

# Material Safety Data Sheet

Chlorine Dioxide in tablets



## 1. Product and company identification

**Product name** : Chlorine Dioxide in tablets  
**Material uses** : Not available.  
**Manufacturer**

**Supplier**

MSDS authored by : KMK Regulator Services Inc.

**In case of emergency**

Product type : Solid. KMK Regulatory Services inc.

## 2. Hazards identification

**Color** : White.  
**Physical state** : Solid. [Tablet.]  
**Odor** : Odourless to slight chlorine odour.  
**Signal word** : DANGER!  
**Hazard statements** : OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. HARMFUL IF INHALED. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.  
**Precautions** : Keep away from combustible material. Do not breathe dust. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling. Do not breathe dust.  
**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
**Routes of entry** : Dermal contact. Eye contact. Inhalation. Ingestion.  
**Potential acute health effects**  
**Inhalation** : Toxic by inhalation. Corrosive to the respiratory system.  
**Ingestion** : May cause burns to mouth, throat and stomach. May be harmful if swallowed.  
**Skin** : Corrosive to the skin. Causes burns. Harmful in contact with skin.  
**Eyes** : Corrosive to eyes. Causes burns.  
**Potential chronic health effects**  
**Chronic effects** : Contains material that may cause target organ damage, based on animal data.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.  
**Target organs** : Contains material which may cause damage to the following organs: mucous membranes, skin, eyes.  
**Over-exposure signs/symptoms**

## 2. Hazards identification

- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Ingestion** : Adverse symptoms may include the following:  
stomach pains
- Skin** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Eyes** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

## 3. Composition/information on ingredients

### United States

Name	CAS number	%
Sodium bisulfate	7681-38-1	30 - 60
Sodium chlorite	7758-19-2	10 - 30
Sodium percarbonate	15630-89-4	1 - 5

### Canada

Name	CAS number	%
Sodium bisulfate	7681-38-1	30 - 60
Sodium chlorite	7758-19-2	10 - 30
Sodium percarbonate	15630-89-4	1 - 5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

## 4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Call medical doctor or poison control center immediately. Get medical attention immediately. Contact your local Poison Control Center.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call medical doctor or poison control center immediately.
- Protection of first-aiders** : If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5. Fire-fighting measures

- Flammability of the product** : Contact with combustible material may cause fire. This material increases the risk of fire and may aid combustion.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
  - Not suitable** : None known.
- Special exposure hazards** : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Hazardous decomposition products** : Decomposition products may include the following materials:  
sulfur oxides  
halogenated compounds
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

- Personal precautions** : Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Spill** : Stop leak if without risk. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep away from combustible material. Empty containers retain product residue and can be hazardous.
- Storage** : See NFPA 430, Code for the Storage of Liquid and Solid Oxidizers. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Separate from reducing agents and combustible materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8. Exposure controls/personal protection

### Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	Notations
No known value.											

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

## 8. Exposure controls/personal protection

- Hygiene measures** : Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
- Respiratory** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Wear an appropriate NIOSH approved respirator if concentration levels exceed the safe exposure limits. Use appropriate NIOSH approved dust respirator if PEL/TLV may be exceeded.
- Hands** : Use gloves appropriate for work or task being performed. Recommended: Natural rubber (latex).
- Eyes** : Safety eyewear should be used when there is a likelihood of exposure. Not required under normal conditions of use. Recommended: Safety glasses with side shields.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. No special protective clothing is required. Recommended: Lab coat.
- Environmental exposure controls** : In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

- Physical state** : Solid. [Tablet.]
- Color** : White.
- Odor** : Odourless to slight chlorine odour.
- pH** : 6 [ 100g/l]
- Solubility** : Miscible in water.

## 10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : No specific data.
- Materials to avoid** : Reactive or incompatible with the following materials:  
combustible materials  
reducing materials
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Hazardous reactions or instability may occur under certain conditions of storage or use. Conditions may include the following:  
contact with combustible materials  
Reactions may include the following:  
risk of causing or intensifying fire
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Sodium bisulfate	LD50 Oral	Rat	2800 mg/kg	-
Sodium chlorite	LC50 Inhalation Vapor	Rat	230 mg/m3	4 hours
	LD50 Oral	Rat	165 mg/kg	-

### Chronic toxicity

#### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Sodium chlorite	-	3	-	None.	-	-

## 12. Ecological information

**Environmental effects** : Not established

**Aquatic ecotoxicity**

Product/ingredient name	Result	Species	Exposure
Sodium chlorite	Acute EC50 0.0146 to 0.018 ppm Fresh water	Daphnia - Daphnia magna - <24 hours	48 hours
Chlorine Dioxide in tablets	Acute LC50 75 to 90 ppm Marine water LC50 100 to 2000 mg/l	Fish - Cyprinodon variegatus Fish	96 hours 96 hours

**Other adverse effects** : No known significant effects or critical hazards.









## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	UN3085	OXIDIZING SOLID, CORROSIVE, N.O.S. (Sodium chlorite, Sodium bisulfate)	5.1 (8)	II	 	-
<b>TDG Classification</b>	UN3085	OXIDIZING SOLID, CORROSIVE, N.O.S. (Sodium chlorite, Sodium bisulfate)	5.1 (8)	II	 	-
<b>IMDG Class</b>	UN3085	OXIDIZING SOLID, CORROSIVE, N.O.S. (Sodium chlorite, Sodium bisulfate)	5.1 (8)	II	 	-
<b>IATA-DGR Class</b>	UN3085	OXIDIZING SOLID, CORROSIVE, N.O.S. (Sodium chlorite, Sodium bisulfate)	5.1 (8)	II	 	-

PG\* : Packing group

Exemption to the above classification may apply.

## 15 . Regulatory information

### United States

- HCS Classification** : Oxidizing material  
Toxic material  
Corrosive material  
Target organ effects
- U.S. Federal regulations** : **United States inventory (TSCA 8b)**: All components are listed or exempted.  
**SARA 302/304/311/312 extremely hazardous substances**: No products were found.  
**SARA 302/304 emergency planning and notification**: No products were found.  
**SARA 302/304/311/312 hazardous chemicals**: Sodium chlorite; Sodium bisulfate  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification**  
Sodium chlorite: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Sodium bisulfate: Immediate (acute) health hazard, Delayed (chronic) health hazard  
**Clean Water Act (CWA) 307**: No products were found.  
**Clean Water Act (CWA) 311**: No products were found.  
**Clean Air Act (CAA) 112 accidental release prevention** No products were found.  
**Clean Air Act (CAA) 112 regulated flammable substances** No products were found.  
**Clean Air Act (CAA) 112 regulated toxic substances** No products were found.
- Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** : Not listed
- Clean Air Act Section 602 Class I Substances** : Not listed
- Clean Air Act Section 602 Class II Substances** : Not listed
- DEA List I Chemicals (Precursor Chemicals)** : Not listed
- DEA List II Chemicals (Essential Chemicals)** : Not listed
- State regulations** : **Connecticut Carcinogen Reporting**: None of the components are listed.  
**Connecticut Hazardous Material Survey**: None of the components are listed.  
**Florida substances**: None of the components are listed.  
**Illinois Chemical Safety Act** None of the components are listed.  
**Illinois Toxic Substances Disclosure to Employee Act** None of the components are listed.  
**Louisiana Reporting**: None of the components are listed.  
**Louisiana Spill**: None of the components are listed.  
**Massachusetts Spill**: None of the components are listed.  
**Massachusetts Substances**: The following components are listed: Sodium chlorite  
**Michigan Critical Material**: None of the components are listed.  
**Minnesota Hazardous Substances**: None of the components are listed.  
**New Jersey Hazardous Substances**: The following components are listed: Sodium chlorite  
**New Jersey Spill**: None of the components are listed.  
**New Jersey Toxic Catastrophe Prevention Act**: None of the components are listed.  
**New York Acutely Hazardous Substances**: None of the components are listed.  
**New York Toxic Chemical Release Reporting**: None of the components are listed.  
**Pennsylvania RTK Hazardous Substances**: The following components are listed: Sodium chlorite  
**Rhode Island Hazardous Substances**: None of the components are listed.
- Canada**
- WHMIS (Canada)** : Class C: Oxidizing material.  
Class D-1B: Material causing immediate and serious toxic effects (Toxic).  
Class E: Corrosive material



## 15 . Regulatory information

- Canadian lists** : **CEPA Toxic substances:** None of the components are listed.  
**Canadian ARET:** None of the components are listed.  
**Canadian NPRI:** None of the components are listed.  
**Alberta Designated Substances:** None of the components are listed.  
**Ontario Designated Substances:** None of the components are listed.  
**Quebec Designated Substances:** None of the components are listed.
- Canada inventory** : All components are listed or exempted.

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 Products Regulations.

### International regulations

- International lists** : **Australia inventory (AICS):** All components are listed or exempted.  
**China inventory (IECSC):** All components are listed or exempted.  
**Japan inventory:** All components are listed or exempted.  
**Korea inventory:** All components are listed or exempted.  
**New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.  
**Philippines inventory (PICCS):** All components are listed or exempted.

## 16 . Other information

### United States

**Hazardous Material Information System (U.S.A.)** : **Health :** 3 \* **Flammability :** 0 **Physical hazards :** 2


Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)** : **Health :** 3 **Flammability :** 0 **Instability :** 0 **Special :** OX

### Canada

**WHMIS (Canada)** :



### References

- : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005.

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### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Dr. Luc Séguin, PhD chemist, 25 years as a professional in regulatory compliance

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