

# SAFETY DATA SHEET

## Section 1. Identification

- Product identifier** : Chlorine Dioxide Solution
- Material Number** : 57968789
- Identified uses** : Water treatment chemicals. Industrial use.
- Supplier/Manufacturer** : International Dioxide, Inc.  
40 Whitecap Drive  
North Kingstown, RI 02852
- For Information: US/Canada (800) 477-6071  
International: +1 401 295-8800
- In case of emergency** : CHEMTREC (800) 424 9300  
International (703) 527 3887

## Section 2. Hazards identification

- HAZCOM Standard Status** : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), the SDS contains valuable information critical to the safe handling and proper use of the product. The SDS should be retained and available for employees and other users of this product.
- Physical state** : Liquid.
- Color** : Yellow
- Classification of the substance or mixture** : Not classified.
- Signal word** : No signal word.
- Hazard statements** : No known significant effects or critical hazards.
- Hazard Not Otherwise Classified (HNOC)** : None known.
- Precautionary statements**
- Prevention** : Not applicable.
- Response** : Not applicable.
- Storage** : Not applicable.
- Disposal** : Not applicable.
- Supplemental label elements** : Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Ingredient name	%	CAS number
Chlorine oxide (ClO <sub>2</sub> )	≤0.44	10049-04-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**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 and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

### Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### Potential chronic health effects

No known significant effects or critical hazards.

- Notes to physician** : Treat symptomatically. No specific treatment.
- Protection of first-aiders** : No special measures required.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire. In case of fire, use water spray (fog), foam or dry chemical.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : No specific data.

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- 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.

## Section 6. Accidental release measures

- Personal precautions, protective equipment and emergency procedures** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
- 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 and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Prevent entry into sewers, water courses, basements or confined areas.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
- Conditions for safe storage** : 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. 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. Empty containers or liners may retain some product residues.

## Section 8. Exposure controls/personal protection

### Occupational exposure limits

Ingredient name	Exposure limits
Chlorine oxide (ClO <sub>2</sub> )	<b>ACGIH TLV (United States, 3/2016).</b> TWA: 0.1 ppm 8 hours. TWA: 0.28 mg/m <sup>3</sup> 8 hours. STEL: 0.3 ppm 15 minutes. STEL: 0.83 mg/m <sup>3</sup> 15 minutes. <b>OSHA PEL (United States, 6/2016).</b> TWA: 0.1 ppm 8 hours. TWA: 0.3 mg/m <sup>3</sup> 8 hours.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

### Personal protection

- Hygiene measures** : 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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Respiratory protection** : 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.

## Section 8. Exposure controls/personal protection

- Skin protection** : Permeation resistant clothing and foot protection. Permeation resistant gloves.  
**Eye/face protection** : If contact with product is possible, wear safety glasses with side shields.  
**Medical Surveillance** : Not available.

## Section 9. Physical and chemical properties

- Physical state** : Liquid.  
**Color** : Yellow  
**Odor** : chlorine [Slight]  
**Odor threshold** : Not available.  
**pH** : 2 to 8  
**Boiling point** : 100 °C (1013 hPa)  
**Melting point** : Not available.  
**Flash point** : Closed cup: Not applicable.  
**Evaporation rate** : Not available.  
**Explosion limits** : Not available.  
**Vapor pressure** : Not available.  
**Density** : 1.01 g/cm<sup>3</sup>  
**Specific gravity (Relative density)** : 1 to 1.01  
**Solubility in water** : Miscible in water.  
**Partition coefficient: n-octanol/water** : Not available.  
**Vapor density** : Not available.  
**Viscosity** : Not available.  
**Auto-ignition temperature** : Not available.  
**Decomposition temperature** : Not available.

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.  
**Chemical stability** : The product is stable.  
**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.  
**Conditions to avoid** : No specific data.  
**Incompatible materials** : No specific data.  
**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

- Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.  
**Inhalation** : No specific data.

## Section 11. Toxicological information

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Potential chronic health effects

#### Short term exposure

**Potential immediate effects** : Not available.

#### Long term exposure

**Potential delayed effects** : Not available.

**General** : No known significant effects or critical hazards.

**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.

### Information on toxicological effects

No applicable toxicity data

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test
Chlorine oxide (ClO <sub>2</sub> )	LD50 Oral	Rat - Male, Female	93.86 mg/kg	-	-
Chlorine oxide (ClO <sub>2</sub> )	LC50 Inhalation Vapor	Rat - Male, Female	89 mg/m <sup>3</sup>	4 hours	EU B.2 Acute Toxicity (Inhalation)

#### Sensitization

Product/ingredient name	Route of exposure	Species	Result
Chlorine oxide (ClO <sub>2</sub> )	skin	Guinea pig	Not sensitizing

#### Carcinogenicity

Product/ingredient name	CAS #	IARC	NTP	OSHA
Chlorine oxide (ClO <sub>2</sub> )	10049-04-4	Not classified.	Not classified.	Not classified.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Test	Result	Species	Exposure
Chlorine oxide (ClO <sub>2</sub> )	EU EU Method C.3 (Algal Inhibition test)	Acute EC50 1.096 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	EU EU Method C.2 (Acute Toxicity for Daphnia)	Acute EC50 0.063 mg/l	Daphnia - Daphnia magna	48 hours
	EU EU Method C.1 (Acute Toxicity for Fish)	Acute LC50 0.021 mg/l	Fish - Danio rerio	96 hours

**Conclusion/Summary** : Not available.

### Persistence and degradability

**Conclusion/Summary** : Not available.

## Section 12. Ecological information

### Bioaccumulative potential

Not available.

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

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

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal state, provincial and or local environmental controls laws.

**RCRA classification** : : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

## Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	-	-	-	-		Not regulated.
IMDG Class	-	-	-	-		Not regulated.
IATA-DGR Class	-	-	-	-		Not regulated.

PG\* : Packing group

**RQ** : 0 lbs

## Section 15. Regulatory information

**SARA 311/312** : None

**SARA Title III Section 302 Extremely Hazardous Substances** : None

**SARA Title III Section 313 Toxic Chemicals** : None

**US EPA CERCLA Hazardous Substances (40 CFR 302.4)** : None

### State regulations

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections on the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

<u>Ingredient name</u>	<u>CAS number</u>	<u>State Code</u>	<u>Concentration (%)</u>
Water	7732-18-5		≥90

Chlorine Dioxide Solution

57968789

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## Section 15. Regulatory information

Massachusetts Substances: MA - S

Massachusetts Extraordinary Hazardous Substances: MA - Extra HS

New Jersey Hazardous Substances: NJ - HS

Pennsylvania RTK Hazardous Substances: PA - RTK HS

Pennsylvania Special Hazardous Substances: PA - Special HS

### California Prop. 65

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

**U.S. Toxic Substances Control Act** : Listed on the TSCA Inventory.

## Section 16. Other information

**Hazardous Material Information System** :

Health	0
Flammability	0
Physical hazards	0

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme  
\*=Chronic

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

**National Fire Protection Association (U.S.A.)** :



0= Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

Our method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided as a customer service.

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Product Safety and Regulatory Affairs

▣ Indicates information that has changed from previously issued version.

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