



MATERIAL SAFETY DATA SHEET

Sodium Hypochlorite 5-20%

Section 01 - Chemical And Product And Company Information

Product Identifier Sodium Hypochlorite (5-20%)

Product Use Disinfectant, bleaching agent, source of available chlorine, deodorizer.

Supplier Name..... ClearTech Industries Inc.
2302 Hanselman Avenue
Saskatoon, SK. Canada
S7L 5Z3

Prepared By..... ClearTech Industries Inc. Technical Department
Phone: (306)664-2522

Preparation Date..... March 31, 2008

24-Hour Emergency Phone..... 306-664-2522



Section 02 - Composition / Information on Ingredients

Hazardous Ingredients..... Sodium Hypochlorite 4.9-16.5%

CAS Number..... Sodium Hypochlorite 7681-52-9

Synonym (s)..... Industrial bleach, hypo, bleach, Javel water, household bleach

Section 03 - Hazard Identification

Inhalation..... Irritant of the nose and throat, causing coughing, difficulty breathing, and pulmonary edema.



- Skin Contact / Absorption**..... Causes severe skin irritation with blistering and ulceration.

- Eye Contact**..... Causes severe irritation of the mucous membranes of the eyes. May cause severe eye damage.

- Ingestion**..... Burning of the mouth and throat, abdominal cramps, nausea, vomiting, diarrhea, shock. May lead to convulsions, coma, and even death.

- Exposure Limits**..... None established.
ACGIH/TLV-TWA= 1ppm (chlorine)

Section 04 - First Aid Measures

- Inhalation**..... Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.

- Skin Contact / Absorption**..... Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.

- Eye Contact**..... Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.

- Ingestion**..... Do not induce vomiting. If vomiting occurs, lean victim forward to prevent breathing in vomitus. Give large amounts of water. Do not give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention.

- Additional Information**..... Not available

Section 05 - Fire Fighting

- Conditions of Flammability**..... Non-flammable

- Means of Extinction**..... Product does not burn. Use appropriate extinguishing media for material that is supplying the fuel to the fire.

- Flash Point**..... Not applicable

- Auto-ignition Temperature**..... Not applicable

- Upper Flammable Limit** Not applicable



- Lower Flammable Limit**..... Not applicable
- Hazardous Combustible Products**... Decomposition may produce chlorine gas and/or hydrogen chloride gas.
- Special Fire Fighting Procedures**..... Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
- Explosion Hazards**..... Pressure buildup in containers could result in an explosion when heated or in contact with acidic fumes. Vigorous reaction with oxidizable organic materials may result in a fire.

Section 06 - Accidental Release Measures

- Leak / Spill**..... Wear appropriate personal protective equipment. Ventilate area. Stop or reduce leak if safe to do so. Prevent material from entering sewers. Flush with water to remove any residue.
- Deactivating Materials**..... Neutralize first with sodium sulphite, sodium metabisulphite or other dechlorination agent for no chlorine residual, then with hydrochloric acid until the pH is 7.

Section 07 - Handling and Storage

- Handling Procedures**..... 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.
- Storage Requirements**..... Store in a cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials. Venting of containers is advisable.

Section 08 - Personal Protection and Exposure Controls

Protective Equipment

- Eyes**..... Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
- Respiratory**..... A NIOSH-approved respirator suitable for chlorine is recommended. Where a higher level of protection is required, use a self-contained breathing apparatus.
- Gloves**..... Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.



Clothing..... Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.

Footwear..... Impervious boots of chemically resistant material should be worn at all times.

Engineering Controls

Ventilation Requirements..... Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions should be provided. Supply sufficient replacement air to make up for air removed by exhaust systems.

Other..... Emergency shower and eyewash should be in close proximity.

Section 09 - Physical and Chemical Properties

Physical State..... Liquid

Odor and Appearance..... Strong chlorine odour. Clear, greenish-yellow solution.

Odor Threshold..... Not available

Specific Gravity (Water=1)..... 1.17 at 20°C (12% trade)

Vapor Pressure (mm Hg, 20C)..... 12.1mm Hg at 20°C (12.5 wt %)

Vapor Density (Air=1)..... Not available

Evaporation Rate..... Not available

Boiling Point..... Slowly decomposes above 40°C.

Freeze/Melting Point..... ~ -15°C (12% trade)

pH..... < 12

Water/Oil Distribution Coefficient.... Not available

Bulk Density..... Not available

% Volatiles by Volume..... Not available

Solubility in Water..... Complete

Molecular Formula..... NaOCl



Molecular Weight..... 74.44

Section 10 - Stability and Reactivity

Stability..... Unstable at temperatures above 40°C, in sunlight, and in contact with acid.

Incompatibility..... Incompatible with strong acids, ammonia, oxidizable materials, nickel, copper, tin, manganese, and iron.

Hazardous Products of Decomposition.. Chlorine (by reaction with acids), oxygen (by reaction with nickel, copper, tin, manganese, iron), sodium chloride, sodium chlorate, with increased temperature.

Polymerization..... Will not occur

Section 11 - Toxicological Information

Irritancy..... Strong irritant

Sensitization..... Not available

Chronic/Acute Effects..... If over-exposed to the solution, there will be constant irritation of the eyes, nose, and throat.

Synergistic Materials..... Not available

Animal Toxicity Data..... LD₅₀(oral, rat) = 8910mg/kg (100% sodium hypochlorite)

Carcinogenicity..... Not considered to be carcinogenic (IARC and ACGIH).

Reproductive Toxicity..... Not available

Teratogenicity..... Not available

Mutagenicity..... Not available

Section 12 - Ecological Information

Fish Toxicity..... Not available

Biodegradability..... Not available



Environmental Effects..... Not available

Section 13 - Disposal Consideration

Waste Disposal..... Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transportation Information

TDG Classification

Class..... 8

Group..... III

PIN Number..... UN 1791

Other..... Secure containers (full and/or empty) with suitable hold down devices during shipment.

Section 15 - Regulatory Information

WHMIS Classification.....E

NOTE: THE PRODUCT LISTED ON THIS MSDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS MSDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

NSF Certification.....Product is certified under ANSI/NSF Standard 60 for disinfection and oxidation at a maximum dosage for the following:

- sodium hypochlorite 5%: 200mg/L
- sodium hypochlorite 6%: 175mg/L
- sodium hypochlorite 7%: 161mg/L
- sodium hypochlorite 8%: 146mg/L
- sodium hypochlorite 9%: 131mg/L
- sodium hypochlorite 10%: 116mg/L
- sodium hypochlorite 11%: 101mg/L
- sodium hypochlorite 12%: 87mg/L
- sodium hypochlorite 13%: 82mg/L
- sodium hypochlorite 14%: 76mg/L
- sodium hypochlorite 15%: 70mg/L
- sodium hypochlorite 16%: 66mg/L
- sodium hypochlorite 17%: 62mg/L
- sodium hypochlorite 18%: 58mg/L
- sodium hypochlorite 19%: 54mg/L
- sodium hypochlorite 20%: 50mg/L



Section 16 - Other Information

Note: The responsibility to provide a safe workplace remains with the user. The 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 user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / MSDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Material 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 or technical service department.

ClearTech Industries Inc. - Locations

Corporate Head Office: 2302 Hanselman Avenue, Saskatoon, SK, S7L 5Z3

Phone: 306-664-2522

Fax: 306-665-6216

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Location	Address	Postal Code	Phone Number	Fax Number
Richmond, B.C.	12431 Horseshoe Way	V7A 4X6	604-272-4000	604-272-4596
Calgary, AB.	5516E - 40 th St. S.E.	T2C 2A1	403-279-1096	403-236-0989
Edmonton, AB.	11750 - 180 th Street	T5S 1N7	780-452-6000	780-452-4600
Saskatoon, SK.	2302 Hanselman Avenue	S7L 5Z3	306-933-0177	306-933-3282
Regina, SK.	555 Henderson Drive	S42 5X2	306-721-7737	306-721-8611
Winnipeg, MB.	340 Saulteaux Crescent	R3J 3T2	204-987-9777	204-987-9770
Mississauga, ON.	7480 Bath Road	L4T 1L2	905-612-0566	905-612-0575

24 Hour Emergency Number - All Locations - 306-664-2522