

BioGuarde II

Advanced bioaugmentation technology for boosting fat, oil, grease (FOG) reduction, and filamentous bacteria control at your biological WWTP



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PRODUCT DESCRIPTION

BIOGUARDE PRODUCT LINE DEVELOPMENT - THE NEW WAVE OF BIOAUGMENTATION

BioGuarde product line has been developed to improve biological and physical processes in wastewater systems. It was formulated as an all-natural organic botanical compound with high concentration nutrients and, is very fast acting on existing bacteria. This synergistic effect stimulates the bacteria and it consequently becomes very effective in decomposing and converting organic matter. Additionally, these wastewater microorganisms will produce highly concentrated hydrolytic enzymes. The microbial action developed with BioGuarde accelerates enzyme activity. Additionally, dramatic changes in ratio of food to microorganisms (F/M) takes place as well. This basically helps to predict improved process efficiency.



BioGuarde is based on the Cozymase Technology. Cozymase is based on the principle of using all-natural vitamin and energy suppliers, as well as, minerals and essential salts to existing microbes and enzymes in septic, grease or wastewater systems. Cozymase Technology reactivates dead or sluggish bacterial systems by adding very specific vitamins to it. Our R&D department has proven that using the Cozymase technology is more effective than traditional methods by eliminating the risk of malnutrition to the existing enzymes and microbes. By adding vitamins, and minerals to the system. Vitamins and minerals are essential because once the enzymes or microbes become sluggish or stop working altogether, it re-stimulates and enhances the whole system so digestion and efficiency is increased and maximized. By using our BioGuarde product line, any system can operate at its maximum efficiency without costly side effects to the system or the environment.

The pH of a solution is a key factor in the growth of organisms. Optimum pH growth is 6.5 to 7.5. We improved on that, BioGuarde bioaugmented systems operate between pH 4 and 11. The metabolic activities of microbiological populations are also temperature dependent and, processes are affected by those biological reaction rate changes. Variances in wastewater temperatures and pH have a wider operating range with BioGuarde products than with conventional microbiology of the system. This capability allows for more consistent activity with uniform feed rates.

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BIOGUARDE APPLICATIONS

1. Heterotrophic facultative microbiological processes (BioGuarde I)
2. Floc structure optimization (BioGuarde I)
3. Nitrification/Denitrification processes (Ammonia Guarde, BioGuarde I)
4. Bio-P processes (Ammonia Guarde, BioGuarde I)
5. FOG removal (BioGuarde II)
6. Filamentous blooming control (BioGuarde II)

BIOGUARDE II - FOR INTENSIFIED FAT, OIL, GREASE (FOG) REDUCTION, AND FILAMENTOUS BACTERIA CONTROL

We developed BioGuarde II to provide an ultimate solution for wastewater treatment plants where FOG causes a massive problem for the biology of the plant. High FOG load can deteriorate floc structure in activated sludge WWTP's, overload of FOG may result effluent violation because of the increased organic load that the plant's biology is unable to handle. High FOG in influent wastewater may lead to excessive growth of certain filamentous bacteria, which can lead to their bloom. BioGuarde II is safe to use, completely biodegradable, non-toxic and non-hazardous.



The product contains specially selected facultative anaerobic *Bacillus* species combined with our Cozymase technology which significantly accelerates the heterotrophic metabolic processes in your activated sludge or pond biology. The main focus during the selection of the bacterial species was improved ability to hydrolyse, and consume oil molecules, and it was also key essential that BioGuarde II bioaugmented systems provide improved adaptability of the activated sludge or pond biology to various type of organic sources in the raw influent. With BioGuarde II, we provide your system a competitive edge against filamentous bacteria, especially against those filamentous species which like to bloom with high FOG load.

The product is supplied as a concentrated liquid with dark brown color where the bacteria are inactivated. The product does not require pre-activation, the simple dilution activates the bacteria which means that dosing is recommended by our [Malatech-C Dosing Unit](#), or by a simple metering pump from any container, if the application is indoor, or does not require temperature control.

FIELDS OF APPLICATION

- Industrial, and municipal activated sludge wastewater treatment plants
- Industrial, and municipal fixed film wastewater treatment plants
- Effluent holding tanks, lagoons, tertiary treatment ponds
- Influent digesters



BENEFITS OF BIOGUARDE II BIOAUGMENTATION

- Improved metabolic rate for COD, BOD, TSS, FOG breakdown
- Improved filamentous blooming control (see also our related products in this subject: [Bioclean TM](#), [Bioclean ALPHA](#))
- Boosts the natural treatment process in wastewater plants by adding to the microbial activity
- Works in anaerobic, anoxic, and aerobic conditions as well
- Improves SVI, and floc structure at activated sludge WWTP's (see also our related products in this subject: [Bioclean TM](#), [Viczyme Block Blue](#), [Bioclean ALPHA](#))
- Works effectively without introducing environmentally hazardous chemicals
- Safe, and easy to incorporate into your normal treatment routine
- 100% biodegradable, non-toxic, non-hazardous

APPLICATION OF BIOGUARDE II DOSING, PLANT SETUP, TECHNICAL INFORMATION

IMPORTANT INFORMATION

Recommended daily dosages are given in ppm based on m³/d average hydraulic raw wastewater load!

For determining exact dosages for your WWTP, please provide us information by sending us our questionnaire filled with information as much as possible: [Click here for questionnaires!](#)

Dosage of BioGuarde II is preferably continuous by mixing the product with pure water, and pour the content into our Malatech-C Dosing Unit. Our dosing units are easy to install, and use, consume low amount of space, isolated, and have a heating function for outdoor operations at winter. [Click here](#) for more information on the Malatech-C Dosing Unit!

Whenever you have any questions, do not hesitate to [contact us!](#)



DOSAGE INFORMATION

Week 1: 0.7-4 ppm per day

Week 2: 0.4-2.5 ppm per day

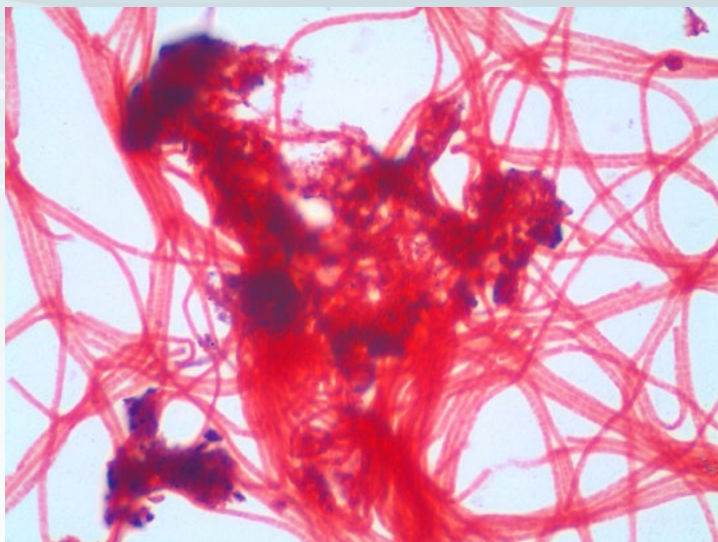
Onwards: 0.1-1.5 ppm per day as daily maintenance dosage

DOSING LOCATION

First biological reactor of the system is recommended, or the product can be dosed directly into the primary treated wastewater entering the first bioreactor of the system.

In case of plants running with generally high MLSS, and sludge age, or extremely high MLSS, and sludge age (UF membrane systems), please [contact us](#) for further assistance, also please contact us for Complete Process Engineering Assistance service to extract the

most of your WWTP with BioGuarde III!



PACKAGING INFORMATION

The product is available in 19 litre safety pails which is the lowest unit for ordering.

STORAGE INFORMATION

Keep the product in a cool and dry place below 28 Celsius. Avoid exposure to direct sunlight.