

# CIO2-DMG™

## MATERIAL SAFETY DATA SHEET

### Section 1 Product and Company Information

Product Name CIO20DMG™ (roomShocker, autoShocker, rvShocker, marineShocker, LiquidShocker)

Product Use Deodorizing delivery system (pouch) for the generation of chlorine dioxide for use as control of odor-causing bacteria, mold and mildew and chemical odors in confined spaces where moisture are present.

Company Biocide Systems

Address 459 E 4th St., Los Angeles CA 90013

Technical Phone (877) RX-BIocide • (877) 792-4624

### Section 2 Composition / Information on Ingredients

#### Composition

<u>Chemical Name</u>	<u>CAS Number</u>	<u>% (by weight)</u>	<u>Exposure Standards</u>
Sodium Chlorite	7758-19-2	25 – 28	None Established
Inorganic Acid		70 – 67	None Established
Stabilizers		5 – 2	None Established

### Section 3 Hazards Identification

#### Emergency Overview

Pouch contains white granules/powders. Oxidizer with slight chlorine odor. Harmful if swallowed. Release chlorine dioxide gas when the pouch in contact with moisture and water. Causes eye, skin and respiratory tract irritation upon contact with high concentration of chlorine dioxide gas. Prolonged exposure to high concentration of chlorine dioxide through inhalation may cause lung damage.

#### Potential Health Effects

**Eye:** Direct contact with this product may cause severe irritation.

**Skin:** Direct contact with this product may cause severe irritation.

**Ingestion:** Swallowing this product may cause symptoms of nausea, vomiting, lethargy, diarrhea, and abdominal pain.

**Inhalation:** Inhaling this product may cause irritation of the mucous membranes and respiratory tract with symptoms of sneezing, coughing and difficulty of breathing.

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### Section 4 First Aid Measures

**Eye:** Immediately flush eyes with water for at least 15 minutes, lifting eyelids to thoroughly flush. If redness or irritation persists, get prompt medical attention.

**Skin:** Remove contaminated clothing and flush affected skin area with copious amounts of water for at least 15 minutes. Seek medical attention if burning or irritation of the skin persists. Launder clothing before reuse.

**Ingestion:** Drink large quantities of water and seek medical attention immediately. DO NOT induce vomiting. DO NOT give anything by mouth if the person is unconscious or having seizures.

**Inhalation:** Remove to fresh air. If irritation or discomfort persists, administer oxygen and seek medical attention immediately.

#### Notes to Physician

Chlorine dioxide vapors are emitted when this product contacts moisture, water, acids or chlorine. If high concentration of these vapors are inhaled, monitor patient closely for delayed development of pulmonary edema which may occur up to 48-72 hours post-inhalation.

### Section 5 Fire Fighting Measures

#### Flash Point

Not Applicable

#### Auto ignition Temperature

Not Determined

#### Flammable Limits in Air (percent by volume)

Not Determined

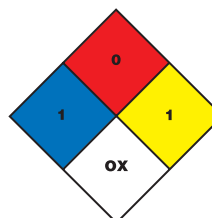
#### Extinguishing Media

Flood with water from a safe distance.

#### Fire Fighting Techniques and Comments

Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Wear self-contained breathing apparatus and protective clothing when fighting fires involving chemicals. If large amounts of product are involved in a fire, it is possible that the application of water release high concentration of chlorine dioxide gas. Use large amount of water to dissolve chlorine dioxide gas into the water.

NFPA



### Section 6 Accidental Release Measures

#### Procedure(s) of Personal Precautions(s)

Follow standard spill prevention, control and countermeasure plan. Wear chemical safety goggles, rubber boots, and rubber gloves.

#### Methods for Cleaning Up

Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site with large amounts of water after material pickup is complete.

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### Section 7 Handling and Storage

**Handling:** Wear all recommended personal protective clothing when handling. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**Storage:** Store in a cool, dry place and ensure that there is adequate ventilation. Do not expose to direct light and heat. This product is hygroscopic and will readily absorb moisture. Should only be opened from the packaging pouch prior to use.

### Section 8 Exposure Control / Personal Protection

**Engineering Control:** Local exhaust ventilation is recommended if vapors, mists or aerosols are generated. Otherwise, use general exhaust ventilation.

**Eye Protection:** Chemical safety glasses or goggles.

**Skin Protection:** Chemical-resistant gloves, clothing, and boots.

**Respiratory:** NIOSH/MSHA-approved respirator is recommended in absence of proper environmental control.

**General:** Provide ventilation to control worker exposure and prevent health risk. Provide an eyewash fountain and safety shower in close proximity to points of potential exposure.

### Section 9 Physical and Chemical Properties

**Appearance and Odor:** White granule/powder

**Odor:** Slight chlorine odor

**Melting Point:** 338°F (170°C)

**Decomposition Temperature:** >338°F (170°C)

**Solubility in water:** Complete Bulk

**Density:** Not Determined

**pH @ 25°C:** No data

**Vapor Pressure:** Not determined

**Specific Gravity:** Not determined

**Volatiles (% by volume):** Not determined

### Section 10 Stability and Reactivity

**Chemical Stability:** Stable

**Conditions to Avoid:** Temperatures above 338 °F (170 °C), do not store dry product where exposed to moist conditions and contamination with combustible materials.

**Incompatibility:** Acids, reducing agents, combustible materials, oxidizers (eg. hypochlorites) or easily oxidizable materials.

**Decomposition Products:** Thermal decomposition may generate toxic chlorine gas.

**Hazardous Polymerization:** Will not occur.

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### Section 11 Toxicology Information

**LD50 (oral, rat):** 278 mg/kg (sodium chlorite 80% powder)  
**ACGIH (CIO2 gas):** 0.1 ppm (TWA), 0.3 ppm (STEL)  
**Sensitization (guinea pig):** Negative  
**Mutagenicity:** No human data available.

#### Carcinogenicity

Sodium chlorite is not listed in OSHA, EPA, NTP, IARC or any other authority as a carcinogen.

#### Reproductive Toxicity

Developmental toxicity: Rat, mouse, no indication of a teratogenic potential

### Section 12 Ecological Information

#### Ecotoxicological Information

Sodium chlorite is slightly toxic to fish and other aquatic organisms. For bluegill (*Lepomis macrochirus*), aquatic toxicity studies have shown a TL50 of 208 mg/l and LC50 values of 265-310 mg/l. rainbow trout (*Salmo gairdneri*) have been tested and shown acute toxicity values of 50.6 mg/l (TL50) and 290 mg/l (LC50). Of the aquatic species tested, *Daphnia* have been the most sensitive species tested with an LC50 of 0.29 mg/l. Sodium chlorite is acutely toxic to birds when administered by gavage. The acute oral LD50 in mallard ducks is 0.49-1.00 g/kg. In bobwhite quail the LD50 is 0.66 g/kg. Sodium chlorite in the diet of birds was not acutely toxic. Eight day dietary LC50's in mallard ducks and bobwhite quail were both greater than 10,000 ppm in the diet.

#### Environmental Fate Information

**Soil:** Sodium chlorite could generate chlorine dioxide when in contact with acidic soil. However both sodium chlorite and chlorine dioxide will degrade to sodium chloride in the presence of reducing agents in soil.

**Water:** Sodium chlorite in water will eventually degrade to sodium chloride in the presence of reducing agents in natural water.

### Section 13 Disposal Considerations

Do not reuse empty packaging pouch. Discard empty packaging pouch and spent CIO2-DMG (tm) pouch in an outdoor refuse container.

### Section 14 Transport Information

This material is regulated as a DOT hazardous material.

DOT Shipping Description (49 CFR 172.101)  
Sodium Chlorite, 5.1, UN 1496, II

The applicable packaging section is 49 CFR 173.4 (small quantity - maximum amount of sodium chlorite per individual receptacle is 30 grams). Oxidizer placard not required. Outside package must be marked as follows: "This package conforms to 49 CFR 173.4."

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## Section 15 Regulatory Information

### TOXIC SUBSTANCES CONTROL ACT

The components of this product are listed on the Toxic Substance Control Act (TSCA) inventory

### SUPERFUND AMMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III

#### HAZARD CATEGORIE S (40 CFR 370.2)

HEALTH: Immediate (Acute), Delayed (Chronic)      PHYSICAL: Fire

### EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW (40 CFR 355, APP.A)

### EXTREMELY HAZARDOUS SUBSTANCE (EHS) - PLANNING QUANTITY

None Established

### SUPPLIER NOTIFICATION REQUIREMENTS, PER 40 CFR 372.45

None Required

### CALIFORNIA PROPOSITION 65

The components in this product do not appear on the California Proposition 65 list

FOR ADDITIONAL INFORMATION CALL: (877) 792-4624 (During business hours, Pacific Standard Time)

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