



KERRY

Biofoam™ Improves Foam Stability and Cling in Beer

The quality, amount and stability of foam on beer when dispensed from either a small package or tap is a very important characteristic of the product. In normal dispense environments there are numerous external factors as well as some internal factors (such as malt and hop derived lipids) which may adversely affect beer foam stability.

Biofoam™ is a form of propylene glycol alginate (PGA) derived from brown marine algae (*Phaeophyceae*) developed and manufactured exclusively for use as a beer foam stabiliser.

How does Biofoam™ work?

Due to its unique chemical structure the PGA polymer consists of a hydrophobic 'head' and hydrophilic 'tail'. The hydrophobic 'head' resides in the exterior surfaces bubble wall whereas the hydrophilic 'tail' orients itself into the 'aqueous' phase. This surface-active orientation of the molecule along with other 'foam positive' material, (protein, hops and oligosaccharides) not only promotes foam production but stabilises the foam against collapse by 'foam negative' materials.

Biofoam™ is best used by adding to the final filtered beverage as a 1 - 2% solution. It is readily soluble in water; however, care should be taken when dissolving so that lumps are not formed.

Recommended dosage rates are in the region of 3 - 8g/hl (0.005 - 0.015 lbs/barrel) depending on the product and process.

Biofoam™ Benefits:

- Improves foam stability (see figure 1)
- Improves cling/lacing (see figure 2)
- Protects foam from external contamination such as detergents, food traces, lipstick and raw material lipids
- Effective in low protein/high adjunct brews and also improves foam quality in 100% malt brews



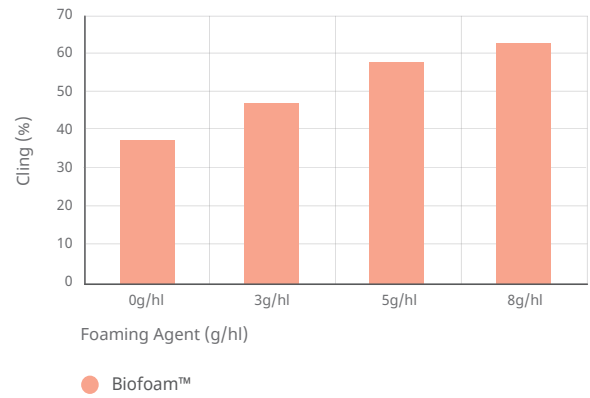
Biofoam™ production trials (70% malt & 30% maize)

Figure 1: Foam stability



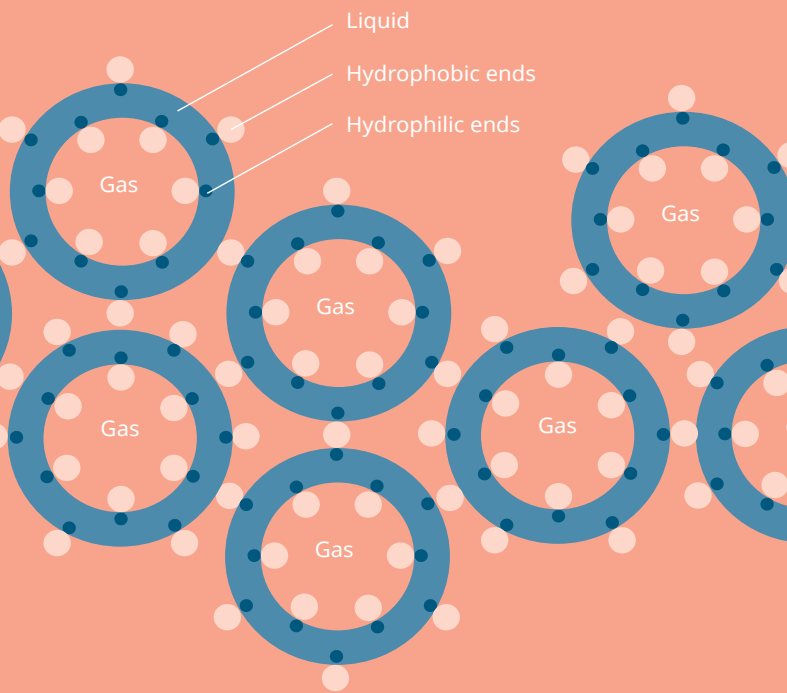
Biofoam™ resulted in an increase of up to 41% in foam stability.

Figure 2: Cling in lager



Biofoam™ resulted in an improvement of up to 57% in cling.

The principle on which Biofoam™ works to stabilise beer foam is represented schematically below.



When Biofoam™ is used in a new application, or changes are made to an existing formula, it should first be tested in the finished product to ensure it is compatible with other ingredients in the formula and the process, and also tested for shelf life stability.



Kerry has been providing brewing solutions for over 50 years, a business founded by a master brewer.

Our enzymologists and many of our brewing researchers, are trained as master brewers because we know that to develop the optimum solution, you have to understand all aspects of the brewing process.

We work with customers in over 80 countries to develop solutions that meet their most demanding challenges.

