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## TIPS AND BEST PRACTICES FOR CONDUCTING CLARIL HM AND STABYL MET BENCH TRIALS

## Background

Metal ions are present in all wines, but the types and levels of these metals depends on viticultural and winemaking factors. Some of the main sources of these metals include vineyard sprays, water, soil type, enological additions, and storage vessels. Metal ions additionally play an important role in wine redox chemistry and stability. For example, increasing amounts of iron and copper have been shown to speed up oxidation of wines. Additionally, increasing levels of copper have been associated with reduction appearing in canned wines. In order to provide winemakers with tools to control the levels of metals in wine, Enartis has developed fining blends to remove these metals.

## Fining for Metal Removal

Stabyl MET and Claril HM are fining agents which contain the polymer polyvinylimidazole/polyvinylpyrrolidone or PVI/PVP. Stabyl MET is a special blend form of this polymer with amorphous silica. Claril HM is a blend of this PVI/PVP with activated chitosan which has been found to be an efficient metal removing agent, among other properties. While these products have been confirmed to be excellent at removing metals, they require proper use to ensure their effectiveness Additionally, the metal removal effectiveness also depends on the wine matrix. For this reason, trials are recommended prior to using the product to find the right dosage for metal removal. This document is intended to outline the best practices for running trials with these two polymers to effectively remove metals from wine.

## Fining for Metal Removal

This information is intended to be supplemental to the technical data sheets provided for both <u>Stabyl MET</u> and <u>Claril HM</u>. Additionally, if you are unfamiliar with running a formal bench trial, please consult our <u>bench trial sheet</u> found on our website for more information before conducting these trials.

- First, it is recommended to prepare a 5 % solution of the polymer in distilled water. Periodic mixing of this 5% solution over the course of one hour will ensure proper rehydration.
- After rehydration, mix the 5% Stabyl MET or Claril HM solution thoroughly. Take note of how quickly the product settles after mixing. For this reason, it is extremely important to mix the 5% solution to homogenize it immediately prior to pipetting the aliquot for the sample. Repeat mixing before taking aliquots for each sample dosage. Failure to do this step can lead to a diluted dosage of the fining agent. This should also be kept in mind when applying the product in the winery. The wine should be circulating sufficiently (ideally 1 2 times the volume of the tank) to prevent the product from settling directly to the bottom of the tank.
- Prior to pipetting the aliquot into the wine samples, be aware that pipetting solutions of Claril HM or Stabyl MET can sometimes be difficult, as the polymer granular size may exceed the diameter of the tip of the pipette. For this reason, it is recommended to use a wide tip pipette or, alternatively, cut off the first millimeter of the plastic micropipette tip prior to pipetting. This will not drastically impact the aliquot volume and will allow for the aliquot to be drawn up and discharged without clogging. Do not cut more than 1 mm of pipette tip, as this could impact the aliquot volume.

The indications supplied are based on our current knowledge and experience, but do not relieve the user from adopting the necessary safety precautions or from the responsibility of using the product(s) properly.

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- After addition of the dosage of the product to the wine sample, the wine should be mixed on a stir plate for a minimum of 1 hour. If there is no stir plate available, mix the samples well every 15 minutes for a minimum of two hours. The efficiency of the product for metal removal is dependent on contact time, thus it is important to ensure sufficient contact is given to the product.
- Once mixing is complete, the product can be settled out over 24 hours, and filtered with a rough prefilter. The remaining wine can be tasted to verify the fining is appropriate for the sensory attributes of the wine. The wine can also be tested for metals to confirm which dosage is sufficient for metal removal for that particular wine.

For any additional questions about applying or using Claril HM or Stabyl MET, call the Enartis USA technical line: (707)838-6312

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