SECTION 1: Identification

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: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This mixture does not meet the criteria for classification.

<table>
<thead>
<tr>
<th>Classification acc. to GHS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section</strong></td>
</tr>
<tr>
<td>B.12</td>
</tr>
<tr>
<td>A.2</td>
</tr>
<tr>
<td>A.3</td>
</tr>
</tbody>
</table>
Supplemental hazard information

<table>
<thead>
<tr>
<th>Code</th>
<th>Supplemental hazard information</th>
</tr>
</thead>
<tbody>
<tr>
<td>HNOC001</td>
<td>may be harmful if swallowed (GHS category 5: acutely toxic - oral)</td>
</tr>
<tr>
<td>HNOC002</td>
<td>may be harmful in contact with skin (GHS category 5: acutely toxic - dermal)</td>
</tr>
</tbody>
</table>

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

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**

Do not allow contact with water.
Handle under inert gas. Protect from moisture.
Keep container tightly closed.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash ... thoroughly after handling.
Wear protective gloves/eye protection/face protection.

**Precautionary statements - response**

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of soap and water.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see ... on this label).
If skin irritation occurs: Get medical advice/attention.
Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
Take off contaminated clothing and wash it before reuse.
Wash contaminated clothing before reuse.
In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.

**Precautionary statements - storage**
There is no additional information.

Precautionary statements - disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

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.

Wear protective gloves/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

HNOC001 May be harmful if swallowed (GHS category 5: acutely toxic - oral).
HNOC002 May be harmful in contact with skin (GHS category 5: acutely toxic - dermal).
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</td>
<td>≥ 80</td>
<td>Water-react. 1 / H260</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC No 200-848-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index No 006-004-00-9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>REACH Reg. No 01-2119494719-18-XXX</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>CAS No 1305-78-8</td>
<td>10 - &lt; 20</td>
<td>Skin Irrit. 2 / H315</td>
<td>Eye Dam. 1 / H318 STOT SE 3 / H335</td>
</tr>
<tr>
<td></td>
<td>EC No 215-138-9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>REACH Reg. No 01-2119475535-36-xxxx</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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.

Following eye contact
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion
Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed
Risk of blindness, Nausea, Risk of serious damage to eyes, Irritation, Vomiting

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

SECTION 5: Fire-fighting 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 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. 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
   Hazardous combustion products: see section 5. Personal precautions: see section 8. Incompatible ma-
   terials: see section 10. Disposal considerations: see section 13.

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 compatible storage of chemicals. 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>US</td>
<td>calcium oxide</td>
<td>1305-78-8</td>
<td>TLV</td>
<td></td>
<td>2</td>
<td>5</td>
<td>ACGIH</td>
</tr>
<tr>
<td>US</td>
<td>calcium oxide</td>
<td>1305-78-8</td>
<td>PEL</td>
<td></td>
<td>5</td>
<td>5</td>
<td>29 CFR OSHA</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>

- **relevant PNECs 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>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)
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 necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, color 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
Color: dark grey
Odor: like: garlic
Odor 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
- **Vapor pressure**
  0 hPa at 20 °C
**SECTION 10: Stability and reactivity**

**10.1 Reactivity**
Risk of ignition.

**10.2 Chemical stability**
The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**10.3 Possibility of hazardous reactions**
Material reacts vigorously with water emitting flammable gases. Violent reaction with: Bases, Methanol, Oxidizers, Acids

**10.4 Conditions to avoid**
Keep away from heat. Protect from moisture.

**10.5 Incompatible materials**
copper, silver

**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>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral</td>
<td>LD50</td>
<td>&gt;2,000 mg/kg</td>
<td>rat</td>
<td>ECHA</td>
</tr>
<tr>
<td>dermal</td>
<td>LD50</td>
<td>&gt;2,500 mg/kg</td>
<td>rabbit</td>
<td>ECHA</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**
Causes skin irritation.

**Serious eye damage/eye irritation**
Causes serious eye damage.

**Respiratory or skin sensitization**
Shall not be classified as a respiratory or skin sensitizer.

**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

- **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)

Aquatic toxicity (acute) of components of the mixture

<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)

Aquatic toxicity (chronic) of components of the mixture

<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/packages
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

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
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 or rail (49 CFR US DOT)
  UN number
  1402
  Proper shipping name
  Calcium carbide
  Class
  4.3
  Packing group
  I
  Danger label(s)
  4.3

Special provisions (SP)
A1, A8, B55, B59, IB4, IP1, N34, T9, TP7, TP33, W32

ERG No
138

• 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

United States (en)
Calcium carbide  techn., 7-20 mm
article number: 6667

- 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

- International Civil Aviation Organization (ICAO-IATA/DGR)
  - 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

- Excepted quantities (EQ): E0

SECTION 15: Regulatory information

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

- National regulations (United States)
  - Toxic Substance Control Act (TSCA)
    - None of the ingredients are listed.
  - SARA TITLE III (Superfund Amendment and Reauthorization Act)
    - List of Extremely Hazardous Substances (40 CFR 355) (EPCRA Section 302 and 304)
      - None of the ingredients are listed.
    - Specific Toxic Chemical Listings (40 CFR 372) (EPCRA Section 313)
      - None of the ingredients are listed.
  - CERCLA
    - Section 102(A) Hazardous Substances (40 CFR 302.4)
## Calcium carbide techn., 7-20 mm

**Safety data sheet**

acc. to OSHA, Appendix D to § 1910.1200

**article number: 6667**

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Wt%</th>
<th>Remarks</th>
<th>Statutory code</th>
<th>RCRA waste No.</th>
<th>Final RQ pounds (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>calcium carbide</td>
<td>75-20-7</td>
<td>82</td>
<td></td>
<td>1</td>
<td></td>
<td>10 (4,54)</td>
</tr>
</tbody>
</table>

**Legend**

1. "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

### Clean Air Act

None of the ingredients are listed.

### New Jersey Worker and Community Right to Know Act N.J.S.A. 34:5A-1 et. seq.

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Wt%</th>
<th>Remarks</th>
<th>Classifications</th>
<th>Listed in</th>
<th>Substance number</th>
<th>DOT number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>18</td>
<td></td>
<td>CO R1</td>
<td>1 2 3 4 15 17</td>
<td>0325</td>
<td>1910</td>
</tr>
<tr>
<td>calcium carbide</td>
<td>75-20-7</td>
<td>82</td>
<td></td>
<td>F3 R2</td>
<td>3 15 17 20</td>
<td>0312</td>
<td>1402</td>
</tr>
</tbody>
</table>

**Legend**

4. "2009 TLVs® and BEIs®, Threshold Limit Values and Biological Exposure Indices," American Conference of Governmental Industrial Hygienists (ACGIH), 2009.

- CO Corrosive
- F3 Flammable - Third Degree
- R1 Reactive - First Degree
- R2 Reactive - Second Degree

**California Environmental Protection Agency (Cal/EPA): Proposition 65 Chemicals known to the State to cause cancer or reproductive toxicity**

None of the ingredients are listed.

**Industry or sector specific available guidance(s)**

NPCA-HMIS® III

Calcium carbide techn., 7-20 mm

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic</td>
<td>/</td>
<td>none</td>
</tr>
<tr>
<td>Health</td>
<td>3</td>
<td>major injury likely unless prompt action is taken and medical treatment is given</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
<td>material that must be preheated before ignition can occur</td>
</tr>
<tr>
<td>Physical hazard</td>
<td>2</td>
<td>materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air</td>
</tr>
<tr>
<td>Personal protective equipment</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### NFPA® 704

<table>
<thead>
<tr>
<th>Category</th>
<th>Degree of hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>1</td>
<td>material that must be preheated before ignition can occur</td>
</tr>
<tr>
<td>Health</td>
<td>3</td>
<td>material that, under emergency conditions, can cause serious or permanent injury</td>
</tr>
<tr>
<td>Instability</td>
<td>2</td>
<td>material that readily undergoes violent chemical change at elevated temperatures and pressures</td>
</tr>
<tr>
<td>Special hazard</td>
<td>$&lt;$</td>
<td>material that can form potentially explosive mixtures with water</td>
</tr>
</tbody>
</table>

**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.
**Abbreviations and acronyms**

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>49 CFR US DOT</td>
<td>49 CFR § 40 U.S. Department of Transportation</td>
</tr>
<tr>
<td>ACGIH</td>
<td>Threshold Limit Values and Biological Exposure Indices, ACGIH</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>CERCLA</td>
<td>CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)</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>ERG No</td>
<td>Emergency Response Guidebook - Number</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>
<tr>
<td>GHS</td>
<td>“Globally Harmonized System of Classification and Labelling of Chemicals” developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport (IATA)</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>index No</td>
<td>the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of &quot;Marine Pollutant&quot;)</td>
</tr>
<tr>
<td>NLP</td>
<td>No-Longer Polymer</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration (United States)</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>PEL</td>
<td>permissible exposure limit</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No-Effect Concentration</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.

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>Skin Corr.</td>
<td>corrosive to skin</td>
</tr>
<tr>
<td>Skin Irrit.</td>
<td>irritant to skin</td>
</tr>
<tr>
<td>STEL</td>
<td>short-term exposure limit</td>
</tr>
<tr>
<td>STOT SE</td>
<td>specific target organ toxicity - single exposure</td>
</tr>
<tr>
<td>TLV</td>
<td>permissible exposure limit</td>
</tr>
<tr>
<td>TWA</td>
<td>time-weighted average</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>Water-react.</td>
<td>material which, in contact with water, emits flammable gases</td>
</tr>
</tbody>
</table>

Key literature references and sources for data
- Transport of dangerous goods by road or rail (49 CFR US DOT)
- 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>

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