



Tartaric Crystals in Wine: the “Wine Diamonds” of Quality

What are tartaric crystals?

Have you ever come across what appear to be white flakes in your bottle of wine? Did you immediately assume that these crystals somehow meant the wine was flawed or ruined? What you had most likely seen are tartaric crystals, commonly referred to as wine diamonds or Weinstein (wine stone) in German speaking countries.

Tartaric acid is a normal grape acid. Potassium also exists in grapes, and when these two things bind together under chilly conditions, they form small potassium bitartrate crystals, which then settle to the bottom of the bottle.

There is an interesting correlation between wine stones and the quality of a wine: the longer the grapes hang on the vine, the more acid will accumulate in the grape.

Furthermore, the more time the wine is given to ferment, the less wine diamonds will fall out during fermentation, but the more they will instead build up later in the bottle.



Tartaric Crystals in a Glass

In other words, wine diamonds are an indicator that the grapes ripened for a long time and that the Winemaker fermented the wine slowly and with great care. Both are important precursors to crafting high quality wines.

Are Tartrate Crystals harmful?

No, tartrate crystals will not harm you if you happen to swallow a few. For the most part they are esthetically unpleasing.

In fact, crushed tartrate crystals are the same thing as cream of tartar...yes, the same stuff you have in your pantry right now. Wine barrels used to be a major industrial source of tartrate crystals for the production of cream of tartar.

How can Tartaric Crystals be prevented from appearing in a bottle of wine?

Cold stabilization of wine is a method used to keep tartaric acid crystals from forming after the wine has been bottled. If wines are not cold stabilized there is a chance that these crystals will

form when consumers place bottles of wine in the refrigerator or store it for long periods of time.

The process is quite simple. Just reduce the temperature of the wine to 25°F (-4°C) for approx. 2 weeks. During this cooling process the white flakes, called crystallized tartaric acid, fall out and are separated from the wine. The wine is then removed from the cold environment, allowed sufficient time to return to room temperature and filtered; whereby, the crystals remain behind.

Vintner's Cellar Cold Stabilization Process

Recognizing that Wine Diamonds are esthetically displeasing for their Customers, in 2008 a used walk-in cooler was installed here at the store and the process of cold stabilization began. For the most part it has been a success story as the number of Customers inconvenienced by tartaric crystals has been reduced dramatically.

The 2013/14 winter saw an increase in concerns primarily due to the lower than normal winter temperatures. The other factor working against me is the walk-in cooler operates at a low of 35°F (+2°C) which is not really cold enough to do a complete cold stabilization.

What are Vintner's Cellar Future Plans?

Recognizing that my work was not done with regards to the cold stabilization process, a **WALK-IN FREEZER** was installed in the spring of 2015. This unit operates at -7 Celsius and has greatly improved my ability to work towards eliminating this issue.

