

# CALCIUM CHLORIDE

## 1. Chemical Product and Company Identification:

**Trade Name:** Calcium Chloride  
**Chemical Class:** Inorganic salts  
**Applications:** Oil well drilling fluid additive, Oil well completion fluid additive, weighting agent.  
Hydrocarbon, Dehydration, Deicer

### Details of the supplier of the safety data sheet

**ENTAJ FEED & RAW MATERIALS MANUFACTURING CO.**  
ADDRESS: AMMAN – BUILDING 2477, OFFICE 118210  
LICENSE NO.: 202618787

## 2. Composition, Information On Ingredients

**Ingredient Name:** Calcium Chloride  
**CAS No.:** 10043-52-4  
**Percent:** Min 94%  
**EINECS/ELINCS:** 233-140-8

## 3- Hazards Identification

### EMERGENCY OVERVIEW

**Appearance:** white  
**Physical State:** Solid  
**Odor:** Odorless

**Warning!** May cause severe eye, skin and respiratory tract irritation with possible burns. May be harmful if swallowed. May cause cardiac disturbances. Hygroscopic (absorbs moisture from the air).

### Calcium Chloride (CaCl<sub>2</sub>)

**Target Organs:** Cardiovascular system, eyes.



## Potential Health Effects

- Eye:** Contact with eyes may cause severe irritation, and possible eye burns.
- Skin:** Contact with skin causes irritation and possible burns, especially if the skin is wet or moist.
- Ingestion:** May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause cardiac disturbances. May be harmful if swallowed. In very severe cases, seizures, rapid respiration, slow heartbeat, or death, may.
- Inhalation:** May cause severe irritation of the upper respiratory tract with pain, burns, and inflammation.
- Chronic:** Effects may be delayed.

## 4. First aid measures

- Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
- Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupsful of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.
- Inhalation:** Remove from exposure and move to fresh air immediately. Keep victim warm and at rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation. Get medical aid.
- Notes to Physician:** Treat symptomatically and supportively. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptom and the clinical condition of the patient.

## 5. Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

**Extinguishing Media:** Use extinguishing media most appropriate for the surrounding fire. Carbon dioxide (CO<sub>2</sub>). Dry chemicals. Foam, alcohol-resistant foam. Water spray, fog or mist.

**Flash Point:** Not applicable.

**Auto ignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper Flammability Level (air):** Not available.

**Lower Flammability Level (air):** Not available.



## 6. Accidental release measures

**PERSONAL PRECAUTIONS:** Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling, for additional precautionary measures.

**SPILL CLEAN-UP PROCEDURES:** Avoid generating and spreading of dust. Shovel into dry containers. Cover and move the containers. Flush the area with water. Repackage or recycle if possible. See Section 13, Disposal Considerations, for additional information

**Environmental Precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

## 7. Handling and storage

**Handling:** Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Keep container tightly closed. Do not get on skin or in eyes. Do not ingest or inhale. Wash clothing before reuse. Always use cool water when dissolving calcium chloride. Heat evolved is significant. Avoid breathing dust, vapor, mist, or gas.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from atmospheric moisture. Keep in original container.

## 8. Exposure controls/personal protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

| Chemical Name    | ACGIH       | NIOSH       | OSHA - Final PELs |
|------------------|-------------|-------------|-------------------|
| Calcium Chloride | none listed | none listed | none listed       |

**OSHA Vacated PELs:** Calcium chloride: No OSHA Vacated PELs are listed for this chemical.  
 Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear impervious gloves. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures. Examples of preferred glove barrier materials include: neoprene, polyvinyl chloride (PVC or vinyl), nitrile/butadiene rubber (nitrile or NBR). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.



**Clothing:** Wear appropriate protective clothing to minimize contact with skin.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.



## 9. Physical and chemical properties

|                                   |                         |                                   |
|-----------------------------------|-------------------------|-----------------------------------|
| <b>Physical State:</b>            | Solid                   |                                   |
| <b>Appearance:</b> white          | <b>Odor:</b> odorless   | <b>pH:</b> Not available to solid |
| <b>Vapor Pressure:</b>            | Not available           |                                   |
| <b>Vapor Density:</b>             | Not available           |                                   |
| <b>Evaporation Rate:</b>          | Not available           |                                   |
| <b>Viscosity:</b>                 | Not available           |                                   |
| <b>Boiling Point:</b>             | 1600 °C @ 760 mmHg      |                                   |
| <b>Freezing Point:</b>            | Not applicable to solid |                                   |
| <b>Melting Point:</b>             | 782 °C                  |                                   |
| <b>Decomposition Temperature:</b> | Not available           |                                   |
| <b>Solubility:</b>                | Very soluble in water.  |                                   |
| <b>Specific Gravity/Density:</b>  | 2.1500 g/cm3            |                                   |
| <b>Molecular Formula:</b>         | CaCl2                   | Molecular Weight: 110.99          |

## 10. Stability and reactivity

### Chemical Stability:

Stable. Hygroscopic

### Conditions to Avoid:

Dust generation, excess heat, exposure to moist air or water.

### Incompatibilities with Other Materials:

Bromine trifluoride, Furan-2peroxycarboxylic acid, sulfuric acid and Solutions attack some metals. Heat is generated when mixed with water. Spattering and boiling can occur. Flammable hydrogen may be generated from contact with metals such as zinc, sodium.

### Hazardous Decomposition Products:

Hydrogen chloride, calcium oxide.

### Hazardous Polymerization:

Will not occur.



## 11. Toxicological information

### LD50/LC50:

|                              |                                                          |
|------------------------------|----------------------------------------------------------|
| <b>Oral, mouse:</b>          | LD50 = 1940 mg/kg                                        |
| <b>Oral, rabbit:</b>         | LD50 = 1384 mg/kg Oral, rat: LD50 = 1 gm/kg              |
| <b>Carcinogenicity:</b>      | Not listed by ACGIH, IARC, NTP, or CA Prop 65            |
| <b>Epidemiology:</b>         | No information found                                     |
| <b>Teratogenicity:</b>       | No information found                                     |
| <b>Reproductive Effects:</b> | No information found                                     |
| <b>Mutagenicity:</b>         | Mutagenic effects have occurred in experimental animals. |
| <b>Neurotoxicity:</b>        | No information found                                     |

## 12. Ecological information

### ECOTOXICITY DATA

**Aquatic Toxicity:** Material is practically non-toxic to aquatic organisms on an acute basis. (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested)

**Freshwater Fish Toxicity:** Calcium Chloride: LC50, bluegill (*Lepomis macrochirus*): 10,650 - 8,350 mg/l

**Invertebrate Toxicity:** Calcium Chloride: LC50, water flea *Daphnia magna*: 3,005 - 759 mg/l

### FATE AND TRANSPORT

**BIODEGRADATION:** Biodegradation is not applicable.

**BIOCONCENTRATION:** No bio concentration is expected because of the relatively high water solubility. Potential for mobility in soil is very high (Koc between 0 and 50).

Partitioning from water to n-octanol is not applicable.

## 13. Disposal considerations

Dispose of in accordance with Federal, State, and local regulations.

## 14. Transport information

|                           |                             |
|---------------------------|-----------------------------|
| <b>PRODUCT RQ:</b>        | N/A                         |
| <b>U.S. DOT</b>           |                             |
| <b>U.S. DOT CLASS:</b>    | Not regulated               |
| <b>CANADIAN TRANSPORT</b> |                             |
| <b>TDGR CLASS:</b>        | Not regulated               |
| <b>SEA TRANSPORT</b>      |                             |
| <b>IMDG CLASS:</b>        | Not regulated AIR TRANSPORT |
| <b>ICAO CLASS:</b>        | Not regulated               |



## 15. Regulatory information

### European/International Regulations

**European Labeling in Accordance with EC Directives Hazard Symbols:** Xi Risk **Phrases:** R 36 Irritating to eyes.

**Safety Phrases:** S 22 do not breathe dust. S 24 Avoid contact with skin.

**WGK (Water Danger/Protection):** CAS# 0 :4-52-10043

**Canada - DSL/NDSL:** CAS# 4-52-10043 is listed on Canada's DSL List.

**Canada – WHMIS:** This product has a WHMIS classification of D2B. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

## 16. Other information

this Material Safety Data Sheet (MSDS) has been prepared in accordance with internationally recognized standards and is based on the best information available at the time of issue. It provides a summary of the health and safety hazards of the material and general guidance for its safe handling in the workplace. As the actual conditions of use are beyond our control, each user is responsible for assessing the risks associated with their specific application and implementing appropriate control measures.

**END OF MSDS**

