

ADOX™ BCD-25

25% AQUEOUS SODIUM CHLORITE SOLUTION

PRECURSOR FOR CHLORINE DIOXIDE AND ACIDIFIED CHLORITE SOLUTIONS FOR INDUSTRIAL USE

ACTIVE INGREDIENTS:

Sodium Chlorite.....	25%
Other Ingredients.....	75%
TOTAL.....	100%

KEEP OUT OF REACH OF CHILDREN

DANGER

See side panels for Additional Precautionary Statements

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 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 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.

For Transport & Medical Emergencies: CHEMTREC: (800) 424-9300 (outside the U.S. (703) 527-3887).

For Product Information: (800) 477-6071 (outside the U.S. (401) 295-8800).

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMAN AND DOMESTIC ANIMALS

DANGER. CORROSIVE: Causes irreversible eye damage and skin burns. Do not get in eyes or clothing. Wear safety glasses or goggles, protective clothing, and rubber gloves when handling this product. Harmful if swallowed. Avoid breathing vapors. Vacate poorly ventilated area as soon as possible. Do not return until strong odors have dissipated. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This product is toxic to fish, aquatic invertebrates, oysters, and shrimp. 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 Eliminations 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.

PHYSICAL AND CHEMICAL HAZARDS

DANGER: This product becomes a fire or explosive hazard if allowed to dry. Strong oxidizing agent. Mix or dilute into water only. Mixing with acids, or alcohol, or other chemicals may cause evolution of chlorine and chlorine dioxide gas which is toxic and may be explosive. Combustible materials contaminated with ADOX™ BCD-25 may burn rapidly. Keep handling areas and equipment clean and free of oils, greases, combustibles, and dust. Do not contaminate this product with garbage, dirt, organic matter, paint products, solvents, acids, vinegar, beverages, oils, pine oils, dirty rags, or other foreign matter. Do not expose to hot surfaces, sparks or open flame.



International Dioxide
A division of ERCO Worldwide

Manufactured for:

INTERNATIONAL DIOXIDE, INC.

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North Kingstown, RI 02852

NET CONTENTS _____ GAL.

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EPA EST. No. 10183-MI-05

53345-CAN-004

53345-CAN-001

86565-LA-02

41934-PA-02

87762-CA-01

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

METHOD OF APPLICATION ADOX™ BCD-25 is a precursor for the generation of chlorine dioxide. DO NOT ADD ADOX™ BCD-25 directly to the system being treated. Chlorine dioxide solutions can be generated from ADOX™ BCD-25 by several common methods including:

1. The chlorine method which utilizes a ADOX™ BCD-25 and chlorine gas, or
2. The hypochlorite method which utilizes ADOX™ BCD-25, a hypochlorite solution and an acid or,
3. The Acid-Chlorite method which utilizes ADOX™ BCD-25 and an acid, or
4. The electrolytic method which utilizes ADOX™ BCD-25, with sodium chloride as needed.

ADOX™ BCD-25 can also be used to form acidified sodium chlorite solutions by mixing the product with Generally Recognized As Safe (GRAS) acids such as citric, phosphoric or acetic acid. Add the generated chlorine dioxide solution to a point in the system which ensures uniform mixing. Your International Dioxide, Inc. representative can guide you in the selection, installation and operation for the feed systems.

APPLICATIONS

POTABLE WATER AND WASTEWATER DISINFECTION: For most municipal and other potable water systems, a chlorine dioxide residual concentration up to 2.0 ppm is sufficient to provide adequate disinfection. Typically, the target residual concentrations range from 0.20 – 0.75 ppm. Monitor the distribution system to ensure that the chlorite concentration does not exceed its maximum contaminant level (MCL) of 1 mg/L and that chlorine dioxide does not exceed its maximum residual disinfection level (MRDL) of 0.8 mg/L. For wastewater and sewage applications, residual chlorine dioxide concentrations up to 5.0 ppm are generally adequate.

POTABLE WATER SYSTEMS: Nitrification: To control the buildup of nitrification in the water distribution system. Utilize a chemical metering system to add this product so that the resulting dose of chlorine dioxide or sodium chlorite to control nitrification does not exceed the MRDL of 0.8mg/L for ClO₂, or the MCL of 1.0 mg/L for chlorite ion.

Use of this product in public water systems (drinking water utilities) triggers monitoring and compliance requirements under 40 CFR 141. Among other requirements the user of this product is required to conduct daily monitoring for chlorine dioxide and chlorite at the point of addition and to comply with standards for chlorine dioxide and chlorite. The user of this product is required to contact State or primary drinking water programs to determine specific monitoring, compliance, reporting, and record-keeping requirements in order to avoid adverse human health effects and/or non-compliance with such requirements.

IRRIGATION AND IRRIGATION WATER SYSTEMS

IRRIGATION: To control bacteria, algae and slime in irrigation piping and emitters for field and greenhouse/hothouse applications treat continuously or with a slug dose.

WATER RESERVOIRS: To control bacteria, algae, slime, and reduce nitrification treat continuously or with a slug dose.

SLUG DOSE: Add 42 to 210 pounds of chlorine dioxide per million gallons of water (5 to 25 ppm).

CONTINUOUS DOSE: Add 2 to 16 pounds of chlorine dioxide per million gallons of water (0.25 to 2 ppm).

GENERAL INDUSTRIAL PROCESS WATER TREATMENT (OILFIELD INJECTION WATER, WHITE WATER PAPER MILL SYSTEMS, and RECIRCULATING COOLING TOWERS): For control of microbial slime, these systems will require a chlorine dioxide residual concentration ranging between 0.25 and 5.0 ppm.

ONCE THROUGH COOLING WATER SYSTEMS: Control of mollusks can be effectively accomplished using ADOX™ BCD-25 as directed in commercial and industrial once through cooling water systems. ADOX™ BCD-25 may be fed on a continuous or slug basis depending on the degree of system fouling.

SLUG DOSE: Add 42 to 210 lbs. of chlorine dioxide per million gallons of water (5 to 25 ppm).

CONTINUOUS DOSE: Add 2 to 16 lbs. of chlorine dioxide per million gallons of water (0.25 to 2 ppm).

DIRECTIONS FOR TREATING ENHANCED OIL & GAS EXPLORATION AND RECOVERY SYSTEMS including primary, secondary or tertiary oil and gas recovery, plus oil sands processing waters.

NOTE: Addition of chlorine dioxide generated from ADOX™ BCD-25 must be made at the free water knockouts, before or after the injection pumps and injection well headers. For microbial control in oil field water, polymer or micellar floods, water-disposal systems, or other oil field water systems, ADOX® generator systems are the preferred method of addition.

Continuous Feed Method: Treat water (aqueous solutions, suspensions, dispersions, mud, fluids) until a residual of 0.25 (1.19 (California minimum)) to 10.0 ppm chlorine dioxide is achieved.

The required dosage rate, frequency and concentration of chlorine dioxide can vary for each individual user, depending on severity of contamination, temperature and pH. Typical concentrations of chlorine dioxide are between 0.25 (1.19 (California minimum)) and 5.0 ppm above the chemical (chlorine dioxide) demand of the system on a continuous basis, but may require up to 10.0 ppm. The aqueous chlorine dioxide stream from the generator must always be injected or introduced below the surface of the treated water/suspension/fluid/slurry, preferably while flowing or mixing. Allowing the aqueous chlorine dioxide stream to free-fall through air results in a loss of chlorine dioxide gas to the atmosphere.

AQUEOUS DISINFECTION SYSTEMS FOR CIP CLEANING: If the concentration of chlorine dioxide generated from ADOX™ BCD-25 exceeds 5.0 ppm, a potable water rinse must follow treatment. Care must be taken to ensure the biological and chemical quality of the potable water.

FOOD PROCESSING PLANTS, DAIRIES, BOTTLING PLANTS AND BREWERIES, FOOD PLANTS PROCESS WATER. For microbial control in typical food processing water systems, such as flume transport, chill water systems, hydrocoolers, and retort cooling water, apply ADOX™ BCD-25 through a chlorine dioxide generation system to achieve a chlorine dioxide residual concentration ranging from 0.25 to 3.0 ppm.

POULTRY PROCESSING WATER: Use ADOX™ BCD-25 to generate chlorine dioxide for use as an antimicrobial agent in water used in poultry processing in an amount not to exceed 3 ppm residual chlorine dioxide as determined by an appropriate method.



Certified to NSF/ANSI 60
Max. Use Level 28 mg/L



IN FOOD PROCESSING FACILITIES

For use as a terminal food contact surface sanitizing rinse conforming to 40 CFR 180.940 paragraph (b) and (c) not requiring a subsequent potable water rinse. This solution may be used on hard surfaces such as dairy processing equipment, food processing equipment and utensils.

1. All equipment & utensils must be thoroughly cleaned to remove gross food particles and soil by pre-flush or pre-scrape and where necessary a pre-soak treatment. The surfaces or objects must then be cleaned with a detergent or cleaner followed by a potable water rinse before application of the sanitizing solution.
2. To prepare a 200 ppm chlorine dioxide sanitizing use solution add 1 oz. of ADOX™ BCD-25 to 7 gallons of water and then acidify to pH 2.6 with a Generally Recognized As Safe (GRAS) acid such as hydrochloric, citric, phosphoric or acetic acid. Allow to stand for at least 15 minutes before use. Alternatively to minimize worker handling, an automated system can be utilized that will safely react ADOX™ BCD-25 with a GRAS Acid and safely dilute the solution to the 200 ppm chlorine dioxide sanitizing use solution.
3. Fill, immerse, circulate, wipe or spray the target surface with the sanitizing solution making sure the surface area is thoroughly wet for at least one minute. Hard to reach in- place equipment, pipes, closed vessels, etc. must be filled with the sanitizing solution to ensure contact of all surfaces. Use suitable breathing apparatus when spraying the solution on external equipment.
4. Allow the sanitizing solution to drain from all treated surfaces and air dry. Do not rinse treated surface.
5. The above solution must not be reused for sanitizing, but can be diluted 1:5 with water and used for cleaning of walls, floors and drains of the plant.

USES REGULATED BY FDA UNDER THE FEDERAL, FOOD, DRUG AND COSMETIC ACT

When used as directed under Environmental Protection Agency (EPA) regulations ADOX™ BCD-25 is a precursor for the generation of up to 3.0 ppm residual solutions of chlorine dioxide to:

1. Provide microbial control in wash or process water for fruit and vegetable raw agricultural commodities.
2. Control spoilage and decay causing non-public health microorganisms present in the wash or process water for fruit and vegetable raw agricultural commodities
3. Provide microbial control in poultry processing chiller water.

ADOX™ BCD-25 can be used under US Food and Drug Administration (FDA) regulations 21 CFR 173.300 for poultry processing water and as an antimicrobial agent in water used to wash fruits and vegetables that are not raw agricultural commodities.

ADOX™ BCD-25 can be used to prepare acidified sodium chlorite solutions under US Food and Drug Administration (FDA) regulations 21 CFR 173.325 for use in; poultry processing water, processing of red meat, red meat parts, and organs, an antimicrobial agent in water and ice that are used to rinse, wash, thaw, transport, or store seafood, an antimicrobial agent in the water applied to processed fruits and vegetables.

WARRANTY: Seller expressly warrants that the product conforms to its chemical description. There are no warranties associated with the sale of the product either expressed or implied including, but not limited to, the warranties of fitness for a particular purpose or use.

STORAGE AND DISPOSAL

DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL

PESTICIDE STORAGE: Store upright in cool, dry and well-ventilated place. Avoid excessive heat or freezing. Protect from contact with other chemicals; avoid storage with organic chemicals, acids, reducers and combustible material. Keep container tightly closed when not in use. In case of spills, flush and drain promptly to sewer with large quantities of water. Do not allow liquid to dry out because this could present a fire hazard. If fire occurs, extinguish with large volume of water. Avoid exposure to high temperatures during storage. Store remote from other chemicals and combustible materials. Do not skid or slide drums.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label directions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Containers equal to or less than 5 gallons: Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Containers over 5 gallons: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over onto its other end and tip back and forth several times. Empty the rinsate into application equipment or mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

EMERGENCY HANDLING: In case of contamination or decomposition, do not reseal container. Isolate in an open, well-ventilated area. Flood with large volumes of water. Cool unopened drums in vicinity by water spray.