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ZENITH IN-HOUSE TESTING

A Detailed Guide to In-House ZENITH Testing for White & Rosé Wines

Below is a recommended timeline for important testing prior to ZENITH application. Because ZENITH can interact with unstable proteins in wine, we recommend including ZENITH in your **Protein Stability trials**. This will make your ZENITH Panel testing much easier. Additionally, a **ZENITH Panel** is required to ensure your wine is ready for ZENITH.

6 - 8 weeks before bottling	• Blending • Acid adjustments • Fining • Clarification
4 - 6 weeks before bottling	• **Protein Stability trials (with ZENITH)** • Bentonite additions
3 - 4 weeks before bottling	• **ZENITH Panel testing** • Order ZENITH
1 - 2 days before bottling	• Add ZENITH to wine

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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ZENITH PANEL

A ZENITH Panel is a set of analyses required to ensure that a wine is compatible with ZENITH. This panel verifies that ZENITH will not have negative interactions with wine proteins or other colloids, and that the tested dosage will be sufficient to fully stabilize potassium bitartrates. The testing consists of three parts, **protein stability test**, **conductivity test**, and **cold hold test**.

Part 1. Protein Stability Test

This testing verifies that your wine is protein-stable, and that ZENITH will not interact with proteins in your wine. We recommend conducting a **heat stability test** and a **colloid test** as follows:

Before starting the tests, make sure that the wine is filtered to less than 2 NTU.

Heat Stability Test

1. Filter 30 mL of sample wine through a 0.45 µm filter.
2. Pour the wine into a labeled turbidity tube and place in a rack.
3. Place the rack in a hot water bath at 80ºC for 2 hours.
4. Remove sample from the bath and place in a fridge. Allow the sample to cool down between 2-4ºC for 2 hours.
5. Place the sample on a countertop for 1 hour to allow it to reach room temperature.
6. Measure NTU level.

HEAT STABILITY TEST:
The wine is considered STABLE when the NTU < 1.5.

Method based on Moine-Ledouxt y Dubourdieu, 1988

Colloid Test

1. Filter 30 mL of sample wine through a 0.45 µm filter.
2. Pour the wine into a labeled turbidity tube and place in a rack.
3. Dose the sample with ZENITH UNO at 100 mL/hL.
4. Place the rack in a hot water bath at 80ºC for 2 hours.
5. Remove sample from the bath and place in a fridge. Allow the sample to cool down between 2-4ºC for 2 hours.
6. Place the sample on a counter for 1 hour to allow it to reach room temperature.
7. Measure NTU level.

COLLOID TEST:
The wine is considered STABLE when the NTU < 1.5

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Part 2. Conductivity Test

1. Place filtered sample in two bottles: dose one bottle with 100 mL/hL ZENITH UNO, gently mix. The other bottle is untreated.
2. Conduct a conductivity measurement via mini-contact test on both wines using Tartarcheck device or CheckStab device. Specific instructions will vary depending on the instrument, please consult the manuals for details.

MINI-CONTACT TEST USING TARTARCHECK PLUS:

Test at 0°C for 30 minutes using micronized potassium bitartrate.

The wine is considered STABLE when the result is < 30 Δ µS/cm

Method based on Boulton Test

MINICONTACT TEST USING CHECKSTAB PLUS:

$$\frac{\text{(initial conductivity – final conductivity)}}{\text{initial conductivity}} \times 100 = \%\ \Delta S\ (\mu s/cm)$$

The wine is considered STABLE when the change in conductivity (% ΔS (µs/cm)) is < 3

Part 3. Cold Hold Test

Cold stability is tested by comparing untreated and treated samples placed in a -4°C freezer for 6 days. The presence of precipitate indicates the wine is unstable.

1. Place filtered sample in two labelled Imhoff cones, 100 mL per cone. Dose one cone with 100 mL/hL ZENITH UNO (treated sample). The other cone is untreated (control sample).
2. Place both samples in a freezer at -4°C for 6 days.
3. After 6 days, allow the samples to reach room temperature and proceed with a visual evaluation of the precipitate, checking on its nature and quantification.

COLD HOLD TEST:

The wine is considered STABLE when the precipitate observed in the cones is ≤ 0.05%.

* This test represents the best way to determine if the sample is cold stable under real life conditions.

Questions? We're Here to Help!

Contact the Enartis USA technical line at (707) 838-6312.

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