

# MATERIAL SAFETY DATA SHEET | MSDS

This MSDS is prepared to meet the requirements of GHS & CLP (EC) No 1272/2008 regulations.

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### 1.1 PRODUCT IDENTIFIER

SUBSTANCE NAME	Calcium Chloride Granules 94%
SUBSTANCE SYNONYMS	Calcium Dichloride, Calcium Chloride, Calcium Chloride Anhydrous.
CAS-NO	10043-52-4
HTS Code	282720000000
EC-NO	233-140-8

### 1.2 RELEVANT IDENTIFIED USES OF SUBSTANCE OR MIXTURE & USES ADVISED AGAINST

IDENTIFIED USES	Oil Drilling, Concrete Accelerator, Ice Melting, Dust Control, Road Base Stabilization.
USES ADVISED AGAINST	No uses advised against known

### 1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HEADQUARTERS	MANUFACTURING SITE
Khair Inorganic Chemical Industries Company (InoChem) 8833 King Saud Road   Al Rakah Al Shamaliyah Dist. Al Suwaidi Tower   2 <sup>nd</sup> Floor Dammam 34225   Saudi Arabia	Royal Commission of Jubail & Yanbu RC Road   Street No. 420 Ras Al Khair 37257   Saudi Arabia
TELEPHONE	+966 (013) 849 9444
EMAIL ADDRESS	<a href="mailto:cs@inochem.sa">cs@inochem.sa</a>

## SECTION 2 HAZARDS IDENTIFICATION


### 2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification according to Regulation (EC) No 1272/2008

Index No	INTERNATIONAL CHEMICAL IDENTIFICATION	EC NO	CAS NO	CLASSIFICATION		LABELING	SPECIFIC CONC. LIMITS, M- FACTORS	Notes
				HAZARD CLASS AND CATEGORY CODE(S)	HAZARD STATEMENT CODE(S)	PICTOGRAM SIGNAL WORD CODE(S)		
	Calcium Chloride	233-140-8	10043-52-4	Causes serious eye irritation	H319	GHS07	10	

### 2.2 SYMBOLS

According to Regulation (EC) No 1272/2008

PICTOGRAM	PICTOGRAM SIGNAL WORD CODE(S)	HAZARD CLASS & CATEGORY	HAZARD STATEMENT CODE(S)
	GHS07	Eye irritation Xi; R36 Category 2	H319 Causes severe eye irritation.

### 2.3 SIGNAL WORD

Warning

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## 2.4 EMERGENCY OVERVIEW

P264	Wash face, hands, and any exposed skin thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+ P351+ P338	Wear protective gloves/ eye protection/ face.
P337+P313	If eye irritation persists: Get medical advice/attention.

## 2.5 POTENTIAL CHRONIC HEALTH EFFECT

### Human health effects

	<ul style="list-style-type: none"><li>Serious damage to eyes.</li><li>Irritating to skin and mucous membranes</li></ul>
Inhalation	<ul style="list-style-type: none"><li>Product Dust may irritate the eyes, skin, and respiratory tract.</li><li>Irritating to mucous membranes</li><li>Repeated or prolonged exposure: Risk of sore throat and nose bleeds. (In case of higher concentration): Cough.</li></ul>
Eye contact	<ul style="list-style-type: none"><li>Severe eye irritation</li><li>Lachrymation</li><li>Redness</li><li>Swelling of tissue</li><li>May cause irreversible eye damage.</li></ul>
Skin contact	<ul style="list-style-type: none"><li>When in contact with damp skin, irritation.</li><li>Itching</li><li>Repeated exposure may cause skin dryness or crack.</li></ul>
Ingestion	<ul style="list-style-type: none"><li>Severe irritation</li><li>Irritation of the mouth and throat</li><li>Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.</li></ul>
CARCINOGENIC EFFECTS	No carcinogenic effects were reported.
MUTAGENIC EFFECTS	No information available
REPRODUCTION TOXICITY	No information available

## 2.6 LABEL

See Table SYMBOLS 2.2.

## 2.7 OTHER HAZARDS

Not Known

## SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

SUBSTANCE NAME	Calcium Chloride Granules
CAS - NO.	10043-52-4
EC - NO.	233-140-8

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MOL. WT.	110.98
EMPIRICAL FORMULA	CaCl <sub>2</sub>
CONCENTRATION	≥ 94%

## SECTION 4 FIRST-AID MEASURES

General Advice	<ul style="list-style-type: none"><li>Move out of dangerous areas.</li><li>Don't leave the victim unattended.</li><li>Show this safety data sheet to the doctor in attendance.</li></ul>
Eye Exposure	<ul style="list-style-type: none"><li>Rinse immediately with plenty of water under the eyelids for at least 15 minutes.</li><li>Remove contact lenses.</li><li>Protect unharmed eyes.</li><li>If eye irritation persists, seek medical attention.</li></ul>
Skin Exposure	<ul style="list-style-type: none"><li>Wash off with warm water and soap.</li><li>Take off contaminated clothing and shoes immediately.</li><li>Get medical attention if irritation develops and persists.</li></ul>
Inhalation	<ul style="list-style-type: none"><li>Remove the victim from the dusty environment to fresh air and let the victim blow his nose.</li><li>If unconscious, place in a recovery position and seek medical attention.</li><li>If symptoms persist, seek medical attention.</li></ul>
Ingestion	<ul style="list-style-type: none"><li>Keep respiratory tract clear.</li><li>If the victim is conscious, give 1-2 glasses of water to drink.</li><li>Do not induce vomiting.</li><li>If the victim is unconscious, never introduce anything by mouth; artificial respiration may be necessary.</li></ul>

## SECTION 5 FIREFIGHTING MEASURES

### 5.1 EXTINGUISHING MEDIA

Suitable Extinguishing Media	<ul style="list-style-type: none"><li>Use extinguishing measures appropriate to local circumstances and the surrounding environment.</li></ul>
Unsuitable Extinguishing Media	<ul style="list-style-type: none"><li>High-volume water jet.</li></ul>

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific Hazards During Firefighting	<ul style="list-style-type: none"><li>Upon combustion: Carbon oxides (COx) can form.</li><li>Reacts on exposure to water (moisture) with (some) metals.</li></ul>
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## 5.3 ADVICE FOR FIREFIGHTERS

### 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 fire-fighting instructions are required.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Personal Precautions

- Prevent dust cloud formation by sweeping or wetting down if needed.
- Avoid breathing dust.
- Sweep up to prevent slipping hazards.
- Protective equipment for non-emergency personnel; refer to Section 8.
- Protective equipment for emergency responders Gloves, Safety Glasses, and Protective Clothing.
- If a dust cloud is present: compressed air/oxygen apparatus, refer to Section 8.

### Environmental Precautions

- Do not flush into surface water or sanitary sewer system.
- Prevent large quantities of this product from contacting vegetation or waterways; large spills could kill vegetation and fish.

### Methods & Materials for containment and cleaning - up

- Scoop solid spill into adequately labeled closed containers.
- Clean contaminated surfaces with an excess of water.
- If needed, neutralize with acid.
- Store labeled closed containers in a suitable place until transfer for disposal; refer to Section 13.

### Further Information

See section 13.

## SECTION 7 HANDLING AND STORAGE

### Advice on Safe Handling

- Keep away from naked flames/heat.
- Use air conveying/mechanical systems for bulk transfer to storage.
- Avoid raising dust. Provide appropriate exhaust ventilation at places where dust is formed.
- In case of insufficient ventilation, wear suitable respiratory equipment if the release of airborne dust is expected for personal protection refer to section 8.
- Keep away from:  
Heat source, (Strong) acids, Water/moisture, Some metals (Zinc), Lime dust, and moisture.

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<b>Requirements for Storage Areas and Containers</b>	<ul style="list-style-type: none"><li>Keep in a cool, dry, and well-ventilated place.</li><li>Store in the original container.</li><li>Keep the container closed.</li><li>Keep/Store away from extremely high or low temperatures, direct sunlight, heat, ignition sources, and incompatible materials.</li><li>Suitable Packaging material: High-density polyethylene (HDPE), Low-density polyethylene (LDPE).</li></ul>
<b>Advice on Protection against Fire and Explosion</b>	<ul style="list-style-type: none"><li>The product is not flammable. Normal measures for preventive fire protection.</li></ul>
<b>Further Information on Storage Conditions</b>	<ul style="list-style-type: none"><li>Avoid dust formation.</li><li>Refer to the protective measures listed in section 8.</li></ul>
<b>Shelf Life</b>	<ul style="list-style-type: none"><li>The shelf life of the product depends on handling and storage.</li><li>If the product is handled properly per the information provided in this document, it will have a shelf life of 36 months.</li></ul>

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS

OEL, Time Weighted Average (TWA)	No Information available
OEL, Short-Term Exposure Limit (STEL)	No Information available
OSHA (PEL/TWA)	5 mg/m <sup>3</sup> Total Dust

### 8.2 ENGINEERING CONTROLS

<b>Technical Measures</b>	<ul style="list-style-type: none"><li>Avoid raising dust.</li><li>Carry operations in the open/under local exhaust/ventilation or with respiratory protection.</li><li>Apply technical measures to comply with occupational exposure limits.</li></ul>
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### 8.3 Personal Protective Equipment

<b>Respiratory Protection</b>	<ul style="list-style-type: none"><li>Use personal respiratory protection that meets international and local standards if needed.</li><li>In case of insufficient ventilation, use a respirator with NIOSH-approved respiratory protection.</li></ul>
<b>Hand Protection</b>	<ul style="list-style-type: none"><li>Wear appropriate protective gloves to prevent skin exposure.</li></ul>
<b>Eye Protection</b>	<ul style="list-style-type: none"><li>Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133.</li></ul>
<b>Skin and Body Protection</b>	<ul style="list-style-type: none"><li>Wear dust-impervious protective suits.</li><li>Wear long-sleeved clothing.</li><li>Wear plastic or rubber boots.</li></ul>

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## Hygiene Measures

- Use only in an area equipped with a safety shower.
- Handle in accordance with good industrial hygiene and safety practices.
- Do not eat, drink, or smoke when interacting with the substance.
- Wash your hands after every time you interact with the substance.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid flakes.
Color	White.
Odor	Odorless
pH	11.5 @ 1%
Melting Point	772–775 deg C
Volatility	Nonvolatile
Specific Gravity	1.1 – 1.23
Density	2.532 g/cm <sup>3</sup> (20 deg C)
Solubility	<ul style="list-style-type: none"><li>• In water: 74.5 g/100 mL @ 20 deg C.</li><li>• Soluble in alcohol and Insoluble in liquid ammonia.</li></ul>

## SECTION 10 STABILITY AND REACTIVITY

Reactivity	No dangerous reaction is known under recommended conditions.
Chemical stability	Hygroscopic
Flammability	The non-combustible substance does not burn but may decompose upon heating to produce corrosive and toxic fumes.
Possibility of hazardous reactions	<ul style="list-style-type: none"><li>• Reacts on exposure to water (moisture) with (some) metals.</li><li>• Violent exothermic reaction with (some) metals.</li><li>• Reacts with (strong) oxidizers.</li></ul>
Reaction or Degradation of Products	<ul style="list-style-type: none"><li>• May decompose upon heating to produce corrosive and toxic fumes.</li></ul>
Conditions to avoid	<ul style="list-style-type: none"><li>• Avoid raising dust.</li><li>• Keep away from naked flames/heat.</li><li>• Avoid exposure to moisture over prolonged periods.</li></ul>
Thermal decomposition	No data Available
Incompatible materials & materials to avoid	<ul style="list-style-type: none"><li>• Strong Acids and Bases.</li><li>• Boron oxidizers.</li><li>• Sensitive to moisture.</li><li>• Methyl Vinyl Ether.</li></ul>

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Hazardous decomposition products

- Hydrogen chloride

## SECTION 11 TOXICOLOGICAL INFORMATION

### 11.1 TOXICOLOGICAL DATA

LD50 Oral	2301 mg/kg (rat)
LD50 Dermal	>500 mg/kg (rabbit)
LD50 Inhalation	2.3 mg/L (rat)
Eye Contact	Irritating to eyes
Skin Contact	Irritating to skin
Non-irritating	Patch tests on human volunteers did not demonstrate sensitization properties.

### 11.2 INFORMATION ON TOXICOLOGICAL EFFECTS

Symptoms 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 information available
STOT- Single Exposure	No information available
STOT Repeated Exposure	No information available
Aspiration hazard	No information available

## SECTION 12 ECOLOGICAL INFORMATION

### 12.1 ECOTOXICITY

	Parameter	Method	Value	Units	Duration	Species
Acute toxicity fishes	LC50	Other	1065	mg/L	96 hours	Lepomis macrochirus
Acute toxicity invertebrates	EC50	Other	52	mg/L	48 hours	Ceriodaphnia sp.
Toxicity algae and other aquatic plants	EC50		242	mg/L	5 days	Algae

### 12.2 PERSISTENCE AND DEGRADABILITY

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

### 12.3 BIOACCUMULATE POTENTIAL

Bioaccumulation	Does not bioaccumulate
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## 12.4 MOBILITY IN SOIL

### Mobility in soil

Dissociates into ions, low potential for adsorption in soil

## 12.5 RESULTS OF PBT AND VPVB ASSESSMENT

### Result

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

Ecological injuries are not known or expected under normal use.

## SECTION 13 DISPOSAL CONSIDERATIONS

### 13.1 PROVISIONS RELATING TO WASTE

This material, as supplied, is not considered hazardous.

### 13.2 WASTE DISPOSAL METHOD

- This material, as supplied, is not a hazardous waste according to USA Federal regulations (40 CFR 261).
- Dispose of by 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 by federal, state, and local regulations.
- Do not reuse empty containers.

## SECTION 14 TRANSPORT INFORMATION

▪ Flatbed truck, jumbo Bags (17/20/24/26 Tons)	
DOT	Not regulated as hazardous material
IATA	Not regulated as hazardous material
IMDG	Not regulated as hazardous material

## SECTION 15 REGULATORY INFORMATION

Safety, health, and environmental regulations/legislation specific to the substance or mixture:

- RCJY: Royal Commissioning of Jubail and Yanbu – Saudi Arabia
- HCIS: The High Commission of Industrial Safety – Saudi Arabia
- WHMIS Classification: D2B Toxic material causing other toxic effects.



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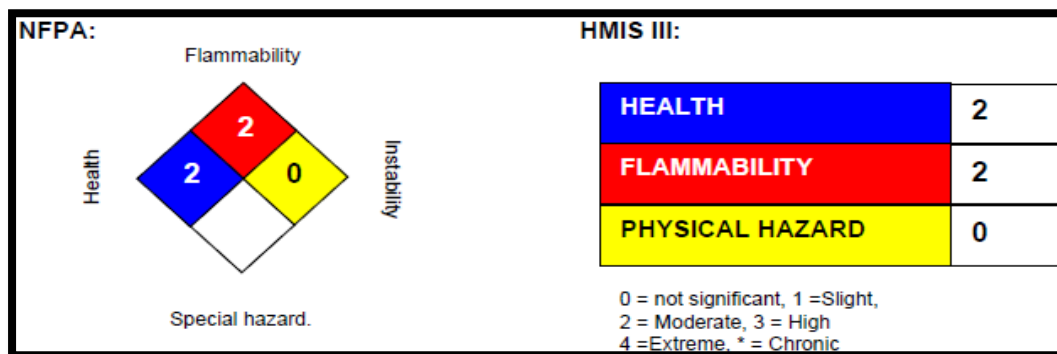
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## SECTION 16 OTHER INFORMATION

### 16.1 GENERAL INFORMATION

#### Training Advice

Provide safety information, instruction, and training to operators.



### 16.2 DISCLAIMER

To the best of InoChem's knowledge and belief, the information and recommendations contained herein are accurate and reliable as of the date issued. You can contact InoChem to ensure this document is the most current available from InoChem. The information and recommendations are offered for the user's consideration and examination. The user's responsible for satisfying itself that the product is suitable for the intended use. If the buyer repackages this product, the user must ensure proper health, safety, and other necessary information is included with and on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.

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#### Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substance- es List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical	PICCS	Philippines Inventory of Commercial

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	Substances		Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

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