

# BioGuarde I

Upgrades Biological Treatment Capacity of Your Wastewater Treatment Plant without CapEx

Accelerate the metabolic rate of your biology, increase your plant's treatment capacity by up to 30%!



**Mala**TECH  
water

## Benefits of BioGuarde I bioaugmentation:

- **Up to 30% upgraded biological treatment capacity, rapid effluent quality optimization (COD, BOD, TSS, NH4-N, TN, TP)** for overloaded wastewater treatment plants
- Improve food to microorganism (F/M) ratio
- **Increases metabolic rate, reduce overall excess sludge production**
- Boosts the natural treatment process in wastewater plants by increasing the microbial activity
- **Works in anaerobic, anoxic, and aerobic** conditions as well
- **Improves SVI**, and floc structure at activated sludge WWTP's
- Works effectively without introducing environmentally hazardous chemicals
- **Safe, and easy to incorporate into your normal treatment routine**
- **100% all-natural & biodegradable, non-GMO, non-toxic, non-hazardous product with long shelf life.**



## Product description:

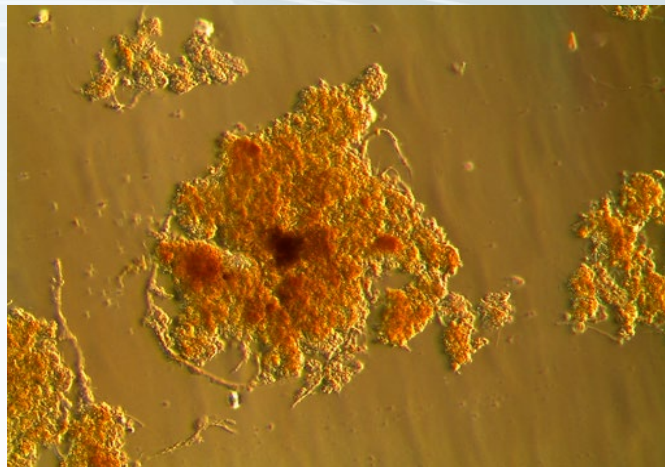
### BioGuarde product line development - The new wave of wastewater treatment plant bioaugmentation

BioGuarde product line has been developed to **improve biological and physical processes in wastewater systems**. It was formulated as an all-natural organic, fermentation-made compound with **very fast acting bacteria**. This synergistic effect stimulates the bacteria and it consequently becomes **very effective in decomposing and converting organic matter, and nutrients**. 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, fermented, appropriate bacterial strains with high-enzyme production ability. Cozymase Technology **reactivates dead or sluggish bacterial systems**. 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. It re-stimulates and enhances the whole system so digestion and efficiency are increased, and maximized. By using our BioGuarde product line, any biological treatment system can **operate at its maximum efficiency without costly side effects** to the system or the environment.

## BioGuarde I - The F/M booster to improve the pace of organic breakdown, and to decrease sludge yield

BioGuarde I is the way to reduce or eliminate costly surcharges and fines that result from excessive COD, BOD, TSS in your effluent. BioGuarde I is designed specifically to significantly improve the rate of organic breakdown by using it as a nutrient for the microbes, which gives the entire treatment process a healthy boost. Your system's **organic removal capacity can achieve up to a 70% TSS, COD, BOD reduction by BioGuarde I bioaugmentation** compared to its base performance before BioGuarde I application. BioGuarde I is safe to use, completely biodegradable, non-toxic and non-hazardous.



The product contains specially selected facultative anaerobic **Bacillus species** serving as the core of our Cozymase technology which significantly **accelerates the heterotrophic metabolic processes in your activated, granular sludge or pond biology**. During the selection of bacterial species, it was also key essential that BioGuarde I bioaugmented systems provide **improved adaptability** of the activated, granular sludge or pond biology to various type of organic sources in the raw effluent.

### Fields of application:

- Industrial, and municipal **activated sludge, granular sludge, or MBBR** (attached growth) wastewater treatment plants
- Wastewater lagoons, effluent holding tanks, tertiary treatment ponds
- Livestock waste streams (lagoons, pre-treatment plants, etc.)
- Biological leachate treatment plants



### Application of BioGuarde I:

#### IMPORTANT INFORMATION:

Recommended daily dosages are guidelines only, given in ppm for the concentrated product, based on m<sup>3</sup>/d average hydraulic raw wastewater load!

For determining exact dosages for your WWTP, please provide us information by sending us our wastewater datasheet filled with information about your plant.

Dosage of the product is preferably automated & continuous by a metering pump. Dilution with pure water is up to operator, as well as storage tank volume. The product can be easily incorporated in your operation. Manpower is only needed for a few minutes once a week.

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:** dosing into the first biological reactor of the plant is recommended, or the product can be dosed directly into the primary treated influent wastewater before entering the first bioreactor of the system. In case of SBRs, dosage can be executed in the EQ or buffer tanks.

## Packaging information:

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

## Storage information & shelf life:

Keep the product in a cool and dry place below 28 Celsius. Avoid exposure to direct sunlight. Shelf life is 5 years from manufacturing date.

