

Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: **8007**
Version: **GHS 3.0 en**
Replaces version of: 2022-01-19
Version: (GHS 2)

date of compilation: 2016-08-22
Revision: 2024-03-02

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 (MSTFA) ≥97 %, GC**

Article number 8007

CAS number 24589-78-4

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

Relevant identified uses: Laboratory chemical
Laboratory and analytical use

Uses advised against: Do not use for private purposes (household).
Food, drink and animal feedingstuffs.

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

| Name | Street | Postal code/city | Telephone | Website |
|--|-----------------|--------------------|-----------|---------|
| NSW Poisons Information Centre Childrens Hospital | Hawkesbury Road | 2145 Westmead, NSW | 131126 | |

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class | Category | Hazard class and category | Hazard statement |
|---------|---|----------|---------------------------|------------------|
| 2.6 | Flammable liquid | 3 | Flam. Liq. 3 | H226 |
| 3.2 | Skin corrosion/irritation | 2 | Skin Irrit. 2 | H315 |
| 3.3 | Serious eye damage/eye irritation | 2A | Eye Irrit. 2A | H319 |
| 3.8R | Specific target organ toxicity - single exposure (respiratory tract irritation) | 3 | STOT SE 3 | H335 |

Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: 8007

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling

Signal word

Warning

Pictograms

GHS02, GHS07



Hazard statements

| | |
|------|----------------------------------|
| H226 | Flammable liquid and vapour |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |

Precautionary statements

Precautionary statements - prevention

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

Precautionary statements - response

| | |
|----------------|---|
| P302+P352 | IF ON SKIN: Wash with plenty of soap and 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 for extinction |

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 |

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: **8007**

SECTION 3: Composition/information on ingredients

3.1 Substances

| | |
|-------------------|--|
| Name of substance | N-Methyl-N-(trimethylsilyl)-trifluoroacetamide |
| Molecular formula | C ₆ H ₁₂ F ₃ NOSi |
| Molar mass | 199.3 g/mol |
| CAS No | 24589-78-4 |

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

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Irritation, Cough, Dyspnoea

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 firefighting measures to the fire surroundings!
water spray, dry extinguishing powder, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: 8007

5.2 Special hazards arising from the substance or mixture

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. 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

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.

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 (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. Incompatible materials: see section 10. Disposal considerations: see section 13.

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.

Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: 8007

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.

7.2 Conditions for safe storage, including any incompatibilities

Keep 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)

This information is not available.

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: 8007

• 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

>0,11 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: 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

| | |
|--|--|
| Physical state | liquid |
| Colour | colourless - light yellow |
| Odour | characteristic |
| Melting point/freezing point | not determined |
| Boiling point or initial boiling point and boiling range | 130 – 132 °C |
| Flammability | flammable liquid in accordance with GHS criteria |
| Lower and upper explosion limit | not determined |
| Flash point | 25 °C |
| Auto-ignition temperature | not determined |
| Decomposition temperature | not relevant |
| pH (value) | not determined |
| Kinematic viscosity | not determined |

Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: **8007**

Solubility(ies)

Water solubility not determined

Partition coefficient

Partition coefficient n-octanol/water (log value): this information is not available

Vapour pressure not determined

Density and/or relative density

Density 1.076 g/cm³ at 20 °C

Relative vapour density 6.87 (air = 1)

Particle characteristics not relevant (liquid)

Other safety parameters

Oxidising properties none

9.2 Other information

Information with regard to physical hazard classes: There is no additional information.

Other safety characteristics: There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

It's a reactive substance. Risk of ignition.

If heated

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

Violent reaction with: strong oxidiser, Water

10.4 Conditions to avoid

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

10.5 Incompatible materials

water, peroxides, alcohol, acids

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) $\geq 97\%$, GC

article number: 8007

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

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.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified 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.

• If in eyes

Causes serious eye irritation, Causes tears

• If inhaled

Irritation to respiratory tract, cough, Dyspnoea

• If on skin

causes skin irritation

• Other information

none

11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: **8007**

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Theoretical Oxygen Demand (without nitrification): 1.245 mg/mg

Theoretical Oxygen Demand (with nitrification): 1.566 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 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

12.7 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

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

Relevant provisions relating to waste(Basel Convention)

Properties of waste which render it hazardous

H3 Flammable liquids

H11 Toxic (Delayed or chronic)

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. Non-contaminated packages may be recycled.

Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: 8007

SECTION 14: Transport information

14.1 UN number

| | |
|-----------|---------|
| UN RTDG | UN 1993 |
| IMDG-Code | UN 1993 |
| ICAO-TI | UN 1993 |

14.2 UN proper shipping name

| | |
|----------------|--|
| UN RTDG | FLAMMABLE LIQUID, N.O.S. |
| IMDG-Code | FLAMMABLE LIQUID, N.O.S. |
| ICAO-TI | Flammable liquid, n.o.s. |
| Technical name | N-Methyl-N-(trimethylsilyl)-trifluoroacetamide |

14.3 Transport hazard class(es)

| | |
|-----------|---|
| UN RTDG | 3 |
| IMDG-Code | 3 |
| ICAO-TI | 3 |

14.4 Packing group

| | |
|-----------|-----|
| UN RTDG | III |
| IMDG-Code | III |
| ICAO-TI | III |

14.5 Environmental hazards

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 IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport information National regulations Additional information (UN RTDG)

| | |
|---|---------------------|
| UN number | 1993 |
| Class | 3 |
| Packing group | III |
| Danger label(s) | 3 |
|  | |
| Special provisions (SP) | 223, 274 UN RTDG |
| Excepted quantities (EQ) | E1 UN RTDG |



Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: 8007

| | |
|---|---|
| Limited quantities (LQ) | 5 L UN RTDG |
| Emergency Action Code | 3Y |
| International Maritime Dangerous Goods Code (IMDG) - Additional information | |
| 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, 25°C c.c. |
| Marine pollutant | - |
| Danger label(s) | 3 |
|  | |
| Special provisions (SP) | 223, 274, 955 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 L |
| EmS | F-E, <u>S-E</u> |
| Stowage category | A |
| International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information | |
| 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 |
| Danger label(s) | 3 |
|  | |
| Special provisions (SP) | A3 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 10 L |

SECTION 15: Regulatory information

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

There is no additional information.

National regulations(Australia)

Australian Inventory of Chemical Substances(AICS)

Substance is listed.

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: 8007

National inventories

| Country | Inventory | Status |
|---------|-----------|------------------------------|
| AU | AIIC | substance is listed |
| CA | NDSL | substance is listed |
| CN | IECSC | substance is listed |
| EU | ECSI | substance is listed |
| NZ | NZIoC | substance is listed |
| TW | TCSI | substance is listed |
| US | TSCA | substance is listed (ACTIVE) |
| VN | NCI | substance is listed |

Legend

| | |
|-------|---|
| AIIC | Australian Inventory of Industrial Chemicals |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| NCI | National Chemical Inventory |
| NDSL | Non-domestic Substances List (NDSL) |
| NZIoC | New Zealand Inventory of Chemicals |
| 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

Indication of changes (revised safety data sheet)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|---------------------------|--|-----------------|
| 2.3 | | Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%. | yes |
| 14.8 | | Emergency Action Code: 3Y | yes |
| 15.1 | | National inventories: change in the listing (table) | yes |

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|--------|---|
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| ED | Endocrine disruptor |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |

Safety data sheet

acc. to Safe Work Australia - Code of Practice



N-Methyl-N-(trimethylsilyl)-trifluoroacetamide (MSTFA) ≥97 %, GC

article number: **8007**

| Abbr. | Descriptions of used abbreviations |
|-----------|---|
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| ICAO-TI | Technical instructions for the safe transport of dangerous goods by air |
| IMDG | International Maritime Dangerous Goods Code |
| IMDG-Code | International Maritime Dangerous Goods Code |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| UN RTDG | UN Recommendations on the Transport of Dangerous Good |
| vPvB | Very Persistent and very Bioaccumulative |

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|------|-----------------------------------|
| H226 | Flammable liquid and vapour. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.