

BZT® Aqua 4-U accelerates the nitrogen cycle, enhancing the rate at which ammonia is converted into nitrite. Ammonia is the principle cause of odors when high stocking densities or populations of fish are present. By insuring high populations of bacteria and enzymes, we can alleviate most common odor problems.

7. **Will BZT® Aqua 4-U help remove bottom sludge?**

BZT® Aqua 4-U's formulation is designed to supply bacteria and enzymes that work on nutrient sources throughout the complete water column, including the aquarium / pond bottom. Our product includes two strains of non-hydrogen sulfide producing bacteria specifically targeted for bottom solid digestion.

The bottom solids in any aquarium or pond are one of the primary nutrient contributors to total nutrient loading. As the organic matter at the bottom decomposes, it releases nitrogen and phosphorus into the water column. BZT® Aqua 4-U contains microorganisms specifically selected for their ability to degrade bottom solids made up of organic matter.

8. **What does BZT® Aqua 4-U do to improve water clarity?**

BZT® Aqua 4-U can make dramatic improvements in clarity. When clarity is affected by floating organic matter, BZT® Aqua 4-U will be highly effective in a matter of 1 to 2 weeks. The bacteria's break down of carbon leads to a reduction in **total suspended solids**, which is evidenced by improved clarity.

BZT® Aqua 4-U will have some significant impact on clarity issues caused by minerals, such as iron, turbidity, silt, etc. BZT® Aqua 4-U will be effective in treating some of these cases.

9. **Are there ponds or fountains where the product should not be used?**

Any pond or fountain which loses 45% or more of its liquid volume in any given day should not be considered for BZT® Aqua 4-U because of the high turnover rate.

10. **Will BZT® Aqua 4-U clear my aquarium, pond or fountain?**

BZT® Aqua 4-U is best used as a preventative, ongoing management tool. It's best to use BZT® Aqua 4-U before

the problems occur. BZT® Aqua 4-U can be effective once the pond has experienced an organic buildup. However, it can take several weeks before significant impact is noticed.

11. **What about aeration?**

BZT® Aqua 4-U and all other bacterial products depend upon adequate amounts of dissolved oxygen in the water. BZT® Aqua 4-U's microorganisms decomposition rates are 5 to 6 times faster in the presence of oxygen. This means that water with aeration will experience a higher and faster success rate.

12. **Is BZT® Aqua 4-U bacteria safe to use?**

BZT® Aqua 4-U's bacteria/enzyme strains are indigenous, non-pathogenic, naturally occurring bacteria. They are completely safe and FDA GRAS listed as safe for humans, fish, animals and plant life.

13. **Does BZT® Aqua 4-U require EPA registration?**

No. Because BZT® Aqua 4-U contains only naturally occurring, non-pathogenic, indigenous microorganisms, it is not regulated by *FIFRA or the Federal Insecticides, Fungicides, and Rodenticides Act*. As such, EPA registration is not required.

14. **What is the BZT® Aqua 4-U shelf life?**

The shelf life for BZT® Aqua 4-U is two years. Securely replace cap on the container after use and store in an area of low humidity, out of direct sunlight.

What can you expect after application?

- In 2 to 4 days, there will be a reduction in nitrogen and phosphorus levels.
- In 3 to 4 days, there will be a reduction in odors.

How much water will each container treat?

A 3.5-oz. [99.23g] jar will treat a 20-gallon [75.7L] aquarium for up to 10 months or up to 20,000 [75.7m³] gallons of fountain or pond water.

NOTE: If using a UV Filter, turn it off for 48 hours during treatment with BZT® Aqua 4-U.



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BENEFITS OF BZT® AQUA 4-U:

- **Eliminates Odors** by breaking down the organic bottom solids where gas is created and released. Specialized bacteria and enzymes also break down ammonia before it causes a problem.
- **Reduces Bottom Solids.** BZT® Aqua 4-U bacteria and enzymes will accelerate the degradation of the dead organic matter on your aquarium / pond bottom.
- **Stops aeration equipment fouling** due to organic buildup.
- **Detoxifies Nitrites and Nitrates, Oxidizes Ammonia.**
- **Improves Water Clarity and Quality** by digesting suspended organics in the water column and degrading ammonia, hydrogen sulfide, and other contaminants that are harmful to your ecosystem.
- **No Permits or Licenses Required** because BZT® Aqua 4-U is not an algacide. The bacteria only attack dead organic matter. Therefore, it does not fall under FIFRA review and does not require a permit license to apply.
- **Costs less than a fraction of a penny per gallon of water treated.** A 3.5-oz. [99.23g] jar will treat a 20-gallon [75.7L] aquarium for up to 10 months or up to 20,000 [75.7m³] gallons of fountain or pond water.

AQUACULTURE

There is a clear need for a safe, effective means to reduce or eliminate organic waste build-up and toxic ammonia concentrations in aquariums, decorative fountains and pond situations. Although a variety of chemicals are currently available to reduce algae blooms, the algaecides themselves are often highly toxic to aquatic life, including fish. Many of these chemicals are not environmentally safe to use. In addition, although a variety of water filtration systems are currently available, all biological systems, regardless of the particular design, require frequent maintenance and upgrading in order for them to work efficiently. An inefficient filtration system is a serious problem for all aquaculture situations, since the filtration system can actually increase the amount of available nutrient and organic matter in the system, thereby compounding an already serious problem. A product such as **BZT® Aqua 4-U**, which can potentially extend the life of a filtration system, would mean lower maintenance costs and more effective optimization of water quality conditions.

The **BZT® Aqua 4-U** proprietary blend of all natural bacteria and enzymes have been selected for their ability to effectively digest / degrade extremely heavy concentrations of organic mass within an aquatic system. Reducing those hostile factors that have been determined to be detrimental to the health and life cycle of fish.

BZT® Aqua 4-U can successfully attack - degrade - liquefy fecal mass, undigested food and other organics that contribute to a build-up of ammonia and bottom solids. **BZT® Aqua 4-U** conditions the marine environment to an ecology close to nature's own. **BZT® Aqua 4-U** will colonize the tank / pond, multiplying by a factor of up to 1,000 times within a few hours, breaking down organic wastes, thus eliminating unsightly growth on walls and surfaces.

BZT® Aqua 4-U microbes are reliable scavengers that thrive on organic mass (waste). As supplied, they are in suspended animation (Micro-encapsulated) but are revived when added to the tank / pond water. Shortly thereafter, they begin to digest excreta and excess food, oxidize ammonia, reduce nitrites, nitrates and other N-Compounds, and reduce odors.

BZT® Aqua 4-U will effectively control the high accumulation of surface scum and bottom sludge (which produces methane and hydrogen sulfide also harmful to marine life).

By removing the heavy concentrations of organic pollutants, almost as soon as they are formed, **BZT® Aqua 4-U** ensures a healthy environment for the fish stock which, being under less stress from the N-containing substances, are more resistant to disease.

BZT® Aqua 4-U is a living system of aerobic and anaerobic microbial strains and enzymes including mixed *Bacillus subtilis* species, very selective proprietary microbial strains grown with the specific purpose to accelerate organic waste degradation even under anaerobic conditions in an aquatic environment. Proven effective in both salt and fresh water.

BZT® Aqua 4-U uses all natural microorganisms that are non-toxic and ecologically acceptable.



SOME COMMONLY ASKED QUESTIONS:

1. **Will BZT® Aqua 4-U harm my grass if the treated water is used for irrigation?**

No. Unlike chemical algaecides, **BZT® Aqua 4-U**'s specialized bacteria and enzymes won't harm grass areas. It actually benefits your grass by increasing the beneficial soil bacteria population.

2. **What causes algae blooms and how does BZT® Aqua 4-U help?**

Algae are mainly caused by excess nutrients in the water. Most aquariums and ponds become overloaded with nutrients, nitrogen, phosphorus and organic carbon. These excess nutrients overcome the aquarium / pond's ability to naturally clean itself up. This upset of nature's balance creates an environment for algae growth. **BZT® Aqua 4-U**'s microorganisms use these excess nutrients in their cell mass.

3. **What effect does BZT® Aqua 4-U have on Phosphorus?**

Excess phosphorus has been identified as the single most important factor in the rapid growth of algae and aquatic weeds. Microorganisms or bacteria are very simple organisms that have two basic functions: to metabolize/eat and reproduce. Bacteria require phosphorus for their necessary life functions.

BZT® Aqua 4-U's bacteria use phosphorus in their cell mass. The bacteria utilize phosphorus as a nutrient building block and the enzymes act as a biological catalyst. Phosphorus is a key component in the make up of DNA and RNA (the "building blocks" of life) that are necessary for bacterial cell replication.

4. **How does BZT® Aqua 4-U deal with Nitrogen?**

Molecular Nitrogen exists in gaseous form and makes up roughly 80% of the earth's atmosphere. In the water, nitrogen is found in several forms: ammonia, nitrites, and nitrates. Through a process known as nitrification and denitrification, the **BZT® Aqua 4-U** formula will break the complex forms of nitrogen down into molecular nitrogen, which is a gaseous form. This nitrogen will be degassed through the water, escaping to the surface and leaving the aquatic environment.

5. **How does BZT® Aqua 4-U deal with Carbon?**

The microorganisms digest carbon through the process of breaking down organic matter. The carbon is absorbed through the bacteria's cell membrane where it combines with oxygen and is released as carbon dioxide. **BZT® Aqua 4-U**'s enzymes break down the complex carbon bonds, making these materials easier to digest for the bacteria. This break down of organics leads to a reduction in total suspended solids and bottom solids.

6. **How does BZT® Aqua 4-U remove odors?**

Most aquarium / pond odors are caused by hydrogen sulfide (rotten egg smell), sulfur, and ammonia. **BZT® Aqua 4-U** contains bacteria selected for their ability to out-compete bacteria which produce hydrogen sulfide, thereby eliminating odors. Sulphur thrives in the bottom solids. The **BZT® Aqua 4-U** bacteria and enzyme formula works to break down the bottom solids where sulfur-producing bacteria thrive.