



# PREVENTING SULFUR OFF-ODORS DURING WHITE & ROSÉ WINE FERMENTATIONS

One of the major factors that results in sulfur off-odors is yeast stress. If the yeast are stressed during the early stages of fermentation, the aromas may not be detected until later in the process. In order to minimize sulfur off-odors, the following good fermentation practices should be considered.

The level of solids can have an influence on the production of negative sulfur based compounds by the yeast. Try to have solids between 1-2%. If you have excessively clarified, then add back some solids during the rehydration and nutrition phases. Using enzymes and clarification aids during the settling phase will help to attain these turbidity goals.

Choose a yeast strain that will be successful in the fermentation based on your aromatic goals (e.g. **Enoferm ICV D47™**, **Lalvin ICV GRE™**, **Lalvin QA23™**, **Lalvin Bourgo blanc CY3079®**, or **Cross Evolution®**). Yeast strains that are non H<sub>2</sub>S and SO<sub>2</sub> producing are also good choices (**Be Fruits™**, **SENSY™**, **ICV OKAY®**). Rehydrate with either **GoFerm®** or **GoFerm Protect Evolution®**. This will help to protect and stimulate the yeast when added to the must.

- Acclimatize the yeast to minimize stress factors (osmotic, temperature and mechanical). The temperature difference between juice and rehydration water should be less than 15°F before inoculating. After yeast acclimatization, the yeast should be mixed into the juice.
- The yeast assimilable nitrogen (YAN) should be analyzed and adjusted as needed (based on the sugar (g/L), the original YAN and the yeast strain requirements). For more information on YAN protection and nitrogen, [click here](#).
- Oxygen is also an important yeast nutrient which is required by the cells to produce strong membranes. If you cannot get the required amount of oxygen into your fermentations, use **GoFerm Protect Evolution** during the rehydration phase; this will take place of the oxygen additions.
- Temperature management is also essential, especially during the yeast stationary phase. For fruit forward wines with good palate, ferment between 58-68°F.
- Another important point is keeping the yeast in suspension with regular mixings, especially at the last one-third of fermentation when the CO<sub>2</sub> generation slows down.
- Continue with ML if desired, or stabilize the wine and rack.

## CORRECTIVE ACTION IF SULFUR ODORS ARE PERCEIVED AT THE BEGINNING OF FERMENTATION:

- Add 30g/hL of **Fermaid® K**
- 48 hours later follow up with 30g/hL of **Opti-WHITE®**
- Keep the yeast in suspension with regular mixings, especially at the last one-third of fermentation when the CO<sub>2</sub> generation slows down.
- Continue with ML if desired, or stabilize the wine and rack

**CORRECTIVE ACTION IF SULFUR ODORS ARE PERCEIVED AT ONE-THIRD SUGAR DEPLETION:**

- Add 20g/hL **Fermaid K** and do an oxygenation (4ppm)
- Mix twice daily until fermentation has completed
- 48 hours later add 10g/hL **Fermaid K**
- Keep the yeast in suspension with regular mixings, especially at the last one-third fermentation when the CO<sub>2</sub> generation slows down
- Continue with ML if desired, or stabilize the wine and rack

**CORRECTIVE ACTION IF SULFUR ODORS ARE PERCEIVED AT THE END OF FERMENTATION:**

- Add 10g/hL of **Fermaid K**
- Mix twice daily until fermentation has completed
- 48 hours later add 20g/hL of **ICV Noblesse®**
- Eliminate the gross lees and rack 24 hours later
- Keep the yeast in suspension with regular mixings, especially at the last one-third fermentation when the CO<sub>2</sub> generation slows down.
- Continue with ML if desired, or stabilize the wine and rack

**WHAT TO DO IF SULFUR OFF-ODORS PERSIST?**

Add 20g/hL of **Noblesse**, mix once per day for a week (protect from oxygen). If after one week the sulfur off-aromas still persist, add between 10-30g/hL of **Reduless®** (based on bench trials). Mix the wine and then rack after 72 hours.

*Note that volatile sulfur compounds (VSC) can develop over time when the wine is held under reductive conditions, the same can occur post bottling. Maintaining proper REDOX potential and preventing drastic, persistent swings in dissolved oxygen content will help to prevent the formation of VSC.*