

**Chlorine Dioxide Solution**

Version 2.0

Revision Date 06/06/2011

Ref. 150000003247

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name	:	Chlorine Dioxide Solution
Product Grade/Type	:	Chlorine Dioxide Solution Containing < 4,000 ppm
MSDS Number	:	150000003247
Manufacturer	:	International Dioxide, Inc., A DuPont Subsidiary, 40 Whitecap Drive, North Kingstown, RI 02852
Product Information	:	1-800-441-7515 (outside the U.S. 1-302-774-1000)
Transport Emergency	:	CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

**SECTION 2. HAZARDS IDENTIFICATION**

## Potential Health Effects

## Skin

Chlorine dioxide (solution)	:	Acute dermal irritation/corrosion
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## Eyes

Chlorine dioxide (solution)	:	Corrosive, may cause permanent eye injury if not promptly treated.
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## Inhalation

Chlorine dioxide (solution)	:	Respiratory irritation May be fatal if inhaled.
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## Ingestion

Chlorine dioxide (solution)	:	Ingestion may cause irritation to mucous membranes.
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## Repeated exposure

Chlorine dioxide (solution)	:	Respiratory tract damage Lung damage altered blood chemistry Possible risk of harm to the unborn child.
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## Target Organs

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Chlorine dioxide : Respiratory system Blood  
(solution)

**Carcinogenicity**

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Concentration
Chlorine dioxide (solution)	10049-04-4	<0.4 %
Inert Ingredients		99.6 - 99.9 %

**SECTION 4. FIRST AID MEASURES**

Skin contact : Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water.

Eye contact : Rinse immediately with plenty of water and seek medical advice.

Inhalation : Move to fresh air. If not breathing, give artificial respiration. Call a poison control center or doctor for treatment advice.

Ingestion : Call a poison control center or doctor for treatment advice. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Notes to physician : Probable mucosal damage may contraindicate the use of gastric lavage.



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### **SECTION 5. FIRE-FIGHTING MEASURES**

Flammable Properties

Flash point : does not flash

Fire and Explosion Hazard : Not a fire or explosion hazard.

Suitable extinguishing media : Water

Firefighting Instructions : Wear self-contained breathing apparatus (SCBA). Wear suitable protective equipment.

### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel) : Evacuate personnel to safe areas.

Spill Cleanup : Dilute with water. Pick up and transfer to properly labelled containers. After cleaning, flush away traces with water.

Accidental Release Measures : Prevent material from entering sewers, waterways, or low areas.

### **SECTION 7. HANDLING AND STORAGE**

Handling (Personnel) : Use only in well-ventilated areas. Avoid inhalation. Avoid contact with skin, eyes and clothing. Wash hands before breaks and at the end of workday.

Storage : Keep tightly closed in a dry, cool and well-ventilated place. Keep away from food, drink and animal feedingstuffs. Avoid heat, freezing and ultraviolet light. Keep away from: Strong acids and oxidizing agents

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**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

- Engineering controls : Ensure adequate ventilation, especially in confined areas.
- Personal protective equipment
- Respiratory protection : Where there is potential for airborne exposures in excess of applicable limits, wear approved respiratory protection with dust/mist cartridge. Recommended Filter type:
- Hand protection : Additional protection: Impervious gloves
- Eye protection : Wear coverall chemical splash goggles. Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.
- Skin and body protection : Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots.
- Protective measures : Avoid exposure - obtain special instructions before use.
- Exposure Guidelines
- Exposure Limit Values

None established.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- Form : liquid
- Color : yellow
- Odor : slight chlorine
- pH : 2 - 8
- Freezing point : ca. 0 °C (32 °F)
- Boiling point : ca. 100 °C (212 °F)
- Density : ca. 8.41 lb/gal
- Specific gravity : 1 - 1.01
- Water solubility : miscible

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**SECTION 10. STABILITY AND REACTIVITY**

Stability	:	Stable at normal temperatures and storage conditions. Decomposes on heating.
Incompatibility	:	Strong acids and oxidizing agents Organic materials, chlorinated compounds, Reducing agents
Hazardous decomposition products	:	Hazardous decomposition products: Chlorine , Chlorine dioxide (solution)
Hazardous reactions	:	Contact with acids, organic materials, reducing agents and oxidizing agents will release toxic gases of chlorine and/or chlorine dioxide.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Chlorine dioxide (solution)

Oral LD50	:	94 mg/kg , rat
Inhalation LC50	:	32 ppm , rat Target Organs: Respiratory Tract Symptoms: Respiratory tract irritation
Skin irritation	:	Not tested on animals
Eye irritation	:	Not tested on animals
Repeated dose toxicity	:	Inhalation multiple species Target Organs: Respiratory system Respiratory tract irritation, Inflammation, Lung damage  Oral - drinking water multiple species Target Organs: Blood Abnormal decrease in number of red blood cells, Abnormal decrease in red -blood -cell haemoglobin (hemoglobinemia)
Mutagenicity	:	Did not show mutagenic effects in animal experiments.

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Did not cause genetic damage in cultured bacterial cells.  
Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.

- Reproductive toxicity : Evidence suggests the substance is not a reproductive toxin in animals.
- Teratogenicity : Animal testing showed effects on embryo-foetal development at levels below those causing maternal toxicity.  
Reduced growth  
Behavioural effects in offspring

**SECTION 12. ECOLOGICAL INFORMATION**

## Aquatic Toxicity

Chlorine dioxide (solution)

96 h LC50 : Pimephales promelas (fathead minnow) 0.02 mg/l

48 h LC50 : Daphnia magna (Water flea) 0.026 mg/l

## Environmental Fate

Chlorine dioxide (solution)

Biodegradability : Readily biodegradable.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste Disposal : Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial, and local regulations.

Environmental Hazards : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
If recycling is not practicable, dispose of in compliance with local regulations.

**SECTION 14. TRANSPORT INFORMATION**



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### **SECTION 15. REGULATORY INFORMATION**

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|--------------------------------|---|---|
| SARA 313 Regulated Chemical(s) | : | SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. |
| California Prop. 65            | : | This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.  |

### **SECTION 16. OTHER INFORMATION**

Contact person : MSDS Coordinator, DuPont Chemicals and Fluoroproducts, Wilmington, DE 19898, (800) 441-7515

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