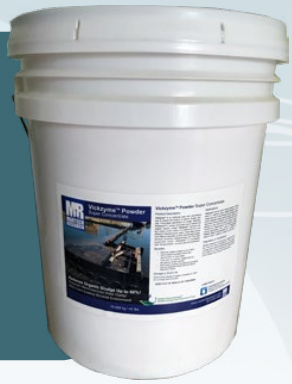
Member of the BioGuarde Product Line powered by Bioclean TM

Vickzyme

The Key for Sludge Reduction

Decrease OpEx on sludge handling, transportation & disposal in a short period of time



Benefits of Vickzyme bioaugmentation:

- **Available for high-rate sludge reduction in anaerobic, and aerobic** environment as well
- **Reduces organic sludge by up to 60%**
- **Saves costs on sludge handling, transportation, and disposal**
- Boosts microbial activity
- **Saves OpEx on polymer usage** by decreasing sludge quantity
- Won't harm existing microbial environments
- 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:

Vickzyme is an extremely easy and cost-efficient way to reduce the build-up of organic sludge naturally. Formulated specifically for quick and efficient sludge reduction both in aerobic, and anaerobic environment, the **enzymes produced by Vickzyme's unique microbes attack and digest organic sludge.**

Vickzyme is a concentrated product with high active agent content. A significant ratio of excess sludge produced at a wastewater treatment plant consists of hardly biodegradable cell debris, which is residue of dead cells. Degradation of large molecules begins with exocellular enzymatic processes, which means the rate of enzyme production defines its speed. Vickzyme's bacteria significantly accelerates exocellular enzyme generation, which significantly enhance the rate of cell debris degradation. Thanks to these, excess sludge production gets reduced, and the inactive part of the activated sludge decreases. **We positioned Vickzyme for applications where high-rate, and decent amount of sludge reduction is required both in aerobic, and anaerobic environment. The product can be applied for the biodegradation of various organic wastes like wastewater raw, excess, mixed sludge, sediment of slurry ponds, sediment accumulated in tertiary treatment ponds etc.**

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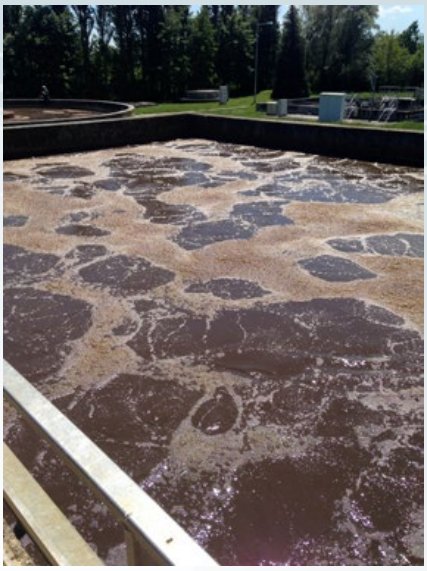
Components of Vickzyme Powder are all-natural microbes with great enzyme-production ability. They intensify the metabolic rate, and endogenous respiration of bacteria that perform the wastewater treatment. Specific enzymes are produced for **breaking down the hardly biodegradable cellular components that become accessible due to the cell lysis, and appear as biologically non-degradable at natural circumstances.** Application of the product significantly reduces excess sludge production, and the volume of sludge to be treated or disposed at activated sludge applications. Sludge age can be increased at a wastewater treatment plant without the risk of filamentous blooming. Applying Vickzyme is beneficial to effluent parameters as well. Vickzyme improves water's clarity, which makes UV systems more efficient in disinfecting the water. It also helps reduce such effluent impurities as COD/BOD, Ammonium, Nitrite, Nitrate and TSS (total suspended solids) in activated sludge systems.



Vickzyme Powder - Fields of application:

- Sediment reduction in tertiary treatment / stabilization / polishing ponds
- Sludge reduction in aerobic and anaerobic sludge stabilization ponds or reactors
- Sludge reduction in sludge lagoons
- Sludge reduction in holding tanks or collection areas
- Sediment reduction in slurry ponds, and lagoons
- Sludge reduction in sludge digesters
- Particulate matter and sludge reduction in septic systems (to keep them flowing properly)
- Prevention of sludge build-up in distribution boxes leading to drain fields
- Excess sludge reduction in activated or granular sludge reactors

Application of Vickzyme:

IMPORTANT INFORMATION

Recommended daily dosages are guidelines only, given in ppm for the solid product.

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's aqueous solution is preferably automated & continuous by a metering pump. Concentration of aqueous solution is 50g/litre 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.

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

Dosage information:

Sludge ponds: 15-40 ppm (based on pond's net volume) per treatment depending on type of the organic sludge, and its concentration in TSS. Treatments should be repeated in 1-3-month periods upon customer expectation in sludge removal rate and quantity.

Activated sludge WWTP's: 1-10 ppm (based on inflow rate m3/d), dosage depends on cumulative COD load, raw wastewater type etc.

Dosing location:

Sludge ponds: Even spraying of Vickzyme solution (made with pure water) is recommended throughout the entire surface of the pond, or the aqueous solution of the product is dosed to the pond inlet on a continuous basis.

Activated sludge WWTP's: 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:

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

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.