

**SAFETY DATA SHEET****1. IDENTIFICATION**

Product name: Calcium chloride anhydrous

CAS No. : 10043-52-4

Brand: Macklin

Company: Shanghai Macklin Biochemical Co.,Ltd.

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**2. HAZARDS IDENTIFICATION**

GHS classification

PHYSICAL HAZARDS

HEALTH HAZARDS

ENVIRONMENTAL HAZARDS

GHS label elements, including precautionary statements

Pictograms or hazard symbols



Signal word

Warning

Hazard statements

H319 Causes serious eye irritation

Precautionary statements

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical name

Calcium chloride

Components:Calcium chloride anhydrous

CAS No.:10043-52-4

Chemical Formula:CaCl<sub>2</sub>

**4. FIRST AID MEASURES**

4.1

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer immediately for medical attention.

Following eye contact

Rinse with plenty of water for several minutes (remove contact lenses if easily possible). Refer immediately for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer immediately for medical attention.

4.2

Most important symptoms/effects, acute and delayed

Inhalation causes irritation of nose and throat. Ingestion causes irritation of mouth and stomach. Contact with eyes (particularly by dust) causes irritation and possible transient corneal injury. Contact of solid with dry skin causes mild irritation; strong solutions can cause marked irritation, even a superficial burn. (USCG, 1999)

4.3

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

Absorption, Distribution and Excretion

Approximately 80% of body calcium is excreted in the feces as insoluble salts; urinary excretion accounts for the remaining 20%.

## 5. FIRE-FIGHTING MEASURES

5.1

Suitable extinguishing media

In case of fire in the surroundings, use appropriate extinguishing media.

5.2

Specific hazards arising from the chemical

Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.

5.3

Special protective actions for fire-fighters

In case of fire in the surroundings, use appropriate extinguishing media.

## 6. ACCIDENTAL RELEASE MEASURES

SECTION 6: Accidental release measures

6.1

Personal precautions, protective equipment and emergency procedures

Personal protection: complete protective clothing including self-contained breathing apparatus. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water.

6.2

Environmental precautions

Personal protection: complete protective clothing including self-contained breathing apparatus. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water.

6.3

Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

Separated from zinc. Dry. Well closed.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure limit values

Component

Calcium chloride

CAS No.

10043-52-4

Limit value - Eight hours

Limit value - Short term

ppm

mg/m

3

ppm

mg/m

3

Canada - Ontario

5

Latvia

2

Remarks

Biological limit values

no data available

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice.

Set up emergency exits and the risk-elimination area.

Personal protective equipment

Eye/face protection

Wear safety goggles in combination with breathing protection.

Skin protection

Protective gloves.

Respiratory protection

Use local exhaust or breathing protection.

Thermal hazards

no data available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state

Solid. Powder.

Colour

White.

Odour

no data available

Melting point/freezing point

775 °C. Atm. press.:1 013 hPa.

Boiling point or initial boiling point and boiling range

1 935 °C. Atm. press.:1 013 hPa.

Flammability

Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.

Lower and upper explosion limit/flammability limit

no data available

Flash point

>1600°C

Auto-ignition temperature

no data available

Decomposition temperature

no data available

pH

no data available

Kinematic viscosity

no data available

Solubility

In water: 81.3 g/100 g. Temperature:25 °C. pH:7.

Partition coefficient n-octanol/water

no data available  
Vapour pressure  
0.01 mm Hg ( 20 °C)  
Density and/or relative density  
2.15 g/cm<sup>3</sup>. Temperature:25 °C.  
Relative vapour density  
no data available  
Particle characteristics  
no data available

## 10. STABILITY AND REACTIVITY

10.1

Reactivity

Decomposes on heating. This produces toxic and corrosive fumes of chlorine (see ICSC 0126). The solution in water is a weak base. Attacks zinc in the presence of water. This produces flammable/explosive gas (hydrogen - see ICSC 0001). Dissolves violently in water with liberation of much heat.

10.2

Chemical stability

no data available

10.3

Possibility of hazardous reactions

Bromine trifluoride rapidly attacks calcium chloride [Mellor 2 Supp. 1:164, 165 1956]. Long term exposure of calcium chloride solution upon a zinc coated galvanized iron vessel caused slow evolution of hydrogen which ignited and exploded [Bretherick, 5th Ed., 1995].

10.4

Conditions to avoid

no data available

10.5

Incompatible materials

no data available

10.6

Hazardous decomposition products

no data available

## 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: no data available

Inhalation: LC50 - rat - > 160 mg/m<sup>3</sup> air.

Dermal: LD50 - rabbit (male/female) - > 5 000 mg/kg bw.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance is corrosive to the eyes. The substance is severely irritating to the skin, upper respiratory tract and gastrointestinal tract.

STOT-repeated exposure

Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the nasal mucous membrane. This may result in tissue lesions.

Aspiration hazard

A harmful concentration of airborne particles can be reached quickly when dispersed.

## 12. ECOLOGICAL INFORMATION

12.1

Toxicity

Toxicity to fish: LC50 - Pimephales promelas - 4 630 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: NOEC - Daphnia magna - 2 000 mg/L - 48 h.

Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 2 900 mg/L - 72 h.

Toxicity to microorganisms: NOAEL - activated sludge, industrial - 20 000 mg/L.

12.2

Persistence and degradability

no data available

12.3

Bioaccumulative potential

no data available

12.4

Mobility in soil

no data available

12.5

Other adverse effects

no data available

## 13. DISPOSAL CONSIDERATIONS

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## 14. TRANSPORT INFORMATION

14.1

UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.2

UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.3

Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.4

Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.5

Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

14.6

Special precautions for user

no data available

14.7

Transport in bulk according to IMO instruments

no data available

## 15. REGULATORY INFORMATION

15.1

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

Chemical name

Common names and synonyms

CAS number

EC number

Calcium chloride

Calcium chloride

10043-52-4

233-140-8

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Not Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

## 16. OTHER INFORMATION

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.