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

1.1 **Product identifier**

Identification of the substance: N-methyl-N-(trimethylsilyl)trifluoroacetamide

Article number: 8007

EC number: 246-331-6

CAS number: 24589-78-4

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

Identified uses: laboratory chemical

1.3 **Details of the supplier of the safety data sheet**

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** sicherheit@carlroth.de

**Website:** www.carlroth.de

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** sicherheit@carlroth.de

1.4 **Emergency telephone number**

Emergency information service: Poison Centre Munich: +49/(0)89 19240

**SECTION 2: Hazards identification**

2.1 **Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 (CLP)

<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. 3)</td>
<td>H226</td>
</tr>
<tr>
<td>3.2</td>
<td>skin corrosion/irritation</td>
<td>(Skin Irrit. 2)</td>
<td>H315</td>
</tr>
<tr>
<td>3.3</td>
<td>serious eye damage/eye irritation</td>
<td>(Eye Irrit. 2A)</td>
<td>H319</td>
</tr>
<tr>
<td>3.8R</td>
<td>specific target organ toxicity - single exposure (respiratory tract irritation)</td>
<td>(STOT SE 3)</td>
<td>H335</td>
</tr>
</tbody>
</table>
2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word: Warning

Pictograms

Hazard statements

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H226</td>
<td>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
</tbody>
</table>

Precautionary statements - prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautionary statements - response

P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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: Warning

Symbol(s)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
</tbody>
</table>
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

There is no additional information.
Take off contaminated clothing. Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice. Rinse skin with water/shower. In case of skin irritation, consult a physician. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist. Rinse mouth. Call a doctor if you feel unwell.

**Cough, Irritation, Dyspnoea**

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

**Hazardous combustion products**
In case of fire may be liberated: nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO2), hydrogen fluoride (HF)

**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. 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**

**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.

**Reference to other sections**

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**
Provision of sufficient ventilation.

• **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.

**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.
N-methyl-N-(trimethylsilyl)trifluoroacetamide ≥97 %, for GC
article number: 8007

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a cool place.
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)
No data 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. 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 va-
pours 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

<table>
<thead>
<tr>
<th>Physical state</th>
<th>liquid (fluid)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>colourless - light yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Other physical and chemical parameters

<table>
<thead>
<tr>
<th>pH (value)</th>
<th>This information is not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/freezing point</td>
<td>not determined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>130 - 132 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>26 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>not relevant (fluid)</td>
</tr>
</tbody>
</table>

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

not relevant

Vapour pressure

This information is not available.

Density

1,07 g/cm³ at 20 °C

Vapour density

6,87 (air = 1)

Bulk density

Not applicable

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 determined

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
risk of ignition. In case of warming: 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, Strong acid

10.4 Conditions to avoid
Do not spray on an open flame or other ignition source. Protect from moisture.

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
Causes skin irritation.

Serious eye damage/eye irritation
Causes serious eye irritation.

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 respiratory irritation.

• 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
N-methyl-N-(trimethylsilyl)trifluoroacetamide ≥97 %, for GC

article number: 8007

- **If in eyes**
  data are not available
- **If inhaled**
  cough, Dyspnoea
- **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.

12.2 **Process of degradability**
- Theoretical Oxygen Demand with nitrification: 1,566 mg/mg
- Theoretical Oxygen Demand: 1,245 mg/mg
- Theoretical Carbon Dioxide: 1,325 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**
This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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

13.2 **Relevant provisions relating to waste**
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 **Remarks**
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.
### SECTION 14: Transport information

<table>
<thead>
<tr>
<th>14.1</th>
<th>UN number</th>
<th>1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2</td>
<td>UN proper shipping name</td>
<td>FLAMMABLE LIQUID, N.O.S.</td>
</tr>
<tr>
<td></td>
<td>Hazardous ingredients</td>
<td>N-methyl-N-(trimethylsilyl)trifluoroacetamide</td>
</tr>
<tr>
<td>14.3</td>
<td>Transport hazard class(es)</td>
<td>3 (flammable liquids)</td>
</tr>
<tr>
<td>14.4</td>
<td>Packing group</td>
<td>III (substance presenting low danger)</td>
</tr>
<tr>
<td>14.5</td>
<td>Environmental hazards</td>
<td>none (non-environmentally hazardous acc. to the dangerous goods regulations)</td>
</tr>
</tbody>
</table>

**Special precautions for user**
Provisions for dangerous goods (ADR) should be complied within the premises.

**Transport in bulk according to Annex II of MARPOL and the IBC Code**
The cargo is not intended to be carried in bulk.

**Information for each of the UN Model Regulations**

- **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

  UN number | 1993 |
  Proper shipping name | FLAMMABLE LIQUID, N.O.S. |
  Class | 3 |
  Classification code | F1 |
  Packing group | III |
  Danger label(s) | 3 |
  Special provisions (SP) | 274, 601, 640E |
  Excepted quantities (EQ) | E1 |
  Limited quantities (LQ) | 5 L |
  Transport category (TC) | 3 |
  Tunnel restriction code (TRC) | D/E |
  Hazard identification No | 30 |

- **International Maritime Dangerous Goods Code (IMDG)**

  UN number | 1993 |
  Proper shipping name | FLAMMABLE LIQUID, N.O.S. |
  Particulars in the shipper’s declaration | UN1993, FLAMMABLE LIQUID, N.O.S., (N-methyl-N-(trimethylsilyl)trifluoroacetamide), 3, III, 26°C C.C. |
### 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.

  
  Not listed.

- **Restrictions according to REACH, Annex XVII**
  
  Not listed.

- **List of substances subject to authorisation (REACH, Annex XIV)**
  
  Not listed.

- **Seveso Directive**

**2012/18/EU (Seveso III)**

<table>
<thead>
<tr>
<th>No</th>
<th>Dangerous substance/hazard categories</th>
<th>Qualifying quantity (tonnes) for the application of lower and upper-tier requirements</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>P5c</td>
<td>flammable liquids (cat. 2, 3)</td>
<td>5.000</td>
<td>51)</td>
</tr>
</tbody>
</table>

**Notation**

51) Flammable liquids, categories 2 or 3 not covered by P5a and P5b

- **Limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (2004/42/EC, Deco-Paint Directive)**

**VOC content** 100 %
N-methyl-N-(trimethylsilyl)trifluoroacetamide ≥97 %, for GC

• Directive on industrial emissions (VOCs, 2010/75/EU)

  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

  National inventories

  Substance is listed in the following national inventories:

  - EINECS/ELINCS/NLP (Europe)

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>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>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>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 &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>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>VOC</td>
<td>Volatile Organic Compounds</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

Key literature references and sources for data
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

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>H226</td>
<td>flammable liquid and vapour</td>
</tr>
<tr>
<td>H315</td>
<td>causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>may cause respiratory irritation</td>
</tr>
</tbody>
</table>

Disclaimer
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.