

WHITE AND ROSÉ WINES

Low SO₂ Winemaking

Critical steps for reducing use of SO₂ in white and rosé wines:

- pH management is an essential parameter to increase the effect of SO₂ as an antioxidant and antimicrobial. Bacteria are pH sensitive and will be under better control in a low pH environment.
- Work **ONLY** with healthy grapes.
- Increase antioxidasic protection on grapes to inhibit polyphenol oxidase, laccase and lipoxygenases with gallic tannins.
- Limit oxidation reactions by chelating metals which are catalyzers of oxidation reactions and using antioxidant peptides in the early stages of winemaking.
- Remove oxidation precursors such as hydroxycinnamic acids and phenols through fining.
- Increase anti-radicalic protection during ageing with radical scavenger sacrificial tannins.
- Protect against oxidation by using high oxygen consumption lees during ageing.
- Antimicrobial protection: Limit the development of spoilage microbes at juice stage and during ageing.
- Pay extra attention to sanitation and quality control (microscan/PCR, VA, FSO₂ and tasting) to prevent any wine spoilage.

WINEMAKING STAGE	OBJECTIVE	ENARTIS RECOMMENDATION	DOSAGE
<i>Adjust pH as soon as possible.</i>			
Crusher	Antimicrobial	EnartisStab Micro M (pre-activated chitosan and purified yeast hulls) to remove spoilage microorganisms such as <i>Brettanomyces</i> , lactic acid, acetic acid bacteria, and non- <i>Saccharomyces</i> yeasts.	100 g/ton
	Antioxidant	EnartisTan Blanc (gallic tannins) to limit the oxidasic activity of grape enzymes. <i>To reduce SO₂ dosage, use AST: Blend of ascorbic acid, gallic tannins and SO₂ for complete antioxidant protection. 100 ppm of AST = 28 ppm SO₂.</i>	150 g/ton
Fermentation	Antioxidant	EnartisPro FT (PVI/PVP and yeast derivatives rich in antioxidant peptides) at inoculation to remove metals which are precursors to oxidation.	20 g/hL
Ageing	Antimicrobial	EnartisStab Micro (pre-activated chitosan, removes spoilage microorganisms such as <i>Brettanomyces</i> , lactic acid, acetic acid bacteria) to prevent development of spoilage microorganisms. <i>RE-SUSPEND LEES EVERY 2 WEEKS</i>	5-10 g/hL
	Antioxidant	EnartisStab SLI (active lees, PVPP and untoasted tannins) to consume dissolved oxygen, extends wine shelf-life and protect against oxidation. <i>RE-SUSPEND LEES EVERY 2 WEEKS</i>	20-30 g/hL

Recommended

WINEMAKING STAGE	OBJECTIVE	ENARTIS RECOMMENDATION	DOSAGE
Clarification	Settling	EnartisZym RS (pectinase) to accelerate settling.	2 g/hL
	Fining	Claril SP (Bentonite, PVPP, potassium caseinate and silica) to remove precursors of oxidation.	20-40 g/hL
Fermentation	Yeast Nutrition	MEASURE YAN TO CALCULATE NUTRITIONAL NEEDS Nutriform Energy (amino acids, vitamins, minerals and micro-nutrients) at inoculation. Nutriform Advance (complex nutrient with DAP, yeast hulls and cellulose) at 1/3 of AF. Nutriform No Stop (purified and selected yeast cell walls rich in sterols and unsaturated fatty acids) after 1/2 AF.	10-20 g/hL

The above is achieved to the best of our knowledge and experience.
The industrial application of the advice provided does not imply any responsibility on the part of our company.

Revision: June 2020