

MATERIAL SAFETY DATA SHEET**Sodium Carbonate****Section 01 - Chemical And Product And Company Information**

Product Identifier Sodium Carbonate (Soda Ash)

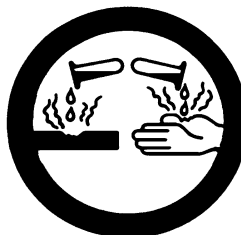
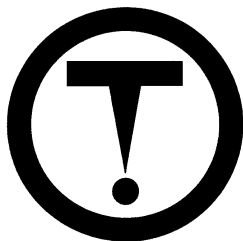
Product Use Glass manufacture, detergent manufacture, sodium chemical manufacture, carbonate chemicals manufacture, pulp and paper, brine treatment, water hardness removal, pH adjustment in water or waste water, flue gas desulfurization, coal treatment, ion exchange resin regeneration.

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 January 2, 2009

24-Hour Emergency Phone 306-664-2522

**Section 02 - Composition / Information on Ingredients**

Hazardous Ingredients Sodium Carbonate 99.8%

CAS Number Sodium Carbonate 497-19-8

Synonym (s) Disodium carbonate, calcined soda, soda ash, lite soda ash, dense soda ash, carbonic acid, disodium salt, sodium carbonate anhydrous

Section 03 - Hazard Identification

- Inhalation**..... May cause upper respiratory tract irritation.
- Skin Contact / Absorption**..... May cause redness, swelling from prolonged contact, especially in hot weather.
- Eye Contact**..... Causes irritation, may burn eyes.
- Ingestion**..... Low acute oral toxicity. May cause nausea, vomiting, diarrhea, irritation, and stomach ache.
- Exposure Limits**..... Treat as a nuisance particulate: TWA(OSHA)= 5mg/m³; TWA(Ontario Ministry of Labour)= 10mg/m³

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**..... While internal toxicity is low, irritant effects of high concentrations may produce corneal opacities, and vesicular skin reactions in humans with abraded skin only. Treatment is symptomatic and supportive.

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**... Heating sodium carbonate liberates CO₂ and fumes of sodium oxide.
- Special Fire Fighting Procedures**..... Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
- Explosion Hazards**..... Not applicable

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.
- Deactivating Materials**..... Use an acid to neutralize after the soda ash has been made into a solution.

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**..... Product is hygroscopic and tends to cake on storage. Store in a cool, dry, well ventilated place. Keep container tightly closed, and away from acids.

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**..... Respiratory protection is not normally required. If use creates dust formations, then a NIOSH approved respirator with a dust cartridge is recommended.



- 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**..... No special footwear is required other than what is mandated at place of work.

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**..... Solid
- Odor and Appearance**..... White granular solid, no odour
- Odor Threshold**..... Not applicable
- Specific Gravity (Water=1)**..... ~2.53 @ 20°C
- Vapor Pressure (mm Hg, 20C)**..... Not applicable
- Vapor Density (Air=1)**..... Not applicable
- Evaporation Rate**..... Not applicable
- Boiling Point**..... Not available
- Freeze/Melting Point**..... 851°C
- pH**..... 11.3 (1% solution)
- Water/Oil Distribution Coefficient**.... Not available
- Bulk Density**..... 0.70-1.12g/cm³
- % Volatiles by Volume**..... Not applicable



Solubility in Water..... 33.2%(w/w)

Molecular Formula..... Na_2CO_3

Molecular Weight..... 105.99

Section 10 - Stability and Reactivity

Stability..... Stable under normal conditions. Avoid conditions of extreme heat(i.e.:temperatures greater than 400°C). Heating liberates fumes of sodium oxide.

Incompatibility..... Aluminium, fluorine, humid air, moisture, acids, sulfuric acid, magnesium, phosphorus pentaoxide, molten lithium.

Hazardous Products of Decomposition.. Carbon dioxide and heat form from reaction with acids.

Polymerization..... Will not occur

Section 11 - Toxicological Information

Irritancy..... Mild irritant. Skin and eye irritant.

Sensitization..... Non-sensitizing (humans, 0.25% Sodium carbonate)

Chronic/Acute Effects..... May cause severe irritation of the eyes, including corneal opacities. Dusts and mists may be irritating to the skin, mucous membranes and upper respiratory tract. No significant acute toxicological effects expected.

Synergistic Materials..... Not available

Animal Toxicity Data..... LD_{50} (Rat, Oral)= 4090mg/kg
 LC_{50} (Rat, Inhalation, 2hr)= 2.3mg/L

Carcinogenicity..... Not considered to be carcinogenic by IARC, NTP, ACGIH, and OSHA

Reproductive Toxicity..... Not available

Teratogenicity..... Not available

Mutagenicity..... Not available



Section 12 - Ecological Information

Fish Toxicity..... TL_m(48hr, Mosquito Fish)= 840mg/L
TL_m(96hr, Mosquito Fish)= 1200mg/L
LC₅₀(Daphina magna, 96hr)= 265-565mg/L
LC₅₀(Bluegill sunfish, 96hr)= 300-320mg/L

Biodegradability..... Not applicable

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..... Not regulated

Group..... Not regulated

PIN Number..... Not regulated

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

Section 15 - Regulatory Information

WHMIS Classification.....D2, 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 corrosion control, scale control and pH adjustment at a maximum dosage of 100mg/L (soda ash dense) and 150mg/L (soda ash light).

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

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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