

**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 POULTRY, FISH & MEAT, 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 100 ppm working solution place 3 1/4 fl. oz. of Oxine® concentrate into a clean plastic pail or container and add 10 grams (1 Tablespoon) 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, circulate 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, allow to air dry. Fresh sanitizing solution should be made up daily or more often if solution becomes diluted or soiled.

**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 disinfecting solution: Place 3 1/4 fl. oz. of Oxine® concentrate per gallon of working solution into a clean, plastic pail and add ten (10) grams 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 or fogging 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. Never reuse activated solutions.

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

**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 disinfecting solution: Place 3 1/4 fl. oz. of Oxine® concentrate per gallon of working solution into a clean, plastic pail and add ten (10) grams 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. Always apply freshly made solutions. Never reuse activated solutions.

**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.

**DIRECTIONS FOR USE: PREPARATION OF CLEAN SHELL EGGS INTENDED FOR FOOD OR FOOD PRODUCTS.**

- 1)Preparation of sanitizing solution: Prepare an activated working solution containing 100 to 200 ppm available chlorine dioxide. To prepare a 200 ppm working solution place 1.28 oz of Oxine® concentrate per gallon of working solution (200 ppm available chlorine dioxide) into a clean, plastic pail and add 3.8 grams (3/4 teaspoon) of Oxine® Activator Crystals or food grade citric acid of no less than 99% purity. Prepare in a well ventilated area. Allow five (5) minutes reaction time for crystals to dissolve completely. To this solution, add one (1) gallon of clean potable water.
- 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 fahrenheit.
- 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 solution.

**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, 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 with 1/3 fl. oz. Oxine® per ten (10) gallons of potable water (5.0 ppm available ClO₂). Process waters should be treated by adding Oxine® to potable water using a chemical feed pump or other injector system.
- 3) Optional activated solution - If heavy use of process water is expected or if slime buildup is extreme, an activated solution of Oxine® is recommended. Preparation of activated solution: Prepare in a well ventilated area, avoid breathing any fumes which may be produced while crystals are dissolving. For each ten (10) gallons of rinse water to be used, measure out 1/3 fl. oz. of Oxine® and pour into a clean plastic container, pail or drum. To this Oxine® amount, add Bio-Cide Activator Crystals or food grade citric acid of no less than 99% purity, at the rate of 1/4 teaspoon crystals per 1/3 fl. oz. Oxine®. Allow five (5) minutes reaction time for crystals to dissolve. Chill tanks, rinse tanks, flumes and lines may be batch loaded at start up with activated Oxine® solution with 1/3 fl. oz. per ten (10) gallons of potable water (5.0 ppm available ClO₂). Process waters should be treated using a chemical feed pump or other injector system.
- 4) In order to insure accurate delivery, a 1 to 10 dilution of the (activated or unactivated) Oxine® concentration should be made and the feed rate of 3 and 1/4 fl. oz per ten (10) gallons should be maintained. Make up fresh solutions daily.
- 5) After treatment of fruits and vegetables follow with a potable water rinse.

**IN MUSHROOM FACILITIES SUCH AS MUSHROOM PRODUCTION, SPAWN PRODUCTION, MUSHROOM PROCESSING, AND CANNERY OPERATIONS**

**AS A TERMINAL SANITIZING RINSE FOR STAINLESS STEEL TANKS, TRANSFER LINES, ON LINE EQUIPMENT, PICKING BASKETS, PICKING UTENSILS, AND OTHER FOOD CONTACT SURFACES**

- i) All gross food particles and soil should be removed prior to sanitizing by use of a preflush, prescrape, or presoak treatment.
- ii) Clean picking baskets, line equipment or other surface thoroughly using a suitable detergent and rinse with clean potable water before sanitizing.
- iii) Preparation of sanitizing solutions. Prepare an activated working solution containing 50 to 200 ppm available chlorine dioxide. To prepare a 100 ppm working solution place 3 1/4 fl oz of Oxine® concentrate into a clean plastic pail or container and add 10 grams (1 Tablespoon) 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.
- iv) To apply: Flush picking baskets, line equipment or other food contact surface with active solution making sure surface area is thoroughly wet for at least one (1) minute. After sanitizing, drain baskets or equipment and allow to air dry. Treat after each use or production run. Discard solution after each use.

**TO DISINFECT WALLS, CEILINGS, AND FLOORS.**

- i) 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.
- ii) Preparation of disinfecting solution: Place 3 1/4 fl. oz. of Oxine® concentrate per gallon of working solution into a clean, plastic pail and add ten (10) grams 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.
- iii) To apply: Spray disinfectant solution onto surface 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 these solutions. After application, allow to air dry. Treat as required. Always apply freshly made solutions. Never reuse activated solutions.

**IRRIGATION WATER**

Preparation of 50 ppm non-activated irrigation water solution: Place 3 1/4 fl oz of Oxine® concentrate into a clean plastic pail or container, to this solution add 10 (ten) gallons of clean potable water. Apply irrigation water from plastic or stainless steel dispensers for deodorizing and whitening effects.

# OXINE®

## SANITIZER

### Bacteriostat/Deodorizer

## -Active Oxine®- DISINFECTANT

### FUNGICIDAL - BACTERICIDAL FOOD PROCESSING PLANTS •BOTTLING PLANTS

**This product can be used in Federally Inspected Meat and Poultry Facilities**

## KEEP OUT OF REACH OF CHILDREN

# CAUTION

### SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

**Active Ingredient:**  
**Chlorine Dioxide** . . . . . **2.0%**  
**Other Ingredients** . . . . . **98.0%**  
**TOTAL** . . . . . **100.0%**

### STORE IN COOL DARK PLACE KEEP FROM FREEZING

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



**P.O. Box 722170**

**Norman, OK 73070**

**800-323-1398**

**www.bio-cide.com**

**NET CONTENTS: 30, 55 GALLONS**

**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 application of solution: For each ten (10) gallons of volume in lines and/or equipment, add 1 1/4 fl. oz. of Oxine® (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.

**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 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 one quart (32 fl. oz) Oxine® 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 Oxine® 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 one quart (.95 liters) of Oxine® and pour into a clean plastic container, pail or drum. To this Oxine® 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 quart (.95 liters) of Oxine®. Allow five (5) minutes reaction time for crystals to dissolve. Cooling or warming water systems may be batch loaded at start up using one quart (.95 liters) 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 Oxine® solutions daily.

**TO CONTROL BUILD-UP OF SLIME AND ODOR CAUSING BACTERIA AND ENHANCE THE TASTE OF STORED POTABLE WATER.**

- 1) Prior to treatment of potable water, thoroughly clean and disinfect the water storage system to ensure a sanitary condition. Thoroughly rinse with clean, potable water.
- 2) Potable water should be treated at a rate of one (1) fl. oz. Oxine® per 30 gallons potable water (5 ppm available ClO₂) and may be injected or batch treated.
- 3) Water storage tank should be sufficiently sealed to prevent outside contamination and direct sunlight.
- 4) Using a Bio-Cide test kit, confirm the chemical level to be 5 ppm and check to see this level does not fall below 1 ppm.

**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 Oxine® 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 1 1/2 fl. oz. per ten (10) gallons of potable water (20 ppm available ClO₂).

**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 two (2) fl. oz. of Oxine® concentrate for each gallon 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.

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

- 1) Prior to application of the lube/Oxine® mixture all conveyors, lube lines, spray nozzle heads, conveyor surfaces and other associated structures should be thoroughly cleaned and sanitized.
- 2) Oxine® should be added to the water dilution step of the lube system just prior to its injection into the distribution system. Addition of the Oxine® into the lube/water mixture should be at a rate of 0.64 fl. oz. to 1.28 fl. oz. per 10 gallons of lube mixture. This will result in a final concentration of between 10 and 20 ppm of Oxine® in the lube solution.
- 3) For best results use with natural (fatty acid, soap based) lubricant products. For advice on lube compatibilities, contact your Bio-Cide distributor.

**ACTIVE INGREDIENTS**

The active biocidal component of Oxine® system is free chlorine dioxide. Unactivated Oxine® in the neutral to mildly alkaline pH range is bacteriostatic. For higher level microbial control, such as disinfection and sanitation, activation of Oxine® is required to generate free chlorine dioxide. The use of citric acid as an activator is specified in most Oxine® label applications. Alternatives to citric acid for activation include organic acids, such as acetic acid, and inorganic acids such as phosphonic, hydrochloric, and sulfuric acids. Activation equivalent to that of citric acid may be achieved by adjusting the Oxine® solution to pH 2-3 with an alternative acid. The activated Oxine® 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 Oxine® distributor can guide you in proper activation techniques.

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

**STORAGE AND DISPOSAL**

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

**Product Storage:** Store in a cool, dry, well-ventilated location away from acids, chlorine and chlorine compounds, hypochlorites (bleach), organic solvents, sulfur and sulfite compounds, phosphorus, combustible/flammmable materials, and direct sunlight. Keep containers tightly closed when not in use and open carefully to prevent spoilage. Storage on wooden pallets is not recommended.

**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:** 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 ¼ 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.

<b>FIRST AID</b>
<b>If Inhaled:</b> 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.
<b>If on Skin or Clothing:</b> Take off contaminated clothing. Rinse skin immediatley with plenty of water for 15-20 minutes. Call poison control center or doctor for treatment advice.
<b>If in Eyes:</b> Hold eyes 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 treatment advice.
<b>If Swallowed:</b> Call poison control center or doctor immediatley 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.
For 24 hour emergency information on this product call NPIC at 1-800-858-7378 (U.S., Canada, Puerto Rico, Virgin Islands) or 1-703-527-3887 (All Other Areas)
Have the product container or label with you when calling a poison control center or doctor or going for treatment.

**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.

**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 local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.