



PREVENTING SULFUR OFF-ODORS DURING RED 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.

Choose a yeast strain that will be successful in the fermentation (e.g. Lalvin ICV D254[®], Lalvin ICV D80[®], Lalvin BM 4x4[®], Uvaferm VRB[®], Lalvin T73[™]). 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 16°F before inoculating. After yeast acclimatization, the yeast should be mixed into the must.
- 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 nutrition, [click here](#).
- Oxygen is also an important yeast nutrient which is required by the cells to produce strong membranes. Oxygen additions are recommended at 2-3 brix drop and again at one-third sugar depletion. The goal is to add 8-10ppm.
- Temperature management is also essential, especially during the yeast stationary phase. The higher the starting brix, the lower the peak fermentation temperature. High temperatures (>80°F) stress the yeast and in a challenging environment, this can result in sulfides. **Note:** the hottest point of the fermentation, also known as the temperature stratification, is directly below the center of the cap.
- Another important point is keeping the yeast in suspension
- Eliminate the gross lees and rack 24 hours later
- Continue with ML



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-RED[®] or Booster Rouge[®]
- Eliminate the gross lees as soon as the wine has finished alcoholic fermentation and rack 24 hours later
- Continue with ML

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

- Add 20g/hL Fermaid K and do an oxygenation (8ppm)
- 24 hours post completion, add 30g/hL of Opti-RED or Booster Rouge
- Eliminate the gross lees and rack 24 hours later
- Continue with ML

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
- 24 hours post completion, add 20g/hL of ICV Noblesse®
- Eliminate the gross lees and rack 24 hours later
- Continue with ML

WHAT TO DO IF SULFUR OFF-ODORS PERSIST?

Add 20g/hL of Noblesse and mix once per day for a week. 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 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.