

Bioclean ALPHA

Save OpEx By up to 50% Reduction in Excess Sludge Production

Save OpEx on Filamentous Blooming Control

Improved Sedimentation & Nutrient Removal

MalaTECH
w a t e r

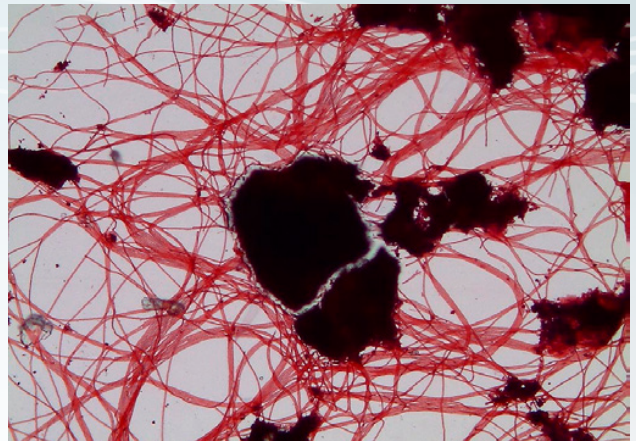


Benefits of Bioclean ALPHA bioaugmentation:

- **Maximized food conversion** to energy, Carbon Dioxide and water, and **minimized sludge yield (Y)**
- **Maximized** endogenous respiration, and **biodegradation of hardly biodegradable particulate organic matter** accumulated in the activated sludge flocs as a non-useful content
- **Competitive edge** provided for flocculant bacteria in your activated sludge flocs **over filamentous bacteria**, to enable your sludge to run with controlled filamentous count, lower SVI, and good settleability throughout the year including seasonal turns
- **Improved Total Nitrogen and Total Phosphorus removal**, stabilized nitrification and other effluent parameters (COD, BOD, TSS)
- **Zero-risk technology**, like all of our bioaugmentation products: all benefits of the product above can be extracted without deteriorating, moreover improving the current biological treatment capacity of your activated sludge, or any negative side-effects
- In case of larger WWTP's which operate anaerobic digesters processing the raw and thickened excess sludge, the biogas output will not fall despite the decrease of the excess sludge portion in the mixed sludge due to Bioclean ALPHA treatment. Your Bioclean™, and Bioclean ALPHA treated excess sludge gives a boost to the anaerobic microbe community in your digester, and increases the specific gas output to equalize the loss of excess sludge fraction in the feed. Besides it boosts the biogas output generated from the raw sludge, so you can expect **more generated biogas**, not less
- **Safe, and easy to incorporate into your normal treatment routine.** The product is easy to apply, the specific dosage does not vary depending on the plant's technology, layout, load, you can easily calculate your material need, and the return of investment
- **100% all-natural & biodegradable, non-GMO, non-toxic, non-hazardous product with long shelf life, Works effectively without introducing environmentally hazardous chemicals**

Product description:

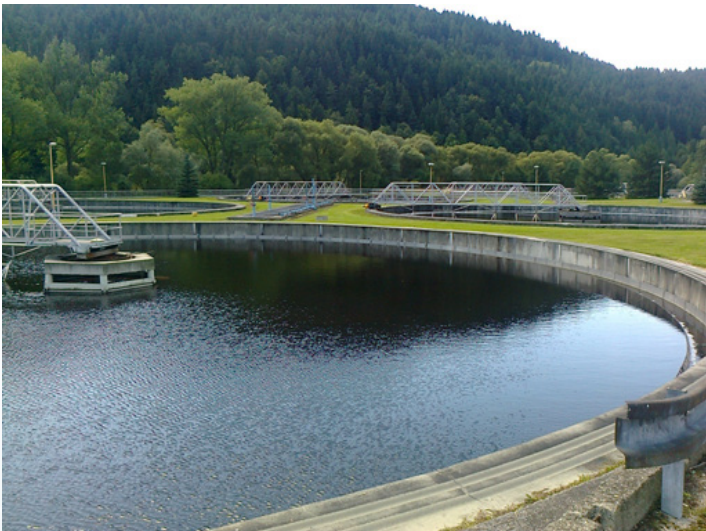
Bioclean ALPHA is an all-natural microbial product made by fermentation technology, which has primarily been developed for **minimizing excess sludge production** in industrial, and municipal activated sludge wastewater treatment plants without risking treatment efficiency. It also provides a massive protection for the activated sludge **against filamentous blooms**. After multiple years of R&D we created Bioclean ALPHA as our most recent development to be an ultimate solution for wastewater treatment plant operators to **save costs on sludge handling, and disposal**.



In the meantime, operators can provide safe operation without filamentous blooms, and sludge rising, also they can **save extra costs spent on manpower or chemicals for treating filamentous blooms**, and its effects in the past. Bioclean ALPHA, the new member of the Bioclean product line truly opens a new chapter in bioaugmentation by bringing it to a higher level.

Fields of application:

- Reduction of excess sludge formation at **activated or granular sludge WWTP's** by up to 50%
- Improving sludge sedimentation, filamentous blooming, and foam control at activated sludge WWTP's
- Optimize Nitrogen and Phosphorus removal efficiency, and effluent quality



Application of Bioclean ALPHA:

IMPORTANT INFORMATION:

Recommended daily dosages are guidelines only, given in ppm for the solid product, based on m³/d average hydraulic raw wastewater load!

Bioclean ALPHA requires BioBooster Micro for its application, the mixed solution of the 2 products is dosed.

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. Concentration of aqueous solution is 10 kg/m³ at maximum, further dilution is up to operator's decision, 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.

Please follow these instructions when creating your weekly solution of Bioclean ALPHA:

- 1) Fill the container with pure water
- 2) Put the required amount of BioBooster Micro FIRST (!!!), then mix well. Bioclean ALPHA has to be kept inactivated after getting into aqueous solution, and BioBooster Micro keeps it inactivated. Whenever the common solution reaches the biology by the metering pump the drop in pH activates the product.
- 3) Put the required amount of Bioclean ALPHA next, then mix well
- 4) Start the metering pump, we recommend 1-week dosing periods before refill, 2 weeks at maximum.

Whenever you have any questions, do not hesitate to contact us!



Dosage information:

Week 1: 0.4-0.8 ppm per day

Week 2: 0.4-0.8 ppm per day

Onwards: 0.15-0.4 ppm per day as daily maintenance dosage

Dosing location: Please, if possible do not dose Bioclean ALPHA into a Bio-P reactor (at continuous flow plants), or phase (in case of SBRs). Please consider the below points when choosing your dosing location:

- 1) As close to the start of the process in space or time as possible, BUT
- 2) Nitrate or Dissolved Oxygen are preferred to be present as terminal electron acceptor in the mixed liquor.

Packaging information:

The product is available in 1 kg double-wall bags, 20 bags make up 1 carton box which is the lowest unit for ordering.

Storage information & shelf life:

Keep the product in a cool and dry place below 30 Celsius. Avoid exposure to direct sunlight. Shelf life is 5 years from manufacturing date.

