



Oenobrand, with expertise in the enological applications of mannoproteins, has developed Claristar®. Claristar is a purified solution of specific mannoproteins extracted from *Saccharomyces cerevisiae*. The patented extraction and separation technique isolates the mannoproteins fractions with the highest Tartrate Stability Index (TSI), meaning they can be used in winemaking to stabilize potassium bitartrate crystals.

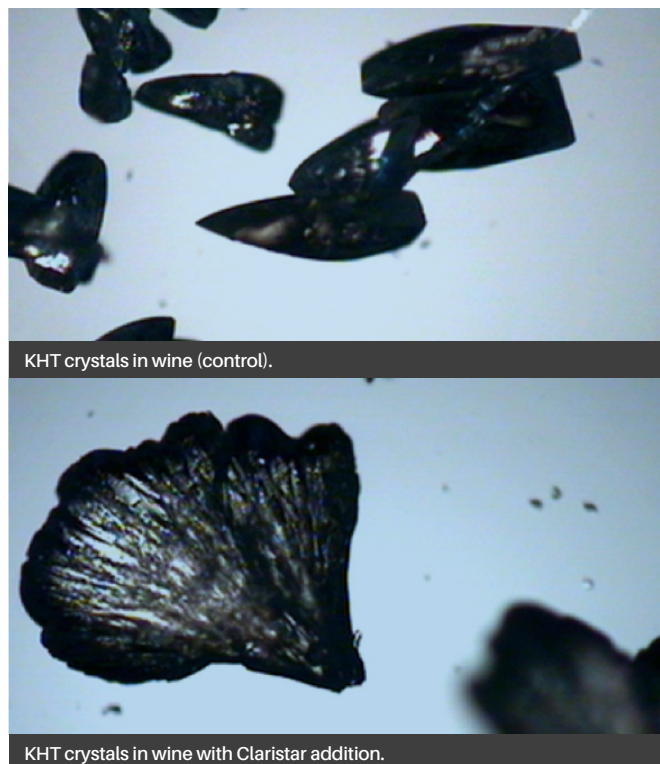
PROPERTIES AND APPLICATION

POTASSIUM BITARTRATE STABILIZATION

Claristar stabilises red, white, and rosé still wines, thereby inhibiting the growth of potassium bitartrate crystals.

The mannoproteins absorb onto the surface of the crystals, resulting in modification of their morphology. The crystal growth is stopped when the absorbed mannoproteins cover their surface. The microscopic observation of the potassium bitartrate (KHT) crystals in the presence or absence of **Claristar** shows this effect (see Figure). The crystals in the presence of **Claristar** are noticeably different and the disorganization created by the addition of **Claristar** avoids agglomeration and precipitation.

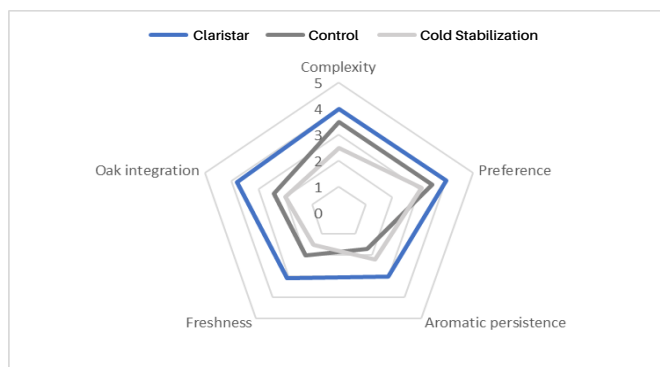
Claristar does not stabilize wines in terms of calcium tartrate precipitation.



ORGANOLEPTIC SENSATIONS

Claristar also presents the additional benefits of preserving and contributing to the sensorial quality of the wine thanks to the positive action of the mannoproteins on the colloidal balance. **Claristar** improves the sensory quality of wine by increasing its silky perception and reducing astringency on the front and back palate. Additionally, wine color and titratable acidity are also preserved.

Since 2007, **Claristar** customers have been giving testimony that wine treated with **Claristar** maintains its fresh aroma, helps to preserve aroma potential and by extension has a better resistance to chemical aging vs. other stabilization methods.



A comparison of the impact of Claristar and chilling on the sensory profiles of Spanish Tempranillo.

STABILIZE IMPROVE

COMPATIBILITY

USAGE CRITERIA

Claristar can be used in red, white, and rosé wines* that meet the following criteria.

- Wine is the final blend
- Has never been pH adjusted with calcium carbonate
- Wine is confirmed protein-stable
- Wine is under 16% ABV

* Not for use in sparkling wine or sparkling base wine

DIRECTIONS FOR USE

Claristar should be the last commercial product added to the wine before bottling. Add after final blending, protein stabilization, fining, and pre-filtration (DE, lenticular, or sheet). Add to whites/roses 24-48 hours prior to bottling and reds 4-5 days prior to bottling. **Claristar** is able to pass through final membrane filters (0.45 µm) found on most bottling lines, though filtration is not required after adding **Claristar**.

Note: **Claristar** can pass through a 0.2 µm nominal crossflow filter.

Specific analysis must be run to determine the dosage and a wine's compatibility with **Claristar**. Please contact us for more information about recommended analysis and interpretation.

RECOMMENDED DOSAGE

600-1250 ppm	60-125 mL/hL	2.27-4.7 L/1000 gal
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COMPOSITION, PACKAGING AND STORAGE

Claristar is a specific liquid-form fraction of mannoproteins extracted from the *Saccharomyces cerevisiae* yeast.

Claristar contains sulfites (100 mL/hL of **Claristar** contributes 1.5 mg/L of SO₂ to the wine).

- Packaged in 2.5 and 20 liters containers.
- Store in a dry environment, between 10 and 15°C (50-59°F).
- Once opened, store between 5 and 10°C (41 - 50°F) and use within 2 weeks.



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