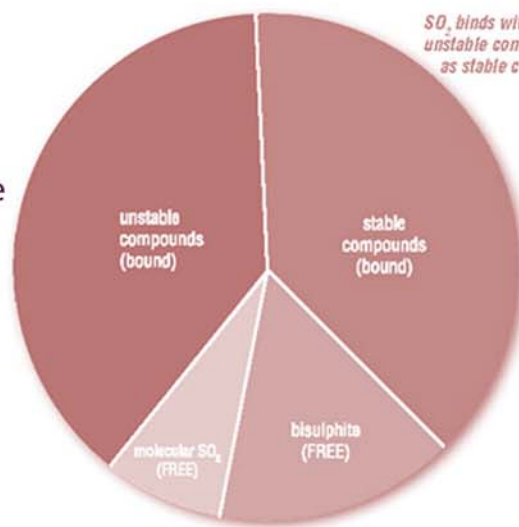


# pH in Wine

## The importance of pH in winemaking

The pH of wine is important to determine because it will affect the quality of the product in terms of taste, color, oxidation, chemical stability and other factors. The general rule of pH in winemaking is the higher the pH reading, the lower amount of acidity in the wine. Three important factors in determining the pH of wine include the ratio of malic acid to tartaric acid, the amount of potassium and the total amount of acid present. Most wines optimally have a pH between 2.9 and 4.0, with different values based on the type of wine. Any pH above 4.0 indicates that the wine will spoil quickly and be chemically unstable.

Lower pH values allow the wine to stay fresher for a longer period and retain its original color and flavor. High pH wine is more likely to breed bacteria and become unsuitable to drink. For white wines, the ideal final pH is between 3.00 – 3.30 while the final pH for red wine is ideally 3.40-3.50. The optimal pH before the fermentation process is between 2.9- 4.0. The pH of wine therefore not only affects the color of wine, but also the oxidation, yeast fermentation, protein stability, bacteria growth and bacterial fermentation. The pH can impact the amount of free sulfur dioxide (SO<sub>2</sub>) present, which retards bacteria and prevents spoilage.



*SO<sub>2</sub> binds with sugars and acids to form unstable compounds and acetaldehyde as stable compounds*

Free SO <sub>2</sub> needed for 0.8 ppm molecular SO <sub>2</sub>	
pH	Free SO <sub>2</sub>
3.0	14
3.1	18
3.2	22
3.3	28
3.4	35
3.5	44
3.6	55
3.7	69
3.8	87
3.9	109

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