



**Directions for Use**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. BUSAN 77 is used to control the growth of algae in swimming pools, heated swimming pools, exterior whirlpools, hot baths, decorative fountains and ponds that do not contain fish. It is also used to control algae, bacteria, fungi and mollusks in cooling water and industrial process water systems and to inhibit the growth of bacteria that cause degradation of cutting fluids.

**Industrial Fresh Water Systems:** BUSAN 77 is used to control the growth of algae in holding ponds and reservoirs and to control the growth of bacteria and fungi in holding and processing tanks of industrial fresh water systems supplying water to pulp and paper mills, textile mills, and other manufacturing plants. In such systems, it is employed as a replacement for, or supplement to the conventional treatment with chlorine or chlorine compounds. In pulp and paper mills, treatment of the fresh water with BUSAN 77 can make an important contribution to slime control. The use of BUSAN 77 as described will reduce the development of slime in fresh water pipes, fresh water spraying nozzles, and on the pulp and paper mill machine parts contacted by fresh water. However, BUSAN 77 is not recommended for use as the primary microbicide for pulp and paper mill slime control since absorbents such as wood pulp rapidly absorb the product and greatly reduce its concentration in the circulating water. NOTE: Do not use in paper and paperboard that will contact food.

For the control of algae, bacteria, and fungi in industrial fresh water systems, BUSAN 77 is added at the rate of 1 to 11 fluid ounces of BUSAN 77 per 10,000 gallons of water to provide a concentration of 1 to 10 ppm BUSAN 77. Treatment is usually made continuously and should be based on the amount of water entering a pond or reservoir or leaving the pond or reservoir and entering the intermediate processing operations. In some cases, regular treatment periods of several hours each day will provide adequate control of the microorganisms.

Prior to the use of BUSAN 77 in water cooling towers, systems should be cleaned to remove algal growth, microbiological slime, and other deposits. Then make an initial slug addition of 0.9 to 2.2 fluid ounces of BUSAN 77 per 1000 gallons of water to provide 8 to 20 ppm BUSAN 77, based on the total weight of water in the system. Repeat initial dosage until control is evident. Make subsequent slug additions of 0.2 to 2.2 fluid ounces of BUSAN 77 per 1000 gallons of water (2 to 20 ppm BUSAN 77) every 2 to 5 days or as needed. The frequency of addition depends upon the relative amount of bleedoff and the severity of the microbiological problem. Slug additions should be made in the sump of water cooling towers. To control mollusks such as Corbicula species in recirculating or once-through cooling water and industrial systems, add BUSAN 77 at dosage rates of 2 to 20 ppm. Additions should be made continuously or intermittently to the intake water. Continuous addition is required for noticeably fouled systems. Intermittent feeding is used to maintain control. BUSAN 77 is used to control algae and mollusks such as Corbicula and Dreissena species in potable water treatment systems. Mitigation: Add BUSAN 77 to the raw water at dosage rates of 2 to 5 ppm (2 to 5 mL of BUSAN 77 / 1000 L of water). For badly fouled systems, treatment should be continuous for up to 21 days, followed by regular control treatments. Control: To avoid fouling of potable water systems by mollusks, treat the raw water at 2 ppm for 60 minutes, repeating this treatment daily or a continuous feed of 0.5 mg/L.

BUSAN 77 is used to control bacteria in industrial air washing systems that maintain effective mist eliminating components. Prior to its use, systems should be cleaned to remove bacterial slime and other deposits. An initial slug dose of 3.33 to 5.55 fluid ounces of BUSAN 77 per 1000 gallons of water is recommended. Repeat initial dosage until control is evident. Subsequent slug additions of 2.25 to 5.55 fluid ounces of BUSAN 77 per 1000 gallons of water should be employed each 1 to 5 days, or as needed. The frequency of addition depends upon the relative amount of bleedoff and severity of the bacterial problem. Slug additions may be made to the sump or to the water collection trays of the airwash system. For maximum effectiveness of BUSAN 77 in swimming pools, heated swimming pools, exterior whirlpools, hot baths, decorative fountains and ponds that do not contain fish those with heavy growths of algae should be cleaned prior to using BUSAN 77. For pools having just visible algae growth, add an initial dose of 11 to 17 fluid ounces of BUSAN 77 per 10,000 gallons of water and remove settled algae debris by cleaning. For treatment of a freshly cleaned and filled pool, add initially 6 to 11 fluid ounces of BUSAN 77 per 10,000 gallons of water. To maintain pools free of visible algae growth, subsequent additions of 2 to 4 fluid ounces of BUSAN 77 per 10,000 gallons of water should be made every 5 to 7 days after the initial treatment.

Uniform distribution of BUSAN 77 throughout the water in the pool is necessary for maximum effectiveness. BUSAN 77 is compatible with those chemicals normally used to treat pools and is effective at both acid and alkaline pH. BUSAN 77 can be used in pools treated with chlorine chemicals and may reduce the amount of those chemicals normally required. However, do not mix BUSAN 77 with concentrated dry or liquid chlorine products.

BUSAN 77 is used to control the growth of algae in swimming pools, heated swimming pools, exterior whirlpools, hot baths, decorative fountains and ponds that do not contain fish. Heavy growths of algae should be manually cleaned prior to treatment. Fountains and ponds with just visible algae growth require an initial dose of 1.0 to 2.0 fluid ounces of BUSAN 77 per 1000 gallons of water. To treat a freshly cleaned and filled fountain, add 0.5 to 1.5 fluid ounces of BUSAN 77 per 1000 gallons of water. Maintenance dosages of 0.2 to 0.5 fluid ounces of BUSAN 77 per 1000 gallons of water should be added every 5 to 7 days as needed. Additions of BUSAN 77 should be made at a point to ensure uniform distribution. BUSAN 77 may be used in fountains and ponds treated with chlorine chemicals, but do not mix BUSAN 77 with concentrated dry or liquid chlorine products.

BUSAN 77 will retard microbial growth that causes degradation of cooked starch used in paper manufacture. BUSAN 77 is added at a rate of 25 to 250 ppm based on the total weight of the starch and water. The treatment rate necessary to retard spoilage of the starch will vary with the extent of contamination of the make-up water and the length of storage. NOTE: Do not use in paper and paperboard that will contact food.

BUSAN 77 is employed for the inhibition of bacterial degradation of aqueous solutions or emulsions of the cutting fluids or oils employed as lubricants or coolants in the machining and processing of metals. It is recommended for the preservation of water-based synthetic metalworking fluids based on amines, borates, phosphates, nitrates, etc, and also for the protection of those fluids based on soluble or emulsifying oils modified with nonionic surfactants. It is not recommended, however, for use in insoluble or straight oils or in fluids containing anionic surfactants. For preservation of cutting fluids, 0.01 to 0.10% of BUSAN 77, based on the total weight of the diluted cutting fluid, is recommended. In some cases, BUSAN 77 may be added to the concentrated fluids, and the amounts of BUSAN 77 added then should be such that concentrations of 0.01 to 0.1% are obtained when the fluid is diluted with water for use in metalworking operations. For continued protection against bacterial degradation, treatment of the diluted cutting fluid should be repeated every four weeks. More frequent treatment may be necessary if excessive contamination of a particular cutting fluid system occurs. The latter condition may be indicated by the development of abnormal odors or an unusual appearance of the cutting fluid solution or emulsion and can be determined by bacteriological testing procedures.

**ACTIVE INGREDIENT(S)**  
 Poly[oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene dichloride] ..... **60.0%**

**INERT INGREDIENTS** ..... **40.0%**

**TOTAL** ..... **100.0%**

**KEEP OUT OF REACH OF CHILDREN  
 CAUTION**

FIRST AID	
If in Eyes	- Hold eye open and rinse slowly and gently with water for 15-20 minutes. - Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. - Call a poison control center or doctor for further treatment advice.
If on Skin, Clothes	- Take off contaminated clothing. - Rinse skin immediately with plenty of water for 15-20 minutes. - Call a poison control center or doctor for treatment advice.
If Swallowed	- Call poison control center or doctor immediately for treatment advice. - Have person sip a glass of water, if able to swallow. - Do not induce vomiting unless told to do so by the poison control center or doctor. - Do not give anything by mouth to an unconscious person.
If Inhaled	- Move person to fresh air. - If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. - Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment. You may also contact 901-278-0330 or 1-800-BUCKMAN for emergency medical treatment information.	

**Precautionary Statements  
 HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** Avoid breathing vapors. Avoid contact with skin, eyes, or clothing. Harmful if swallowed. Wash thoroughly with soap and water after handling.

**ENVIRONMENTAL HAZARDS:** This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

**ACCEPTED**  
 MAY 25 2004  
 Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the Pesticide, registered under EPA Reg. No. 1448-42

**Storage and Disposal**

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Do not stack more than four drums high, if applicable. Leaking or damaged drums should be placed in overpack drums for disposal. Spills should be absorbed in sawdust or sand and disposed of in a sanitary landfill. Keep container closed when not in use.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Manufactured by**  
**Buckman Laboratories, Inc.**  
 1256 North McLean Blvd.  
 Memphis, Tennessee 38108, USA  
**(901) 278-0330 or 1-800-BUCKMAN**

**EPA Est. No. 1448-TN-1**  
**EPA Reg. No. 1448-42**  
**Product Weight 9.6 lbs./gal. 1.15 kg/L**  
 Net contents are marked on the container.

**HMS / NPCA Ratings**  
 Health 1 Flammability 1 Reactivity 0  
**Last Revision 4/6/2004**

1448-42

05/25/2004

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