

STORAGE AND DISPOSAL

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

Storage: Store in a cool dark area in original container. Avoid storage in direct sunlight. In case of spill, flood with water before discarding to drain.

Container Disposal: Do not reuse or refill this container. Offer for recycling if available. Offer for reconditioning if appropriate. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty remaining contents into application equipment or mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip the container on its side and roll it back and forth, ensuring at least one complete revolution for 30 seconds. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this process two more times.

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

PRECAUTIONARY STATEMENTS

Hazards to Humans & Domestic Animals: **CAUTION:** Harmful if swallowed. Harmful if inhaled. Avoid breathing vapor or spray mist. Causes moderate eye irritation. Remove contaminated clothing and wash clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, and chewing gum, using tobacco or going to the restroom. Handlers applying chlorine dioxide in an occupational setting must wear gloves.

FIRST AID	
If inhaled	- Move person to fresh air. - If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. - Call a poison control center or doctor for further treatment advice.
If on skin or clothing	- 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 in eyes	- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lens, if present, after the first 5 minutes, then continue rinsing eye. - Call a poison control center or doctor for treatment advice.
If swallowed	- Call a poison control center 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 a poison control center or doctor. - Do not give anything by mouth to an unconscious person.
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For 24 hour emergency information on this product call NPIC at 1.800.858.7378	
For 24 hour transportation emergency information on this product call Chemtrec at 1-800-424-9300 (U.S., Canada, Puerto Rico, Virgin Islands) 1-703-527-3887 (all other areas)	

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates, oysters and shrimp. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public 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 sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

ACTIVATION:The active biocidal component of the ProOxine® system is free chlorine dioxide. Unactivated ProOxine® in the neutral to mildly alkaline pH range is bacteriostatic. For higher level microbial control, such as disinfection and sanitation, activation of ProOxine® is required to generate free chlorine dioxide. The use of citric acid as an activator is specified in most ProOxine® label applications. Alternatives to citric acid for activation include organic acids, such as acetic acid, and inorganic acids such as phosphoric, hydrochloric, and sulfuric acids. Activation equivalent to that of citric acid may be achieved by adjusting the ProOxine® solution to pH 2-3 with an alternative acid. The activated ProOxine® is then diluted to the required use concentration in accordance with label instructions. For food processing applications only food grade activator acids may be used. Bio-Cide International, Inc. or your ProOxine® distributor can guide you in proper activation techniques.

NOTE: Chemical feed pumps and injectors must be chlorine dioxide resistant for best operation. Available chlorine dioxide levels should be confirmed using a Bio-Cide Test Kit, or test strips, available from your local ProOxine® distributor.

DIRECTIONS FOR USE:

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

IN FOOD PROCESSING PLANTS SUCH AS FISH, POULTRY, MEAT AND IN RESTAURANTS, DAIRIES, BOTTLING PLANTS AND BREWERIES:

AS A TERMINAL SANITIZING RINSE FOR STAINLESS STEEL AND OTHER HARD NONPOROUS FOOD CONTACT SURFACES SUCH AS TANKS, TRANSFER LINES, RECIRCULATION AND CLEAN IN PLACE (CIP) SYSTEMS AND OTHER FOOD PROCESSING EQUIPMENT IN ACCORDANCE WITH 40 CFR 180.940 (b) (c).

- 1) All gross food particles and soil should be removed prior to sanitizing by use of a pre-flush, pre-scrape or pre-soak treatment.
- 2) Clean tank, line or surface thoroughly using a suitable detergent and rinse with clean potable water before sanitizing.
- 3) Preparation of sanitizing solution: Prepare an activated working solution containing 50 to 200 ppm available chlorine dioxide. To prepare a 50 ppm solution, place 0.65 fl. oz. of ProOxine® concentrate into a clean plastic pail or container and add 5 grams (1 teaspoon) of Bio-Cide Activator Crystals or food grade citric acid of no less than 99% purity. Prepare in a well ventilated area. Avoid breathing any fumes which may be produced while crystals are dissolving. Allow five (5) minutes reaction time for crystals to dissolve completely. To this solution, add five (5) gallons of clean, potable water.
- 4) To apply: Fill, flush, immerse or spray tank, line, equipment or food contact surface with active solution making sure surface area is thoroughly wet for at least one (1) minute. After sanitizing, drain tank, line or equipment and allow to air dry. Fresh sanitizing solution should be made up daily or more often if solution becomes diluted or soiled.

FOR USE AS A LUBE ADDITIVE TO CONTROL BACTERIAL SLIME AND ODOR ON MOVING CONVEYORS AND CHAINS IN FOOD PROCESSING FACILITIES:

- 1) Prior to beginning application of ProOxine® to the diluted lube mixture, all conveyors, lube lines, spray nozzle heads, conveyor surfaces, and other associated structures should be thoroughly cleaned and sanitized.
- 2) ProOxine® should be added to the water dilution step of the lube system just prior to its injection into the distribution system. Addition of ProOxine® into the lube/water mixture should be at the rate of 0.25 fl. oz. to 0.50 fl. oz. per 10 gallons of diluted lube. This will result in a final ProOxine® concentration of between 10 and 20 ppm in the lube solution.
- 3) For best results use with natural (fatty acid, soap based) lubricant products. For advice on lube compatibility contact your BCI distributor.

TO DISINFECT WALLS, CEILINGS, AND FLOORS.

- 1) Before disinfection, all gross filth must be removed from areas to be disinfected and thoroughly cleaned with a suitable detergent followed by a clean, potable water rinse.
- 2) Preparation of active disinfecting solution (500 ppm ClO₂): Place 1 1/3 fl. oz. of ProOxine® concentrate per gallon of working solution into a clean, plastic pail and add ten (10) grams (2 teaspoons) of Bio-Cide Activator Crystals or food grade citric acid of no less than 99% purity. Prepare in a well ventilated area; avoid breathing any fumes which may be produced while crystals are dissolving. Allow five (5) minutes reaction time for crystals to dissolve completely. To this solution, add one (1) gallon of clean, potable water. This will yield a working solution containing 500 ppm of available chlorine dioxide.
- 3) To apply: Spray or fog disinfectant solution onto surface to be disinfected using a suitable spraying device and making sure that the area is thoroughly wet for at least ten (10) minutes. Active solutions may be irritating when breathed; therefore, always use an applicable NIOSH/MSHA approved respirator appropriate for chlorine dioxide when spraying or fogging these solutions. People must vacate the premises during fogging treatments; a one-hour restricted entry interval (REI) is required. After application, allow to air dry. Treat as required. Always apply freshly made solutions. Never reuse activated solutions.

Fogging is to be used as an adjunct to acceptable manual cleaning and disinfecting for room and environmental surfaces.

TO CONTROL ODOR AND SLIME FORMING BACTERIA BUILD-UP IN COMMERCIAL WATER FILTRATION SYSTEMS, SAND BEDS, GRAVEL BEDS AND CHARCOAL FILTERS WITH ACCESSIBLE SERVICE HATCHES.

- 1) Drain all existing water from sand and carbon filters and rinse once with clean, potable water. Fill sand filter with potable water and adjust pH of water to 6.0 using citric acid or equivalent pH adjuster.
- 2) To prepare solution: Measure out eight (8) fl. oz. of ProOxine® concentrate for each ten (10) gallons of filter system volume (300 PPM available ClO₂) and add to the sand filter through access hatch. Fill system with clean, potable water and circulate system 30 minutes. Allow system to soak two (2) to three (3) hours. After treatment, drain system and rinse with clean, potable water until residue is no longer detectable using the Bio-Cide test kit and when pH is normal.

TO CONTROL THE BUILD-UP OF ODOR AND SLIME FORMING BACTERIA IN STAINLESS STEEL TRANSFER LINES AND ON-LINE EQUIPMENT SUCH AS HYDRO-COOLERS, PASTEURIZERS AND THE LIKE OVERNIGHT AND OVER WEEKENDS.

- 1) Clean equipment or line thoroughly using a suitable detergent followed by a clean, potable water rinse before treatment.
- 2) Preparation and applicator of solution: For each ten (10) gallons of volume in lines and/or equipment, add 1/2 oz. of ProOxine® (20 PPM available ClO₂) to potable make up water. Mix and fill lines and equipment overnight. Drain and allow to air dry just prior to next run start-up.

ProOxine®

SANITIZER

-Active ProOxine®-

DISINFECTANT FUNGICIDAL-BACTERICIDAL

FOOD PROCESSING PLANTS

BOTTLING PLANTS • INDUSTRIAL USE

THIS PRODUCT CAN BE USED IN FEDERALLY INSPECTED MEAT AND POULTRY FACILITIES

Active Ingredient:	
Chlorine Dioxide	5%
Other Ingredients	95%
TOTAL	100%

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

STORE IN COOL DARK PLACE KEEP FROM FREEZING

E.P.A. Reg. No. 9804-9

E.P.A. Est. No. 9804-OK-1



Bio-Cide International, Inc.

P.O. Box 722170

Norman, Oklahoma 73070

www.bio-cide.com • 800.323.1398

Net Contents: 30 Gal. 55 Gal.

TO DISINFECT WALLS, CEILINGS, AND FLOORS OF POULTRY PROCESSING PLANTS

SPECIAL INSTRUCTIONS FOR INACTIVATING AVIAN INFLUENZA A VIRUS.

KILLS AVIAN INFLUENZA A VIRUS ON PRE-CLEANED ENVIRONMENTAL SURFACES.

- 1) Before disinfection, all gross filth must be removed from areas to be disinfected and thoroughly cleaned with a suitable detergent followed by a clean, potable water rinse.
- 2) Preparation of active disinfecting solution (500 ppm ClO₂): Place 1 1/3 fl. oz. of ProOxine® concentrate per gallon of working solution into a clean, plastic pail and add ten (10) grams (2 teaspoons) of Bio-Cide Activator Crystals or food grade citric acid of no less than 99% purity. Prepare in a well ventilated area; avoid breathing any fumes which may be produced while crystals are dissolving. Allow five (5) minutes reaction time for crystals to dissolve completely. To this solution, add one (1) gallon of clean, potable water. This will yield a working solution containing 500 ppm of available chlorine dioxide.
- 3) To apply: Spray disinfectant solution onto surface to be disinfected using a suitable spraying device and making sure that the area is thoroughly wet for at least ten (10) minutes. Active solutions may be irritating when breathed; therefore, always use an applicable NIOSH/MSHA approved respirator appropriate for chlorine dioxide when spraying these solutions. After application, allow to air dry. Treat as required. Never reuse activated solutions.

TO CONTROL ODOR AND SLIME FORMING BACTERIA IN COOLING AND WARMING WATERS, SUCH AS CANNING RETORT AND PASTEURIZER COOLING WATERS, USED TO DECREASE OR INCREASE PACKAGED PRODUCT TEMPERATURE BY IMMERSION IN OR BY SPRAYING WITH THE TREATED PROCESS WATERS.

- 1) All tanks, tunnels, conveyor chains, heat exchangers, heat exchange towers, lines, spray bars and nozzles should be thoroughly cleaned, when possible, and completely rinsed using clean, potable water prior to treatment.
- 2) Preparation of solution: Water systems including the cooling or warming tanks or spray systems, towers, lines and all water containing parts of the system may be batch loaded at start up with 12.8 fl. oz. of ProOxine® per one thousand (1000) gallons of potable water (5.0 ppm available ClO₂). To maintain the 5.0 ppm available ClO₂ in the water system a timed or electronically controlled chemical feed pump or injector system can be used for additions to the system or for treating the make-up water. Make up new ProOxine® solutions daily. Optional activated solution: If heavy use of cooling or warming water, or introduction of additional bacteria loads is expected or if slime buildup is heavy, an additional activation step may be used in preparation of solution.
- 3) Preparation of activated solution: Prepare in a well ventilated area, avoid breathing any fumes which may be produced while crystals are dissolving. For each one thousand (1000) gallons of system water to be treated, measure out 12.8 fl. oz. of ProOxine® and pour into a clean plastic container, pail or drum. To this ProOxine® amount, add Bio-Cide Activator Crystals or food grade citric acid of no less than 99% purity, at the rate of 3.3 ounce (95 grams) crystals per 12.8 fl. oz. of ProOxine®. Allow five (5) minutes reaction time for crystals to dissolve. Cooling or warming water systems may be batch loaded at start up using 12.8 fl. oz. of the prepared solution per one thousand (1000) gallons of potable water (5.0 ppm available ClO₂). Batch or timed additions of the prepared solution can be made or an electronically controlled chemical feed pump or injector system can be used for additions of the prepared solution to the process water to maintain 5.0 ppm available ClO₂. Make up new ProOxine® solutions daily.

TO CONTROL THE BUILDUP OF ODOR AND SLIME FORMING BACTERIA IN PROCESS WATERS FOR VEGETABLE AND FRUIT RINSES AND ASSOCIATED TANKS, FLUMES AND LINES.

- 1) All tanks, flumes and lines etc., should be thoroughly cleaned when possible with a suitable detergent and completely rinsed using clean potable water prior to treatment.
- 2) Preparation of solution: Chill tanks, rinse tanks, flumes and lines may be batch loaded at start up; process waters should be treated by adding ProOxine® at five (5) ppm, available chlorine dioxide to potable water (0.013 fl. oz. per gallon of process water). In order to insure accurate delivery a 1:25 dilution of the ProOxine® concentrate should be made and injected via a chemical feed pump or other injector at the feed rate of three and one quarter (3 1/4) fluid ounces per ten (10) gallons of process water maintained. Make up fresh solution daily.
- 3) Optional activated solutions: If heavy use of process water is expected or if slime buildup is extreme. an activated solution of ProOxine® at five (5) ppm is recommended. Using Bio-Cide Activation Equipment activate ProOxine® to a dilute solution of less than 4000 ppm available chlorine dioxide and inject via a chemical feed pump or other injector at the feed rate of five (5) ppm per gallon of process water maintained. Make up fresh solutions daily.
- 4) After treatment of fruits and vegetables follow with a potable water rinse.

FOR USE IN THE PREPARATION OF FRUITS AND VEGETABLES TO EXTEND FRESHNESS AND SHELF LIFE

PRE-TREATMENT FOR UNMATURED, UNPEELED FRUITS AND VEGETABLES.

- 1) Before treatment, whole fruits and vegetables should be washed and thoroughly rinsed with clean potable water.
- 2) Preparation of solution: Chill tanks, rinse tanks, flumes and lines may be batch loaded at start up; process waters should be treated by adding ProOxine® at five (5) ppm, available chlorine dioxide to potable water (0.013 fl. oz. per gallon of process water). In order to insure accurate delivery a 1:25 dilution of ProOxine® concentrate should be made and injected via a chemical feed pump or other injector at the feed rate of three and one quarter (3 1/4) fluid ounces per ten (10) gallons of process water maintained. Make up fresh solutions daily.
- 3) Dip product in treatment solution for about ten (10) to twenty (20) seconds, then follow with a potable water rinse.
- 4) Fruits and vegetables treated with chlorine dioxide must be blanched, cooked, or canned before consumption or distribution in commerce.

FOR USE AS A SANITIZING SOLUTION ON FOOD BEVERAGE CONTAINERS.

- 1) Preparation of Sanitizing Solution: Prepare an activated working solution containing 50 to 200 ppm available chlorine dioxide.
- 2) To Apply: Fill, flush, immerse, circulate, or spray sanitizing solution into the container and adequately drain before filling.

TO SANITIZE CLEAN SHELL EGGS INTENDED FOR FOOD OR FOOD PRODUCTS.

- 1) Preparation of sanitizing solution: Prepare an activated working solution containing 100-200 ppm available chlorine dioxide.
- 2) Spray eggs thoroughly with activated solution making sure surface area is thoroughly wet for at least one (1) minute and allow to drain. Solution must be equal to or warmer than the eggs, but not to exceed 130 degrees F.
- 3) Eggs that have been sanitized with this chlorine dioxide compound may be broken in the manufacture of egg products without a prior potable water rinse. Eggs must be reasonably dry before casing or breaking. Never reuse activated solutions.

TO CONTROL THE BUILD-UP OF ODOR AND SLIME FORMING BACTERIA IN ICE MAKING PLANTS AND MACHINERY.

- 1) Ice making machinery should be disassembled and thoroughly cleaned using a suitable detergent followed by a potable water rinse.
- 2) Preparation and application of solution: The ProOxine® solution should be applied to the incoming water line of the ice machine via a chemical feed pump or injector system and proportioned at the rate of 6 fl. oz. per 100 gallons of potable water (20 ppm available ClO₂.)

FOR USE AS A SLIMICIDE IN PULP AND PAPER WHITE-WATER SYSTEMS.

- 1) For initial start-up or for severe slime contamination ProOxine® should be prepared by the addition of one pound of citric acid activator per 50 gallons of ProOxine® or by addition of other suitable acid to adjust the ProOxine® solution to approximately pH 7.0.
- 2) The activated ProOxine® solution should then be proportioned into the whitewater system by means of a suitable metering pump at a continuous rate to produce an in-stream concentration of 1.25 - 5.0 ppm. This concentration is obtained by proportioning the ProOxine® into the system at a rate of 3.2 -12.8 fluid ounces per 1,000 gallons of process water. The system should be monitored by use of a Bio-Cide International, Inc. Test Kit, or other suitable means and feed rate adjustments made accordingly. After slime control is established the ProOxine® feed rates may be lowered to maintain the desired level of slime control.

FOR ENCLOSED AND RECIRCULATING COOLING WATER SYSTEMS.

- 1) Severely fouled systems should be cleaned prior to treatment.
- 2) For initial start-up or heavy microbial contamination ProOxine® should be added to the cooling water system at a rate of one gallon of ProOxine® per 10,000 gallons of system water. This is equivalent to 5.0 ppm as available chlorine dioxide. Dosage should be repeated daily until microbial control is achieved.
- 3) When microbial contamination is under control the concentration and frequency of treatment may be reduced to levels adequate to maintain the desired level of microbial control.

FOR MICROBIAL CONTROL IN SWEETWATER COOLING SYSTEMS.

- 1) ProOxine® may be batch loaded or metered into sweetwater cooling systems at the rate of 13 fluid ounces per 1,000 gallons of sweetwater to produce an in stream concentration of 5.0 ppm
- 2) ProOxine® concentrations should be monitored using a Bio-Cide test kit to maintain a 5.0 ppm concentration.