Calcium Carbonate
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 06/01/2015 Revision date: 06/07/2018 Supersedes: 10/02/2015 Version: 2.0

SECTION 1: Identification

1.1. Identification

Product form: Substance
Substance name: Calcium Carbonate
CAS-No.: 471-34-1
Formula: CaCO₃

1.2. Recommended use and restrictions on use

Use of the substance/mixture: Pharmaceuticals

1.3. Supplier

Manufacturer
Jost Chemical Co.
8150 Lackland Rd.
Saint Louis, Missouri 63114
T 314-428-4300 - F 314-428-4366
sds@jostchemical.com - www.jostchemical.com

1.4. Emergency telephone number

Emergency number: For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
United States and Canada: 1-800-424-9300 / +1 703-527-3887
Global: +1 703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification
Not classified

2.2. GHS Label elements, including precautionary statements

GHS-US labeling
No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type: Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Carbonate (Main constituent)</td>
<td>(CAS-No.) 471-34-1</td>
<td>100</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures


First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
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First-aid measures after skin contact: Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists. Wash skin with plenty of water.

First-aid measures after eye contact: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.


4.2. Most important symptoms and effects (acute and delayed)
Potential Adverse human health effects and symptoms: Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Slightly harmful in contact with skin. Not irritant to skin. Slightly harmful by inhalation. Not irritant to eyes.
Symptoms/effects after inhalation: EXPOSURE TO HIGH CONCENTRATIONS: Irritation of the respiratory tract. Irritation of the nasal mucous membranes.
Symptoms/effects after skin contact: AFTER CONTACT WITH WATER: Slight irritation.
Symptoms/effects after eye contact: No effects known.
Chronic symptoms: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Gastrointestinal complaints. Decreased renal function.

4.3. Immediate medical attention and special treatment, if necessary
Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

5.2. Specific hazards arising from the chemical
Fire hazard: DIRECT FIRE HAZARD: Non combustible.
Explosion hazard: No available data.
Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters
Precautionary measures fire: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighborhood close doors and windows.
Firefighting instructions: No specific fire-fighting instructions required.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area. Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind.
Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighborhood close doors and windows.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
For containment: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray.
Methods for cleaning up: Mechanically recover the product. Prevent dust cloud formation. Scoop solid spill into closing containers. Wash down leftovers with plenty of water. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment. Avoid raising dust. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use.

Hygiene measures: Observe strict hygiene. Keep container tightly closed. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Comply with applicable regulations. Does not require any specific or particular technical measures.

Storage conditions: Store in a clean, dry warehouse in the original unopened containers. Store in a well-ventilated place. Keep cool.

Incompatible products: Aluminum. Strong acids. ammonium salts.

Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage: KEEP SUBSTANCE AWAY FROM: (strong) acids. halogens. water/moisture.

Storage area: Store in a dry area. Meet the legal requirements.

Special rules on packaging: SPECIAL REQUIREMENTS: closing. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.


SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Appropriate engineering controls
Appropriate engineering controls: Ensure good ventilation of the work station.

Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Dust production: dust mask with filter type P2. Gloves. Safety glasses.

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: nitrile rubber. GIVE GOOD RESISTANCE: butyl rubber. nitrile rubber. PVC. neoprene. natural rubber

Hand protection:

Gloves

Eye protection:

Safety glasses. In case of dust production: protective goggles. Safety glasses

Skin and body protection:

Protective clothing

Respiratory protection:

Dust production: dust mask with filter type P2

Personal protective equipment symbol(s):
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>White Granular.</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>8 - 9 (10 %, 20 °C)</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable (decomposes)</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>Not applicable (solid)</td>
</tr>
<tr>
<td>Relative density</td>
<td>2.7 - 2.9</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>100.1 g/mol</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water. Substance sinks in water. Soluble in ammonium chloride. Soluble in acids. Water: 0.0017 g/100ml (20 °C)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>-2.12 (Estimated value)</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>825 °C</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>Not applicable (solid)</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum ignition energy</td>
<td>Not applicable</td>
</tr>
<tr>
<td>VOC content</td>
<td>Not applicable (inorganic)</td>
</tr>
<tr>
<td>Other properties</td>
<td>Hygroscopic. Substance has basic reaction.</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Hygroscopic.

10.3. Possibility of hazardous reactions
None under normal conditions.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
acids. Aluminum. ammonium salts.

10.6. Hazardous decomposition products
Reacts violently with (some) acids: release of harmful gases/vapors (carbon dioxide).
SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified (Based on available data, the classification criteria are not met)</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**Calcium Carbonate (471-34-1)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 2000 mg/kg (OECD 420: Acute Oral toxicity – Acute Toxic Class Method, Rat, Female, Experimental value)</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>&gt; 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male/female, Experimental value)</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>&gt; 3 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male/female, Experimental value)</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**: Not classified (Based on available data, the classification criteria are not met)

**Serious eye damage/irritation**: Not classified (Based on available data, the classification criteria are not met)

**Respiratory or skin sensitization**: Not classified (Based on available data, the classification criteria are not met)

**Germ cell mutagenicity**: Not classified (Lack of data)

**Carcinogenicity**: Not classified (Lack of data)

**Reproductive toxicity**: Not classified (Lack of data)

**Specific target organ toxicity – single exposure**: Not classified (Lack of data)

**Specific target organ toxicity – repeated exposure**: Not classified (Lack of data)

**Aspiration hazard**: Not classified (Not applicable)

**Viscosity, kinematic**: No data available

**Potential Adverse human health effects and symptoms**: Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Slightly harmful in contact with skin. Not irritant to skin. Slightly harmful by inhalation. Not irritant to eyes.

**Symptoms/effects after inhalation**: EXPOSURE TO HIGH CONCENTRATIONS: Irritation of the respiratory tract. Irritation of the nasal mucous membranes.

**Symptoms/effects after skin contact**: AFTER CONTACT WITH WATER: Slight irritation.

**Symptoms/effects after eye contact**: No effects known.


**Chronic symptoms**: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Gastrointestinal complaints. Decreased renal function.

SECTION 12: Ecological information

12.1. Toxicity

**Ecology - general**: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

**Ecology - air**: Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).


**Calcium Carbonate (471-34-1)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>&gt; 100 % (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>&gt; 100 % (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

**Calcium Carbonate (471-34-1)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Biodegradability in soil: not applicable. Biodegradability: not applicable.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>Not applicable (inorganic)</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Calcium Carbonate (471-34-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable (inorganic)</td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable (inorganic)</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Calcium Carbonate (471-34-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>2.12 (Estimated value)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Low potential for bioaccumulation (Log Kow &lt; 4)</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Calcium Carbonate (471-34-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - soil</td>
<td>Adsorbs into the soil</td>
</tr>
</tbody>
</table>

12.5. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

- Regional legislation (waste): LWCA (the Netherlands): KGA category 05.
- Waste treatment methods: Dispose of contents/container in accordance with licensed collector’s sorting instructions.
- Product/Packaging disposal recommendations: Do not discharge into the sewer. Remove waste in accordance with local and/or national regulations. Recycle/reuse. Remove to an authorized dump (Class III).

SECTION 14: Transport information

- Department of Transportation (DOT)
  - In accordance with DOT
  - Not regulated

Transportation of Dangerous Goods

- Proper Shipping Name (Transportation of Dangerous Goods): Not regulated for transport

Transport by sea

- Proper Shipping Name (IMDG): Not regulated for transport

Air transport

- Proper Shipping Name (IATA): Not regulated for transport

SECTION 15: Regulatory information

15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Calcium Carbonate (471-34-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
<td></td>
</tr>
</tbody>
</table>

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory
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15.2. International regulations

CANADA

Calcium Carbonate (471-34-1)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations
No additional information available

National regulations

Calcium Carbonate (471-34-1)
Listed on INSQ (Mexican national Inventory of Chemical Substances)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)

15.3. US State regulations
No additional information available

SECTION 16: Other information

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Revision date: 06/07/2018

NFPA health hazard: 1 - Materials that, under emergency conditions, can cause significant irritation.
NFPA fire hazard: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
NFPA reactivity: 0 - Material that in themselves are normally stable, even under fire conditions.

Hazard Rating
Health: 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability: 0 Minimal Hazard - Materials that will not burn
Physical: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

SDS US (HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.