Safety Data Sheet
PMC INDUSTRY LIMITED

Calcium Chloride

1. Chemical product and company Identification

Manufacturer/supplier: PMC INDUSTRY LIMITED
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2. Hazards Identification

Precautionary Statement (s)-Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing
If eye irritation persists: Get medical advice/attention

IF ON SKIN: Wash with plenty of water
Take off contaminated clothing and wash it before reuse
If skin irritation occurs: Get medical advice/attention

IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell
Rinse mouth
Specific treatment(see first Aid information on product label and/or Section 4 of the SDS)

Entry Routes： Inhalation and ingestion.

Health Hazards： Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator). Potential Chronic Health Effects: CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to heart, cardiovascular system. Repeated or prolonged exposure to the substance can produce target organs damage.

Environmental No data

Fire & Explosion Hazards： This product is non-combustible.

3. Composition/Information on Ingredients

Product Name： Calcium Chloride
MSDS Code： RF-MSDS-03
CAS No.： 10043-52-4
Molecular formula： $CaCl_2$、$CaCl_2 \cdot nH_2O$（n=1,2,4,6）
Molecular Name： Calcium Chloride Hydrate

4. First Aid Measures

Skin Contact： In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical

Serious Skin Contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Eyes Contact： Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15minutes. Cold water may be used. Get medical

Inhalation： If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion： Drink plenty of water. Induce vomiting and get medical care.

5. Fire-Fighting Measures

Hazard Description：	This product is not combustible. It may release toxic fume from thermal decomposition.
Hazardous Combustion Products：	Chlorine hydride and Calcium oxide.
Fire-Fighting Methods：	Try to remove containers from fire area to safety places. Do not use full water jet to avoid spill fire or splashing.
Appropriate Fire Extinguishing Agents：	Frog water, foam, powder and sand.

6. Accidental Release Measures

Emergency Measure：	Isolate contaminated area and restrict access. Persons dealing with emergency are recommended wearing dust-proof respirators and uniforms. Do not contact leakage directly. For small leakage, just sweep it up, but avoid generating dust. Place it in bags and remove to a safe place. For large leakage, collect it for recycle or transport to waste-deposal place for appropriate deposal.

7. Handling and Storage

Handling Precautions：	Handle in a confined area, but good ventilation must be quarantined. Prevent dust or powder from releasing into the air of workshops. Handing personnel must attend professional training and operate strictly according to operating instructions. Recommend wearing self-contained dust-proof respirators, safety chemical goggles, acid and alkali-resistant rubber uniforms and chemical protective gloves. Avoid generating dust. Stay away from oxidants. The storage area should be equipped with emergency equipments for leakage. The emptied containers may contain hazardous substances.
Storage Precautions：	Store in a cool, dry and well-ventilated store room. Stay away from fire and heat sources. Avoid direct sunlight. The containers should be tightly sealed. Do not store together with oxidants. The storage area should be equipped with emergency equipments for leakage.

8. Exposure Control/Personal Protection

Exposure Limits：	
China MAC：	Not regulated
United State TLV-	Not regulated
United State TLV-	Not regulated
Monitoring Method：	Flame Atomic Absorption Spectrometry (FAAS) and Titan Yellow Colorimetry.
Engineering Control：	Produce in a confined area and quarantine good ventilation.
Respiratory Protection：	Recommend wearing self-contained dust-proof respirators when dust concentration is high in the air.
Eyes Protection：	Wear chemical safety goggles.
Body Protection：	Wear acid and alkali resistant rubber uniforms.
Hands Protection：	Wear chemical protective gloves.
Further Information：	Do not eating, drinking or smoking during working. Wash thoroughly after work. Keep good personal hygienic habits.

9. Physical & Chemical Properties

Bases：	Calcium Chloride
Appearance & Physical State：	white deliquescent hexagonal crystal.
pH：	7~11
Melting Point (℃)：	782℃
Boiling Pint (℃)：	1600℃
Relative Density (water=1)：	2.152(25℃)
elative Vapor Density (Air=1)：	No data
turated vapor pressure (kPa)：	No data
Combustion heat (kj/mol)：	Not applicable
Critical pressure	Not applicable
Octanol /Water Partition Coefficient：	Not applicable
Flash Point (℃)：	Not applicable
Igniting Temperature (℃)：	Not applicable
Solubility：	Soluble in water
Application：	Used as a multi purpose desiccant, important refrigerant, building antifreeze, coagulant calcium fortifier in food.
Refractive index：	

10. Stability and Reactivity

Stability：	Not applicable
Incompatible substances：	A mixture of three bromine fluoride, carbonate and lime
Conditions to avoid：	Not applicable
Hazardous polymerization：	Will not occur.
Combustion/Decomposition Products：	Chlorine hydride and Calcium oxide.

11. Toxicological Information

Routes of Entry：	Absorbed through skin. Inhalation. Ingestion.
Toxicity to Animals：	LC50：No data Acute oral toxicity (LD50): 1000 mg/kg [Rat].
Chronic Effects on Humans：	MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May cause damage to the following organs: heart, cardiovascular
Other Toxic Effects on Humans：	Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).
Special Remarks on Toxicity to Animals：	Lowest Published Lethal Dose: LDL [Rabbit] - Route: Oral; Dose: 1384 mg/kg
Special Remarks on Chronic Effects on Humans：	May affect genetic material based on animal data. May cause cancer (tumorigenic) based on animal data.
Special Remarks on other Toxic Effects on Humans:：	Acute Potential Health Effects: Skin: May cause severe irritation and possible burns, especially if skin is wet. Contact with dry skin causes mild irritation. Contact of solid with moist/wet skin or skin contact with strong solutions may cause marked irritation or possible burns. Eyes: May cause severe irritation, possible transient corneal injury, and possible eye burns. Inhalation: May cause severe irritation of the upper respiratory tract with pain, inflammation and possible burns. Ingestion: May cause severe gastrointestinal (digestive) tract irritation with nausea, vomiting and possible burns. May affect cardiovascular system (cardiac disturbances, slow heart beat), behavior (seizures), metabolism, blood, and brain, respiration (rapid respiration). Chronic Potential Health Effects: effects may be delayed.

12. Ecological Information

Eco-Toxicity：	Ecotoxicity in water (LC50): 100 mg/l 96 hours [Fish].
Biodegradability：	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Non-Biodegradability：	No data
Biological Accumulation：	No data
Other Hazardous Effects：	No data
Other Information	No data

13. Disposal Consideration

Waste Class：	No data
Disposal Methods：	Use safety burying method. Bury it in an appropriate place and try to recycle containers.
Disposal Precautions：	No data

14. Transportation Information

Hazard Class：	No data
UN Code：	No data
Packing Symbol：	No data
Packing Group：	No data
Packing Method：	No data。
Transportation Attention：	Check whether the package is completed or sealed before transporting; make sure there are no damage and no falling down of packages during transporting; do NOT transport together with oxidants. Stay away from direct sunlight, rain and high-temperature areas.

15. Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Calcium chloride,

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Su

Other Classifications: WHMIS (Canada):CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):R36- Irritating to eyes. S2- Keep out of the reach of children. S22- Do not breathe dust. S24- Avoid contact with skin.

HMIS (U.S.A.):
- Health Hazard: 2
- Fire Hazard:0
- Reactivity:1
- Personal Protection:0

National Fire Protection Association (U.S.A.):
- Health Hazard: 2
- Fire Hazard:0
- Reactivity:2
- Specific hazard:-

Protective Equipment: Gloves (impervious). Synthetic apron. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

The Regulations of Safe Management Regarding Dangerous Chemicals (February 17, 1987), Implementing Rules of The Regulations of Safe Management Regarding Dangerous Chemicals (1992) and The Provisions of Safe Use of Chemicals in the Workplace (1996) state some requirements for safe use, production, storage, transportation, loading/unloading, classification of dangerous chemicals.

16. Other Information

References:
1.周国泰，化学危险品安全技术全书，化学工业出版社，1997
2.国家环保局有毒化学品管理办公室、北京化工研究院合编，化学品毒性法规环境数据手册，中国环境科学出版社.1992
3.Canadian Centre for Occupational Health and Safety,CHEMINFO Database.1998
4.Canadian Centre for Occupational Health and Safety, RTECS Database, 1989

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