1.1 Product identifier

Identification of the substance: Calcium carbide

Article number: 6667

Registration number (REACH): 01-2119494719-18-xxxx

Index No: 006-004-00-9

EC number: 200-848-3

CAS number: 75-20-7

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 acc. to GHS

This mixture does not meet the criteria for classification.

<table>
<thead>
<tr>
<th>Classification acc. to GHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>2.12</td>
</tr>
<tr>
<td>3.2</td>
</tr>
<tr>
<td>3.3</td>
</tr>
</tbody>
</table>
2.2 Label elements
Labelling GHS

Signal word: Danger

Pictograms

Hazard statements
H260 In contact with water releases flammable gases which may ignite spontaneously
H315 Causes skin irritation
H318 Causes serious eye damage

Precautionary statements

Precautionary statements - prevention
P231+P232 Handle under inert gas. Protect from moisture.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - response
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P335+P334 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.

Precautionary statements - storage
P402+P404 Store in a dry place. Store in a closed container.

Precautionary statements - disposal
P501 Dispose of contents/container to industrial combustion plant.

Hazardous ingredients for labelling: Calcium oxide

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

H318 Causes serious eye damage.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
contains: Calcium oxide
## 2.3 Other hazards
There is no additional information.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

**Description of the mixture**
Composition/information on ingredients.

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>Identifier</th>
<th>wt%</th>
<th>Classification acc. to 1272/2008/EC</th>
<th>Pictograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>calcium carbide</td>
<td>CAS No 75-20-7 EC No 200-848-3</td>
<td>≥ 80</td>
<td>Water-react. 1 / H260</td>
<td></td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>CAS No 1305-78-8 EC No 215-138-9</td>
<td>10 - &lt; 20</td>
<td>Skin Irrit. 2 / H315 Eye Dam. 1 / H318 STOT SE 3 / H335</td>
<td></td>
</tr>
</tbody>
</table>

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

### 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 case of skin irritation, consult a physician.
**SECTION 5: Firefighting measures**

5.1 **Extinguishing media**

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

- **Unsuitable extinguishing media**
  water, foam

5.2 **Special hazards arising from the substance or mixture**

- Non-combustible.

- **Hazardous combustion products**
  In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO2), May produce toxic
  fumes of carbon monoxide if burning. Acetylen

5.3 **Advice for firefighters**

- Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing appar-
  atus.

**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**

- **Advises on how to contain a spill**
  Covering of drains.

- **Advises on how to clean up a spill**
  Take up mechanically. Control of dust. Take up carefully when dry.
Other information relating to spills and releases
Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Provide adequate ventilation.

Advice on general occupational hygiene
Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities
Store in a dry place. Keep only in the original container. Keep under inert gas.

Incompatible substances or mixtures
Observe hints for combined storage. Do not allow contact with water.

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.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of agent</th>
<th>CAS No</th>
<th>Notation</th>
<th>Identifier</th>
<th>TWA [mg/m³]</th>
<th>STEL [mg/m³]</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>AU</td>
<td>calcium oxide</td>
<td>1305-78-8</td>
<td>WES</td>
<td>WES</td>
<td>2</td>
<td></td>
<td>WES</td>
</tr>
</tbody>
</table>

Notation
• STEL: Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified
• TWA: Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

Relevant DNELs/DMELs/PNECs and other threshold levels
• relevant DNELs of components of the mixture

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Protection goal, route of exposure</th>
<th>Used in</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>DNEL</td>
<td>1 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - local effects</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>DNEL</td>
<td>4 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - local effects</td>
</tr>
</tbody>
</table>
Use safety goggles with side 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.

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>PNEC</td>
<td>0.37 mg/l</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>PNEC</td>
<td>0.24 mg/l</td>
<td>marine water</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>PNEC</td>
<td>2.27 mg/l</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>PNEC</td>
<td>817.4 mg/kg</td>
<td>soil</td>
<td>short-term (single instance)</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection
Use safety goggles 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
0.4 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). P2 (filters at least 94 % 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
- **Colour:** dark grey
- **Odour:** like: garlic
- **Odour threshold:** No data available

**Other physical and chemical parameters**
- **pH (value):** This information is not available.
- **Melting point/freezing point:** 2,160 °C
- **Initial boiling point and boiling range:** This information is not available.
- **Flash point:** not applicable
- **Evaporation rate:** no data available
- **Flammability (solid, gas):** Non-flammable

**Explosive limits**
- **lower explosion limit (LEL):** 1.5 vol%
- **upper explosion limit (UEL):** 95.4 vol%
- **Explosion limits of dust clouds:** these information are not available

**Vapour pressure**
- 0 hPa at 20 °C

**Density**
- 2.22 g/cm³ at 20 °C

**Vapour density**
- This information is not available.

**Relative density**
- Information on this property is not available.

**Solubility(ies)**
- **Water solubility:** 1,600 mg/l at 20 °C , Hydrolysis

**Partition coefficient**
- **n-octanol/water (log KOW):** 0.37 (ECHA)

**Auto-ignition temperature**
- Information on this property is not available.

**Decomposition temperature**
- no data available

**Viscosity**
- not relevant (solid matter)

**Explosive properties**
- Shall not be classified as explosive

**Oxidising properties**
- none
Risk of ignition.
The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Material reacts vigorously with water emitting flammable gases.
Violent reaction with: Bases, Methanol, Oxidisers, Acids

Keep away from heat. Protect from moisture.

Hazardous combustion products: see section 5.

Causes skin irritation.
Causes serious eye damage.

Shall not be classified as acutely toxic.

Shall not be classified as a respiratory or skin sensitiser.

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).
**Safety data sheet**
Safe Work Australia - Code of Practice

**Calcium carbide techn., 7-20 mm**

article number: 6667

• **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
  • **If in eyes**
    Causes serious eye damage, risk of blindness
  • **If inhaled**
    data are not available
  • **If on skin**
    causes skin irritation

  **Other information**
  None

**SECTION 12: Ecological information**

12.1 **Toxicity**

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

**Aquatic toxicity (acute)**

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>LC50</td>
<td>158 mg/l</td>
<td>aquatic invertebrates</td>
<td>96 h</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>ErC50</td>
<td>184.6 mg/l</td>
<td>algae</td>
<td>72 h</td>
</tr>
</tbody>
</table>

**Aquatic toxicity (chronic)**

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>LC50</td>
<td>53.1 mg/l</td>
<td>aquatic invertebrates</td>
<td>14 d</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>EC50</td>
<td>300.4 mg/l</td>
<td>microorganisms</td>
<td>3 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

Does not significantly accumulate in organisms.

n-octanol/water (log KOW) 0.37

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.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

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.

13.3 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 1402

14.2 UN proper shipping name CALCIUM CARBIDE

Hazardous ingredients Calcium carbide

14.3 Transport hazard class(es)

Class 4.3 (substances which, in contact with water, emit flammable gases)

14.4 Packing group I (substance presenting high danger)

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

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.
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)

| UN number | 1402 |
| Proper shipping name | CALCIUM CARBIDE |
| Particulars in the transport document | UN1402, CALCIUM CARBIDE, 4.3, I, (B/E) |
| Class | 4.3 |
| Classification code | W2 |
| Packing group | I |
| Danger label(s) | 4.3 |

Excepted quantities (EQ) | E0 |
Limited quantities (LQ) | 0 |
Transport category (TC) | 1 |
Tunnel restriction code (TRC) | B/E |
Hazard identification No | X423 |

**Emergency Action Code**

4W

- International Maritime Dangerous Goods Code (IMDG)

| UN number | 1402 |
| Proper shipping name | CALCIUM CARBIDE |
| Particulars in the shipper's declaration | UN1402, CALCIUM CARBIDE, 4.3, I |
| Class | 4.3 |
| Packing group | I |
| Danger label(s) | 4.3 |

Special provisions (SP) | 951 |
Excepted quantities (EQ) | E0 |
Limited quantities (LQ) | 0 |
EmS | F-G, S-N |
Stowage category | B |
**SECTION 15: Regulatory information**

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

**National inventories**
- EINECS/ELINCS/NLP (Europe)
- DSL/NDSL (Canada)
- Toxic Substance Control Act (TSCA)

**15.2 Chemical Safety Assessment**
Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information**

**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>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>DMEL</td>
<td>Derived Minimal Effect Level</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No-Effect Level</td>
</tr>
<tr>
<td>EC No</td>
<td>The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)</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>
<tr>
<td>EmS</td>
<td>Emergency Schedule</td>
</tr>
<tr>
<td>Eye Dam.</td>
<td>seriously damaging to the eye</td>
</tr>
<tr>
<td>Eye Irrit.</td>
<td>irritant to the eye</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
- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

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>H260</td>
<td>in contact with water releases flammable gases which may ignite spontaneously</td>
</tr>
<tr>
<td>H315</td>
<td>causes skin irritation</td>
</tr>
<tr>
<td>H318</td>
<td>causes serious eye damage</td>
</tr>
<tr>
<td>H335</td>
<td>may cause respiratory irritation</td>
</tr>
</tbody>
</table>

Disclaimer
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.