

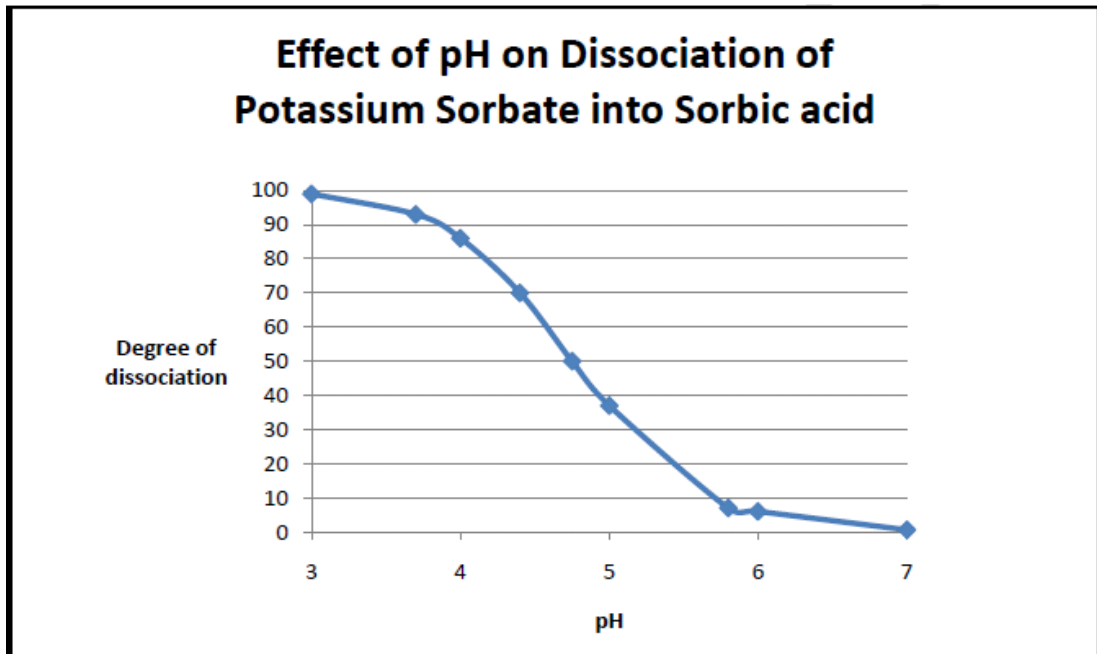
7 September 2009

## The Effect of pH on Potassium Sorbate Effectiveness

Potassium Sorbate and Sorbic Acid are commonly used preservatives, which have been shown to be effective in reducing the rate of various microorganisms, particularly yeasts and moulds.

While Potassium Sorbate is readily soluble in water, sorbic acid is sparingly soluble. To achieve a good preservative effect when using Potassium Sorbate it is important that the ingredient dissociate or convert into sorbic acid. However the amount of dissociation into sorbic acid is directly affected by the pH of the food system.

The following graph using data from Sauer (1977) shows the typical effect of pH on the conversion of Potassium Sorbate into sorbic acid;



This means that a food system at pH 3.5 has more than 90% conversion of Potassium Sorbate into Sorbic Acid. However a food systems at pH 5 has less than 40% conversion.

It is therefore important, when using Potassium Sorbate, to achieve as low a pH as possible to obtain the best preservation.

### References:

Sauer, F (1977), Control of yeast and molds with preservatives, Food Technology 31:66