

BECKART ENVIRONMENTAL, INC.

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Safety Data Sheet
Revision date: 3/21/17

This SDS complies with 29 CFR 1910.1200 and appendix D (The Hazard Communication Standard- GHS)

SECTION 1: IDENTIFICATION:

PRODUCT NAME: **Stabilized Chlorine Dioxide**
CHEMICAL NAME: Powder composition containing Sodium Chlorite

SUPPLIER:

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EMERGENCY 24/7 CONTACT

CHEMTREC PHONE 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION:

Emergency Overview

GHS Classification:

- H272 Oxidizing solids (Category 2)
- H301 Acute Toxicity- Oral (Category 3)
- H310 Acute Toxicity- Dermal (Category 2)
- H314 corrosion- Causes severe skin burns and eye damage (Category 1B)
- H373 Acute Toxicity- (inhalation: dust, mist) (Category 2)
- H400 Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictograms



GHS Signal Word

Danger

GHS Hazard statement(s):

- H271 May cause fire or explosion: strong oxidizer.
- H301 Toxic if swallowed.
- H310 Fatal in contact with skin
- H314 Causes severe skin burns and eye damage.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)- PREVENTION:

- P221 Take any precaution to avoid mixing with combustibles.
- P260 Do not breath dust/fume/gas/mist/vapors/spray.
- P280 Wear protective gloves/protective clothing/eye protection/ face protection.
- P284 (in case of inadequate ventilation) Wear respiratory protection.

Precautionary statement(s)- RESPONSE:

- P301 +P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P303+ P361+P353: IF ON SKIN (or hair) Remove/take off immediately all contaminated clothing. Rinse skin with plenty of soap and water.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P371 +P380 +P375: In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Other Hazards Not Contributing to the Classification: Not available.

Unknown Acute Toxicity: Not available.

Physicochemical hazards: In contact with acids or acid substances, it generates chlorine dioxide (CLO₂), a toxic and explosive gas. Contamination with reducing and combustible materials may give rise to reactions which generate chlorine dioxide.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS:

Ingredient	CAS #:	Percent (%)	EC-No
Sodium Chlorite	7758-19-2	80+/-1%	231-836-6

Full text of H-phrases: see section 16

*A range of concentration as prescribed by the Controlled Products Regulations has been used where necessary, due to varying composition. The specific chemical identity and/or exact percentage of composition has been withheld as a trade secret within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200].

SECTION 4: FIRST AID MEASURES:

General: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible). In case of contact with clothing: Remove clothing immediately. Submerge in water to prevent the possibility of a fire. Wash shoes with water.

If inhaled: Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Seek medical attention immediately. If not breathing, give artificial respiration.

In case of skin contact: Take off contaminated clothing and shoes immediately. Flush skin with soap and plenty of water. Immediately call a POISON CENTER or doctor/physician.

In case of eye contact: Immediately rinse with water for at least 30 minutes while holding the eyelids wide open. Immediately call a POISON CENTER or doctor/physician. Continue rinsing eyes during transport to hospital.

If swallowed: Do NOT induce vomiting. Seek medical attention immediately.

Most Important Symptoms/ Effects (Acute and Delayed)

General: Causes severe skin burns and eye damage

Inhalation (Breathing): It can cause irritation of the respiratory tract and airways.

Skin: May cause skin irritation. With the impregnated clothes it may cause burns.

Eye: May cause burns in the eyes. It may cause ulceration of the conjunctiva and of the cornea.

Ingestion (Swallowing): It may cause burns of the mouth and esophagus. It may cause intestinal perforation.

Indication of any immediate medical attention and special treatment needed:

If you feel unwell, seek medical advice (show label where possible).

SECTION 5: FIREFIGHTING MEASURES:

Extinguishing media:

Suitable extinguishing media: Water. Form curtains of water to absorb the gases that are generated in the combustion. Keep containers and deposits cool, spraying them with water if exposed to the fire. If feasible, remove the combustible agent. Remove the containers from the area of fire, if this does not entail risk.

Unsuitable extinguishing media: CO₂ powder (powdered dry ice), foam (organic products)

Special Hazards Arising from the substance or mixture:

This product is not flammable or explosive. If it reaches 175 degrees C it decomposes to chlorine and chlorate. Subsequent decomposition of the chlorate produces oxygen which may give rise to the explosion or bursting of closed containers.

Advice for Firefighters:

Self contained breathing equipment. Individual protective equipment (gloves and suitable clothing). Seek location with your back against the wind.

SECTION 6: ACCIDENTAL RELEASE MEASURES:

Personal precautions, Protective equipment and Emergency procedures

Avoid contact with the eyes, skin and clothing. Do not act without appropriate protective equipment.

Environmental Precautions

Recover the whole product that is possible in a clean dry plastic or metallic container. Following product recovery, flush area with water. If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300 (in USA) or (international code) + 1-703-527-3887.

Methods and materials for containment and cleaning up

Absorb any spillage using sand, earth or clay. Wash the area with plenty of water. Take the absorbent products to a safe storage for treatment by expert personnel in handling the product or an authorized waste handler.

Reference to other sections: See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE:

Precautions for safe handling

Additional Hazards when processed: Avoid the formation of sparks. Avoid mixing with incompatible products (acids, acid materials, combustible materials, oils, greases, etc.). Avoid dust formation.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Always wash your hands immediately after handling this product, and once again before leaving the workplace. Provide good ventilation in process area to prevent formation of vapor. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke in the areas where product is used.

Conditions for safe storage, including any incompatibilities

Technical measures: Observe all regulations and local requirements regarding storage of containers.

Storage conditions: Store in a dry, cool and well ventilated place. Keep containers closed when not in use. Store away from heat sources, ignition sources, direct sunlight, incompatible materials, combustible materials.. Storage areas should be periodically checked for corrosion and integrity. Useable materials for containers are Polyester, PVC, stainless steel, or coated steel.

Incompatible Materials: Wood, rubber, aluminum, copper and alloys.

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION:

Control parameters

VLA-ED: 0.1ppm 0.28 mg/m³ VLA-EC 0.3ppm 0.84mg/m³ (INSHT, Spain) as CLO₂.

TLV-TWA: 0.1ppm 0.28mg/m³ STEL-C 0.3ppm (ACGIH) as CLO₂.

WEL- limit value- 8 hrs: 0.1ppm 0.28mg/m³ WEL- Limit value – short term: 0.3ppm 0.84mg/m³(UK) as CLO₂

Dust: Particulates, nor otherwise regulated. TLV-TWA- Total dust 10mg/m³ Respirable dust 3mg/m³ (ACGIH 2005)

Human exposure:

Workers:

DNEL (systemic effects: acute and chronic): 0.58mg/kg body weight/day (dermal developmental toxicity/teratogenicity)

DNEL(systemic effects: acute and chronic): 0.41mg/m³ (inhalation; developmental toxicity/ teratogenicity)

General population:

DNEL (systemic effects: acute and chronic): 0.29mg/kg body weight/day (dermal developmental toxicity/teratogenicity)

DNEL(systemic effects: acute and chronic): 0.1mg/m³ (inhalation; developmental toxicity/ teratogenicity)

DNEL (systemic effects: acute and chronic):0.029mg/kg body weight/day (oral:developmental toxicity/teratogenicity).

Exposure controls

Appropriate Engineering controls: Use adequate ventilation to keep a low concentration in air.

Personal Protective Equipment: Avoid all unnecessary exposure. In the event of emission of sodium chlorite powder, use mas with a dust filter (EN 143 P2 or P3). In the event of formation of chlorine dioxide use

breathing protection mask with filter for inorganic gases (Chlorine) for low concentrations, for higher concentrations use self contained breathing equipment.

Materials for protective clothing: Wear suitable protective clothing.

Hand protection: Impermeable protective gloves. Nitrile rubber, PVC (do not use leather or rubber)

Eye protection: Chemical goggles.

Skin and body protection: Wear suitable protective clothing. Chemical resistant suit.

Respiratory protection: Use a NIOSH approved respirator or self contained breathing apparatus whenever exposure may exceed established Occupations Exposure Limits. Where risk assessment shows air purifying respirators are appropriate use a full face particle respirator type N100.

Environmental Exposure Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Avoid the emission of dust to the atmosphere.

Consumer Exposure controls: Do no eat, drink or smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES:

Physical state: solid, powder	Appearance: White
Odor: odorless	Odor Threshold(ppm): No data available
pH: 12-13	Melting point: Decomposes before melting
Decomposition temp: 180-200 degrees C	Solubility: 572 g/L at 20 degrees C

SECTION 10: STABILITY AND REACTIVITY:

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous reactions: Violent exothermic reaction, development of heat with reducing materials (sodium sulfite). Potentially explosive reaction and fire with combustible materials (wood, cellulose, grease, cotton).

Conditions to avoid: Direct sunlight, moisture, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.

Incompatible materials: Acids, acid substances (Aluminum sulfate, aluminum chloride, ferric chloride), wood, cellulose, grease, cotton.

Hazardous decomposition products: This product decomposes into chloride and sodium chlorate under heating and direct sun-light. The subsequent decomposition of chlorate releases oxygen with risk of bursting containers. In contact with acid materials (acid, aluminum sulfate, aluminum chloride, etc.) chlorine dioxide is formed with risk of explosion.

SECTION 11: TOXICOLOGICAL INFORMATION:

Information on Toxicological Effects- Product:

Acute Toxicity: Toxic if swallowed. Fatal in contact with skin. Fatal if inhaled.

Acute (oral) LD50 284 mg/kg body weight (Rats) (OECD 401)

Acute (dermal) LD50 134 mg/kg body weight (rabbit) (EPA OPP 81-2)

LC50 inhalation: An acute inhalation toxicity study is not required since exposure of humans via inhalation is unlikely taking into account the vapor pressure of the substance and/or the possibility of exposure to aerosols, particles or droplets of an inhalable size.

Skin corrosión/irritation: skin corrosive Category 1B: Causes severe skin burns and eye damage. Corrosive (rabbit: necrosis is observed in two animals) (EPA No 158.81-5)

Serious eye damage/irritation: Irreversible effects in the eye: Category 1: Causes serious eye damage. Damage observed in rabbits.

Sensitization: respiratory sensitization: no data available. Skin sensitization: non-sensitizing.

Specific target organ toxicity- repeated exposure: Category 2: May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity: Based on the available data, the classification criteria are not met.

Oral route: NOEL: >32.1mg/kg body weight/day (85 weeks)

Dermal route: NOEL: > 57.14 mg/kg body weight/day (51 weeks)

Germ cell mutagenicity: Based on available data the classification criteria are not met.

Reproductive toxicity: Base don available data, the classification criteria are not met.

SECTION 12: ECOLOGICAL INFORMATION:

Toxicity

Ecology-General: Very toxic to aquatic life.

Acute Toxicity to fish:

LC50 Fish 106mg/l (96h. Oncorhynchus mykiss) 105mg/l (96h, Cyprinodon variegates)

Chronic toxicity to fish:

NOEC (no observed effect concentration)

Acute toxicity to crustaceans: EC50 Daphnia <1 mg/l (Exposure time: 48 h- Species: Daphnia magna).

Chronic toxicity to crustaceans: NOEC no observed effect concentration.

Acute toxicity to algae and other aquatic plants: EC50 Selanastrum capricornutum 1mg/l: 96hrs.)

Persistence and Degradability Readily biodegradable.

Bioaccumulative Potential Sodium Chlorite is highly water soluble with an extremely low Log Pow. Therefore, the substance has a low potential for bioaccumulation. Due to its extremely low lipophilicity and high instability in water, sodium chlorite and hence chlorine dioxide are not expected to bioaccumulate.

Mobility in soil Not available

Other adverse effects Avoid release to the environment

SECTION 13: DISPOSAL INFORMATION:

Waste Treatment methods: Dispose of waste material in accordance with all local, regional, national, and international regulations. Hazardous waste due to toxicity.

Sewage Disposal Recommendations: Do not dispose of waste into sewer. Do not empty into drains; dispose of this material and its container in a safe way. Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION:

U.S. DOT 49 CFR 172.101: UN1496, Sodium Chlorite, 5.1, PGII

Environmental hazards: Environmentally hazardous substance.

SECTION 15: REGULATORY INFORMATION:

US Federal Regulations

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

TSCA:

Sodium Chlorite (7758-19-2) Listed on the US TSCA (Toxic Substances Control Act) inventory

Canadian Regulations

Sodium Chlorite (7758-19-2)

WHMIS Classification:

Class C- Oxidizing material

Class D Division 1 Subdivision A- Very toxic material causing immediate and serious toxic effects.

Class E- Corrosive Material

SECTION 16: OTHER INFORMATION:

Revision date: 3/21/17

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