

## Microbial Algicide for Control of Harmful Algal Blooms (LTU ID #1999-09)



### Description

- A naturally occurring bacterium that controls blue-green algae (cyanobacteria) that produce toxins, cause off-flavor in water supplies, economic losses in aquaculture, and produce undesirable floating mats on bodies of freshwater.
- The bacterium is produced and formulated using standard processes and then applied to the water.
- This novel bacterium (SG-3) is a *Lysobacter* species that is not known to harm mammals, fish, or non-target organisms.
- The bacterium causes the cells of susceptible blue-green algae to burst.
- Activity of the bacterium is selective for certain species of blue-green algae; other algae and some species of blue-green algae are not harmed by the bacterium.
- In tank studies, the bacterium controlled blue-green algae in pond water; channel catfish were not harmed by the bacterium.

### Advantages

- The bacterium is more environmentally friendly than broad-spectrum algicides.
- Low residual activity; the number of bacterial cells in treated water decreases rapidly after destruction of the target host.
- The bacterium can be produced using conventional fermentation technology and inexpensive ingredients.
- The bacterium is classified as a microbial pesticide, thus simplifying registration.
- Assay methods have been developed to detect and quantify the bacterium in pond water.

### Areas of Application

- Control of off-flavor in aquaculture, particularly in the production of channel catfish.
- Control of toxin-producing blue-green algae that are harmful to humans, wildlife, and livestock.
- Control of mat-forming blue-green algae that are problematic in golf course and decorative ponds.
- Control of blue-green algae in the effluent from municipal and industrial wastewater treatment facilities.

### Patent Status

- Three patents have issued and a fourth patent is pending.  
Patent 6,482,635  
Patent 6,322,782  
Patent 5,739,019