

MSDS - MATERIAL SAFETY DATA SHEET

CALCIUM CHLORIDE, LIQUID

CAS NUMBER: 10043-52-4

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION:

TRADE NAME (COMMON NAME): Liquid Calcium Chloride

SYNONYMS: Calcium Chloride Aqueous Solution

CaCl²

CaCl² Aqueous Solution

Calcium (II) Chloride

Calcium (II) Chloride Aqueous Solution

Calcium Dichloride

Calcium Dichloride Aqueous Solution

MANUFACTURER/SUPPLIER:

Lady Carmen Trucking Ltd.

P.O. Box 398

Brooks, Alberta

T1R 1B4

EMERGENCY TELEPHONE NUMBERS:

Plant Operator: Glenn Stinn - (403) 793-4397

Plant Owner: Carmen Dussault - (403) 793-7846

PRODUCT USE: Road Dust Control

Road Base Stabilization

Drilling Mud Lubricant

Heavy Equipment Tire Ballast

MSDS PREPARATION: Acer Environmental Solutions Inc (403) 313-8976

CURRENT ISSUE DATE: April 5, 2017

2. COMPOSITION/INGREDIENTS:

28-30% Calcium Chloride Aqueous Solution

Calcium Chloride: CAS# 10043-52-4

LD50 Oral Rat 1000mg/kg

LC50/96 Hour Fish >100mg/L

Water: CAS# 7732-18-5

CaCl² Brine MSDS - 2017

3. HAZARDS IDENTIFICATION:

LOW TOXICITY - MAY CAUSE IRRITATION TO SKIN, EYES, RESPIRATORY AND GASTROINTESTINAL TRACTS, HARMFUL IF SWALLOWED OR INHALED.

ROUTES OF ENTRY/POTENTIAL ACUTE EXPOSURE HEALTH EFFECTS:

SKIN CONTACT: May cause skin irritation. Prolonged contact may cause superficial burns. Contact with abraded or broken skin may cause severe necrosis.

EYES: May irritate or burn eyes, possible corneal injury.

INHALATION: Mist inhalation may irritate nose, throat and lungs, may cause nose bleeds.

INGESTION: Low toxicity, may irritate gastrointestinal tract - cause nausea and vomiting.

CHRONIC EXPOSURE EFFECTS: None identified.

4. FIRST AID MEASURES:

SKIN CONTACT: Wipe off excess solution from skin and flush with water.

EYES: Immediately flush with water including behind eyelids and continue for at least 15 minutes. Obtain medical attention.

INHALATION: Remove to fresh air. Obtain medical attention.

INGESTION: Low toxicity if ingested in small quantity. For large quantity if conscious immediately ingest 2-4 glasses of water or milk and obtain medical attention.

NOTE TO PHYSICIAN: Oral ingestion may cause serum acidosis.

5. FIRE FIGHTING MEASURES:

NON FLAMMABLE & NON COMBUSTIBLE.

FIRE: Not considered a fire hazard.

EXPLOSION: Not considered an explosion hazard.

FIRE CONTROL: Isolate area and use appropriate means to extinguish surrounding fire.

SPECIAL INFORMATION: At high temperatures calcium chloride may produce toxic or irritating fumes. Fire fighters should wear full protective clothing and equipment.

6. ACCIDENTAL RELEASE MEASURES:

ALWAYS WEAR PERSONAL PROTECTIVE EQUIPMENT (SECTION 8). SPILLED BRINE MAY CREATE A SLIPPING HAZARD.

SMALL SPILLS: Isolate area, eliminate source and contain spilled material if possible, recover free liquid with absorbent, mop or other appropriate means and collect for disposal. Dilute residues with water, recover liquid with absorbent. Repeat as necessary.

LARGE SPILLS: Isolate area, eliminate source and contain with impermeable or absorbent barrier. Recover free liquid and treat residues as for small spills. Prevent spills from entering sewers or waterways.

7. HANDLING & STORAGE:

VENTILATION: Natural ventilation is adequate for exterior areas. Local exhaust should be used in confined storage, packaging and unloading areas, over open processing equipment and where mist is produced.

HANDLING: Avoid contact with eyes, skin or clothing and use appropriate personal protective equipment. Avoid inhaling mist or vapours. Use good personal hygiene and housekeeping.

STORAGE: Store in secure corrosion resistant container. Do not use zinc or galvanized metal containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

RESPIRATORY PROTECTION: For mist and/or vapour exposure wear NIOSH/MSHA approved respirator. Respirator should be constructed of corrosion resistant materials.

EYES & FACE: For mist exposure and general handling wear chemical safety glasses and a hard hat. Contact lenses should not be worn.

HANDS: Chemical resistant gloves.

BODY: Coveralls and/or long sleeve shirt and trousers. Chemical resistant safety boots with non-slip soles..

EXPOSURE RESPONSE: Readily accessible eye-wash station and shower recommended.

9. PHYSICAL & CHEMICAL PROPERTIES:

PHYSICAL STATE: Clear to slightly turbid brownish liquid.

ODOUR: Slight acrid odour.

CALCIUM CHLORIDE: CaCl_2 , Molecular Weight 110.99

SOLUBILITY IN WATER: Solid 74.5gm/100ml @ 20°C, brine 100% miscible.

SPECIFIC GRAVITY@ 20°C: 20% Solution 1.19, 30% Solution 1.30, 40% Solution 1.44.

VAPOUR PRESSURE @ 20°C: 20% Solution 16mm Hg, 30% Solution 11mm Hg, 40% Solution 7.3mm Hg.

VAPOUR DENSITY: N/A (water vapour only).

EVAPORATION RATE: N/A (water vapour only).

BOILING POINT: 20% Solution +105°C, 30% Solution +110°C, 40% Solution +118°C.

FREEZING POINT: 20% Solution -20°C, 30% Solution -47°C, 40% Solution +16°C.

pH: Neutral or slightly alkaline.

COEFFICIENT OF WATER/OIL DISTRIBUTION: N/A

10. STABILITY & REACTIVITY:

STABILITY: Product is stable.

INCOMPATIBILITY (MATERIALS TO AVOID):

- Reacts violently with boron trifluoride (BF_3) or a mixture of boron trioxide & calcium oxide ($\text{B}_2\text{O}_3 + \text{CaO}$).
- Water-reactive materials (eg. Sodium) cause an exothermic reaction.
- Methyl vinyl ether can start a runaway polymerization reaction.
- Zinc metal (galvanized coatings) react to generate potentially explosive hydrogen.
- Metals in general and aluminum, aluminum alloys and yellow brass in particular are corroded by calcium chloride.

HAZARDOUS DECOMPOSITION PRODUCTS: Chlorine gas is generated when heated to decomposition.

11. TOXICOLOGICAL INFORMATION:

RAT ORAL LD50: 1000mg/kg (anhydrous).

IRRITANCY: May cause irritation.

SENSITIZATION: May cause irritation.

CARCINOGENICITY: None known.

REPRODUCTIVE TOXICITY: None known.

TERATOGENICITY: None known.

MUTAGENICITY: None known.

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: None known.

12. ECOLOGICAL INFORMATION:

NOT KNOWN TO BIODEGRADE OR BIOACCUMULATE.

AQUATIC TOXICITY: LC50/96 is over 100 mg/L.

13. DISPOSAL CONSIDERATIONS:

Disposal Methods must comply with Provincial, State, Federal and Local disposal or discharge laws.

In limited quantities and if permitted by applicable disposal regulations dilute with water and flush to sewer with additional water. May require disposal at an approved waste facility.

14. TRANSPORT INFORMATION:

Not a dangerous good, not regulated.

15. REGULATORY INFORMATION:

CALCIUM CHLORIDE WHMIS CLASSIFICATION: D2B - Toxic material causing other toxic effects (Eye & Skin irritant).

16. OTHER INFORMATION:

NFPA 704 CLASSIFICATION: Health - 1
Flammability - 0
Reactivity - 0
Specific Hazard - None

The data contained herein is believed to be accurate and reliable. No warranty is expressed or implied and Lady Carmen Trucking Ltd. and Envirotech Services assume no responsibility regarding the accuracy or completeness of the data provided or its application.

REFERENCES:

"Calcium Chloride Handbook" - Dow Chemical Company, August, 2003
"MSDS Calcium Chloride, Liquid" - General Chemical, Parsippany, NJ, May, 2001