Chemical Safety Data Sheet MSDS / SDS

Calcium carbonate SDS

Revision Date:2024-04-25 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Calcium carbonate

CAS: 471-34-1

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

SECTION 2: Hazards identification

Classification of the substance or mixture

Not classified.

GHS label elements, including precautionary statements

Signal word: No signal word

Hazard statement(s)

none

Precautionary statement(s)

Prevention

none

Response

none

Storage

none

Disposal

none

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	Calcium carbonate
Common names and synonyms:	Calcium carbonate
CAS number:	471-34-1
EC number:	207-439-9
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air.

Following skin contact

Rinse skin with plenty of water or shower.

Following eye contact

Rinse with plenty of water (remove contact lenses if easily possible).

Following ingestion

Rinse mouth.

Most important symptoms/effects, acute and delayed

Exposure Routes: inhalation, skin and/or eye contact Symptoms: Irritation eyes, skin, respiratory system; cough Target Organs: Eyes, skin, respiratory system (NIOSH, 2016)
Exposure Routes: inhalation, skin and/or eye contact Symptoms: Irritation eyes, skin, mucous membrane; cough, sneezing, rhinorrhea (discharge of thin mucus); lacrimation (discharge of tears) Target Organs: Eyes, skin, respiratory system (NIOSH, 2016)
Exposure Routes: inhalation, skin and/or eye contact Symptoms: Irritation eyes, skin, mucous membrane, upper respiratory system; cough, sneezing, rhinorrhea (discharge of thin mucus); lacrimation (discharge of tears) Target Organs: Eyes, skin, respiratory system (NIOSH, 2016)

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

A serum calcium concentration exceeding 2.6 mmol per liter (10.5 mg per 100 mL) is considered a hypercalcemic condition. Withholding additional administration of calcium and any other medications that may cause hypercalcemia usually resolves mild hypercalcemia in asymptomatic patients, when patient renal function is adequate. Calcium supplements

SECTION 5: Firefighting measures

Suitable extinguishing media

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

Specific hazards arising from the chemical

Not combustible.

Special protective actions for fire-fighters

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

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers.

Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers.

Methods and materials for containment and cleaning up

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers.

SECTION 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 acids, aluminium, ammonium salts, fluorine and magnesium.Separated from acids, aluminium and ammonium salts.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

Component	Calcium carbonate			
CAS No.	471-34-1			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m^3	ppm	mg/m^3
Australia	?	10 (1)	?	?
Canada - Québec	?	10	?	?
France	?	10 inhalable aerosol	?	?
Hungary	?	10 inhalable aerosol	?	?
Ireland	?	10 (1)	?	?
?	?	4 (2)	?	?
Latvia	?	6	?	?
New Zealand	?	10 (1)	?	?
Poland	?	10	?	?
Singapore	?	10 (limestone, marble)	?	?
Switzerland	?	3 respirable aerosol	?	?
USA - OSHA	?	15 total dust	?	?
?	?	5 respirable dust	?	?
United Kingdom	?	10 inhalable aerosol	?	?
?	?	4 respirable aerosol	?	?
	Remarks			
Australia	(1) This value is for inhalable dust containing no asbestos and			
Ireland	(1) Inhalable fraction (2) Respirable fraction			
New Zealand	(1) The value for inhalable dust containing no asbestos and less than 1% free silica.			

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

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

Eye/face protection

Wear safety goggles.

Skin protection

Protective gloves.

Respiratory protection

Avoid inhalation of dust. Use local exhaust.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Solid. Powder.
Colour:	White.
Odour:	Odorless
Melting point/freezing point:	825 °C. Remarks:Calcium carbonate (aragonite).;1 330 °C. Remarks:Calcium carbonate (calcite).
Boiling point or initial boiling point and boiling range:	333.6°C at 760mmHg
Flammability:	Noncombustible Solid
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	197°C
Auto-ignition temperature:	no data available
Decomposition temperature:	825°C
pH:	pH = 8 to 9
Kinematic viscosity:	no data available
Solubility:	0.001 % (NIOSH, 2016)

Partition coefficient n-octanol/water:	no data available
Vapour pressure:	0 mm Hg (approx) (NIOSH, 2016)
Density and/or relative density:	2.93 g/cm3. Temperature:20 °C.;2.71 g/cm3. Temperature:20 °C.
Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes above 825°C . This produces corrosive fumes of calcium oxide. Reacts with acids, aluminium, ammonium salts, fluorine and magnesium.

Chemical stability

Indefinite shelflife.

Possibility of hazardous reactions

Not combustible.CALCIUM CARBONATE is non-combustible. Decomposes at high temperature (825°C) to give gaseous carbon dioxide and calcium oxide (quicklime). Incompatible with acids, alum, ammonium salts, fluorine, magnesium. Reacts with acids and acidic salts to generate gaseous carbon dioxide with effervescence (bubbling). The reaction with concentrated solutions of acids is rapid and exothermic. The effervesence can create extensive foaming. Ignites on contact with fluorine.

Conditions to avoid

no data available

Incompatible materials

Calcium carbonate ... ignite and burn fiercely in contact with fluorine. Fluorine: metal salts

Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating vapors.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Mouse oral 6450 mg/kg bw

Inhalation: LC50 - rat (male/female) - > 3 mg/L air (analytical).

Dermal: LD50 - rat (male/female) - > 2 000 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

May cause mechanical irritation to the respiratory tract and eyes.

STOT-repeated exposure

Health effects of the substance have been investigated but none have been found

Aspiration hazard

A nuisance-causing concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 - Oncorhynchus mykiss (previous name: Salmo gairdneri) - > 100 % v/v saturated solution - 96 h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - > 100 % v/v saturated solution - 48 h.

Toxicity to algae: EC50 - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) - > 14 mg/L - 72 h.

Toxicity to microorganisms: EC50 - activated sludge of a predominantly domestic sewage - > 1 000 mg/L - 3 h. Remarks:Respiration rate.

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

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.

SECTION 14: Transport information

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.)

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.)

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.)

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.)

Environmental hazards

ADR/RID: No

IMDG: No
IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

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

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.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Calcium carbonate exists in nature as mineral aragonite and calcite (as in limestone, chalk and marble).