

# MATERIAL SAFETY DATA SHEET

## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:

**Distributed by:**

Quip Laboratories, Inc.  
1500 Eastlawn Avenue  
Wilmington, DE 19802

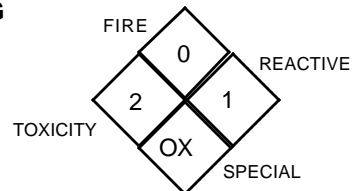
**Non-Emergency: (302) 761-2600**

**CHEMICAL EMERGENCY NUMBER**
**CHEMTREC**
**1-800-424-9300**

Product Name: **MB-10 TABLETS (6.0 Gram Size)**  
Common Name: Chlorine Dioxide Release Material  
Chemical Name: Chemical Mixture  
Formula: Chemical Mixture  
Product Use: Biocide/Cleanser

**HAZARD RATING**

4-EXTREME  
3-HIGH  
2-MODERATE  
1-SLIGHT  
0-INSIGNIFICANT



## SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS:

**INGREDIENTS:**

INGREDIENTS:		% / Wt.	TLV/ACGIH
Inorganic Acid	IN TSCA	25-35	None Established
Sodium Chlorite	(C.A.S. # 7758-19-2)	15-24	None Established
Inorganic Salt	IN TSCA	35-45	None Established
Sodium Dichloroiso- cyanurate dihydrate	(C.A.S. # 51580-86-0)	5-10	None Established

Note: The percentage by weight ranges for the ingredients in this product and represent the approximate formulation values. (See section 3, Health Hazard Identification, for more information)

## SECTION 3: HEALTH HAZARD IDENTIFICATION DATA:

**MOST IMPORTANT HAZARDS:** Irritating to eyes, respiratory system and skin. May cause burns. Harmful if swallowed. May cause pain, nausea, vomiting and diarrhea. Upon exposure to water, this product releases Chlorine Dioxide.

**ROUTES OF ENTRY:** Eyes; Yes                      Skin; Yes                      Inhalation; Yes                      Ingestion; Yes

**POTENTIAL HEALTH EFFECTS:**

**EYE CONTACT:** Causes severe eye irritation. May cause eye burns. Cause eye damage.

**SKIN CONTACT:** Harmful by skin contact. Contact with moist skin may cause burns. May cause toxic effects by prolonged or extensive skin contact. Causes skin irritation. Prolonged contact may cause dermatitis. Contact with a dilute chlorine dioxide solution (100 ppm), made from a similar product, was slightly irritating to rabbit skin. (See Section 11)

**INHALATION:** Harmful if inhaled. Exposure to dust particles generated from this material causes irritation of the respiratory tract. May result in burns of the mucous membranes, bronchospasms, coughing, and delayed pulmonary edema. May result in coughing, difficulty breathing and sore throat.

**INGESTION:** Harmful if swallowed. May cause irritation of the mouth, throat and stomach. May cause pain, nausea, vomiting and diarrhea. May cause weakness and fatigue.

**NOTE:** Upon exposure to moisture, this product releases CHLORINE DIOXIDE gas. Inhalation of chlorine dioxide may cause irritation, coughing, wheezing and burns of the mucous membranes. Inhalation of large amounts may lead to pulmonary edema and bronchitis. Direct contact with chlorine dioxide causes eye and skin irritation and may cause burns. Toxic by oral exposure.

**CARCINOGENICITY:** NTP; No                      IARC; No                      OSHA; No                      ACGIH; No

**CHRONIC HEALTH HAZARDS:** Prolonged or repeated exposure to dust may cause pulmonary problems.

**AGGRAVATED MEDICAL CONDITIONS:** Pulmonary disorders. Dermal ailments. Kidney disorders.

**SECTION 4: EMERGENCY & FIRST AID PROCEDURES:**

**EYE CONTACT:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open while flushing. Get immediate medical attention.

**SKIN CONTACT:** Immediately wipe off excess material from skin. Wash skin with soap and water. Remove contaminated clothing and launder before reuse. If irritation persists, get medical attention. .

**INHALATION:** Move person to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

**INGESTION:** Get medical attention immediately. If person is conscious and able to swallow, give large amounts of water to dilute. DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head below hips to prevent aspiration.

**SECTION 5: FIRE FIGHTING MEASURES:**

**FLASH POINT:** Not Applicable **AUTOIGNITION TEMP.:** Not determined. **LEL / UEL:** Not determined.

**EXTINGUISHING MEDIA:** Flooding amounts of water.

**FIRE FIGHTING PROCEDURES:** Positive pressure, self contained breathing apparatus. Wear full protective clothing. Apply water from a protected location or from a safe distance.

**UNUSUAL FIRE OR EXPLOSION HAZARDS:** May be a mild oxidizer. May increase flammability of combustible, organic or other readily oxidizable materials.

Contact with moisture will produce chlorine dioxide gas. The Lower Explosive Limit (LEL) for chlorine dioxide is 10%. If large amounts of the product are involved in a fire, it is possible that the application of water mist or fog could release enough chlorine dioxide gas in a confined space to present an explosion hazard. The chlorine dioxide will dissolve harmlessly in flooding amounts of water.

**SECTION 6: ACCIDENTAL RELEASE MEASURES:**

**SPILL PROCEDURE:** Contain spillage. Scoop up or vacuum into a container for reclamation or reuse. Avoid dusting. If a solution of this product is spilled, take up as much as possible and place in a suitable container for disposal in compliance with local regulations. Dilute Chlorine Dioxide solutions (100-200 ppm) do not need to be pH neutralized. Flush residual material, down drain, with an excess of water, in accordance with local regulations.

**SECTION 7: HANDLING AND STORAGE:**

- Avoid contact with heat, sparks, open flame and static discharge. Avoid direct sunlight.
- Keep container closed.
- Store in a cool, dry location away from incompatible materials.
- Avoid contact with water and water vapor prior to use.
- Wash thoroughly after handling.
- Avoid generating or breathing dust.
- Avoid contact with eyes, skin, and clothing.
- Use with adequate ventilation.
- Provide a safety shower and eye wash close to where this product is used.

**SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION INFORMATION:**

**RESPIRATORY PROTECTION:** Use approved respiratory protection if exposure limits are exceeded, or overexposure is likely. If respirator protection is used, follow all requirements for respiratory programs set forth in OSHA regulations (29 CFR 1910.134).

**PERSONAL PROTECTIVE EQUIPMENT:** Safety Glasses with side shields. Wear suitable gloves. Wear clean, body covering clothing.

**VENTILATION:** General ventilation. Local exhaust ventilation is recommended to control exposures to within applicable limits.

**PEL TLV NOTES:** Upon exposure to moisture, this product releases chlorine dioxide. The OSHA PEL, as well as the ACGIH TLV, for chlorine dioxide is 0.1 ppm, 0.3 ppm STEL.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES:**

<b>APPEARANCE:</b> White tablets.	<b>ODOR:</b> Odorless to slight chlorine odor.
<b>BULK DENSITY:</b> 1.5 g/cc	<b>pH:</b> 6 to 7 (0.01% solution in water)
<b>SOLUBILITY IN WATER:</b> Reacts with Water	<b>EVAPORATION RATE:</b> Not Applicable
<b>VAPOR PRESSURE:</b> (mm Hg) Negligible	<b>BOILING POINT:</b> Min. 120° Max. 190° C
<b>VAPOR DENSITY (AIR = 1):</b> Not Applicable	(Decomposes)

**SECTION 10: STABILITY & REACTIVITY DATA:**

**STABILITY:** Stable.

**CONDITIONS/HAZARDS TO AVOID:** Heat. Exposure to light.

**INCOMPATIBILITY (Materials to Avoid):** Strong acids or alkalis. Strong oxidizing agents. Reducing agents. Combustible materials.

**HAZARDOUS REACTIONS:** Upon exposure to water, water vapor, chlorine dioxide gas is released.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Chlorine. This product can decompose exothermically, releasing a large amount of heat.

**POLYMERIZATION:** Will not occur. **POLYMERIZATION-AVOID:** None anticipated.

**SECTION 11: TOXICOLOGICAL INFORMATION:**

**INFORMATION ON PRODUCT**

**ACUTE TOXICITY:** The following test results are based on toxicity of dilute solutions of similar products.

**ACUTE TOXICITY – DERMAL:**  
For 100 ppm chlorine dioxide solution; Acute Dermal LD50 (rat) >5000 mg/kg

**ACUTE TOXICITY – INHALATION:**  
For 200 ppm chlorine dioxide solution: Acute Inhalation LC50 (rat, 4-hour) >2.07 mg/l

**SKIN IRRITATION:**  
For 100 ppm chlorine dioxide solution: Primary Dermal Irritation Index (rabbit) = 0.1 (slightly irritating)

**EYE IRRITATION:**  
For 100 ppm chlorine dioxide solution: Primary Eye Irritation (rabbit) = non-irritating

**SENSITIZATION:**  
For 100 ppm chlorine dioxide solution: Dermal Sensitization (guinea pig) = not a contact sensitizer

**Note:** Upon exposure to moisture, this product releases chlorine dioxide. The oral LD50 in rats for chlorine dioxide has been reported as 292 mg/kg.

**INFORMATION ON COMPONENTS:**

Ingredient CAS Number	Weight in Product (%)	Acute Toxicity Oral	Acute Toxicity Inhalation	Acute Toxicity Dermal	Acute Toxicity Other
Inorganic Acid (s)	25-35	Not Available	Not Available	Not Available	Not Available
*Sodium Chlorite 7758-19-2	15-24	165 mg/kg (rat)	230 mg/m <sup>3</sup> /4 hr (rat)	Not Available	Not Available
Inorganic Salt (s)	35-45	2800 mg/kg (rat)	Not Available	Not Available	Not Available
Sodium Dichloroisocyanurate Dihydrate 51580-86-0	5-10	1420 mg/kg (rat)	Not Available	Not Available	Not Available

**REPRODUCTIVE TOXICITY:** Sodium Chlorite has been shown to cause reproductive disorders in laboratory animals.

**SECTION 12: ECOLOGICAL INFORMATION:**

**ENVIRONMENTAL FATE:** May cause long-terms adverse effects in the aquatic environment.

**MOBILITY:** This product is reactive with water, releasing Hydronium, Sodium, Magnesium, and chloride ions.

**SECTION 12: ECOLOGICAL INFORMATION (Continued):**

**ECOTOXICITY:** Very toxic to fish and aquatic organisms. May cause long-term adverse effects in the aquatic environment.

**COMPONENT ECOTOXICITY (Sodium Chlorite):** Daphnia magna, 48 hour TL50: 0.29 mg/l (No effect level: 0.10 mg/l). Mallard duck, dietary LC50: 10,000 ppm

**SECTION 13: DISPOSAL CONSIDERATIONS:**

US EPA Waste Number: D003

Local disposal laws and regulations will determine the proper waste disposal/recycling/reclamation procedure. Disposal requirements are dependent on the hazard classification and will vary by location and the type of disposal selected. All waste materials should be reviewed to determine the applicable hazards (testing may be necessary).

**SECTION 14: TRANSPORT INFORMATION:****INTERNATIONAL TRANSPORT REGULATIONS:**

**ICAO UN/ID No.:** UN2813

**ICAO Class:** 4.3

**Proper Shipping Name:** Water-reactive solid, N.O.S. (Activated Sodium Chlorite)

**ICAO Packing Group:** III

Note: This classification applies to air transport within U.S. jurisdiction. Classification for outside U.S. jurisdiction: Not Regulated

**IMO Class:** Not Regulated

**US TRANSPORTATION REGULATIONS:**

**UN/NA/PIN Number:** UN2813

**DOT Classification:** 4.3 Dangerous when wet material

**DOT Proper Shipping Name:** Water-reactive solid, N.O.S. (Contains sodium chlorite).

**Packing Group:** III

**CANADIAN TRANSPORTATION OF DANGEROUS GOODS (TDG):**

**TDG Classification:** 5.1 Oxidizer, 4.3 Dangerous when wet material.

**SECTION 15: REGULATORY INFORMATION:****INTERNATIONAL INVENTORIES:**

<b>United States:</b>	This product or its ingredients are listed on or compliant with the TSCA Inventory.
<b>Canada:</b>	This product or its ingredients are listed on or compliant with DSL.
<b>Europe:</b>	This product or its ingredients are listed on or compliant with the EINECS.
<b>Japan:</b>	This product or its ingredients are listed on or compliant with MITI.
<b>Australia:</b>	This product or its ingredients are listed on or compliant with AICS.
<b>Korea:</b>	Not Determined.
<b>Philippines:</b>	This product or its ingredients are listed on or compliant with PICCS.
<b>China:</b>	This product or its ingredients are listed on or compliant with the IECSC.

**US FEDERAL REGULATIONS:**

Ingredient CAS Number	Weight in Product (%)	Subject to SARA 313 Reporting
Inorganic Acid (s)	25-35	No
*Sodium Chlorite 7758-19-2	15-24	No
Inorganic Salt (s)	35-45	No
Sodium Dichloroisocyanurate Dihydrate 51580-86-0	5-10	No

**SARA 311 and 312 HAZARD CATEGORIES:**

Acute Health Hazard                      Reactive Hazard

**CAA 602 OZONE DEPLETING SUBSTANCES (ODS):**

This product neither contains nor is manufactured with an ozone depleting substance subject to the labeling requirements of the Clean Air Act Amendments 1990 and 40 CFR Part 82.

**US STATE REGULATIONS:**

**VOC Content (CARB):** Not Applicable.

**CANADIAN REGULATIONS:**

**DSL/NDSL:** DSL

**WHMIS Classification:** Class B Division 6  
Class D Division 1 Subdivision B  
Class D Division 2 Subdivision B

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Substance Regulations*.

**SECTION 16: SPECIAL INFORMATION:**

The information in this Material Safety Data Sheet should be provided to all who use, handle, transport, or otherwise are exposed to this product. This information has been prepared for the guidance of plant engineering, operations, management and persons working with or handling this product. The information presented in this MSDS is premised upon proper handling and anticipated uses, and is for the material without chemical additions/alterations. Additionally, if this Material Safety Data Sheet is more than three years old, please contact this supplier at the phone number in Section 1 to make sure this sheet is current.

PREPARED BY: D. M. McFadden

DATE: 3/24/2006  
(Supersedes 12/9/2003)