



# Safety Data Sheet

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## Section 01 Identification

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<b>Product Identifier</b>	Sodium Chlorite 25% Solution Sodium Chlorite 25% Solution, ADOX BCD-25
<b>Other Means of Identification</b>	Chlorous acid, sodium salt.
<b>Product Use and Restrictions on Use</b>	Generation of chlorine dioxide for sanitizing, oxidation or bleaching
<b>Initial Supplier Identifier</b>	ClearTech Industries Inc 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7  Phone: 800.387.7503 Fax: 888.281.8109 <a href="http://www.cleartech.ca">www.cleartech.ca</a>
<b>Prepared By</b>	ClearTech Industries Inc. technical writer
<b>24-Hour Emergency Phone</b>	306.664.2522

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## Section 02 Hazard Identification

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### Physical Hazards

This product does not qualify for any physical hazard class under WHMIS 2015

### Health Hazards

**Acute toxicity - oral** Category 3

**Serious eye damage / eye irritation** Category 1

**Specific target organ toxicity - single exposure** Category 3

**Specific target organ toxicity - repeated exposure** Category 2

### Signal Word

**Danger**

### Hazard Statements

H301 Toxic if swallowed.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

H373 May cause damage to spleen through prolonged or repeated exposure.

### Pictograms



## Precautionary Statements

### Prevention

- P260 Do not breathe vapours, fumes, and mists.
- P264 Wash affected body parts thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear , eye protection, face protection

### Response

- P301 P310 P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth.
- P305 P351 P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
- P310
- P314 Get medical advice or attention if you feel unwell.

### Storage

- P403 Store in a well-ventilated place.
- P233 Keep container tightly closed.
- P405 Store locked up.

### Disposal

- P501 Dispose of contents / container in accordance with all federal, provincial and / or local regulations including the Canadian Environmental Protection Act.

## Hazards Not Otherwise Classified

Not available

## Supplemental Information

Not available

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## Section 03 Composition / Information on Ingredients

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### Hazardous Ingredients:

Chemical name	Common name(s)	CAS number	Concentration (w/w%)
Chlorous acid, sodium salt	Sodium chlorite	7758-19-2	7-25%

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## Section 04 First-Aid Measures

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### Description of necessary first-aid measures

- Inhalation** Remove source of exposure or move person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
- Ingestion** Immediately call a POISON CENTER or doctor. Rinse mouth. If breathing has stopped, trained personnel should begin rescue breathing or, if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Avoid mouth-to-mouth contact by using a barrier device.

<b>Skin contact</b>	Rinse skin with lukewarm, gently flowing water / shower for 5 minutes or until product is removed. If skin irritation occurs or if you feel unwell: Get medical advice / attention.
<b>Eye contact</b>	Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for 30 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER or doctor.

## **Most important symptoms and effects, both acute and delayed**

<b>Inhalation</b>	May cause respiratory irritation.
<b>Ingestion</b>	Toxic if swallowed.
<b>Skin contact</b>	May cause dryness or irritation.
<b>Eye contact</b>	Causes serious eye damage.
<b>Further information</b>	For further information see Section 11 Toxicological Information.

## **Section 05 Fire Fighting Measures**

<b>Suitable extinguishing media</b>	Extinguish fire using extinguishing agents suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	Not available
<b>Specific hazards arising from the chemical</b>	Thermal decomposition occurs at 175 °C. Thermal decomposition yields toxic and corrosive chlorine gas, and sodium chlorate.
<b>Special protective equipment for fire-fighters</b>	Wear NIOSH-approved self-contained breathing apparatus and chemical-protective clothing.

## **Section 06 Accidental Release Measures**

<b>Personal Precautions / Protective Equipment / Emergency Procedures</b>	Wear appropriate personal protective equipment (See Section 08 Exposure Controls and Personal Protection). Stay upwind, ventilate area. Do not breathe vapours, fumes, and mists.
<b>Environmental Precautions</b>	Prevent material from entering waterways, sewers or confined spaces. Notify local health and wildlife officials. Notify operators of nearby water intakes.
<b>Methods and Materials for Containment and Cleaning Up</b>	SMALL SPILLS: Stop or reduce leak if safe to do so. Clean up spill with non-reactive absorbent and place in suitable, covered, labeled containers. Flush area with water. Contaminated absorbent material may pose the same hazards as the spilled product. Use vented containers to avoid pressure buildup. LARGE SPILLS: Contact fire and emergency services and supplier for advice.

## **Section 07 Handling and Storage**

<b>Precautions for Safe Handling</b>	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Prevent the release of vapours, fumes, and mists into the workplace air. Inspect containers for damage or leaks before handling. If the original label is damaged or missing replace with a workplace label. Have suitable emergency equipment for fires, spills and leaks readily available.
<b>Conditions for Safe Storage</b>	Store in a cool, dry, well-ventilated area, out of direct sunlight, away from heat sources and incompatible materials. Always store in original labeled container. Keep containers tightly closed when not in use and when empty. Empty containers may contain hazardous residues. Protect label and keep it visible.

## Incompatibilities

Acids, such as sulphuric, nitric, hydrochloric, phosphoric, fluosilicic (HFSA), sulphonic, acetic, citric, oxalic, and formic.  
 Oxidizing agents, such as oxygen, hydrogen peroxide, sulphuric and nitric acids, hypochlorites and permanganates.  
 Reducing agents, such as hydrogen, sodium borohydride, sulphur dioxide, thiosulphates, hydrazine, phosphites, carbon, and oxalic, formic and ascorbic acid.  
 Organic material, such as wood, paper, gasoline, diesel, solvents and some glycol based heat transfer fluids

## Section 08 Exposure Controls and Personal Protection

### Exposure limits

Component	Regulation	Type of listing	Value
Chlorine dioxide	ACGIH	TWA	0.1 ppm (0.3 mg/m <sup>3</sup> )
		STEL / Ceiling	0.3 ppm (0.9 mg/m <sup>3</sup> )

### Engineering controls

**Ventilation Requirements** Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.

**Other** A soak hose and eyewash station or emergency shower and eyewash station should be available, tested, and be in close proximity to the product being handled in accordance with provincial regulations.

### Protective equipment

The following are recommendations only. It is the responsibility of the employer / user to conduct a hazard assessment of the process in which this product being used and determine the proper engineering controls and PPE for their process. Additional regulatory and safety information should be sought from local authorities and, if needed, a professional industrial hygienist.

**Eye and face protection** Where there is potential eye or face exposure, tightly fitting safety goggles and a face shield or a full face respirator or similar protective equipment which protects the wearer's face and eyes are recommended. Contact lenses are not recommended; they may contribute to severe eye injury.

**Hand and body protection** Where handling this product it is recommended that skin contact is avoided.

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment.

#### NIOSH respirator recommendations for: Chlorine dioxide

##### Up to: 1 ppm

(APF = 10) Any chemical cartridge respirator with cartridge(s) providing protection against Chlorine dioxide

(APF = 10) Any supplied-air respirator

##### Up to: 2.5 ppm

(APF = 25) Any supplied-air respirator operated in a continuous-flow mode

(APF = 25) Any powered, air-purifying respirator with cartridge(s) providing protection against Chlorine dioxide

##### Up to: 5 ppm

(APF = 50) Any chemical cartridge respirator with a full facepiece and cartridge(s) providing protection against Chlorine dioxide  
 (APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against Chlorine dioxide  
 (APF = 50) Any self-contained breathing apparatus with a full facepiece.  
 (APF = 50) Any supplied-air respirator with a full facepiece

**Emergency or planned entry into unknown concentrations or IDLH conditions:**

(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode  
 (APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

**Escape:**

(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against Chlorine dioxide  
 Any appropriate escape-type, self-contained breathing apparatus

Thermal hazards Not available

## Section 09 Physical and Chemical Properties

### Appearance

Physical state Liquid  
 Colour Clear colourless to light yellow  
 Odour Chlorine like  
 Odour threshold Not available

### Property

pH >12.0  
 Melting point / freezing point Not available  
 Initial boiling point and boiling range 106 °C (25%)  
 Flash point Not available  
 Evaporation rate Not available  
 Flammability Not applicable  
 Upper flammable limit Not available  
 Lower flammable limit Not available  
 Vapour pressure Not available  
 Vapour density Not available  
 Relative density Not applicable  
 Solubility Soluble in water  
 Partition coefficient: n-octanol/water Log Kow = -2.7 @ 25 °C  
 Auto-ignition temperature Not available  
 Decomposition temperature 175 °C  
 Viscosity Not available

Specific gravity	1.209 @ 20 °C (25%)
Formula	NaClO <sub>2</sub>
Molecular weight	90.45 g/mol

## Section 10 Stability and Reactivity

<b>Reactivity</b>	This product is an oxidizer and will react with reducing agents and organic compounds such as paper or wood to produce heat and could potentially catch fire. Reacts with acids to produce chlorine dioxide gas.
<b>Stability</b>	This product is stable if stored according to the recommendations in Section 07.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization is not known to occur.
<b>Conditions to avoid</b>	Avoid contact with incompatible materials. Do not heat.
<b>Incompatible materials</b>	Acids, such as sulphuric, nitric, hydrochloric, phosphoric, fluorosilicic (HFSA), sulphonic, acetic, citric, oxalic, and formic. Oxidizing agents, such as oxygen, hydrogen peroxide, sulphuric and nitric acids, hypochlorites and permanganates. Reducing agents, such as hydrogen, sodium borohydride, sulphur dioxide, thiosulphates, hydrazine, phosphites, carbon, and oxalic, formic and ascorbic acid. Organic material, such as wood, paper, gasoline, diesel, solvents and some glycol based heat transfer fluids
<b>Hazardous decomposition products</b>	Chlorine and chlorine oxides

## Section 11 Toxicological Information

### Acute Toxicity (LD50 values)

Component	Route	Species	Value	Exposure time
Sodium chlorite 25%	Oral	Rat	284 mg/kg bw	
	Dermal	Rabbit	>2,000 mg/ kg bw	
Sodium chlorite dust	Inhalation	Rate	230 mg/m <sup>3</sup>	4 hours

### Toxic Health Effect Summary

<b>Chemical characteristics</b>	Long term exposure (100 mg/L in drinking water over 12 months in male rats) can cause chloroform build up in brain and liver tissues.
<b>Skin</b>	May cause dryness or irritation.
<b>Ingestion</b>	Toxic if swallowed.
<b>Inhalation</b>	May cause respiratory irritation.
<b>Eye contact</b>	Causes serious eye damage.
<b>Sensitization</b>	This product and its components at their listed concentration have no known sensitizing effects.
<b>Mutagenicity</b>	This product and its components at their listed concentration have no known mutagenic effects.
<b>Carcinogenicity</b>	IARC has classified sodium chlorite as group 3, not classifiable as to its carcinogenicity to humans.
<b>Reproductive toxicity</b>	This product and its components at their listed concentration have no known reproductive effects.
<b>Specific organ toxicity</b>	May cause damage to spleen through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Not available

**Synergistic materials** Not available

## Section 12 Ecological Information

### Ecotoxicity

Component	Type	Species	Value	Exposure Time
Sodium chlorite	LC50	Marine water fish	105 mg/L	96 hours
	EC50	freshwater invertebrates	1 mg/L	48 hours
	EC50	freshwater algae	1 mg/L	96 hours

**Biodegradability** The domestic substance list categorizes sodium chlorite as non-persistent.

**Bioaccumulation** The domestic substance list categorizes sodium chlorite as non-bioaccumulative.

**Mobility** This product is water soluble, is not predicted to adsorb to soil and may contaminate ground water.

**Other adverse effects** The domestic substance list categorizes sodium chlorite as inherently toxic to aquatic organisms.

## Section 13 Disposal Considerations

**Waste From Residues / Unused Products** Dispose in accordance with all federal, provincial, and local regulations including the Canadian Environmental Protection Act.

**Contaminated Packaging** Do not remove label, follow label warnings even after the container is empty. Empty containers should be recycled or disposed of at an approved waste handling facility.

## Section 14 Transport Information

**UN number** UN1908

**UN proper shipping name and description** CHLORITE SOLUTION

**Transport hazard class(es)** 8

**Packing group** II

**Excepted quantities** 1 L

**Environmental hazards** Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.

**Special precautions** No special provisions

**Transport in bulk** ERAP index: not available

**Additional information** MARPOL 73/78 and IBC Code:  
Secure containers (full or empty) during shipment and ensure all caps, valves, or closures are secured in the closed position.

**TDG PRODUCT CLASSIFICATION:** This product has been classified on the preparation date specified at section 16 of this SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and published test data regarding the classification of this product are listed in the references at section 16 of this SDS.

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## Section 15 Regulatory Information.

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**NOTE: THE PRODUCT LISTED ON THIS SAFETY DATA SHEET HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN HAZARDOUS PRODUCTS REGULATIONS. THIS SAFETY DATA SHEET CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.**

All components of this product appear on the domestic substance list.

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## Section 16 Other Information

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**Date of latest revision: January 09, 2020**

**Note:** The responsibility to provide a safe workplace remains with the buyer / user. The buyer / user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the buyer / user to comply with all applicable laws and regulations regarding handling, using, reselling and shipping this product.

**Attention: Receiver of the chemical goods / SDS coordinator**

As part of our commitment to the RDC Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

**References:**

- 1) CHEMINFO
- 2) TOXNET
- 3) eChemPortal
- 4) ECHA
- 5) Transportation of Dangerous Goods Canada
- 6) HSDB
- 7) PAN