ENARTIS NEWS
ZENITH®: A REVOLUTION IN TARTRATE STABILIZATION

WHY ZENITH?

Innovation
Zenith is a revolutionary product range which contains potassium polyaspartate (KPA), a molecule developed by Enartis specifically for tartrate stabilization of wine. Prior methods for tartrate stabilization had limitations involving performance, quality, time and cost. Zenith addresses these limitations as the most effective tartrate stabilizer on the market.

Performance
Zenith is an extremely effective tartrate stabilizer. When compared to Carboxymethyl cellulose (CMC), Zenith consistently performs better for tartrate stabilization.

\[
\text{ abs } \Delta \mu \text{S/cm}^2
\]

Extremely unstable 2017 Niagara wine. Wines which are greater than 70 abs. $\Delta \mu \text{S/cm}^2$ are considered unstable.

Quality
Traditional cold stabilization relies on lowering wine temperature for prolonged periods of time. Oxygen solubility in wine is inversely related to temperature, so the lower the wine temperature, the more oxygen wine can absorb. This makes wines more susceptible to oxidation during chilling for tartrate stabilization. Additionally, wines will precipitate tartrates during chilling, which then requires subsequent racking from the tank off tartrate crystals. By precipitating tartrates, you are removing natural acidity that benefits the sensory profile of the wine.

Wines which are stabilized using Zenith avoid the chilling process, which means less chances for oxidation, and more preservation of natural acidity in the wine.

KPA also has no impact on the sensory characteristics of wine. Zenith Color does contain a filterable Arabic gum for color stabilization which also has a positive impact on the perception of volume and body of red wines.

Sustainability
Cold stabilization requires high amounts of energy to lower tank temperatures for extended periods of time. The energy used during this process translates to CO$_2$ emitted from powerplants, further impacting climate change. Additionally, water and detergents used to clean tanks after tartrate stabilization can be extensive and further increase inputs into the winemaking process. Using Zenith, winemakers can avoid the energy use and cleaning associated with traditional cold stabilization.
Cost Effectiveness

Energy use, labor and wine losses are all costs associated with the process of cold stabilization. Studies conducted comparing all the options for cold stabilization shows that KPA is exceptionally cost savings for wine producers.
How to Use Zenith

Zenith is added just prior to bottling to filtered wines that are protein stable. After addition, the wines are stable for potassium tartrate formation.

Preparing Wines for Zenith Use

Unstable proteins can react with Zenith forming a haze. For this reason, wines need to be protein stable to use Zenith. Vinquiry Laboratories offers bentonite fining trials for Zenith use which expedite the process of protein stabilizing wines for use with Zenith.

Wines which have been protein stabilized can be submitted to Vinquiry Laboratories for a Zenith Panel. This same-day testing confirms Zenith’s effect on tartrate stabilization and also any possible colloidal interactions with unstable proteins in the wine.

Vinquiry Laboratories Zenith Testing

<table>
<thead>
<tr>
<th>Sample Name</th>
<th>Description</th>
<th>Price/Sample</th>
<th>Sample Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bentonite Fining for Zenith</td>
<td>Determines amount of chosen bentonite to stabilize wine for use with Zenith</td>
<td>$98</td>
<td>750 mL</td>
</tr>
<tr>
<td>Zenith for White/Rosé Panel</td>
<td>Checks tartrate stabilization efficacy with Zenith Uno, checks colloid stability</td>
<td>$134</td>
<td></td>
</tr>
<tr>
<td>Zenith for Red Panel</td>
<td>Checks tartrate and color stabilization of wine with Zenith Color</td>
<td>$165</td>
<td></td>
</tr>
<tr>
<td>Zenith for Sparkling Panel</td>
<td>Checks tartrate stabilization efficacy with Zenith Uno, checks colloid stability</td>
<td>$134</td>
<td></td>
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</tbody>
</table>

Other FAQs for Zenith

Does Zenith have a negative impact on filterability?
The Zenith range was designed to address any filterability problems seen from other additive colloids like CMC. Zenith Uno has exceptionally low viscosity and has been shown to be extremely filterable. Zenith Color has a component of filterable gum Arabic, which is able to stabilize color and is also filterable. Previous versions of gum Arabic for color stability had difficulties with this, but Zenith Color solves this problem.

Is Zenith an approved winemaking additive?
On February 10th, 2020, KPA was listed by the TTB as an approved additive for tartrate stabilization under 24.250.

How long does the tartrate stabilization effect of Zenith persist?
While Zenith is still a relatively new method in the US, it has been used extensively for the past 2 years in Europe, Mexico, and South America. Accelerated aging testing has been conducted and found KPA to be very stable. Long term trials of up to 5 years are in progress, and Zenith treated wines are still very stable.
Can Zenith be used for sparkling winemaking?

Yes, use of Zenith for sparkling winemaking is an excellent way to prevent loss of acidity and gushing from tartrate precipitation in the bottle. Sparkling base wine can be prepared by protein stabilization and filtration. Wines can be submitted to Vinquiry Laboratories for stability testing via the Zenith Panel for Sparkling Wine. After confirmation from Vinquiry Laboratories, Zenith is added just prior to the addition of the Pied De Cuve and bottling for Tirage. After Tirage, it is recommended to recheck the stability of wine. Further adjustments can be made to the dosage if tartrate stability is not achieved after Tirage.

What makes Zenith different from CMC?

CMC, while an excellent alternative to cold stabilization, has some limitations. CMC cannot be used on red wines, since it can negatively impact red wine color. KPA does not impact color negatively in red wines. CMC also requires time to integrate prior to bottling to prevent any potential membrane filter clogging. KPA is extremely filterable and does not have the same limitations as CMC. KPA also has a much higher capacity for tartrate stabilization compared to CMC.

Is potassium polyaspartate (KPA) similar to aspartame?

No. The compounds are completely different from both a molecular structure and activity standpoint. The names only sound similar because of their relationship to the derived amino acid aspartic acid.

What is the best way to test my wine for tartrate stability?

It is recommended to use conductivity measurements or a 6-day cold hold at -4°C. Freeze tests are not recommended, and do not accurately represent common storage conditions.

Other References for KPA/ Zenith


For more information, please call us at (707) 836-2451 or contact your technical sales representative.

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