Safety Data Sheet
Calcium Chloride Granules 94%

A Member of MIDCHEM
شركة الشرق الأوسط للكيماويات (شركة مساهمة مقفلة)
Middle East Chemicals Co. (Closed Joint Stock Co.)

According to the United Nations GHS (Rev. 10, 2023)
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المصنع السعودي للكلور والقلويات
Saudi Factory for Chlorine and Alkalies

SECTION 1: Identification

1.1 GHS Product Identifier

Substance Name sub	Calcium Chloride Granules 94%
Substance Synonyms	Calcium Chloride Anhydrous.

1.2 Other Means of Identification

No additional information is available.

1.3 Recommended use of the chemical and restrictions on use

Recommended Use	Oil Drilling, Concrete Accelerator, Ice Melting, Dust Control, Road Base.
Uses advise against	Not for food, feed, or pharmaceutical applications.

1.4 Supplier's Details

Supplier
Saudi Factory for Chlorine & Alkalies
Building #2101, Unit # 2, Riyadh 14545-8762
Kingdom of Saudi Arabia.
Contact # +966 11 810 1219
Email: Info@sachlo.com

1.5 Emergency Phone Number

Emergency Phone Number	+966554066597 +966550289633

SECTION 2: Hazard Identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

International chemical identification	Calcium Chloride
Ec no	233-140-8
Cas no	10043-52-4
Hazard class and category code(s)	Eye irritation
Hazard statement code(s)	H319
Pictogram signal word code(s)	GHS07
Specific conc. Limits, m- factors	10

2.2. GHS Label elements, including precautionary statements.

According to Regulation (EC) No 1272/2008

Hazard Pictograms

Pictogram signal word code(s)	Ghs07
Hazard Class & Category	causes serious eye irritation. Cat. 2
Hazard statement code(s)	H319 Causes severe eye irritation.
Emergency Overview:	P264 Wash face, hands, and any exposed skin thoroughly after handling. P280 Wear protective gloves, clothing, eye protection, and face protection. P305+ P351+ P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present, and do so easily. Continue rinsing.
Human health effects	P337+P313 If eye irritation persists, seek medical advice or attention. Serious damage to eyes. Irritating skin and mucous membranes
Inhalation	Product Dust may irritate the eye tract.
Skin contact	Product Dust may irritate the skin. Repeated exposure may cause skin dryness or cracking
Ingestion	Irritation of the mouth and throat. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea
Carcinogenic Effects	Not Carcinogenic.
Mutagenic Effects	No information available
Reproduction Toxicity	No information available

2.3. Other hazards which do not result in classification.

Omission: Calcium Chloride is hygroscopic and generates vigorous exothermic heat upon contact with water; large spills can alter soil and water salinity.

SECTION 3: Composition/information on ingredients

3.1. Substances

Calcium Chloride, Anhydrous (Granular

3.2. Mixtures

Name	CAS - NO.	EC - NO.	MOL. WT.	EMPIRICAL FORMULA	CONCENTRATION
Calcium Chloride, Anhydrous (Granular)	10043-52-4	233-140-8	110.98 g mol-1	CaCl2	≥ 94%

SECTION 4: First Aid measures

4.1. Description of necessary first Aid measures

First Aid measures general
Move out of dangerous areas. Don't leave the victim unattended. Show this safety data sheet to the doctor in attendance

First Aid measures after inhalation
Move to fresh air. Keep in a position that is comfortable for breathing. If unconscious, place in a recovery position and seek medical attention. If symptoms (cough, irritation) persist, get medical advice/attention

First Aid measures after skin contact
Rinse skin with plenty of water for at least 15 minutes, then wash with soap. Take off contaminated clothing and shoes immediately. Seek medical attention if irritation persists or develops.

First Aid measures after eye contact
Rinse immediately with plenty of water under the eyelids for at least 15 minutes. Remove contact lenses. Protect unaffected eyes. Continue rising during transport. Get immediate medical advice/attention.

First Aid measures after ingestion
Rinse mouth with water. If conscious, slowly give 1–2 glasses of water to dilute the material. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head low to avoid aspiration. Provide artificial respiration only if breathing has stopped and by trained personnel.

Additional notes
Dust mixes with moisture to form a hot solution that can aggravate burns; symptoms of inhalation exposure may be delayed.

4.2. Most important symptoms/effects, acute and delayed.

Symptoms/effects after skin contact
Irritation, dryness, or redness (Serve exposure may cause burn.

Symptoms/effects after eye contact
Redness, pain or temporary cornel injury

Symptoms/effects after ingestion
Nausea, vomiting, or electrolyte imbalance

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire Fighting measures

5.1. Suitable extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to the local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	High-volume water jet

5.2. Specific hazards arising from the chemical.

Specific Hazards During Firefighting	When strongly heated in a fire, the product may decompose to hydrogen chloride and trace chlorine fumes. Dissolution in water is highly exothermic and produces a hot, mildly acidic solution; localized 'steam' may carry HCl mist. Solutions in contact with aluminum, zinc, or similar metals may release small amounts of flammable hydrogen gas.

5.3. Special protective actions for fire-fighters

Special protective equipment for Firefighters	Gloves, helmets, eye protection (safety glasses or face guard), protective clothing, protective boots, and compressed air/oxygen apparatus.
Further Advice	No specific firefighting instructions are required.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions	If dust is present, reduce it by sweeping or applying water. Wear a dust mask/respirator approved for nuisance particulates if the airborne concentration exceeds OELs or causes irritation. Granules become extremely slippery when wet—use anti slip footwear Protective equipment for emergency responders, such as gloves, safety glasses, and protective clothing. If a dust cloud is present: compressed air/oxygen apparatus, refer to Section 8
Environmental Precautions	Prevent large quantities from entering soil, surface water, or storm drains. High salinity can damage vegetation and aquatic organisms.

6.1.1. For non-emergency personnel

Protective equipment	Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	Avoid release to the environment.

6.1.2. For emergency responders

Protective equipment	Wear personal protective equipment. Wear suitable protective clothing. For further information refer to section 8: "Exposure controls/personal protection". Ventilate spillage area. Avoid contact with skin and eyes. Do not attempt to take action without suitable protective equipment. Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent large quantities from entering soil, surface water, or storm drains. High salinity can damage vegetation and aquatic organisms.

6.3. Methods and materials for containment and cleaning up.

Methods & Materials for containment and cleaning up	Avoid wetting the product if you intend to recover it. Vacuum or sweep gently to minimize dust. If water is used for final wash-down, expect an exothermic reaction and possible steam release; cool the area before personnel re-enter. Collect wash-water for disposal; do not allow contact with aluminum or zinc equipment (risk of hydrogen formation); refer to Section 13. Flush residues to drain only if permitted by local regulations; otherwise, absorb with inert material and dispose of as non-hazardous salt waste.
Further Information	See section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on Safe Handling	Granules are hygroscopic; wet products become incredibly slippery. Air conveying/mechanical systems are used for bulk transfer to storage. Provide local exhaust or dust extraction. If dust cannot be controlled, wear a particulate respirator (EN 149 FFP2/NIOSH N95); refer to Section 8 for PPE Selection. When preparing brine, add granules slowly into water with stirring; never pour water onto a pile of salt. A powerful exotherm can cause boiling and splatter. Keep separate from concentrated mineral acids. Avoid prolonged contact of solutions with aluminum, zinc, or tin (risk of hydrogen gas evolution).

7.2. Conditions for safe storage, including any incompatibilities.

Requirements for Storage Areas and Container	Keep bags tightly closed in moisture-proof packaging. Store under the roof; avoid condensation Keep/Store away from extremely high temperatures, direct sunlight, heat, ignition sources, and incompatible materials. Suitable Packaging material: High-density polyethylene (HDPE), Low-density polyethylene (LDPE)

Advice on Protection against Fire and Explosion	The product is not flammable. Standard measures for preventive fire protection.
Further Information on Storage Conditions	Avoid dust formation. Refer to the protective measures listed in section 8.
Shelf Life	Under dry, sealed conditions, the product's chemical quality is stable for 36 months; exposure to humidity may cause caking and quality defects.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

OSHA (PEL/TWA) 15 mg/m3 Total Dust

8.2. Appropriate engineering controls

Technical Measures	Avoid raising dust. Carry out operations in the open, under local exhaust or ventilation, or with respiratory protection. Apply technical measures to comply with occupational exposure limits

8.3. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment:
Wear protective gloves. Wear protective clothing. Wear foot protection. Wear a mask.

Hand protection	Dry handling: lightweight nitrile or PVC gloves. If contact with hot brine is possible, use heat-insulated, chemical-resistant gloves. Replace if damaged or contaminated.
Eye protection	Wear appropriate protective eyeglasses or chemical safety goggles and a face shield as described by OSHA's eye and face protection regulations in 29 CFR 1910.133
Skin and body protection	Wear long-sleeved clothing and slip-resistant safety boots. Chemical splash suit where significant brine contact is likely. Impervious gloves (made of rubber, PVC, or nitrile)
Respiratory protection	Use personal respiratory protection that meets international and local standards if needed. In case of insufficient ventilation, use a respirator with NIOSH-approved respiratory protection
Hygiene Measures	Use only in an area equipped with a safety shower. Follow proper industrial hygiene and safety protocols. Do not eat, drink, or smoke when interacting with the substance. Wash your hands after every time you interact with the substance.

Environmental Exposure Controls	Capture dust with a baghouse filtration system or a wet scrubber. Minimize the discharge of saline wash water to drains; follow the disposal guidance in Section 13

Personal Protective Equipment Symbol(s)

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	Solid Granules
Color	White
Odor	odorless
PH	7.5 – 10.5 @ 10%
Melting Point	772–775 °C
Volatility	Non-volatile
Specific Gravity	1.1 – 1.3
Relative Density	2.15 g/cm3 (20 °C)
Solubility	water: 745 g/L @ 20 °C. slightly soluble in methanol; practically insoluble in ethanol and most organic solvents.
Boiling point/decomposition	Not applicable – melts at 772 °C; decomposes above ~ 1600 °C (HCl/Cl_2 evolution)
Flash point, Flammability (solid)	Not flammable (non-combustible inorganic salt).
Vapor pressure	Negligible (< 0.01 Pa @ 25 °C).
Vapor density	Not applicable (non-volatile solid).
Viscosity	Not applicable (solid)
% Volatile / VOC	0 %.

9.2. Data relevant regarding physical hazard classes (supplemental)

Hygroscopic	Dissolution in water is strongly exothermic

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable salt; hygroscopic. Dissolution in water is strongly exothermic
Dry granules absorb moisture from the air.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Contact of aqueous solutions with aluminum, zinc, tin, or their alloys evolves flammable hydrogen gas.
Aqueous solutions corrode aluminum, zinc, magnesium, etc., releasing flammable hydrogen gas.
No known hazardous reaction with common oxidizing agents.

10.4. Conditions to avoid.

Minimize airborne dust where ignition sources or hot surfaces are present (hydrogen is possible from metal contact).
Avoid high humidity (the product cakes and releases heat upon wetting); also, avoid temperatures above 400 °C (which can cause decomposition)
Keep away from open flames and heat sources.
Avoid exposure to moisture over prolonged periods
Thermal Decomposition Melts at around 772 °C; decomposes slowly above 1600 °C (releasing HCl/Cl_2).

10.5. Incompatible materials

Concentrated mineral acids (H_2SO_4, H_3PO_4) – form hot, acidic solutions and liberate HCl vapor.
Metals such as aluminum, zinc, tin – hydrogen evolution in brine.
Boric acid – forms insoluble calcium borate precipitate.
Calcium oxide – heat-producing reaction
Keep water note as: “Contact with water generates heat (see § Reactivity)

10.6. Hazardous decomposition products

Hydrogen chloride vapor and trace chlorine are released when salt is molten / decomposed (> 800 °C).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Calcium Chloride Granules	
LD50 Oral	1000 mg/kg (rat)
LD50 Dermal	>500 mg/kg (rabbit)
LD50 Inhalation	Not acutely toxic by inhalation; no deaths at highest testable dust concentration (5 mg/L, 4 h)
Eye Contact	Irritating to the eyes
Skin Contact	May cause transient skin irritation, especially on abraded or moist skin — not classified as a hazard.
Non-irritating	Patch tests on human volunteers did not demonstrate sensitization properties

11.2. INFORMATION ON TOXICOLOGICAL EFFECTS

No information available

11.3 DELAYED & IMMEDIATE EFFECTS AS WELL AS CHRONIC EFFECTS (SHORT AND LONG-TERM EXPOSURE)	
Chronic toxicity	No known effect
Mutagenicity	No information available
Carcinogenicity	Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH)
Reproductive Toxicity	No reproductive or developmental effects observed in animal studies (calcium salts are normal nutrients).
STOT- Single Exposure	Not classified; dust may irritate the upper airways.
STOT Repeated Exposure	Not classified; no target-organ toxicity in repeat-dose studies.
Aspiration hazard	Not an aspiration hazard (solid, non-hydrocarbon).

SECTION 12: Ecological information

12.1. ECOTOXICITY	
Acute toxicity fishes	LC50 Other 10650 mg/L 96 h Lepomis macrochirus
cute toxicity to invertebrates	EC50 Other 759 - 3005 mg/L 48 h Cerio daphnia
Toxicity of algae and other aquatic plants	EC50 2900 mg/L 5 days Algae

12.2. Persistence and degradability

Calcium Chloride Granules	
Persistence	Biodegradability does not pertain to inorganic substances.
Biodegradability	The methods for determining biodegradability do not apply to inorganic substances.

12.3. Bioaccumulative potential

Calcium Chloride Granules	
Bioaccumulation	Does not bioaccumulate.

12.4. Mobility in soil

Calcium Chloride Granules	
Mobility in soil	Calcium ion may absorb to clay or humic sites, while chlorine remains mobile.

12.5 RESULTS OF PBT AND VPVB ASSESSMENT	
Results	The criteria of PBT and vPvB, as listed in Annex XIII of Regulation (EC) No 1907/2006, do not apply to inorganic substances.

12.6 OTHER ADVERSE EFFECTS	
Remarks	Significant releases to freshwater can raise salinity, potentially stressing aquatic life and vegetation.

SECTION 13: Disposal considerations

13.1. PROVISIONS RELATING TO WASTE

Provision relating to waste	This product is not listed in 40 CFR 261 and does not exhibit characteristic hazards (ignitability, corrosivity, reactivity, toxicity). However, high-salinity brine may require discharge permits—check local water authority limits.

13.2. WASTE DISPOSAL METHOD

Waste Disposal Method	This material, as supplied, is not a hazardous waste according to USA Federal regulations (40 CFR 261). Dispose of according to federal, state, and local regulations.

13.3. CONTAINER HANDLING AND DISPOSAL

Rinse the empty containers and treat the effluent in the same way as waste
Dispose of it according to federal, state, and local regulations.
Do not reuse empty containers.

SECTION 14: Transport information

Flatbed truck, jumbo Bags (17/20/24/26 Tons)

UN RTDG	IMDG	IATA
Not regulated as a hazardous material	Not regulated as a hazardous material	Not regulated as a hazardous material

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

WHMIS Classification: D2B Toxic material causing other toxic effects.
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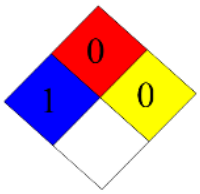
DSCL (EEC) R36 irritating to eyes. S2- Keep out of reach of the children. S22- Do not breathe dust. S24- avoid contact with skin.
EU CLP Eye irrit.2 (H319) Skin irrit.
KSA SASO GHS Compliance with SASO 1503:2018
HMIS (U.S.A)

SECTION 16: Other information

NFPA health hazard	1 - The material could cause irritation or minor injury.
NFPA fire hazard	0 -The material will not burn under typical fire conditions.
NFPA reactivity	0-The material is normally stable, even under fire conditions, and does not react with water



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Other Information	None

Full text of H-statements:	
H314	Causes severe skin burns and eye damage

Safety Data Sheet (SDS), UN

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.