DOUGLAS PRODUCTS

ProFume®

FUMIGATING STRUCTURES CONTAINING FISH TANKS

FUMIGANT

Fish tanks maintained by hobbyists and for commercial display contain extremely complex and sensitive tropical freshwater or saltwater ecosystems. These systems may contain a variety of display animals, plants such as algae and microscopic organisms important for filtering waste from the water and providing food sources for the display animals.

The fumigator should work with the owner/ occupants to determine the best way to protect the organisms during the structural fumigation, because the slightest change to environmental conditions, such as air temperature or quality, can seriously impact fish tank ecosystems. A structural fumigation with ProFume® fumigant impacts the environment within tented structures in two ways that can harm these aquatic ecosystems:

1. Most tropical freshwater and marine fish tanks must be maintained at a constant temperature, usually between 23.3°C and 26.5°C, depending on the ecosystem. Air-conditioning units for structures are generally turned off during structural fumigation, because the compressor pumps cannot operate if covered by tarpaulins. Interior ambient temperatures can reach 38°C in tarped structures in summer months when the air conditioners are turned off. These temperatures would be lethal to many aquatic organisms. Some fish tanks may have chillers, but these are uncommon due to their expense, bulkiness and the noise they produce.

2. ProFume is toxic to all organisms that breathe oxygen. This includes the display organisms in the fish tank and aerobic bacteria used in the biological filtration systems found in many tanks. Biological filters may use aerobic bacteria to convert toxic nitrogenous waste of aquatic animals to less harmful nitrogen compounds. These bacteria are cultivated on a media with a large surface area, such as plastic, spiky spheres. The bacteria grow on the surface of the media and could be killed by exposure to ProFume.

When planning to fumigate a structure with a fish tank in it, consider the following:

1. Always have the fish tank owner sign a release of liability.

2. The best option is to remove the fish tank. Nonetheless, any disturbance of the fish tank may result in mortality of display organisms, and the fumigator should not be held responsible.

3. If the fish tank is too large to move, another option is removing the display organisms, including "live" rocks, plants and biological filter media. Have these organisms maintained at another location during the fumigation, such as a store specializing in aquatic displays. The water in the tank should be replaced before returning these organisms after the fumigation, to eliminate potential claims that ProFume® fumigant contaminated the water.

4. Another option is to have the fish tank contents remain within the fumigated structure while following these precautions:

- The water temperature in the tank needs to be controlled. In warm temperatures, placing ice cubes in a plastic bag can help reduce the temperature of the tank water. Never float ice cubes in a tank without enclosing them in plastic. If the tank has a chiller unit, leave it operating during the fumigation.
- The entire tank and all peripheral pumps and filters should be sealed under airtight plastic sheeting. This would include protein skimmers, commonly found in saltwater tanks. These skimmers use a pump to mix air bubbles with water drawn from the surface of the tank to create a foam for "skimming" off through a venturi column.
- It might be necessary to use a hose (e.g., 6 mm ID) attached to a pump outside of the fumigated structure to slowly release fresh air into the airspace where the fish tank is located. This intake hose should be placed at a reasonable distance away from tent seams and ground seals of the fumigated structure to ensure fresh-air intake. An exhaust hose vented from the fish tank airspace to outside the fumigated structure may also be necessary. The purpose is to provide fresh air exchange during the fumigation in the fish tank airspace.

DOUGLAS PRODUCTS

ProFume® FUMIGANT

254591220