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

1.1 Product identifier

Identification of the substance: Calcium chloride dihydrate

Identification:
- Article number: 5239
- Registration number (REACH): 01-2119494219-28-xxxx
- Index No: 017-013-00-2
- EC number: 233-140-8
- CAS number: 10035-04-8

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

Identified uses: laboratory chemical

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone: +49 (0) 721 - 56 06 0
Telefax: +49 (0) 721 - 56 06 149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

e-mail (competent person): sicherheit@carlroth.de

1.4 Emergency telephone number

Emergency information service: Poison Centre Munich: +49/(0)89 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Classification acc. to GHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>3.3</td>
</tr>
</tbody>
</table>
Calcium chloride dihydrate ≥99 %, p.a., ACS

article number: 5239

Remarks
For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word: Warning

Pictograms

Hazard statements
H319 Causes serious eye irritation.

Precautionary statements
Precautionary statements - prevention
P280 Wear protective gloves/eye protection.

Precautionary statements - response
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Labelling of packages where the contents do not exceed 125 ml
Signal word: Warning
Symbol(s)

2.3 Other hazards
There is no additional information.

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>Calcium chloride dihydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index No</td>
<td>017-013-00-2</td>
</tr>
<tr>
<td>Registration number (REACH)</td>
<td>01-2119494219-28-xxxx</td>
</tr>
<tr>
<td>EC number</td>
<td>233-140-8</td>
</tr>
<tr>
<td>CAS number</td>
<td>10035-04-8</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>CaCl₂ * 2 H₂O</td>
</tr>
<tr>
<td>Molar mass</td>
<td>147 g/mol</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first aid measures

General notes
Take off contaminated clothing.

Following inhalation
Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact
Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact
Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

Following ingestion
Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed
Gastrointestinal complaints, Nausea, Irritation, Vomiting

4.3 Indication of any immediate medical attention and special treatment needed
none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Co-ordinate fire-fighting measures to the fire surroundings water spray, foam, dry extinguishing powder, carbon dioxide (CO2)

Unsuitable extinguishing media
water jet

5.2 Special hazards arising from the substance or mixture
Non-combustible.

Hazardous combustion products
In case of fire may be liberated: hydrogen chloride (HCl)

5.3 Advice for firefighters
Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
   For non-emergency personnel
   Wearing of suitable protective equipment (including personal protective equipment referred to under
   Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.
   Do not breathe dust. Avoid contact with skin, eyes and clothes.

6.2 Environmental precautions
   Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up
   Advices on how to contain a spill
   Covering of drains.
   Advices on how to clean up a spill
   Take up mechanically. Control of dust.
   Other information relating to spills and releases
   Place in appropriate containers for disposal.
   Reference to other sections
   Hazardous combustion products: see section 5. Personal protective equipment: see section 8.
   Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
   No special measures are necessary.
   Advice on general occupational hygiene
   Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities
   Store in a dry place.
   Incompatible substances or mixtures
   Observe hints for combined storage.
   Consideration of other advice
   • Ventilation requirements
     Use local and general ventilation.
   • Specific designs for storage rooms or vessels
     Recommended storage temperature: 15 - 25 °C.

7.3 Specific end use(s)
   No information available.
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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)
Data are not available.

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection
Use safety goggle with side protection.

Skin protection

• hand protection
Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

• type of material
NBR (Nitrile rubber)

• material thickness
>0,11 mm

• breakthrough times of the glove material
>480 minutes (permeation: level 6)

• other protection measures
Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection

Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

Environmental exposure controls
Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state
solid (crystalline)

Colour
white

Odour
odourless

Odour threshold
No data available
**Other physical and chemical parameters**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (value)</td>
<td>4.5 - 9.2 (50 9/g, 20 °C)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>176 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>This information is not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non-flammable</td>
</tr>
<tr>
<td>Explosive limits</td>
<td></td>
</tr>
<tr>
<td>• lower explosion limit (LEL)</td>
<td>this information is not available</td>
</tr>
<tr>
<td>• upper explosion limit (UEL)</td>
<td>this information is not available</td>
</tr>
<tr>
<td>Explosion limits of dust clouds</td>
<td>these information are not available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>This information is not available.</td>
</tr>
<tr>
<td>Density</td>
<td>1.85 9/cm³ at 20 °C</td>
</tr>
<tr>
<td>Vapour density</td>
<td>This information is not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Information on this property is not available.</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>1.000 9/l at 0 °C</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td></td>
</tr>
<tr>
<td>n-octanol/water (log KOW)</td>
<td>This information is not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Information on this property is not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>not relevant (solid matter)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Shall not be classified as explosive</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>none</td>
</tr>
</tbody>
</table>

### 9.2 Other information

There is no additional information.
SECTION 10: Stability and reactivity

10.1 Reactivity
This material is not reactive under normal ambient conditions.

10.2 Chemical stability
Hygroscopic solid.

10.3 Possibility of hazardous reactions
Exothermic reaction with: Water, Release of an acute toxic gas: Metals, Zinc

10.4 Conditions to avoid
Protect from moisture.

10.5 Incompatible materials
There is no additional information.

10.6 Hazardous decomposition products
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Shall not be classified as acutely toxic.

<table>
<thead>
<tr>
<th>Exposure route</th>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral</td>
<td>LD50</td>
<td>1.000 mg/kg</td>
<td>rat</td>
<td>anhydrous</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation
Causes serious eye irritation.

Respiratory or skin sensitisation
Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties
Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

- **Specific target organ toxicity - single exposure**
  Shall not be classified as a specific target organ toxicant (single exposure).

- **Specific target organ toxicity - repeated exposure**
  Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

- If swallowed
  vomiting, nausea, gastrointestinal complaints
**SECTION 12: Ecological information**

12.1 **Toxicity**

**Aquatic toxicity (acute)**

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Method</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50</td>
<td>144 mg/l</td>
<td><em>daphnia magna</em></td>
<td>anhydrous</td>
<td>48 h</td>
</tr>
<tr>
<td>LC50</td>
<td>10.650 mg/l</td>
<td><em>bluegill (Lepomis macrochirus)</em></td>
<td>anhydrous</td>
<td>96 h</td>
</tr>
</tbody>
</table>

12.2 **Process of degradability**
The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 **Bioaccumulative potential**
Data are not available.

12.4 **Mobility in soil**
Data are not available.

12.5 **Results of PBT and vPvB assessment**
Data are not available.

12.6 **Other adverse effects**
Data are not available.

**SECTION 13: Disposal considerations**

13.1 **Waste treatment methods**

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Sewage disposal-relevant information**

Do not empty into drains.

13.2 **Relevant provisions relating to waste**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.
**Remarks**
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

**SECTION 14: Transport information**

14.1 **UN number**  
(not subject to transport regulations)

14.2 **UN proper shipping name**  
not relevant

14.3 **Transport hazard class(es)**  
not relevant

14.4 **Packing group**  
not relevant

14.5 **Environmental hazards**  
none (non-environmentally hazardous acc. to the dangerous goods regulations)

14.6 **Special precautions for user**  
There is no additional information.

14.7 **Transport in bulk according to Annex II of MARPOL and the IBC Code**  
The cargo is not intended to be carried in bulk.

14.8 **Information for each of the UN Model Regulations**
- **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**  
Not subject to ADR, RID and ADN.
- **International Maritime Dangerous Goods Code (IMDG)**  
Not subject to IMDG.
- **International Civil Aviation Organization (ICAO-IATA/DGR)**  
Not subject to ICAO-IATA.

**SECTION 15: Regulatory information**

15.1 **Safety, health and environmental regulations/legislation specific for the substance or mixture**

Relevant provisions of the European Union (EU)

- **Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**  
Not listed.
- **Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)**  
Not listed.
Not listed.
- **Restrictions according to REACH, Annex XVII**  
not listed
- **List of substances subject to authorisation (REACH, Annex XIV)**  
not listed

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Substance is listed in the following national inventories:
- EINECS/ELINCS/NLP (Europe)
- REACH (Europe)

National inventories
Substance is listed in the following national inventories:

- Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II
  not listed
- Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)
  not listed
- Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)
  not listed

15.2 Chemical Safety Assessment
No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

16.1 Indication of changes (revised safety data sheet)

<table>
<thead>
<tr>
<th>Section</th>
<th>Former entry (text/value)</th>
<th>Actual entry (text/value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Registration number (REACH): This information is not available.</td>
<td>Registration number (REACH): 01-2119494219-28-xxxx</td>
</tr>
<tr>
<td>3.1</td>
<td>Density: 1.9 g/cm³ at 20 °C</td>
<td>Density: 1.85 g/cm³ at 20 °C</td>
</tr>
<tr>
<td>9.1</td>
<td>Conditions to avoid: There are no specific conditions known which have to be avoided.</td>
<td>Conditions to avoid: Protect from moisture.</td>
</tr>
<tr>
<td>10.4</td>
<td>• International Civil Aviation Organization (ICAO-IATA/DGR): Not subject to ICAO-IATA.</td>
<td></td>
</tr>
<tr>
<td>14.8</td>
<td>Abbreviations and acronyms: change in the listing (table)</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>CMR</td>
<td>Carcinogenic, Mutagenic or toxic for Reproduction</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European List of Notified Chemical Substances</td>
</tr>
</tbody>
</table>
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

### Key literature references and sources for data
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

<table>
<thead>
<tr>
<th>Code</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H319</td>
<td>causes serious eye irritation</td>
</tr>
</tbody>
</table>

### Disclaimer

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