



BCI-105

Surfactants in wastewater streams cause major problems when they enter treatment plants. Under the influence of aeration they produce massive amounts of foam which can be unsightly and causes problems with oxygen transfer. This has a detrimental effect on the performance of the treatment plant and can cause unsightly scum to carry across to secondary clarifiers and coat all surfaces. When surfactants enter watercourses such as streams or lakes they cause problems with oxygen transfer to aquatic life such as fish by coating their gills. This results in fish kills.

Surfactants consist of a wide range of different compounds with differing characteristics, including soaps, wetting agents, emulsifiers, detergents, etc. Since they are not part of the natural environment it is difficult for the bacteria in treatment systems to biodegrade them effectively.

Applications in which the use of BCI-105 is beneficial include :-

- Excessive foaming
- Poor settlement
- Shock recovery
- Poor final effluent quality
- Bulking sludge
- Re-seeding
- Plant start up

Bio-Chem harnesses the power of environmental bio-technology to solve the problem by degrading the surfactants so that they quickly lose their foaming properties and thus the detrimental effect is eliminated. BCI-105 uses only harmless, natural microorganisms that deal with the problem by degrading the surfactants to CO₂ and H₂O in an environmentally acceptable way.

What is BCI-105?

BCI-105 formulation consists of a carefully selected blend of natural micro-organisms that have the ability to degrade all the main classes of compounds in surfactants. The various types of surfactants are anionic, cationic, non-ionic and amphoteric. The product contains a broad range of different microbes that can produce the enzymes required to completely degrade these diverse compounds. Once the degradation process has started the ability of the surfactant molecules to produce foam is quickly eliminated and the microbes continue the process until the compound is completely degraded. The product formulation also contains microbial strains which have the special ability to produce good floc which will settle well in the secondary clarifier and produce a clarified effluent low in suspended solids.



The microbial strains are produced as single pure cultures, harvested, stabilised on a cereal base and blended together to produce the final product. Extensive checks are conducted throughout the process to ensure purity and quality of the product.

BCI-105 can be used to deal with environmental problems caused by soaps, detergents and many foam related issues.

Directions for use

The product as supplied is on a cereal base so it is important that the bacteria are rehydrated before use. This is achieved by adding the required quantity of product to lukewarm (~30°C) water in a suitable container. Apply 1 part product to 10 parts water, stir well and allow to stand for 1 hour before application. Apply the rehydrated product immediately prior to the aerated section of the treatment plant e.g. into a drain, pump sump or return sludge line. To get immediate and optimum result will be to conduct Bug-farming programme for Bio-seeding.

Since each application is different and has different characteristics it is important to assess the site before deciding on a dosing programme. The Bio-Chem's Technical Department provides assistance in assessing the site and devising a treatment programme.

Product safety

The micro-organisms in BCI-105 have all been isolated from natural environments. They have not been genetically modified in any way. These microbial strains have been classified as being harmless to humans, animals and plants. The product is subjected to independent testing to ensure that it is free of *Salmonella* and other contaminants.

For further information on dosing programmes and product application please contact :-

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