

## User Guide

# **BiOWiSH™** Surface Water

## **Bioaugmentation for Surface water**

Surface waters are rapidly being polluted by human activities. Discharge of raw sewage and untreated industrial effluents are the main contributors for surface water pollution. Human activities such as bathing, washing clothes, agricultural runoff, contribute to the increased level of pollution in surface waters. BiOWiSH<sup>™</sup> offers an easy-to-use treatment that accelerates the biological removal of detrimental nutrients including ammonia and nitrites and helps to restore the natural biology in surface waters.

#### What is BiOWiSH<sup>™</sup> Aqua?

BiOWiSH<sup>™</sup> is a proprietary composite biocatalyst that enhances a broad range of hydrolytic, oxidative and reductive biochemical reactions. BiOWiSH<sup>™</sup> contains a novel consortium of metabolically cooperative micro-organisms, with endogenous and exogenous enzymes and small – molecule metabolic co-factors. BiOWiSH<sup>™</sup> products are composed of all natural materials and are non – genetically modified.

#### How Safe is BiOWiSH™ Aqua?

BiOWiSH<sup>™</sup> Aqua has no detrimental effects on plants or animals and is composed of organic and 100% biodegradable materials. Aquatic toxicity testing has shown that BiOWiSH<sup>™</sup> Aqua is non-toxic at recommended dosage levels. The microorganisms formulated in BiOWiSH<sup>™</sup> Aqua are self limiting and have no lasting effect on local fauna or flora.

# BiOWiSH™ Aqua



#### Available sizes

- 100g / 3.5oz
- 1kg / 2.2lb
- 5kg / 11lb
- 10kg / 22lb



## Biological Help for the Human Racem

#### **Benefits**

- Increased rates of organic matter degradation
- Rapid nitrification promoting ammonia oxidation
- Simultaneous denitrification (through bacillus mediated heterotrophic pathway) reducing total nitrogen and avoiding nitrate and nitrite.
- Improved Water Quality
- Removal of organic wastes
- Eliminate odor causing VOCs
- Contributes to sustain natural DO levels
- Degrade organic pollutants in untreated industrial effluent discharged
- Reduced bottom sludge accumulation
- Improved aquatic life condition

#### Environment, Safety & Sustainability:

- Better surrounding environment with reduced odor causing compounds
- 100% safe application
- No usage of any other chemicals for treatment

#### What dosing rates should I use?

The optimal dosing rate of BiOWiSH<sup>™</sup> Aqua will depend on the following factors:

- The volume of water to be treated (area and average depth)
- The amount of organic matter / sludge on the pond's bottom
- Water quality parameters for the pond and all incoming tributaries

A good rule-of-thumb is: water bodies with BOD < 150 mg/l and ammonia nitrogen < 50 mg/l may consider a weekly dosing of 0.5 ppm of BiOWiSH<sup>™</sup> for the initial 12 weeks of the bioaugmentation program.

• Initial shock dose anywhere between 1-5 mg/l is recommended for systems with high concentration of organic material.

- Dosing can be optimized after the initial 12 weeks
- After the system is stabilized, a maintenance dose (varying between 0.1 to 0.5 mg/l) is recommended.

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### **SHOCK** DOSE

Can vary between 1-5 ppm.

#### WEEKLY DOSE

Dose of 0.5 ppm until water quality objectives are met.

#### **MAINTENANCE** DOSE

Can vary between 0.1 to 0.5 ppm. To maintain active biology in the water body.



#### **Contacts**

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