

EXTERM**ClorDiSys Solutions, Inc****Material Safety Data Sheet****Revision Date:** 11/01/2001**Date Printed:** 08/14/2002**NFPA Classification:****Health:** 2**Flammability:** 0**Instability:** 1**Special Hazards:** OX**HMIS Classification:****Health:** 2**Flammability:** 0**Reactivity:** 1**Personal Protection:** B**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Common Name: Chlorine Dioxide Release Material
Chemical Name: Chemical Mixture
Product Use: Biocide. Deodorizer.
Supplier: ClorDisys Solutions, Inc

For Chemical Emergency Call CHEMTREC (24 Hours):
 1-800-424-9300 (US, Canada, Puerto Rico, Virgin Islands)
 1-703-527-3887 (Outside Above Area)

2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Weight in Product %	Notes
Inorganic Acid	25-35	None
Sodium Chlorite 7758-19-2	15-30	None
Inorganic Salt(s)	35-45	None
Activator	5-10	None

Other Information: NOTE: The percentage by weight values reported for this product represent approximate formulation values.

3. HAZARDS IDENTIFICATION

Color: White
Form: Powder or tablets
Odor: Odorless to slight chlorine odor
Flash Point, C: Not Applicable

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.

Potential Health Effects:

Inhalation: Exposure to dust particles generated from this material causes irritation of the respiratory tract. May result in coughing, difficulty breathing and sore throat. Exposure to high concentrations may result in bronchospasms.

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

Skin Contact: Causes skin irritation. Prolonged contact may cause dermatitis. Contact with a dilute chlorine dioxide solution (100 ppm), made from a similar product, was slightly irritating to rabbit skin. (See Section 11.)

Eye Contact: Causes severe eye irritation.

Other Effects: NOTE: Upon exposure to moisture, this product releases Chlorine Dioxide gas. 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. Direct contact with Chlorine Dioxide causes eye and skin irritation and may cause burns. Toxic by oral exposure.

Carcinogenicity:

Ingredient	Weight in Product %	NTP (Y/N)	IARC (See Notes)	OSHA (Y/N)	ACGIH (See Notes)
Inorganic Acid	25-35	N	N	N	N
Sodium Chlorite 7758-19-2	15-30	N	N3	N	N
Inorganic Salt(s)	35-45	N	N	N	N
Activator	5-10	N	N	N	N

Notes:

IARC: Y1=Carcinogenic to humans; Y2A=Probably carcinogenic to humans; Y2B=Possibly carcinogenic to humans; N3=Not classifiable as to its carcinogenicity; N=Not studied or probably not carcinogenic.

ACGIH: A1= Confirmed human carcinogen; A2=Suspected human carcinogen; A3=Confirmed animal carcinogen; A4=not classifiable as a human carcinogen; A5=Not suspected as a human carcinogen; N= Not studied.

Chronic Health Hazards: Prolonged or repeated exposure to dust may cause pulmonary problems.

Aggravated Medical Conditions: Pulmonary disorders. Dermal ailments.

4. FIRST AID MEASURES

Inhalation: Move person to fresh air. Aid in breathing, if necessary, and get immediate Medical attention.

Ingestion: If vomiting occurs, keep head lower than hips to prevent aspiration. If person is conscious and able to swallow, give large amounts of water to Dilute. Get medical attention immediately.

Skin Contact: Wash with soap and water. Remove contaminated clothing and launder Before reuse. Get medical attention if irritation persists.

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least

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15 minutes and get medical attention if irritation persists.

5. FIRE FIGHTING MEASURES

Flash Point, C: Not Applicable
Autoignition Temperature, C: Not Applicable
Lower explosive Limit, %: Not Applicable
Upper Explosive Limit, %: Not Applicable

Extinguishing Media: Flooding amounts of water

Fire Fighting Procedures: Positive pressure, self-contained breathing apparatus. Wear full protective clothing. Apply water from a protected location or from a safe distance.

Unusual Fire and 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. Contact with moisture will produce chlorine dioxide gas. The lower explosive limit (LEL) for chlorine dioxide is 10%. If large amounts of the product are involved in a fire, it is possible that the application of water mist or fog could release enough chlorine dioxide gas in a confined space to present an explosion hazard. The chlorine dioxide will dissolve harmlessly in flooding amounts of water.

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures: Contain spillage. Scoop up or vacuum into a container for a reclamation or disposal. Avoid dusting. If a solution of this product is spilled, take up as much as possible and place in a suitable container for disposal in compliance with local regulations. Dilute chlorine dioxide solutions (100-200 ppm) do not need to be pH neutralized. Flush residual material down drain, with an excess of water, in accordance with local regulations.

7. HANDLING AND STORAGE

Avoid contact with heat, sparks, open flame and static discharge.
 Keep container closed.
 Store in a cool, dry location away from combustible materials.
 Avoid generating or breathing dust.
 Avoid contact with eyes, skin and clothing.
 Wash thoroughly after handling.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Ingredient	Weight in Product %	OSHA PEL	ACGIH TLV
Inorganic Acid	25-35	None Established	None Established
Sodium Chlorite 7758-19-2	15-30	None Established	None Established

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Inorganic Salt(s)	35-45	None Established	None Established
Activator	5-10	None Established	None Established

Unless otherwise noted, all values are reported as 8-hour Time-Weighted Averages (TWAs) and total dust (particulates only). All ACGIH TLVs refer to the 2002 standards. Unless otherwise noted, all OSHA PELs refer to 29 CFR Part 1910 Air Contaminants: Final Rule, January 19, 1989.

PEL TLV Notes: NOTE: Upon exposure to moisture, this product releases chlorine dioxide. The OSHA PEL, as well as the ACGIH TLV, for chlorine dioxide is 0.1 ppm, 0.3 ppm STEL.

Personal Protective Equipment: Safety glasses with side shields. Wear suitable gloves. Wear clean, body-covering clothing.

Respiratory Protection: Use approved respiratory protection if exposure limits are exceeded, or overexposure is likely. If respiratory protection is used, follow all requirements for respiratory programs set forth in OSHA regulations (29 CFR 1910.134).

Ventilation: General ventilation. Local exhaust ventilation is recommended to control exposures to within applicable limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Powder or tablets
Color: White
Odor: Odorless to slight chlorine odor
Boiling Point, C: **Min:** 120 **Max:** Decomposes
Bulk Density: 0.8g/cc
Vapor Pressure: Negligible
Solubility (in water): Reacts With Water
pH: **Min:** 6 **Max:** 7 (0.01 % Solution in water)

10. STABILITY AND REACTIVITY

Stability Data: Stable

Conditions/Hazards to Avoid: Heat, exposure to light

Incompatibility (Materials to Avoid): Strong acids or alkalis. Reducing agents. Combustible Materials.

Hazardous Reactions: Upon exposure to water vapor, chlorine dioxide gas is Released.

Hazardous Decomposition Products: Chlorine

Polymerization: Will not occur.

Polymerization- Avoid: None anticipated.

11. TOXOLOGICAL INFORMATION

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For 100 ppm chlorine dioxide solution made from a similar product: Acute Dermal LD50 (rat)>5000 mg/kg

Acute Toxicity- Inhalation:

For 200 ppm chlorine dioxide solution: Acute Inhalation LC50 (rat, 4-hour)>2.07 mg/I

Skin Irritation:

For 100 ppm chlorine dioxide solution made from a similar product: Primary Dermal Irritation Index (rabbit) = 0.1 (slightly irritating)

Eye Irritation:

For 100 ppm chlorine dioxide solution made from a similar product: Primary Eye Irritation (rabbit)=non-irritating

Sensitization:

For 100 ppm chlorine dioxide solution made from a similar product: Dermal Sensitization (guinea pig)=not a contact sensitizer

NOTE: Upon exposure to moisture, this product releases chlorine dioxide. The oral LD50 in rats for chlorine dioxide has been reported as 292 mg/kg.

Information on Components:

Inorganic Acid	Weight in Product %	Acute Toxicity-Oral	Acute Toxicity-Inhalation	Acute Toxicity-Dermal	Acute Toxicity-Other
Inorganic Acid	25-35	Not Available	Not Available	Not Available	Not Available
Sodium Chlorite 7758-19-2	15-30	165 mg/kg (rat)	Not Available	Not Available	Not Available
Inorganic Salt(s)	35-45	2,800 mg/kg (rat)	Not Available	Not Available	Not Available
Activator	5-10	1,420 mg/kg (rat)	Not Available	Not Available	Not Available

Ingredient**Weight in****Product (%)****Reproduction Toxicity:**

Sodium Chlorite
7758-19-2

15-30

Sodium chlorite has been shown to cause reproductive disorders in laboratory animals.

12. ECOLOGICAL INFORMATION**Information on Product:****Environmental Fate:**

No data available.

Ecotoxicological Information:

Toxic to fish and aquatic organisms.

Ingredient**Weight in****Product (%)****Component Ecotoxicity:**

Sodium Chlorite
7758-19-2

15-30

Daphnia magna, 48 hour TL50: 0.29 mg/I (no effect level: 0.10 mg/I) Mallard duck, dietary LC50: 10,000 ppm

13. DISPOSAL CONSIDERATIONS**US EPA Waste Number:**

D001 D003

Disposal of Waste Method:

Federal, state and local disposal laws and regulations will determine the proper waste disposal/recycling/reclamation procedure. Disposal requirements are dependent on the hazard classification and will vary

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By location and the type of disposal selected. All waste materials should be reviewed to determine the applicable hazards (testing may be necessary).

14. TRANSPORT INFORMATION**International Transport Regulations:**

UN/PIN Number: UN 3121 (Ground only) /UN1479 (Air)

ICAO Class: 5.1 Oxidizer
Proper shipping name: Oxidizing solids, n.o.s. (Activated Sodium Chlorite)- in Accordance with the ICAO Technical Instructions and 49 CFR 171.11. This applies to all domestic and international Air shipments, and transportation by motor vehicle before Or after air shipments.

ICAO Packing Group: I

US Transportation Regulations:

DOT Classification: 5.1 Oxidizer

DOT Proper Shipping Name: Oxidizing solid, water-reactive, n.o.s (Activated Sodium Chlorite)- Approved for surface shipment of no more than 150 kg per outer packaging (Approval CA-9803021 Second Revision Oct. 26,2000).

Packing Group/ Exceptions: I

Canadian Transportation of Dangerous Goods (TDG):

TDG Classification 5.1 Oxidizer

15. REGULATORY INFORMATION**International Inventories:**

United States: This product or its ingredients are listed on or compliant with the TSCA Inventory.

Canada: This product or its ingredients are listed on or compliant with the DSL.

Europe: This product or its ingredients are listed on or compliant with EINECS.

Japan: This product or its ingredients are listed on or compliant with MITI.

Australia: This product or its ingredients are listed on or compliant with AICS.

Korea: Not Determined

US Federal Regulations:

Ingredient	Weight in Product %	Subject to SARA 313 Reporting
Inorganic Acid	25-35	No
Sodium Chlorite 7758-19-2	15-30	No
Inorganic Salt(s)	35-45	No
Activator	5-10	No

SARA 311/312 Hazard Categories:

Acute Health Hazard Fire Hazard Reactive Hazard

EXTERM**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.

US State Regulations:

VOC Content (CARB): Not Applicable

Canadian Regulations:**WHMIS Classification:**

Class B Division 6

Class C

Class D Division 1 Subdivision B

Class D Division 2 Subdivision B

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.

16. OTHER INFORMATION

Revision Number: 4

**Section(s) Revised
In this Version:**

Section 1:	Chemical Product and Company Identification
Section 3:	Hazards Identification
Section 6:	Accidental Release Measures
Section 11:	Toxicological Information

Prepared By: ClorDiSys Solutions, Inc

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations, management and for persons working with or handling this product. The information presented in the MSDS is premised upon proper handling and anticipated uses, and is for the material without chemical additions/alterations. We believe this information to be reliable and up-to-date as of the date of publication, but make no warranty that it is. Additionally, if this Material Safety Data Sheet is more than three years old, please contact the supplier at the phone number listed in Section 1 to make certain that this sheet is current. Clordisys Solutions, Inc License granted to make unlimited copies for internal use only. End of MSDS.....