

# 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

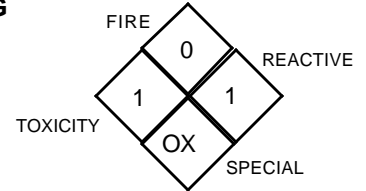
**CHEMTREC**

**1-800-424-9300**

Product Name: **MB-10 Tablets® Use-Solution**  
Common Name: Chlorine Dioxide (100-200 ppm)  
Chemical Name: Chemical Mixture  
Formula: Chemical Mixture  
Product Use: Biocide/Deodorizer

**HAZARD RATING**

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



## SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS:

INGREDIENTS:	% / Wt.	TLV/ACGIH
Water (C.A.S. #: 7732-18-5)	To qs	None Established
Chlorine dioxide (C.A.S. #: 10049-04-4)	0.01 – 0.02	0.1 ppm/0.3 ppm

Note: The OSHA PEL, for chlorine dioxide is 0.1 ppm, 0.3 ppm STEL.

## SECTION 3: HEALTH HAZARD IDENTIFICATION DATA:

**MOST IMPORTANT HAZARDS:** Irritating to eyes, respiratory system and skin. Harmful if swallowed. May cause pain, nausea, vomiting and diarrhea. Danger: Oxidizer. Contact with combustible material may cause fire.

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

**POTENTIAL HEALTH EFFECTS:**

**EYE CONTACT:** Causes eye irritation.

**SKIN CONTACT:** Contact with a dilute solution (100 ppm), of a similar product, was slightly irritating to rabbit skin.

**INHALATION:** 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.

**INGESTION:** Harmful if swallowed. May cause pain, nausea, vomiting, diarrhea, weakness and fatigue.

**NOTE:** Direct contact with chlorine dioxide causes eye and skin irritation and may cause burns. Chlorine dioxide is toxic by oral exposure.

The OSHA PEL, as well as the ACGIH TLV, for chlorine dioxide is 0.1 ppm, 0.3 ppm STEL.

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

**CONDITIONS AGGRAVATED BY EXPOSURE:** May aggravate existing respiratory and/or skin ailments.

## 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. If irritation persists, call a physician.

**SKIN CONTACT:** Wash skin with soap and water. If irritation persists, get medical attention. Launder contaminated clothing before reuse.

**SECTION 4: EMERGENCY & FIRST AID PROCEDURES (Cont.):**

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

**INGESTION:** If person is conscious and able to swallow, give large amounts of water to dilute. If vomiting occurs, keep head below hips to prevent aspiration. Get medical attention immediately.

**SECTION 5: FIRE FIGHTING MEASURES:**

**FLASH POINT:** Not Applicable    **AUTO IGNITION:** Not Applicable    **LEL / UEL:** Not Applicable

**EXTINGUISHING MEDIA:** Flood with water. Apply water from a protected location or from a safe distance.

**SPECIAL FIRE FIGHTING PROCEDURES:** Positive pressure, self contained breathing apparatus. Wear full protective clothing.

**UNUSUAL FIRE OR EXPLOSION HAZARDS:** Product is an oxidizer. Oxidizers decompose, especially when heated, to yield oxygen or other gases which will increase the burning rate of combustible matter. The Lower Explosive Limit (LEL) for chlorine dioxide is 10%. If large amounts of the product are involved in a fire, it is possible to release enough chlorine dioxide gas in a confined space to present an explosion hazard. Use flooding amounts of water to dilute large quantities of activated solutions.

**SECTION 6: ACCIDENTAL RELEASE MEASURES:**

**FOR AQUEOUS SOLUTIONS:** Recover as much as possible and return to container. Flush small amounts to drain with plenty of water to dilute. Disposal of aqueous solutions of this product should be in compliance with Federal, State and Local regulations. Under normal conditions and usage, adjustment of pH should not be necessary.

**SECTION 7: HANDLING AND STORAGE:**

Store in opaque, plastic bottles, out of direct sunlight. Keep container closed.

Store in a cool location away from incompatible materials.

Wash thoroughly after handling. Avoid contact with eyes, skin and clothing.

Use with adequate ventilation.

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

**RESPIRATORY PROTECTION:** None required under normal use conditions. 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. Appropriate chemical resistant gloves should be used. Clean, body covering clothing as necessary to prevent skin contact.

**VENTILATION:** Local Exhaust as necessary to control PELs and TLVs while using this product.

**PEL TLV NOTES:** 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:**

**APPEARANCE:** Pale to dark yellow liquid.

**SPECIFIC GRAVITY:** (H<sub>2</sub>O = 1) 1.0

**SOLUBILITY IN WATER:** Not Applicable

**VAPOR PRESSURE:** (mm Hg) Negligible

**VAPOR DENSITY (AIR = 1):** Not Applicable

**ODOR:** Slight chlorine odor.

**pH:** 6 to 7 (0.01% solution in water)

**EVAPORATION RATE:** Not Applicable

**BOILING POINT:** 212° F

**SECTION 10: STABILITY & REACTIVITY DATA:****STABILITY:** Stable.**CONDITIONS/HAZARDS TO AVOID:** Heat. Exposure to light.**INCOMPATIBILITY (MATERIALS TO AVOID):** Strong acids or alkalis. Reducing agents. Combustible materials.**HAZARDOUS DECOMPOSITION PRODUCTS:** None**POLYMERIZATION:** Will not occur.**POLYMERIZATION-AVOID:** None anticipated.**SECTION 11: TOXICOLOGICAL INFORMATION:****INFORMATION ON PRODUCT: USE SOLUTIONS****ACUTE TOXICITY – DERMAL:**

For 100 ppm chlorine dioxide solution; Acute Dermal LD50 (rat) &gt;5000 mg/kg

**ACUTE TOXICITY – INHALATION:**

For 200 ppm chlorine dioxide solution: Acute Inhalation LC50 (rat, 4-hour) &gt;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:** The oral LD50 in rats for chlorine dioxide has been reported as 292 mg/kg.**INFORMATION ON COMPONENTS OF TABLETS**

\*Sodium Chlorite has been shown to cause reproductive disorders in laboratory animals.

Ingredient	Weight in Product	Acute Toxicity	Acute Toxicity	Acute Toxicity	Acute Toxicity
Inorganic Acid	25-35	Not Available	Not Available	Not Available	Not Available
*Sodium Chlorite	15-30	165 mg/kg (rat)	Not Available	Not Available	Not Available
Inorganic Salt (s)	35-45	2800 mg/kg (rat)	Not Available	Not Available	Not Available
Activator	5-10	1420 mg/kg (rat)	Not Available	Not Available	Not Available

**SECTION 12: ECOLOGICAL INFORMATION:****ENVIRONMENTAL FATE:** No data available.**ECOTOXICITY:** Toxic to fish and aquatic organisms.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:**

When solution is spent, the water may be disposed of in a manner suitable for a dilute solution of sodium chloride and magnesium sulfate at a pH of 6-7. Low levels of chlorine dioxide, as indicated by pale yellow color, may also be disposed of down drains. Federal, state and local disposal laws and regulations will determine the proper waste disposal/recycling/reclamation procedure. Disposal requirements will vary by location and are dependent on the type of disposal selected. All waste materials should be reviewed to determine the applicable hazards (testing may be necessary).

**SECTION 14: TRANSPORT INFORMATION: (TABLET FORM)**

**INTERNATIONAL:** UN Number: UN3121 (Ground only) / UN1479 (Air)

**US TRANSPORTATION REGULATIONS:**

DOT Classification: UN3121, 5.1 Oxidizer  
 DOT Proper Shipping Name: Oxidizing solid, water reactive, N.O.S.  
 (Contains activated sodium chlorite) Approved for surface shipment of no more than 15 kg per outer packaging. (Approval CA 0008010)  
 Packing Group: I & II

**CANADIAN TRANSPORTATION OF DANGEROUS GOODS:**

TDG Class: 5.1 Oxidizer

**SECTION 15: REGULATORY INFORMATION: (TABLET FORM)**

**US FEDERAL REGULATIONS:**

**TSCA:** In TSCA (Toxic Substances Control Act)

**SARA 311 and 312 HAZARD CATEGORIES:**

Immediate (Acute): Yes                      Delayed (Chronic): No                      Fire: Yes  
 Reactivity: Yes                                  Sudden Release of Pressure: No

**SARA SECTION 313 NOTIFICATION:**

This product does not contain toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

**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.

**VOLATILE ORGANIC COMPOUNDS (VOC):** Not Applicable.

**US STATE REGULATIONS:**

**VOLATILE ORGANIC COMPOUNDS (CARB):** Not Applicable.

**CANADIAN REGULATIONS:**

**DSL/NDSL:** DSL

**WHMIS CLASSIFICATION:** Class B Division 6  
 Class C  
 Class D Division 1 Subdivision B  
 Class D Division 2 Subdivision B

**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 above Section 1 to make sure this sheet is current.