

MATERIAL SAFETY DATA SHEET**Calcium Chloride 77%****Section 01 - Chemical And Product And Company Information**

Product Identifier Calcium Chloride 77%

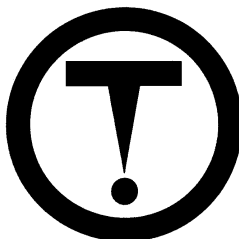
Product Use Industrial uses, drilling mud additives, workover fluids, completion fluids, ice melt, dust control, refrigeration.

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..... April 28, 2010

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

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

Hazardous Ingredients..... Calcium Chloride, dihydrate 100%

CAS Number..... Calcium Chloride, dihydrate 10035-04-8

Synonym (s)..... Calcium chloride dihydrate

Section 03 - Hazard Identification

Inhalation..... Dust or mist inhalation may irritate nose, throat, and lungs.



- Skin Contact / Absorption**..... May cause skin irritation. Under conditions of prolonged contact or when moisture is present, superficial burns may result. Contact with abraded skin or cuts can cause severe necrosis.
- Eye Contact**..... May irritate or burn eyes causing corneal injury which may heal slowly.
- Ingestion**..... May irritate gastrointestinal tract or cause ulcerations.
- Exposure Limits**..... ACGIH/TWA: 10mg/m³ (inhalable)
ACGIH/TWA: 3mg/m³ (respirable)

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 medical attention if breathing difficulties persists.
- 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**..... Give large amounts of water. Do not give anything by mouth to an unconscious or convulsing person. Immediately phone your local poison control center. Vomiting may need to be induced under the direction of medical personnel.
- Additional Information**..... If burn is present, treat as any thermal burn, after decontamination. Treatment based on judgment of the physician in response to reactions of the patient.

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... Not available

Special Fire Fighting Procedures..... Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

Explosion Hazards..... Not available

Section 06 - Accidental Release Measures

Leak / Spill..... Wear appropriate personal protective equipment if required. Prevent material from entering sewers, soils, waterways and groundwater. Sweep up spilled material and place in container for disposal. Flush with water to remove any residue.

Deactivating Materials..... Not available

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. Use cool water < 27°C when diluting or dissolving product.

Storage Requirements..... Store in a cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials. Prolonged storage may cause product to cake and become wet. Protect product from moisture.

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..... NIOSH/MSHA approved respirator for dust should be worn if the potential to exceed exposure limit requirements or if workplace regulations mandate protection is needed.



- Gloves**..... Impervious gloves of chemically resistant material (rubber, neoprene 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. Wash contaminated clothing with 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 to control airborne levels. 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 odourless flakes
- Odor Threshold**..... Not applicable
- Specific Gravity (Water=1)**..... 1.85
- Vapor Pressure (mm Hg, 20C)**..... 0.01
- Vapor Density (Air=1)**..... Not available
- Evaporation Rate**..... Not available
- Boiling Point**..... Not applicable to solid material
- Freeze/Melting Point**..... 176°C
- pH**..... >7 for an aqueous solution
- Water/Oil Distribution Coefficient**.... Not available
- Bulk Density**..... 51-60 lb/ft³



% Volatiles by Volume..... Not available
Solubility in Water..... Very soluble
Molecular Formula..... $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$
Molecular Weight..... 147.02

Section 10 - Stability and Reactivity

Stability..... Product is very stable, hygroscopic.
Incompatibility..... Incompatible with sulphuric acid, water-reactive materials such as sodium, methyl vinyl ether and zinc as in galvanized iron.
Hazardous Products of Decomposition.. Yields hydrogen chloride gas in contact with sulphuric acid. Mixing with water and water-reactive materials causes an exothermic reaction. With zinc, yields flammable hydrogen gas. Reaction of bromide impurity with an oxidizer may generate trace levels of impurities such as bromate.
Polymerization..... Will not occur.

Section 11 - Toxicological Information

Irritancy..... Mild irritant
Sensitization..... Not available
Chronic/Acute Effects..... Chronic exposure to calcium chloride may cause irritation or burns to skin, eyes and nasal cavity.
Synergistic Materials..... Not available
Animal Toxicity Data..... LD_{50} (oral, rat): 918-1668mg/kg
 LD_{50} (dermal, rabbit): > 5000mg/kg
Carcinogenicity..... Not considered to be carcinogenic by NTP, IARC, OSHA.
Reproductive Toxicity..... Did not cause any birth or fetal effects on laboratory animals.
Teratogenicity..... Not available



Mutagenicity..... Not available

Section 12 - Ecological Information

Fish Toxicity..... Material is practically non-toxic to aquatic organisms on an acute basis (LC₅₀: > 100mg/L in most sensitive species).

Biodegradability..... Not applicable

Environmental Effects..... Not expected to bioconcentrate because of its high solubility.

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 devices during shipment.

Section 15 - Regulatory Information

WHMIS Classification.....D2

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.

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

www.ClearTech.ca

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