

Potassium Sorbate

(What, When, and Why...)

Q: What is Potassium Sorbate? When should it be used and how?

A: Potassium sorbate [CH₃CH:CHCH:CHCOOK] is a chemical that when dissolved in water ionizes to form **sorbic acid** ⁽¹⁾, which is effective against yeasts, molds, and select bacteria.

Many home brewers have experienced refermentation of off-dry wines after bottling; which can cause corks to blow out and may impart a yeasty characteristic to the beverage. The usual way of preventing bottle refermentation is to add potassium sorbate (sorbate) before bottling. **Please note** that **sorbate DOES NOT kill yeast!** It only prevents the yeast from budding, and therefore prevents a colony from growing - it merely inhibits renewed yeast activity under the correct conditions. Although sorbate prevents Saccharomyces yeast refermentation, it may not stop an active (or sluggish) fermentation soon enough to prevent sediment in the bottle.

Besides sterile filtration, flash-pasteurization, or dimethyl dicarbonate (DMDC) addition, the other way to stabilize wine with residual sugar is to **add about 125-200 ppm potassium sorbate**. Sorbate's action is synergistic with SO₂ and alcohol. It is more effective in low-pH table wines with normal levels of molecular SO₂, and may be ineffective in high-pH or low-alcohol wines with little SO₂ protection.

Zygosaccharomyces yeasts (often found in grape concentrate and wineries using concentrate) are NOT inhibited by sorbate, nor are Dekkera/Brettanomyces yeasts. Sorbate also encourages growth of malolactic bacteria, producing a geranium odor if Lactobacilli are the bacteria responsible. Sorbate has a distinct odor (like bubble gum or beeswax) and flavor, which some people do not appreciate though others find acceptable.

Typical sorbate addition rates range **0.48 - 0.75** grams per gallon (**125 - 200ppm**) in conjunction with **0.33** grams of KMETA (**50ppm**) per gallon. Use the higher end of the sorbate range as the wine's pH approaches (or exceeds) 3.5, or when the alcohol content of the wine is below 10%.

WARNING

As with **all chemical additions**, I strongly recommend they be **added by weight** instead of by volume. With that warning being said, I offer the following generic weight to volume relationships – your product form may affect these ratios:

- 1 tsp KMETA ≈ 6.1g
- ½ tsp Sorbate ≈ 1.65g

(1) Historical Note: Sorbic acid was first discovered by the French in the 1850s in the Mountain Ash Tree (*Sorbus aucuparia* or *Sorbus americana*)

References:

- 1) The Wine Lab, *Harvest 2000 Product Catalog - Fermentation Edition*
- 2) *Enology Briefs 1* (#1), Feb//Mar 1982, University of California Cooperative Extension
- 3) *CFNP Technical Advisory Panel Review*, 8/12/2002