

MATERIAL SAFETY DATA SHEET

(CALCIUM CHLORIDE)

1 Identification of substance:

Product details:

Product name: Calcium Chloride

Information Department: Health, Safety and Environmental Department

2 Composition/Data on components:

Chemical characterization:

Description: (CAS#)

Calcium Chloride Anhydrous (CAS#10043-52-4) ; 100%

Identification number(s):

EINECS Number: 233-140-8

EU Number: 017-013-00-2

3 Hazards identification

Hazard description:

X

Xi Irritant

Information pertaining to particular dangers for man and environment

R 36 Irritating to eyes

Classification system

HMIS ratings (scale 0 – 4)

(Hazardous Materials Identification System)

HEALTH	1
FIRE	0
REACTIVITY	0

Health = 1

Fire = 0

Reactivity = 0

4 First aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice

After Skin Contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing: Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Calcium Oxide

Hydrogen Chloride (HCl)

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting: Pick up mechanically.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information

7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas.

Keep packaging tightly sealed.

Store in cool, dry place.

Ensure good ventilation at the workplace.

Prevent formation of dust.

Information about protection against explosions and fires:

No special measures required. .

Storage

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Store away from water/moisture.

Store away from oxidizing agents.

Further information about storage conditions:

This product is moisture sensitive.

Keep packaging tightly sealed.

Store in cool, dry conditions.

Protect from humidity and water.

8 Exposure controls and personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of

at least 100 feet per minute.

Components with limit values that require monitoring at the workplace: Not required

Additional information: No data

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands: Impervious gloves. Check protective gloves prior to each use for their proper condition.

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information

Form:	Pellets
Color:	White
Odor:	Odorless

Change in Condition

Melting point/Melting range:	782°C (1440°F)
Boiling point/Boiling range:	1600°C (2912°F)
Sublimation temperature / start:	Not determined

Flash point:	Not applicable
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Danger of explosion:	Product does not present an explosion

hazard.

Explosion limits:

Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Bulk Density at 20°C (68°F)	52-58 lb/ft ³
Solubility in / Miscibility with Water:	Soluble

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided:

Water/moisture

Oxidizing agents

Dangerous reactions: No dangerous reaction know.

Dangerous products of decomposition:

Calcium Oxide

Hydrogen Chloride (HCl)

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral	LD50	1940 mg/kg (mouse)
		1000 mg/kg (rat)

Primary irritant effect:

On the skin: Irritant to skin and mucous membranes.

On the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Other information (about experimental toxicology):

Tumorigenic effects have been observed on tests with laboratory animals.

Mutagenic effects have been observed on tests with bacteria.

Mutagenic effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:

The toxicity of calcium compounds is generally due to the anion.

Subacute to chronic toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals

Skin and Appendages – dermatitis, other (after systemic exposure)

Nutritional and Gross Metabolic – changes in calcium
Behavioral – somnolence (general depressed activity).
Behavioral – convulsions or effect on seizure threshold.
Behavioral – changes in motor activity (specific assay).
Gastrointestinal – alteration in gastric secretion.
Cardiac – arrhythmias (including changes in conduction).
Brain and Covering – recordings from specific areas of CNS.
Cardiac – pulse rate.
Blood – changes in leukocyte (WBC) count.
Blood – change in clotting factors.
Blood – changes in serum composition (e.g. TP, bilirubin, cholesterol).
Biochemical – Enzyme inhibition, induction, or change in blood or tissue levels – catalases.
Endocrine – thyroid tumors.
Tumorigenic – equivocal tumorigenic agent by RTECS criteria.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:

General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:

Recommendation

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleaning agent: Water, if necessary with cleaning agents.

14 Transport information

Not a hazardous material for transportation.

DOT regulations:

Hazard class: None

Land transport ADR/RID (cross-border)

ADR/RID class: None

Maritime transport IMDG:

IMDG Class: None

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: None

Transport/Additional information:

Not dangerous according to the above specifications.

15 Regulations

Product related hazard information:

Hazard symbols:

Xi Irritant

Risk phrases:

36 Irritating to eyes

Safety phrases:

22 Do not breathe dust.

24 Avoid contact with skin .

Information about limitation of use:

For use only by technically qualified individuals.

16 Other Information:

Employers should use this information only as a supplement to other information gathered by them, and should

make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformity with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department Issuing MSDS: Health, Safety and Environmental Department.