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

#### 1.1 Product identifier

- **Identification of the substance**: Acetic acid ethyl ester
- **Article number**: AE69
- **Registration number (REACH)**: 01-2119475103-46-xxxx
- **Index No**: 607-022-00-5
- **EC number**: 205-500-4
- **CAS number**: 141-78-6

#### 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

<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>Bloemfontein Poison Control and Medicine Information Centre University of the Free State</td>
<td>205 Nelson Mandela Drive</td>
<td>9300 Bloemfontein</td>
<td>+27 824 910 160</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification acc. to GHS**

<table>
<thead>
<tr>
<th>Section</th>
<th>Hazard class</th>
<th>Hazard class and category</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.6</td>
<td>flammable liquid</td>
<td>(Flam. Liq. 2)</td>
<td>H225</td>
</tr>
<tr>
<td>3.3</td>
<td>serious eye damage/eye irritation</td>
<td>(Eye Irrit. 2)</td>
<td>H319</td>
</tr>
</tbody>
</table>
### Classification acc. to GHS

<table>
<thead>
<tr>
<th>Section</th>
<th>Hazard class</th>
<th>Hazard class and category</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.8D</td>
<td>specific target organ toxicity - single exposure (narcotic effects, drowsiness)</td>
<td>(STOT SE 3)</td>
<td>H336</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

**Hazard statements**

- H225: Highly flammable liquid and vapour
- H319: Causes serious eye irritation
- H336: May cause drowsiness or dizziness

#### Precautionary statements

**Precautionary statements - prevention**

- P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233: Keep container tightly closed.
- P240: Ground and bond container and receiving equipment.
- P241: Use explosion-proof [electrical/ventilating/lighting/] equipment.
- P242: Use non-sparking tools.
- P243: Take action to prevent static discharges.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264: Wash ... thoroughly after handling.
- P271: Use only outdoors or in a well-ventilated area.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary statements - response**

- P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312: Call a POISON CENTER/doctor if you feel unwell.
- P337+P313: If eye irritation persists: Get medical advice/attention.
- P370+P378: In case of fire: Use carbon dioxide, powder extinguisher or water spray to extinguish.
Safety data sheet
GHS of the United Nations, annex 4

Acetic acid ethyl ester ROTISOLV® ≥99.9 %, LC-MS-Grade

article number: AE69

---

**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.
P405 Store locked up.

**Precautionary statements - disposal**

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

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>Ethyl acetate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index No</td>
<td>607-022-00-5</td>
</tr>
<tr>
<td>Registration number (REACH)</td>
<td>01-2119475103-46-xxxx</td>
</tr>
<tr>
<td>EC number</td>
<td>205-500-4</td>
</tr>
<tr>
<td>CAS number</td>
<td>141-78-6</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>C₄H₈O₂</td>
</tr>
<tr>
<td>Molar mass</td>
<td>88.11 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.
Acetic acid ethyl ester ROTISOLV® ≥99.9 %, LC-MS-Grade

article number: AE69

Following ingestion
Rinse mouth. Do not induce vomiting. Observe aspiration hazard if vomiting occurs. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Following inhalation: Headaches and dizziness may occur, Breathing difficulties, Dizziness, Drowsiness, Narcosis,
Following skin contact: Has degreasing effect on the skin, Irritant effects,
After eye contact: Irritation,
After ingestion: Nausea, Vomiting, Aspiration hazard

4.3 Indication of any immediate medical attention and special treatment needed
Give sodium sulfate as laxative (1 tablespoon in 1 glass of water).

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

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. Explosive properties.

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
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

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Provision of sufficient ventilation. Avoid: Aerosol or mist formation.

• 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.

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

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>Identifier</th>
<th>TWA ppm</th>
<th>TWA mg/m³</th>
<th>STEL ppm</th>
<th>STEL mg/m³</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZA</td>
<td>ethyl acetate</td>
<td>141-78-6</td>
<td>OEL (DME)</td>
<td>200</td>
<td>700</td>
<td></td>
<td></td>
<td>DME</td>
</tr>
<tr>
<td>ZA</td>
<td>ethyl acetate</td>
<td>141-78-6</td>
<td>OEL (DoL)</td>
<td>400</td>
<td>1,400</td>
<td></td>
<td></td>
<td>DoL-OEL</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 (unless otherwise specified)

Relevant DNELs/DMELs/PNECs and other threshold levels

• human health values

<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>734 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>1,468 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>734 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - local effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>1,468 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - local effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>63 mg/kg bw/day</td>
<td>human, dermal</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
</tbody>
</table>

• environmental values

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC</td>
<td>1.65 mg/l</td>
<td>water</td>
<td>intermittent release</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.24 mg/l</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.024 mg/l</td>
<td>marine water</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>650 mg/l</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>1.15 mg/kg</td>
<td>freshwater sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.115 mg/kg</td>
<td>marine sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.148 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
Butyl caoutchouc (butyl rubber)

• material thickness
0.7mm.

• 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: 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 fruity
Odour threshold 50 ppm

Other physical and chemical parameters
pH (value) This information is not available.
Melting point/freezing point -83.6 °C at 1 atm
Initial boiling point and boiling range 77.1 °C at 101.3 kPa
Flash point -4 °C at 1 atm (closed cup)
Evaporation rate no data available
Acetic acid ethyl ester ROTISOLV® ≥99.9 %, LC-MS-Grade

Flammability (solid, gas) not relevant (fluid)

Explosive limits
- lower explosion limit (LEL) 2.2 vol% (73 g/m³)
- upper explosion limit (UEL) 11.5 vol% (470 g/m³)

Explosion limits of dust clouds not relevant

Vapour pressure 97 hPa at 20 °C

Density 900.3 kg/m³ at 20 °C

Vapour density 3.04 (air = 1)

Bulk density Not applicable

Relative density Information on this property is not available.

Solubility(ies)
Water solubility 80,000 mg/l at 25 °C

Partition coefficient
n-octanol/water (log KOW) 0.68 (pH value: 7, 25 °C) (ECHA)

Auto-ignition temperature 427 °C at 1 atm - ECHA

Decomposition temperature no data available

Viscosity
- kinematic viscosity 0.501 mm²/s
- dynamic viscosity 0.451 mPa s at 20 °C

Explosive properties Shall not be classified as explosive

Oxidising properties none

9.2 Other information

Refractive index 1.372

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
May cause decomposition by long-term light influence. Moisture-sensitive.

10.3 Possibility of hazardous reactions
Exothermic reaction with: Fluorine, Strong oxidiser,
Danger of explosion: Alkali metals, Alkaline earth metal, Violent reaction with: Strong acid, Strong al-
lkal
d
10.4 Conditions to avoid
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. - Direct light irradiation. - Humidity.

10.5 Incompatible materials
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>5,620 mg/kg</td>
<td>rat</td>
<td>TOXNET</td>
</tr>
<tr>
<td>dermal</td>
<td>LD50</td>
<td>&gt;20,000 mg/kg</td>
<td>rabbit</td>
<td>ECHA</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 sensitisier.

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

**Symptoms related to the physical, chemical and toxicological characteristics**

- **If swallowed**
  nausea, vomiting, aspiration hazard

- **If in eyes**
  Irritating to eyes

- **If inhaled**
  headache, vertigo, breathing difficulties, 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
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>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>230 mg/l</td>
<td>Pimephales promelas</td>
<td>ECHA</td>
<td>96 h</td>
</tr>
</tbody>
</table>

### Aquatic toxicity (chronic)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOEC</td>
<td>2.4 mg/l</td>
<td>daphnia magna</td>
<td>ECHA</td>
<td>21 d</td>
</tr>
</tbody>
</table>

12.2 **Process of degradability**
The substance is readily biodegradable.
Theoretical Oxygen Demand: 1.816 mg/mg
Theoretical Carbon Dioxide: 1.998 mg/mg

<table>
<thead>
<tr>
<th>Process</th>
<th>Degradation rate</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>biotic/abiotic</td>
<td>100 %</td>
<td>28 d</td>
</tr>
<tr>
<td>oxygen depletion</td>
<td>62 %</td>
<td>5 d</td>
</tr>
</tbody>
</table>

12.3 **Bioaccumulative potential**
Does not significantly accumulate in organisms.
n-octanol/water (log KOW) 0.68 (pH value: 7, 25 °C)
BCF 30 (ECHA)

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.
Safety data sheet
GHS of the United Nations, annex 4

Acetic acid ethyl ester ROTISOLV® ≥99.9 %, LC-MS-Grade

article number: AE69

**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.

**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**
1173

14.2 **UN proper shipping name**
ETHYL ACETATE

Hazardous ingredients
Acetic acid ethyl ester

14.3 **Transport hazard class(es)**

| Class | 3 (flammable liquids) |

14.4 **Packing group**
II (substance presenting medium 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
  1173

  Proper shipping name
  ETHYL ACETATE

  Particulars in the transport document
  UN1173, ETHYL ACETATE, 3, II, (D/E)

  Class
  3

  Classification code
  F1

  Packing group
  II

  Danger label(s)
  3
Acetic acid ethyl ester ROTISOLV® ≥99.9 %, LC-MS-Grade

article number: AE69

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 1173
Proper shipping name ETHYL ACETATE
Particulars in the shipper's declaration UN1173, ETHYL ACETATE, 3, II, -4°C c.c.
Class 3
Marine pollutant -
Packing group II
Danger label(s) 3

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 1173
Proper shipping name Ethyl acetate
Particulars in the shipper's declaration UN1173, Ethyl acetate, 3, II
Class 3
Packing group II
Danger label(s) 3

Excepted quantities (EQ) E2
Limited quantities (LQ) 1 L
Acetic acid ethyl ester ROTISOLV® ≥99.9 %, LC-MS-Grade

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>
<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)
IECSC  Inventory of Existing Chemical Substances Produced or Imported in China
INSQ  National Inventory of Chemical Substances
KECI  Korea Existing Chemicals Inventory
NZIoC  New Zealand Inventory of Chemicals
PICCS  Philippine Inventory of Chemicals and Chemical Substances
REACH Reg. REACH registered substances
TCSI  Taiwan Chemical Substance Inventory
TSCA  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>
</tbody>
</table>
Safety data sheet
GHS of the United Nations, annex 4

Acetic acid ethyl ester ROTISOLV® ≥99,9 %, LC-MS-Grade

article number: AE69

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<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>DME</td>
<td>Department of Minerals and Energy: Mine Health and Safety Act, 1996 (Occupational Exposure Limits for Airborne Pollutants)</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>DoL-OEL</td>
<td>Department of Labour: Hazardous Chemical Substances Regulations, 1995 (Occupational Exposure Limits - Control Limits/Recommended Limits)</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>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>
<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>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No-Effect Concentration</td>
</tr>
<tr>
<td>ppm</td>
<td>parts per million</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>STEL</td>
<td>short-term 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>
</tbody>
</table>

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>H319</td>
<td>causes serious eye irritation</td>
</tr>
<tr>
<td>H336</td>
<td>may cause drowsiness or dizziness</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.