



SAFETY DATA SHEET

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

1. Identification

Product identifier	Chlorine Dioxide Solution
Other means of identification	Material Number: 57968789
Recommended use	Water treatment chemicals. Industrial use.
Recommended restrictions	None known
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	International Dioxide, Inc.
Address	40 Whitecap Drive North Kingstown, RI 02852 United States of America
Telephone	Information #: (800) 477-6071
Website	https://idiclo2.com
E-mail	idiclo2@ercoworldwide.com
Emergency phone number	Canada & U.S.A.: (800) 424 9300 (CHEMTREC) International: (703) 527 3887
Supplier	Refer to Manufacturer

2. Hazard(s) Identification

Physical hazards	None
Health hazards	None
Environmental hazards	Not currently regulated by OSHA, refer to Section 12 for additional information.
OSHA defined hazards	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.
Label elements	None
Signal word	None
Hazard statement	No known significant effects or critical hazards.

Precautionary statement

Prevention	Not applicable
Response	Not applicable
Storage	Not applicable
Disposal	Not applicable
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink.

3. Composition/Information on Ingredients

Chemical name	Common name and synonyms	CAS number	Conc. % By Weight
Chlorine oxide (ClO ₂)	None	10049-04-4	≤0.44% w/w

Chemical name of impurities, stabilizing solvents and/or additives: None.

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.

4. First-Aid Measures

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.
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.
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.
Most important symptoms/effects, acute and delayed	No known significant effects or critical hazards

Indication of immediate medical attention and special treatment needed No known significant effects or critical hazards

General information Notes to physician: Treat symptomatically. No specific treatment.

5. Fire-Fighting Measures

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.

Special protective equipment and precautions for firefighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Firefighting equipment /instructions 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.

Specific methods No specific data

General fire hazards No specific data

Hazardous combustion products No specific data

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.

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.

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).

7. Handling and Storage

Precautions for safe handling

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, including any incompatibilities

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.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits

Chlorine oxide (ClO₂)
 ACGIH TLV (United States, 3/2016).
 TWA: 0.1 ppm 8 hours.
 TWA: 0.28 mg/m³ 8 hours.
 STEL: 0.3 ppm 15 minutes.
 STEL: 0.83 mg/m³ 15 minutes.
 OSHA PEL (United States, 6/2016).
 TWA: 0.1 ppm 8 hours.
 TWA: 0.3 mg/m³ 8 hours.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures, such as personal protective equipment

Eye/face protection

If contact with product is possible, wear safety glasses with side shields.

Skin protection

Hand protection

Permeation resistant gloves.

Other

Permeation resistant clothing and foot protection.

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.

Thermal Hazards None known

General hygiene considerations 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.

9. Physical and Chemical Properties

Appearance

Physical state Liquid

Form Liquid

Color Yellow

Odor Chlorine [Slight]

Odor threshold Not available

Molecular formula Not available

Molecular weight Not available

pH 2 to 8

Melting point/Freezing Point Not available

Initial boiling point and boiling range 100 °C (1013 hPa)

Flash point Closed cup: Not applicable

Evaporation rate Not available

Flammability (solid, gas) Not available

Upper/lower flammability or explosive limits

Flammability limit – lower (%) Not available

Flammability limit – upper (%) Not available

Explosive limit – lower (%) Not available

Explosive limit – upper (%) Not available

Vapor pressure Not available

Vapor density Not available

Relative density Not available

Solubility (ies)

Solubility (water) Miscible in water

Partition coefficient (n-octanol/water) Not available

Auto-ignition temperature Not available

Decomposition temperature Not available

Viscosity Not available

Other information

Density 1.01 g/cm³

Flammability Not available

Specific gravity 1 to 1.01

Surface tension Not available

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.

11. Toxicological Information

Information on likely routes of exposure

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

Delayed and immediate effects and chronic effects from short-term and long-term exposure

Effects of short-term (acute) exposure Not available

Effects of long-term (chronic) exposure Not available

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Chlorine oxide (ClO ₂)		
Acute		
LD50 Oral	Rat - Male, Female	93.86 mg/kg
LC50 Inhalation Vapor	Rat - Male, Female	89 mg/m ³ over 4 hours (Test: EU B.2 Acute Toxicity, Inhalation)

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Not available

Serious eye damage/eye irritation Not available

Respiratory or skin sensitization	
Respiratory sensitization	Not sensitizing
Skin sensitizer	Not sensitizing
Germ cell mutagenicity	No known significant effects or critical hazards.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
IARC Monographs. Overall Evaluation of Carcinogenicity	Not classifiable as to carcinogenic to humans.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
Reproductive toxicity	No known significant effects or critical hazards.
Specific target organ toxicity - single exposure	No known significant effects or critical hazards.
Specific target organ toxicity - repeated exposure	No known significant effects or critical hazards.
Aspiration toxicity	No known significant effects or critical hazards.
Chronic effects	No known significant effects or critical hazards.

12. Ecological Information

Ecotoxicity

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

Persistence and degradability	Not available
Bioaccumulative potential	Not available
Mobility in soil	Not available

Other adverse effects No known significant effects or critical hazards.

13. Disposal Considerations

Disposal instructions 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.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code 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)

Waste from residues / unused products Not available

Contaminated packaging Not available

14. Transport Information

DOT Not regulated

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not Available.

General information RQ: 0 lbs.

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

Ingredient Name	CAS Number	State Code	Concentration (%)
Water	7732-18-5	-	≥90
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.

16. Other Information

Issue date	7/1/2020
Revision #	3
Revision Indicator	Updated SDS template.
List of abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation and Liability Act of 1980 CFR: Code of Federal Regulations DOT: Department of Transportation EPA: Environmental Protection Agency EPCRA: Emergency Planning and Community Right-to-Know Act ERG: Emergency Response Guidebook HSDB® - Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IATA: International Air Transport Association IBC: Intermediate Bulk Container IDLH: immediately dangerous to life or health IMDG: International Maritime Dangerous Goods LC: Lethal Concentration LD: Lethal Dose NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration NTP: National Toxicology Program OECD: Organization for Economic Cooperation and Development OEL: National occupational exposure limits OSHA: Occupational Safety and Health Administration PEL: Permissible exposure limit

RCRA: Resource Conservation and Recovery Act
RQ: Reportable Quantity
RTECS: Registry of Toxic Effects of Chemical Substances
SAR: supplied-air respirator
SCBA: self-contained breathing apparatus
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TWA: Time Weighted Average
UN: United Nations

References None.

Disclaimer

Information presented in this SDS is furnished in accordance with OSHA's Hazard Communication Standard (HCS) 2012.

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