

MSDS Code: 0042

SE-TAB1

Revision date: 04/12/06

Date Printed: 04/12/06

NFPA Classification:

Health: 2
Flammability: 0
Instability: 1
Special Hazards:

HMIS Classification:

Health: 2
Flammability: 0
Physical Hazard: 1
Personal Protection: B

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Common Name:** Chlorine Dioxide Release Material**Chemical Name:** Chemical Mixture**Product Use:** Biocide. Cleanser.

Supplier: ENGELHARD CORPORATION
600 E. MCDOWELL ROAD
JACKSON, MS 39204
1-800-458-8650 OR 1-800-654-4039

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 CAS Number	Weight in Percent (%)	Notes
Inorganic Acid(s)	30-45	None.
Inorganic Salt(s)	15-40	None.
Inorganic Base	15-30	None.
Sodium Chlorite 7758-19-2	5-10	None.
Sodium Dichloroisocyanurate Dihydrate	0.5-2	None.

Other Information:

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

3. HAZARDS IDENTIFICATION

Emergency Overview:

Color: White
Form: Tablets
Odor: Odorless to slight chlorine odor
Flash Point, °C: Not Applicable

Most Important Hazards: Irritating to eyes, respiratory system and skin. Harmful by inhalation, by contact with skin and if swallowed. May cause pain, nausea, vomiting and diarrhea. Upon exposure to moisture, this product releases Chlorine Dioxide gas. Upon exposure to water, this product releases Carbon Dioxide.

Potential Health Effects:

Inhalation: Harmful if inhaled. 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.

Ingestion: Harmful if swallowed. May cause irritation of the mouth, throat and stomach. May cause pain, nausea, vomiting and diarrhea. May cause weakness and fatigue.

Skin Contact: Exposure to the material in its concentrated form: Harmful by skin contact. May cause toxic effects by prolonged or extensive 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.

Eye Contact: Causes severe eye irritation. May cause eye burns. Causes eye damage.

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.
NOTE: Upon exposure to water, this product releases Carbon Dioxide. Inhalation of carbon dioxide may cause headache, drowsiness, difficulty breathing and mental confusion. Inhalation of high concentrations can cause loss of consciousness.

Carcinogenicity:

Ingredient CAS Number	Weight in Percent (%)	NTP (Y/N)	IARC (See Notes)	OSHA (Y/N)	ACGIH (See Notes)
Inorganic Acid(s)	30-45	N	N	N	N
Inorganic Salt(s)	15-40	N	N	N	N
Inorganic Base	15-30	N	N	N	N
Sodium Chlorite 7758-19-2	5-10	N	N3	N	N
Sodium Dichloroisocyanurate Dihydrate	0.5-2	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. Kidney disorders.

4. FIRST AID MEASURES

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

Ingestion: If person is conscious and able to swallow, give large amounts of water to dilute. If vomiting occurs, keep head lower than hips to prevent aspiration. 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 15 minutes and get medical attention if irritation persists.

5. FIRE FIGHTING MEASURES

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

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: May be a mild oxidizer. May increase flammability of combustible, organic or other readily oxidizable materials.
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 reclamation or disposal. Avoid dusting.

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 incompatible materials.
- Avoid contact with water and water vapor prior to use.
- Wash thoroughly after handling.
- Avoid generating or breathing dust.
- Avoid contact with eyes, skin and clothing.
- Use with adequate ventilation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredient CAS Number	Weight in Percent (%)	OSHA PEL	ACGIH TLV
Inorganic Acid(s)	30-45	None Established	None Established
Inorganic Salt(s)	15-40	None Established	None Established
Inorganic Base	15-30	None Established	None Established
Sodium Chlorite 7758-19-2	5-10	None Established	None Established
Sodium Dichloroisocyanurate Dihydrate	0.5-2	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 2005 standards. Unless otherwise noted, all OSHA PELs refer to 29 CFR Part 1910 Air Contaminants: Final Rule, June 30, 1993.

PEL TLV Notes:

NOTE: Upon exposure to moisture, this product releases chlorine dioxide. The OSHA PEL for chlorine dioxide is 0.1 ppm. The ACGIH TLV for chlorine dioxide is 0.1 ppm, 0.3 ppm STEL. NOTE: Upon exposure to water, this product releases carbon dioxide. The OSHA PEL for carbon dioxide is 5,000 ppm (1993 Final Rule). The ACGIH TLV for carbon dioxide is 5,000 ppm, 30,000 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: Tablets
Color: White
Odor: Odorless to slight chlorine odor

Decomposition Temperature, °C: 120-190
Bulk Density: 1.5g/cc
Vapor Pressure: Negligible
Solubility (in water): Reacts With Water
pH: 6-7(0.0025% slurry solution)

10. STABILITY AND REACTIVITY

Stability Data: Stable

Conditions/Hazards to Avoid: Heat. Exposure to light.

Incompatibility (Materials to Avoid): Strong acids or alkalies. Strong oxidizing agents. Reducing agents. Combustible materials.

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

Hazardous Decomposition Products: Chlorine. Oxides of carbon.

Polymerization: Will not occur.

Polymerization - Avoid: None anticipated.

11. TOXICOLOGICAL INFORMATION

Information on Product:

Acute Toxicity: The following test results are based on toxicity testing of dilute solutions of similar Engelhard products:

Acute Toxicity - Dermal: 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 made from a similar product: Acute Inhalation LC50 (rat, 4-hour) > 2.07 mg/l

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:

Ingredient CAS Number	Weight in Percent (%)	Acute Toxicity - Oral	Acute Toxicity - Inhalation	Acute Toxicity - Dermal	Acute Toxicity - Other
Inorganic Acid(s)	30-45	Not Available	Not Available	Not Available	Not Available
Inorganic Salt(s)	15-40	2,800 mg/kg (rat)	Not Available	Not Available	Not Available
Inorganic Base	15-30	4,220 mg/kg (rat)	Not Available	Not Available	Not Available
Sodium Chlorite 7758-19-2	5-10	165 mg/kg (rat)	230 mg/m ³ /4 hr (rat)	Not Available	Not Available
Sodium Dichloroisocyanurate Dihydrate	0.5-2	1,420 mg/kg (rat)	Not Available	Not Available	Not Available

Sodium Chlorite - 7758-19-2

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

12. ECOLOGICAL INFORMATION

Information on Product:

Environmental Fate:

Chlorite and Chlorine Dioxide are broken down quickly, to chloride ions, in the environment.

Mobility:

This product is reactive with water releasing sodium, magnesium, chloride ions, sulfate ions and hydrogen ions.

Ecotoxicological Information:

Breaks down quickly in the environment, but can be toxic to aquatic microorganisms and small invertebrates. May cause long-term adverse effects to these organisms.

Sodium Chlorite - 7758-19-2

Component Ecotoxicity:

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

13. DISPOSAL CONSIDERATIONS

US EPA Waste Number: D003

Disposal of Waste Method: 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 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:

ICAO UN/ID No: UN2813

ICAO Class: 4.3

Proper shipping name: Water-reactive solid, n.o.s. (Sodium chlorite)

ICAO Packing Group: II

Packing Instruction: 415/417

NOTE: This classification applies to air transport within U.S. jurisdiction.
Classification for air transport outside of U.S. jurisdiction is: Not Regulated.

IMO Class: Not Regulated

US Transportation Regulations:

UN/NA/PIN Number: UN2813

DOT Classification: 4.3 Dangerous when wet material

Proper Shipping Name: Water-reactive solid, n.o.s. (Contains Sodium Chlorite)

Packing Group: II

Canadian Transportation of Dangerous Goods (TDG):

TDG Classification: 4.3 Dangerous when wet material

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
Philippines: This product or its ingredients are listed on or compliant with PICCS.
China: This product or its ingredients are listed on or compliant with the IECSC.

US Federal Regulations:

Ingredient CAS Number	Weight in Percent (%)	Subject to SARA 313 Reporting
Inorganic Acid(s)	30-45	No
Inorganic Salt(s)	15-40	No
Inorganic Base	15-30	No
Sodium Chlorite 7758-19-2	5-10	No
Sodium Dichloroisocyanurate Dihydrate	0.5-2	No

SARA 311/ 312 Hazard Categories:

Acute Health Hazard Reactive Hazard

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 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: 5

Section(s) Revised in this Version:

- Section 2: Composition/Information on Ingredients
- Section 3: Hazards Identification
- Section 11: Toxicological Information
- Section 12: Ecological Information
- Section 14: Transportation Information
- Section 15: Regulatory Information

Prepared By: Engelhard Corporate Environmental Health & Safety Group

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. Copyright Engelhard Corporation. License granted to make unlimited copies for internal use only. End of MSDS.