



# Safety Data Sheet

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## Section 01 Identification

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<b>Product Identifier</b>	Sodium Hypochlorite 3-6% Hypochlor 3 Hypochlor 5, NSF® - 60 Hypochlor 6, NSF® - 60 Sodium Hypochlorite 3% Sodium Hypochlorite 5%, NSF® - 60 Sodium Hypochlorite 6%, NSF® - 60
<b>Other Means of Identification</b>	Sodium hypochlorite; Bleach; Hypochlorous acid, sodium salt; liquid bleach.
<b>Product Use and Restrictions on Use</b>	Sanitizer, Bleaching agent, source of available chlorine, deodorizer. This product is NSF certified for use in drinking water, see section 15 and the NSF website for further information.
<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
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## Section 02 Hazard Identification

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### Physical Hazards

**Corrosive to metals** Category 1

### Health Hazards

**Skin corrosion / irritation** Category 2

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

### Signal Word

**Danger**

### Hazard Statements

H290 May be corrosive to metals.

H315 Causes skin irritation.

H318 Causes serious eye damage.

### Pictograms



## Precautionary Statements

### Prevention

- P234 Keep only in original packaging.
- P264 Wash affected body parts thoroughly after handling.
- P280 Wear protective gloves, eye protection, face protection.

### Response

- P303 P352 P332 IF ON SKIN (or hair): Wash with plenty of water. If skin irritation occurs: Get medical advice / attention. Take off contaminated clothing and wash it before reuse.
- P313 P362 P364
- 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
- P390 Absorb spillage to prevent material damage.

### Hazards Not Otherwise Classified

Contact with acids liberates toxic gas.

### Supplemental Information

Not available

## Section 03 Composition / Information on Ingredients

### Hazardous Ingredients:

Chemical name	Common name(s)	CAS number	Concentration (w/w%)
Hypochlorous acid, sodium salt	Sodium hypochlorite	7681-52-9	2.5-6.0%

## Section 04 First-Aid Measures

### 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. May release toxic chlorine gas.
- Ingestion** Rinse mouth. Get medical advice / attention if you feel unwell or are concerned.
- Skin contact** Avoid direct contact. Wear chemical protective clothing, if necessary. Take off immediately contaminated clothing, shoes and leather goods. Rinse skin with lukewarm, gently flowing water / shower for 15 to 20 minutes. Get medical advice / attention. Wash contaminated clothing before re-use, or discard.
- Eye contact** 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

- Inhalation** May cause respiratory irritation.
- Ingestion** May cause discomfort or nausea.
- Skin contact** Causes skin irritation.

**Eye contact** Causes serious eye damage.  
**Further information** For further information see Section 11 Toxicological Information.

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## Section 05 Fire Fighting Measures

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**Suitable extinguishing media** Extinguish fire using extinguishing agents suitable for the surrounding fire.

**Unsuitable extinguishing media** Do NOT use dry chemical fire extinguishing agents containing ammonium compounds (such as some A:B:C agents), since an explosive compound can be formed. Water jets are not recommended in fires involving chemicals.

**Specific hazards arising from the chemical** Explosive decomposition may occur under fire conditions and closed containers may rupture violently due to a rapid decomposition, if exposed to fire or excessive heat for a sufficient period of time.

**Special protective equipment for fire-fighters** Wear NIOSH-approved self-contained breathing apparatus and chemical-protective clothing.

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## Section 06 Accidental Release Measures

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**Personal Precautions / Protective Equipment / Emergency Procedures** Wear appropriate personal protective equipment (See Section 08 Exposure Controls and Personal Protection). Stay upwind, ventilate area. Do not use material handling equipment with exposed metal surfaces.

**Environmental Precautions** Prevent material from entering waterways, sewers or confined spaces. Notify local health and wildlife officials. Notify operators of nearby water intakes.

**Methods and Materials for Containment and Cleaning Up** 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.

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## Section 07 Handling and Storage

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**Precautions for Safe Handling** 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.  
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.  
Never return contaminated material to its original container.

**Conditions for Safe Storage** Store in a cool, dry, well-ventilated area, 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. Do not transfer to metal containers.

**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 and permanganates.  
Organic material, such as wood, paper, gasoline, diesel, solvents and some glycol based heat transfer fluids  
Metals, such as aluminum, steel, and brass.

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## Section 08 Exposure Controls and Personal Protection

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### Exposure limits

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Sodium Hypochlorite 3-6%  
ClearTech Industries Inc

Component	Regulation	Type of listing	Value
Chlorine	ACGIH	TWA	0.5 ppm
		STEL / Ceiling	1 ppm

## Engineering controls

<b>Ventilation Requirements</b>	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.
<b>Other</b>	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.

<b>Eye and face protection</b>	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.
<b>Hand and body protection</b>	Disposable latex or nitrile gloves are recommended to prevent incidental contact. Butyl rubber, neoprene, or PVC skin protection is recommended for extended contact. Leather gloves are not recommended for chemical protection. Refer to manufacturer's specifications for breakthrough times and permeability information; note that breakthrough times and permeability vary with temperature, application and age of material. Continued use of contaminated safety gear or clothing is not recommended; wash before reuse or discard.
<b>Respiratory protection</b>	In case of insufficient ventilation wear suitable respiratory equipment.

### **NIOSH respirator recommendations for: Chlorine**

#### **Up to: 5 ppm**

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

(APF = 10) Any supplied-air respirator

#### **Up to: 10 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

(APF = 50) Any chemical cartridge respirator with a full facepiece and cartridge(s) providing protection against Chlorine

(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against Chlorine

(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  
Any appropriate escape-type, self-contained breathing apparatus

Thermal hazards Not available

## Section 09 Physical and Chemical Properties

Appearance

Physical state Liquid  
Colour Clear, greenish-yellow solution  
Odour Strong chlorine odour  
Odour threshold Not available

Property

pH 10.8-11.2  
Melting point / freezing point ~ -6 °C  
Initial boiling point and boiling range Not available  
Flash point Does not flash  
Evaporation rate Not available  
Flammability Not applicable  
Upper flammable limit Not available  
Lower flammable limit Not available  
Vapour pressure Negligible  
Vapour density Not available  
Relative density Not applicable  
Solubility Completely soluble in water  
Partition coefficient: n-octanol/water Log POW = ~ -3.42  
Auto-ignition temperature Does not ignite  
Decomposition temperature Sodium hypochlorite's decomposition rate is an exponential function of temperature. Each increase of 10 °C will increase the degradation rate by a factor of 2 to 4 (there is disagreement in the literature).  
Viscosity Not available  
Specific gravity 1.03-1.10 g/mL  
Particle characteristics Not applicable  
Formula NaOCl  
Molecular weight 74.44 g/mol

## Section 10 Stability and Reactivity

Reactivity May be corrosive to metals. Reacts violently with acids.

<b>Stability</b>	Sodium hypochlorite solutions are unstable and will decompose over time. Sodium hypochlorite's decomposition rate is an exponential function of temperature. Each increase of 10 °C will increase the degradation rate by a factor of 2 to 4 (there is disagreement in the literature). Exposure to ultraviolet light (sunlight) will accelerate the degradation of sodium hypochlorite.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization is not known to occur. Reacts with acids to form hypochlorous acid, a powerful oxidizing agent, which degrades into toxic chlorine gas.
<b>Conditions to avoid</b>	Do not heat. Do not freeze.
<b>Incompatible materials</b>	Acids, such as sulphuric, nitric, hydrochloric, phosphoric, fluoro-silicic (HFSA), sulphonic, acetic, citric, oxalic, and formic. Oxidizing agents, such as oxygen, hydrogen peroxide, sulphuric and nitric acids and permanganates. Organic material, such as wood, paper, gasoline, diesel, solvents and some glycol based heat transfer fluids Metals, such as aluminum, steel, and brass.
<b>Hazardous decomposition products</b>	Chlorine, sodium chlorate.

## Section 11 Toxicological Information

### Acute Toxicity (LD50 / LC50 values)

Component	Route	Species	Value	Exposure time
Sodium Hypochlorite	Oral	Rat	8910 mg/kg bw	
	Oral	Mouse	5800 mg/kg bw	
Chlorine	Inhalation (gas)	Mouse	137 ppm	1 hour

### Toxic Health Effect Summary

<b>Chemical characteristics</b>	This product is not bioavailable. This product is highly reactive and is not expected to persist in the body.
<b>Skin</b>	Very dilute solutions have caused negligible irritation, while more concentrated solutions have caused acute corrosive injury to skin. Prolonged exposure may lead to permanent scarring of skin.
<b>Ingestion</b>	Acute exposure may lead to burning of the mouth and throat, abdominal cramps, nausea, vomiting, diarrhea, shock. May lead to convulsions, coma, and even death.
<b>Inhalation</b>	May cause respiratory irritation. Chlorine, one of the primary decomposition products of sodium hypochlorite, is an irritant of the nose and throat, causing coughing, difficulty breathing, and pulmonary edema.
<b>Eye contact</b>	Causes irritation, redness, and pain. May cause burns and possible damage to vision.
<b>Sensitization</b>	Negative results (0/20 guinea pigs sensitized) have been obtained for 8% sodium hypochlorite solution in a skin sensitization test. Insufficient details are available to evaluate a report of a positive result (positive reactions in 2/10 animals) obtained using 6% sodium hypochlorite (pH 11.2) with the guinea pig ear swelling test for non-immunological contact urticaria.
<b>Mutagenicity</b>	This product and its components at their listed concentration have no known mutagenic effects.
<b>Carcinogenicity</b>	IARC has classified sodium hypochlorite 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>	This product and its components at their listed concentration have no known effects on specific organs.

**Aspiration hazard** Prolonged or repeated overexposure may cause lung damage.

**Synergistic materials** Not available

## Section 12 Ecological Information

### Ecotoxicity

Component	Type	Species	Value	Exposure Time
Sodium Hypochlorite	EC50	Red alga	46 mg/L	96 hours
	LC50	Salmo gairdneri	0.07 mg/L	48 hours
	LC50	Daphnia magna	0.032 mg/L	48 hours

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

**Bioaccumulation** The domestic substance list categorizes sodium hypochlorite 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 hypochlorite 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** This product does not meet the definition of dangerous goods per Part 2 of Transport of Dangerous Goods Regulations

**UN proper shipping name and description** Not available

**Transport hazard class(es)** Not available

**Packing group** Not available

**Excepted quantities** Not available

**Environmental hazards** Listed as a marine pollutant under Canadian TDG Regulations, schedule III.

**Special precautions** No special precautions

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

MARPOL 73/78 and IBC Code:

Product name: Sodium hypochlorite solution (15% or less)

Pollution category: Y

Hazards: the product is included in the Code because of both its safety and pollution hazards.

Ship type: ship type 2

Tank type: integral gravity tank

Tank vents: controlled venting

Tank environmental control: no special requirements under this Code

Temperature classes	no requirements
Electrical equipment: Apparatus group	no requirements
Flash point	non-flammable product
Gauging: restricted gauging	
Vapour detection: no special requirements under this Code	
Fire protection: no special requirements under this Code	
Emergency equipment: no special requirements under this Code	
Specific and operational requirements	15.19.6

**Additional information** 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.

## Section 15 Regulatory Information.

**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.

NSF Certification: Hypochlor 6 is certified under NSF / ANSI Standard 60 for Disinfection & Oxidation at a maximum dosage of: 206 mg/L. NSF product use restrictions based on requirements obtained from the NSF website; consult NSF website for current requirements.

## Section 16 Other Information

**Date of latest revision: July 19, 2023**

**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) *NIOSH Pocket Guide to Chemical Hazards*; U.S. Department of Health and Human Services, <https://www.cdc.gov/niosh/npg/default.html>
- 2) *WorkSafe BC E-Limit*; Workers' Compensation Board of British Columbia, <https://elimit.online.worksafebc.com/>
- 3) *ECHA - Registered Substance Dossier*; European Chemicals Agency, <https://echa.europa.eu/registration-dossier/-/registered-dossier/15516>



- 4) *Transportation of Dangerous Goods Regulations*; Transport Canada, <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2001-286/index.html>
- 5) Globally Harmonized System of Classification and Labeling of Chemicals (GHS) *Seventh revised edition*
- 6) International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) 2007 Edition
- 7) The ACS Style Guide