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

1.1 Product identifier

Identification of the substance: Lycopene
Article number: 5670
Registration number (REACH): It is not required to list the identified uses because the substance is not subject to registration according to REACH (< 1 t/a)
EC number: 207-949-1
CAS number: 502-65-8

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

Identified uses:
laboratory chemical
laboratory and analytical use

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

1.4 Emergency telephone number

<table>
<thead>
<tr>
<th>Name</th>
<th>Street</th>
<th>Postal code/city</th>
<th>Telephone</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Poisons Information Service City Hospital</td>
<td>Dudley Rd</td>
<td>B187QH Birmingham</td>
<td>844 892 0111</td>
<td></td>
</tr>
</tbody>
</table>

Emergency information service: +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)
This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)
not required
Signal word
not required

2.3 Other hazards
There is no additional information.

SECTION 3: Composition/information on ingredients

3.1 Substances
Name of substance: Lycopene
EC number: 207-949-1
CAS number: 502-65-8
Molecular formula: C_{40}H_{56}
Molar mass: 536.9 g/mol

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
Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

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

4.2 Most important symptoms and effects, both acute and delayed
Symptoms and effects are not known to date

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
Combustible.

Hazardous combustion products
In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO2)

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
No special measures are necessary.

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

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill
Covering of drains.

Advice on how to clean up a spill
Take up mechanically.

Other information relating to spills and releases
Place in appropriate containers for disposal.

6.4 Reference to other sections
SECTION 7: Handling and storage

7.1 Precautions for safe handling
No special measures are necessary.

Advice on general occupational hygiene
Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities
Store in a dry place. Keep in a cool 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: -20 °C.
Maximum storage temperature: -15 °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)
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.
• 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 (powder)
  Colour: whitish
  Odour: odourless
  Odour threshold: No data available

Other physical and chemical parameters
  pH (value): This information is not available.
  Melting point/freezing point: 166 – 170 °C
  Initial boiling point and boiling range: This information is not available.
  Flash point: not applicable
  Evaporation rate: no data available
  Flammability (solid, gas): These information are not available
  Explosive limits
    • lower explosion limit (LEL): this information is not available
    • upper explosion limit (UEL): this information is not available
  Explosion limits of dust clouds: these information are not available
  Vapour pressure: This information is not available.
  Density: This information is not available.
  Vapour density: This information is not available.
  Relative density: Information on this property is not available.
  Solubility(ies)
    Water solubility: no data available
Partition coefficient
n-octanol/water (log KOW)  This information is not available.
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

9.2 Other information
There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity
The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

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
Violent reaction with: Strong oxidiser

10.4 Conditions to avoid
There are no specific conditions known which have to be avoided.

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.

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

Serious eye damage/eye irritation
Shall not be classified as seriously damaging to the eye or eye irritant.

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**
  Data are not available

- **If in eyes**
  Data are not available

- **If inhaled**
  Data are not available

- **If on skin**
  Data are not available

**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.

12.2 **Process of degradability**
Theoretical Oxygen Demand: 3,218 mg/mg
Theoretical Carbon Dioxide: 3,279 mg/mg

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**

Consult the appropriate local waste disposal expert about waste disposal.

**Sewage disposal-relevant information**
Do not empty into drains.
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.

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
(not subject to transport regulations)

14.2 UN proper shipping name
not relevant

14.3 Transport hazard class(es)
Class not relevant

14.4 Packing group
not relevant not assigned to a packing group

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.
• Regulation 850/2004/EC on persistent organic pollutants (POP)
  Not listed.
• Restrictions according to REACH, Annex XVII
  not listed
• Restrictions according to REACH, Title VIII
  None.

• List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list
  not listed

• Seveso Directive

<table>
<thead>
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<th>2012/18/EU (Seveso III)</th>
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<td>No</td>
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<td>-----</td>
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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

Regulation 98/2013/EU on the marketing and use of explosives precursors
not listed

Regulation 111/2005/EC laying down rules for the monitoring of trade between the Community and third countries in drug precursors
not listed

National inventories
Substance is listed in the following national inventories:

<table>
<thead>
<tr>
<th>Country</th>
<th>National inventories</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA</td>
<td>DSL</td>
<td>substance is listed</td>
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<tr>
<td>CN</td>
<td>IECSC</td>
<td>substance is listed</td>
</tr>
<tr>
<td>EU</td>
<td>ECSI</td>
<td>substance is listed</td>
</tr>
<tr>
<td>NZ</td>
<td>NZIoC</td>
<td>substance is listed</td>
</tr>
<tr>
<td>TW</td>
<td>TCSI</td>
<td>substance is listed</td>
</tr>
</tbody>
</table>

Legend
- DSL Domestic Substances List (DSL)
- ECSI EC Substance Inventory (EINECS, ELINCS, NLP)
- IECSC Inventory of Existing Chemical Substances Produced or Imported in China
- NZIoC New Zealand Inventory of Chemicals
- TCSI Taiwan Chemical Substance Inventory

15.2 Chemical Safety Assessment
No Chemical Safety Assessment has been carried out for this substance.
SECTION 16: Other information

Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Description 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>
<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>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of “Marine Pollutant”)</td>
</tr>
<tr>
<td>NLP</td>
<td>No-Longer Polymer</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)</td>
</tr>
<tr>
<td>SVHC</td>
<td>Substance of Very High Concern</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

Key literature references and sources for data
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)
- 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)
not relevant.

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.