiols along aging. The results presented in figure n°3 and figure n°4, from experimentations led in collaboration with INRA Montpellier on Sauvignon Blanc and Syrah Rosé winemaking (Aguera et al. 2012) show the better preservation of the 3-mercaptohexanol (3MH) and its acetate (A-3MH), which are responsible for passion fruit and grapefruit aromas, on the wine treated with OPTI-MUM WHITE™ at the beginning of AF.

Figure n°3: Trial - Sauvignon Blanc 2008: analysis of thiols after 1 year of storage in bottle (ng/L)

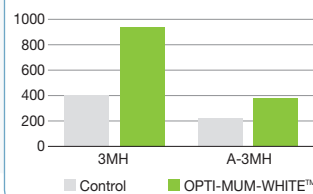
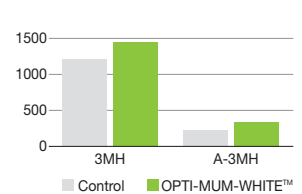


Figure n°4: Trial - Syrah Rosé 2008: analysis of thiols after 1 year of storage in bottle (ng/L)



Perception thresholds:  
 • 3MH : 50 to 60 ng/L • A-3MH : 2,5 to 9 ng/L

**Dosage and instructions for use**

- Recommended average dosage is 20 to 40 g/hL (1.7 to 3.4. lb per 1000 U.S gallon) depending on the benefits desired.
- Suspend OPTI-MUM WHITE™ in ten times its weight of water or juice and mix.
- Add to the juice after pressing, at the beginning of fermentation.
- OPTI-MUM WHITE™ is a specific inactivated yeast; thus it contains naturally amino acids and minerals. So OPTI-MUM WHITE™ also contributes to the nutritional content available for yeast even though it does not replace the regular nutrition program.

**Packaging and storage**

- 1 kg and 2.5 kg sealed alu foil bags.
- Store in a dry environment below 25°C.

DISTRIBUTED BY:

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November 2014

