

## FAQ (Frequently asked questions)

### ***Will LYSOBIER change the flavor of my beer?***

Extensive sensory testing at Oregon State University and in Milan has shown that the presence of LYSOBIER in finished beer does not contribute any aroma or taste. Trials were conducted with dark and light beers containing either 100 or 300 ppm LYSOBIER. Consumers were unable to detect any significant differences between beers with or without added LYSOBIER. Furthermore, an expert panel of brewers was not able to detect any differences between beers (100 and 200 ppm) containing LYSOBIER stored under refrigeration or at room temperature for 3 months.

### ***What will be the time delay before LYSOBIER becomes active?***

The activity of LYSOBIER depends on many factors, such as time, pH, temperature, bacterial count, bacterial resistance, etc. Although LYSOBIER is directly effective immediately, the results can differ between bacterial species; certain cases need a longer contact time.

### ***At what temperature LYSOBIER is most effective?***

LYSOBIER is effective in between 4 - 45°C and remains active until about 62°C. It denaturizes at a high boiling temperature (>75°C). LYSOBIER is not active at very low temperatures (<1°C).

### ***What is the most effective pH level?***

The best effective temperature range of LYSOBIER is between 3.5 – 7 pH.

### ***Is LYSOBIER effective against all lactic acid bacteria?***

The effect of LYSOBIER on bacteria depends on the MIC (minimal inhibition concentration). The MIC varies in between the different cheptels the for dosage and contact time need to be defined.

### ***Will lysozyme also inhibit Acetic acid bacteria or Enterobacteriaceae?***

No, LYSOBIER is just specific for Gram-positive bacteria, including Lactobacillus and Pediococcus.

### ***Will LYSOBIER cause a change in appearance of my beer?***

LYSOBIER is made of Lysozyme, a protein that possesses a fairly strong net positive charge. Therefore, it may bind to some of the negatively charged components of beer, primarily tannins, and may form a haze when added directly to the beer. If a haze forms it will do so upon the chilling of the beer and is reversible when the beer returns to room temperature. If haze formation does occur fairly quickly it is estimated to be 99% complete within one week at cellar temperatures.

### ***How long will LYSOBIER be active in finished beer products?***

Research has shown that LYSOBIER will remain active in alcoholic beverages for several years, which is far longer than the recommended shelf life of brewery products (<6 months).

### ***What is the influence of clarifying agents on LYSOBIER?***

LYSOBIER will be destroyed by any clarifying agent which has an effect on egg albumin proteins.

### ***If I buy LYSOBIER, how long will it keep in the brewery?***

You can store the granulated LYSOBIER in the refrigerator and be assured of a minimum 5 year shelf life.