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

1.1 Product identifier
Identification of the substance  n-Heptane
Article number  X878
Registration number (REACH)  01-2119457603-38-xxxx
Index No  601-008-00-2
EC number  205-563-8
CAS number  142-82-5

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
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

<table>
<thead>
<tr>
<th>Classification acc. to GHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard class</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>2.6 flammable liquid</td>
</tr>
<tr>
<td>3.2 skin corrosion/irritation</td>
</tr>
<tr>
<td>3.8D specific target organ toxicity - single exposure (narcotic effects, drowsiness)</td>
</tr>
<tr>
<td>3.10 aspiration hazard</td>
</tr>
<tr>
<td>4.1A hazardous to the aquatic environment - acute hazard</td>
</tr>
</tbody>
</table>
n-Heptane ROTISOLV® ≥99 %, Pestilyse®

article number: X878

<table>
<thead>
<tr>
<th>Classification acc. to GHS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section</strong></td>
</tr>
<tr>
<td>4.1C</td>
</tr>
</tbody>
</table>

The most important adverse physicochemical, human health and environmental effects

Narcotic effects.

2.2 Label elements

Labelling GHS

**Signal word** Danger

**Pictograms**

GHS02, GHS07, GHS08, GHS09

**Hazard statements**

- H225 Highly flammable liquid and vapour
- H304 May be fatal if swallowed and enters airways
- H315 Causes skin irritation
- H336 May cause drowsiness or dizziness
- H410 Very toxic to aquatic life with long lasting effects

**Precautionary statements**

**Precautionary statements - prevention**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

**Precautionary statements - response**

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P331 Do NOT induce vomiting.
P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.

**Precautionary statements - storage**

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P403+P235 Store in a well-ventilated place. Keep cool.

**Labelling of packages where the contents do not exceed 125 ml**

Signal word: Danger

**Symbol(s)**

- H304 May be fatal if swallowed and enters airways.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331 Do NOT induce vomiting.
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>n-Heptane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index No</td>
<td>601-008-00-2</td>
</tr>
<tr>
<td>Registration number (REACH)</td>
<td>01-2119457603-38-xxxx</td>
</tr>
<tr>
<td>EC number</td>
<td>205-563-8</td>
</tr>
<tr>
<td>CAS number</td>
<td>142-82-5</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>C₇H₁₆</td>
</tr>
<tr>
<td>Molar mass</td>
<td>100,2 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 case of skin irritation, consult a physician.

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

Following ingestion
Do NOT induce vomiting. Call a physician immediately. Observe aspiration hazard if vomiting occurs.

4.2 Most important symptoms and effects, both acute and delayed
Aspiration hazard, Irritation, Headache, Vertigo, Dizziness, Drowsiness, Narcosis

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. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

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

5.3 Advice for firefighters
Do not allow firefighting water to enter drains or water courses. 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
Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not
breathe vapour/spray. Avoidance of ignition sources.

6.2 Environmental precautions
Keep away from drains, surface and ground water. Retain contaminated washing water and dispose
of it. Explosive properties.

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
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

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 protective equipment: see section 8. Incom-
patible materials: see section 10. Disposal considerations: see section 13.
SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of sufficient ventilation. Use extractor hood (laboratory).

- Measures to prevent fire as well as aerosol and dust generation

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

- Measures to protect the environment

Avoid release to the environment.

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 well-ventilated place. Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice

Ground/bond container and receiving equipment.

- 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 [pp m]</th>
<th>TWA [mg/m³]</th>
<th>STEL [pp m]</th>
<th>STEL [mg/m³]</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td>heptane</td>
<td>142-82-5</td>
<td>PEL</td>
<td>400</td>
<td>1.640</td>
<td>500</td>
<td>2.050</td>
<td>G.N. No. S 134/2006</td>
<td></td>
</tr>
</tbody>
</table>

Notation

PEL: 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 (unless otherwise specified).
Relevant DNELs/DMELs/PNECs and other threshold levels

<table>
<thead>
<tr>
<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>DNEL</td>
<td>2.085 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>300 mg/kg bw/ day</td>
<td>human, dermal</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
</tbody>
</table>

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. The times are approximate values from measurements at 22 °C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• 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.

Flame-retardant protective clothing.

Respiratory protection

Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).
### 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: liquid (fluid)
- Colour: colourless
- Odour: like: Gasoline
- Odour threshold: No data available

**Other physical and chemical parameters**
- **pH (value):** This information is not available.
- **Melting point/freezing point:** -90,5 °C
- **Initial boiling point and boiling range:** 98,2 – 98,4 °C at 100 kPa
- **Flash point:** -4 °C
- **Evaporation rate:** no data available
- **Flammability (solid, gas):** not relevant (fluid)
- **Explosive limits**
  - **lower explosion limit (LEL):** 0,84 vol%
  - **upper explosion limit (UEL):** 6,7 vol%
- **Explosion limits of dust clouds:** not relevant
- **Vapour pressure:** 6,09 kPa at 25 °C
- **Density:** 0,69 g/cm³ at 15 °C
- **Vapour density:** 3,46 (air = 1)
- **Bulk density:** Not applicable
- **Relative density:** Information on this property is not available.
- **Solubility(ies)**
  - **Water solubility:** 2,4 mg/l at 25 °C
- **Partition coefficient**
  - **n-octanol/water (log KOW):** 4,5 (ECHA)
  - **Soil organic carbon/water (log KOC):** 2,38 (ECHA)
  - **Auto-ignition temperature:** 204 °C - ECHA
  - **Decomposition temperature:** no data available
- **Viscosity**
  - **kinematic viscosity:** 0,641 mm²/s at 20 °C
  - **dynamic viscosity:** 0,4423 cP
Explosive properties
Shall not be classified as explosive

Oxidising properties
none

9.2 Other information
Surface tension
19.66 mN/m (25 °C)

SECTION 10: Stability and reactivity

10.1 Reactivity
Risk of ignition. Vapours can form explosive mixtures with air.

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, Phosphorus, Chlorine

10.4 Conditions to avoid
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials
Rubber articles, different plastics

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;5,000 mg/kg</td>
<td>rat</td>
<td>ECHA</td>
</tr>
<tr>
<td>inhalation: vapour</td>
<td>LC50</td>
<td>&gt;29,29 mg/l/4h</td>
<td>rat</td>
<td>ECHA</td>
</tr>
<tr>
<td>dermal</td>
<td>LD50</td>
<td>&gt;2,000 mg/kg</td>
<td>rabbit</td>
<td>ECHA</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Causes skin irritation.

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
May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

- If swallowed
  aspiration hazard

- If in eyes
  causes slight to moderate irritation

- If inhaled
  headache, vertigo, dizziness, drowsiness, narcosis

- If on skin
  Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation)

Other information

None

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)

Very toxic to aquatic organisms.

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50</td>
<td>0.64 mg/l</td>
<td>aquatic invertebrates</td>
<td>ECHA</td>
<td>48 h</td>
</tr>
</tbody>
</table>

Aquatic toxicity (chronic)

May cause long-term adverse effects in the aquatic environment.

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50</td>
<td>0.23 mg/l</td>
<td>aquatic invertebrates</td>
<td>ECHA</td>
<td>21 d</td>
</tr>
<tr>
<td>NOEC</td>
<td>0.17 mg/l</td>
<td>aquatic invertebrates</td>
<td>ECHA</td>
<td>21 d</td>
</tr>
</tbody>
</table>

12.2 Process of degradability

Theoretical Oxygen Demand: 3,513 mg/mg
Theoretical Carbon Dioxide: 3,074 mg/mg

<table>
<thead>
<tr>
<th>Process</th>
<th>Degradation rate</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>oxygen depletion</td>
<td>28.2 %</td>
<td>2 d</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

The substance fulfils the very bioaccumulative criterion.
n-Octanol/water (log KOW) 4,5
BCF 552 (ECHA)

12.4 Mobility in soil
The Organic Carbon normalised adsorption coefficient 2,38

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. Avoid release to the environment. Refer to special instructions/safety data sheets.

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

Sewage disposal-relevant information
Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

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 1206
14.2 UN proper shipping name HEPTANES
Hazardous ingredients n-Heptane
14.3 Transport hazard class(es)
### n-Heptane ROTISOLV® ≥99 %, Pestilyse®

**article number: X878**

<table>
<thead>
<tr>
<th>Class</th>
<th>3 (flammable liquids)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>14.4</strong> Packing group</td>
<td>II (substance presenting medium danger)</td>
</tr>
<tr>
<td><strong>14.5</strong> Environmental hazards</td>
<td>hazardous to the aquatic environment</td>
</tr>
</tbody>
</table>

#### 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**: 1206
- **Proper shipping name**: HEPTANES
- **Particulars in the transport document**: UN1206, HEPTANES, 3, II, (D/E), environmentally hazardous
- **Class**: 3
- **Classification code**: F1
- **Packing group**: II
- **Danger label(s)**: 3 + "fish and tree"
- **Environmental hazards**: yes (hazardous to the aquatic environment)
- **Excepted quantities (EQ)**: E2
- **Limited quantities (LQ)**: 1 L
- **Transport category (TC)**: 2
- **Tunnel restriction code (TRC)**: D/E
- **Hazard identification No**: 33

##### • International Maritime Dangerous Goods Code (IMDG)

- **UN number**: 1206
- **Proper shipping name**: HEPTANES
- **Particulars in the shipper's declaration**: UN1206, HEPTANES, 3, II, -4°C c.c., MARINE POL-LUTANT
- **Class**: 3
- **Marine pollutant**: yes (P) (hazardous to the aquatic environment)
- **Packing group**: II
- **Danger label(s)**: 3 + "fish and tree"
n-Heptane ROTISOLV® ≥99 %, Pestilyse®

**article number:** X878

- **Special provisions (SP)**
- **Excepted quantities (EQ):** E2
- **Limited quantities (LQ):** 1 L
- **EmS:** F-E, S-D
- **Stowage category:** B

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

- **UN number:** 1206
- **Proper shipping name:** Heptanes
- **Particulars in the shipper’s declaration:** UN1206, Heptanes, 3, II
- **Class:** 3
- **Environmental hazards:** yes (hazardous to the aquatic environment)
- **Packing group:** II
- **Danger label(s):** 3

- **Excepted quantities (EQ):** E2
- **Limited quantities (LQ):** 1 L

**SECTION 15: Regulatory information**

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

**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>AU</td>
<td>AICS</td>
<td>substance is listed</td>
</tr>
<tr>
<td>CA</td>
<td>DSL</td>
<td>substance is listed</td>
</tr>
<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>EU</td>
<td>REACH Reg.</td>
<td>substance is listed</td>
</tr>
<tr>
<td>JP</td>
<td>CSCL-ENCS</td>
<td>substance is listed</td>
</tr>
<tr>
<td>KR</td>
<td>KECI</td>
<td>substance is listed</td>
</tr>
<tr>
<td>MX</td>
<td>INSQ</td>
<td>substance is listed</td>
</tr>
<tr>
<td>NZ</td>
<td>NZIoC</td>
<td>substance is listed</td>
</tr>
<tr>
<td>PH</td>
<td>PICCS</td>
<td>substance is listed</td>
</tr>
<tr>
<td>TR</td>
<td>CICR</td>
<td>substance is listed</td>
</tr>
<tr>
<td>TW</td>
<td>TCSI</td>
<td>substance is listed</td>
</tr>
</tbody>
</table>
Safety data sheet
Singapore Standard SS 586 - 3: Specification for hazard communication for hazardous chemicals and dangerous goods - preparation of safety data sheets SDS

n-Heptane ROTISOLV® ≥99 %, Pestilyse®
article number: X878

<table>
<thead>
<tr>
<th>Country</th>
<th>National Inventories</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>TSCA</td>
<td>substance is listed</td>
</tr>
</tbody>
</table>

**Legend**
- AICS: Australian Inventory of Chemical Substances
- CICR: Chemical Inventory and Control Regulation
- CSCL-ENCS: List of Existing and New Chemical Substances (CSCL-ENCS)
- DSL: Domestic Substances List (DSL)
- ECSI: EC Substance Inventory (EINECS, ELINCS, NLP)
- IECS: Inventory of Existing Chemical Substances Produced or Imported in China
- INSQ: National Inventory of Chemical Substances
- KECL: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PIJCCS: Philippine Inventory of Chemicals and Chemical Substances
- REACH Reg.: REACH registered substances
- TCSI: Taiwan Chemical Substance Inventory
- TSEA: Toxic Substance Control Act

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>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>BCF</td>
<td>bioconcentration factor</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>EC50</td>
<td>Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval</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>G.N. No. S 134/2006</td>
<td>Workplace Safety and Health (General Provisions) Regulations</td>
</tr>
<tr>
<td>GHS</td>
<td>&quot;Globally Harmonized System of Classification and Labelling of Chemicals&quot; 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>
</tbody>
</table>
Abbr. | Descriptions of used abbreviations
---|---
LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50% lethality during a specified time interval
LD50 | Lethal Dose 50%: the LD50 corresponds to the dose of a tested substance causing 50% lethality during a specified time interval
MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP | No-Longer Polymer
NOEC | No Observed Effect Concentration
PBT | Persistent, Bioaccumulative and Toxic
PEL | workplace exposure limit
PNEC | Predicted No-Effect Concentration
ppm | parts per million
REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals
RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL | short-term exposure limit
TWA | time-weighted average
vPvB | very Persistent and very Bioaccumulative

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>H225</td>
<td>highly flammable liquid and vapour</td>
</tr>
<tr>
<td>H304</td>
<td>may be fatal if swallowed and enters airways</td>
</tr>
<tr>
<td>H315</td>
<td>causes skin irritation</td>
</tr>
<tr>
<td>H336</td>
<td>may cause drowsiness or dizziness</td>
</tr>
<tr>
<td>H400</td>
<td>very toxic to aquatic life</td>
</tr>
<tr>
<td>H410</td>
<td>very toxic to aquatic life with long lasting effects</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.