



Application Information: Biofine P19

BENEFITS:

1. Use of **BIOFINE** substantially reduces settling time in storage.
2. Tank bottoms are better compacted giving sharp interface between clear beer and sediment, resulting in a better recovery of beer and lower beer losses than with other conventional treatment methods.
3. Tank bottoms recovered from **BIOFINE** treated beer are more easily filtered to recover entrained beer.
4. Use of **BIOFINE** results in significant increase in filter throughput with savings on diatomaceous earth, time and labour. The decrease in wash-downs and subsequent precoatings result in a lower risk of oxygen pick up.
5. **BIOFINE** treated beer reduces the amount of diatomaceous earth containing effluent to be disposed of by the brewery.

METHOD OF APPLICATION:

To prepare a standard finings solution, stir 1 kg of **BIOFINE** into 200 litres of water at less than 10°C, with a high shear mixer. Continue stirring the solution for 15 - 30 minutes. Solution can then be used immediately.

If a high shear stirrer is not available, stir or recirculate with a pump for 1 hour, allow to stand for 1 - 2 hours then stir or recirculate for a further hour. Avoid temperatures in excess of 15°C.

This solution can be added immediately at a dose rate of 300 - 700 ml. per hectolitre of beer (15 - 35ppm). The optimum fining effect can be determined by varying the dose rate within this range in individual plant trials. The finings solution must be added to the beer tank in a manner which allows effective mixing with the beer. Metering into the rough beer stream as it enters the storage tank has been demonstrated to produce highly satisfactory results. Alternatively the finings contained in a stainless steel cask can be forced into the tank under CO₂ pressure via the sample cock throughout the filling of the storage tank.

MODE OF ACTION:

BIOFINE speeds up beer clarification by accelerating sedimentation of the yeast and other insoluble material into a compact layer at the bottom of the storage tank. At the pH of beer, the soluble collagen of **BIOFINE** has a positive charge which reacts with the negatively charged yeast cells and suspended solids to produce this sedimentation.

IMPORTANT FOR YOUR PROTECTION

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PROCEDURE FOR OPTIMISING BIOFINE DOSE RATE IN LABORATORY

PREPARATION OF 0.5% BIOFINE SOLUTION:

1. In preparing the **BIOFINE** solution a high shear mixer with a homogenising head (e.g. Silverson mixer) should be used for optimum results.
2. For a single strength solution at 0.5%; 5.0g of **BIOFINE** added to 1 litre of cold water and stirred with Silverson for 10 - 15 minutes. If a high shear mixer is not available, stir for 30 mins on magnetic stirrer, hold in fridge for 2 to 4 hours, then stir for a further 15 minutes.
3. Use the coldest water available, preferably below 4 - 5°C to avoid any thermal denaturation of the collagen. The temperature during mixing should not exceed 15°C

OPTIMISATION:

The optimum fining effect can be determined by trying a range of dose rates using the laboratory method of optimisation given below.

Make up 0.5% **BIOFINE** solution in cold water as described above. To each of 5 x 250ml graduated cylinders add the following quantities of **BIOFINE** solution:

1. 0.0 mls **BIOFINE** giving a control
2. 0.5 mls **BIOFINE** equivalent to 12.5 ppm
3. 1.0 mls **BIOFINE** equivalent to 25.0 ppm
4. 1.5 mls **BIOFINE** equivalent to 37.5 ppm
5. 2.0 mls **BIOFINE** equivalent to 50.0 ppm

These quantities serve only as a guideline, intermediate quantities can be taken if required.

Take 2 litres beer from the line between the fermenter and primary storage tanks midway during rundown. To each of the 5 cylinders add 200 mls of the beer sample, shaking the beer while pouring to ensure uniformity of yeast in samples. Invert and shake cylinders to mix in the **BIOFINE**. Stand overnight in the refrigerator, then compare the supernatants and compacted yeast on the bottom. Withdraw sample of supernatant and measure haze on haze meter. Determine the optimum dose level based on the haze in the supernatant.

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