

Safety data sheet
 according to 1907/2006/EC, Article 31

Page 1/9

Printing date 20.01.2021



Revision: 20.01.2021

Version number 7.01

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

- **1.1 Product identifier**
- **Trade name:** N-methyl-N-(trimethylsilyl)trifluoroacetamide
- **Article number:** 355587
- **CAS Number:**
24589-78-4
- **EC number:**
246-331-6
- **Registration number**
A registration number is not available for this substance as the annual tonnage does not require a registration.
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemical
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
AppliChem GmbH
Ottoweg 4
D-64291 Darmstadt
- Tel.: +49 (0)6151 93570
Fax.: +49 (0)6151 935711
msds@applichem.com
- **Further information obtainable from:** Dept. Compliance
- **1.4 Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
 - **Classification according to Regulation (EC) No 1272/2008**
 Flam. Liq. 3 H226 Flammable liquid and vapour.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 STOT SE 3 H335 May cause respiratory irritation.
 - **2.2 Label elements**
 - **Labelling according to Regulation (EC) No 1272/2008**
 The substance is classified and labelled according to the CLP regulation.
 - **Hazard pictograms**
- 


GHS02 GHS07
- **Signal word** Warning

(Contd. on page 2)

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Trade name: N-methyl-N-(trimethylsilyl)trifluoroacetamide

(Contd. of page 1)

· **Hazard statements**

H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

EUH014 Reacts violently with water.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.1 Substances**

· **CAS No. Description**

24589-78-4 N-methyl-N-(trimethylsilyl)trifluoroacetamide

· **Identification number(s)**

· **EC number:** 246-331-6

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Personal protection for the First Aider.
Involve doctor immediately.
Remove breathing equipment only after contaminated clothing have been completely removed.

· **After inhalation:**

If breathing stops: mouth-to-mouth respiration or mechanical ventilation, oxygen mask if necessary.
Immediately call a physician.
Do not use mouth to mouth or mouth to nose resuscitation.
Use a respiratory bag or breathing device.
Take affected persons into fresh air and keep quiet.
In case of unconsciousness place patient stably in side position for transportation.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

· **After skin contact:**

Immediately remove any clothing soiled by the product.
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

· **After eye contact:**

Rinse opened eye for several minutes under running water.
Call a doctor immediately.

· **After swallowing:**

Rinse out mouth.
make victim drink water (maximum of 2 drinking glasses)
Do not induce vomiting; call for medical help immediately.

(Contd. on page 3)

Trade name: N-methyl-N-(trimethylsilyl)trifluoroacetamide

(Contd. of page 2)

Drink plenty of water and provide fresh air. Call for a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed**

Irritation to eyes, skin and mucous membrane

Coughing

· **4.3 Indication of any immediate medical attention and special treatment needed**

If swallowed or in case of vomiting, danger of entering the lungs.

Medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

Carbon dioxide

Fire-extinguishing powder

CO₂, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:**

Alcohol-resistant foam

Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

Carbon monoxide and carbon dioxide

Metal oxides

Hydrogen fluoride (HF)

Forms explosive mixtures with air at ambient temperatures.

Vapours are heavier than air and may spread along floors.

Beware of backfiring.

· **5.3 Advice for firefighters**

· **Protective equipment:** Wear self-contained respiratory protective device.

· **Additional information**

Cool endangered receptacles with water spray.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Contain escaping vapours with water.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources.

Avoid substance contact.

Do not inhale steams/aerosols.

· **6.2 Environmental precautions:**

Do not allow to penetrate the ground/soil.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Clean up affected area.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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(Contd. on page 4)

Trade name: N-methyl-N-(trimethylsilyl)trifluoroacetamide

(Contd. of page 3)

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
 - Do not allow product to come in contact with water
 - Do not inhale substance.
 - Ensure good ventilation/exhaustion at the workplace.
 - Prevent formation of aerosols.
 - Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
- **Information about fire - and explosion protection:**
 - Keep ignition sources away - Do not smoke.
 - Protect from heat.
 - Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:**
 - Store away from water.
 - Store away from oxidising agents.
 - Away from sources of ignition and heat.
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Store in cool, dry conditions in well sealed receptacles.
 - Protect from heat and direct sunlight.
 - Open receptacle only under localised extractor facilities.
 - Store only outside or in explosion proof rooms.
 - Store in dry conditions.
 - Protect from humidity and water.
 - Store under dry inert gas.
- **Recommended storage temperature:** Room Temperature
- **Storage class:** 3
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see item 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Wash hands before breaks and at the end of work.
 - Avoid contact with the eyes and skin.
- **Respiratory protection:**
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
 - Filter ABEK
- **Hand protection**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

(Contd. on page 5)

Trade name: N-methyl-N-(trimethylsilyl)trifluoroacetamide

(Contd. of page 4)

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

Recommended thickness of the material: ≥ 0.75 mm

Neoprene gloves

Value for the permeation: Level ≥ 60 min

· **As protection from splashes gloves made of the following materials are suitable:**

Recommended thickness of the material: ≥ 0.75 mm

Neoprene gloves

Value for the permeation: Level ≥ 60 min

· **Eye/face protection**



Tightly sealed goggles

· **Body protection:**

Use protective suit.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Physical state**

Fluid

· **Colour:**

Light yellow

· **Odour:**

Mild

· **Odour threshold:**

Not determined.

· **Melting point/freezing point:**

Undetermined.

· **Boiling point or initial boiling point and boiling range**

131-132 °C

· **Flammability**

Not applicable.

· **Lower and upper explosion limit**

· **Lower:**

Not determined.

· **Upper:**

Not determined.

· **Flash point:**

25 °C

· **Auto-ignition temperature:**

Not determined.

· **Decomposition temperature:**

Not determined.

· **pH**

Not determined.

· **Viscosity:**

· **Kinematic viscosity**

Not determined.

· **Dynamic:**

Not determined.

· **Solubility**

· **water:**

Reacts violently with water.

· **Partition coefficient n-octanol/water (log value)**

Not determined.

· **Vapour pressure:**

Not determined.

· **Density and/or relative density**

· **Density at 20 °C:**

1.074 g/cm³

· **Relative density**

Not determined.

· **Vapour density**

Not determined.

(Contd. on page 6)

Trade name: N-methyl-N-(trimethylsilyl)trifluoroacetamide

(Contd. of page 5)

- **9.2 Other information**
 - **Appearance:**
 - **Form:** Liquid
 - **Important information on protection of health and environment, and on safety.**
 - **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
 - **Change in condition**
 - **Evaporation rate** Not determined.
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- **Information with regard to physical hazard classes**
 - **Explosives** Void
 - **Flammable gases** Void
 - **Aerosols** Void
 - **Oxidising gases** Void
 - **Gases under pressure** Void
 - **Flammable liquids** Flammable liquid and vapour.
 - **Flammable solids** Void
 - **Self-reactive substances and mixtures** Void
 - **Pyrophoric liquids** Void
 - **Pyrophoric solids** Void
 - **Self-heating substances and mixtures** Void
 - **Substances and mixtures, which emit flammable gases in contact with water** Void
 - **Oxidising liquids** Void
 - **Oxidising solids** Void
 - **Organic peroxides** Void
 - **Corrosive to metals** Void
 - **Desensitised explosives** Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Moisture
- **10.3 Possibility of hazardous reactions** Reacts violently with water.
- **10.4 Conditions to avoid**
Keep away from open flames, hot surfaces and sources of ignition.
Moisture
- **10.5 Incompatible materials:**
alcohols
oxidizing agent
peroxides
water
- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**
Quantitative data on the toxicological effect of this product are not available.
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.

(Contd. on page 7)

Trade name: N-methyl-N-(trimethylsilyl)trifluoroacetamide

(Contd. of page 6)

- **After inhalation:** No irritant effect.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
Based on available data, the classification criteria are not met.
Based on available data, the classification criteria are not met.
- **Reproductive toxicity**
Based on available data, the classification criteria are not met.
Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

- **14.1 UN number or ID number**
- **ADR, IMDG, IATA** UN1993
- **14.2 UN proper shipping name**
- **ADR, IMDG, IATA** FLAMMABLE LIQUID, N.O.S. (N-Methyl-N-(trimethylsilyl)-2,2,2-trifluoroacetamide)

(Contd. on page 8)

GB

Trade name: N-methyl-N-(trimethylsilyl)trifluoroacetamide

(Contd. of page 7)

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class** 3 (F1) Flammable liquids.
· **Label** 3

· **IMDG, IATA**



· **Class** 3 Flammable liquids.
· **Label** 3

· **14.4 Packing group**

· **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:** Not applicable.

· **14.6 Special precautions for user** Warning: Flammable liquids.

· **Hazard identification number (Kemler code):** 39

· **EMS Number:** F-E, S-E

· **Stowage Category** A

· **14.7 Maritime transport in bulk according to IMO instruments** Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 5L
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
· **Transport category** 3
· **Tunnel restriction code** D/E

· **IMDG**

· **Limited quantities (LQ)** 5L
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":** UN 1993 FLAMMABLE LIQUID, N.O.S. (N-METHYL-N - (T R I M E T H Y L S I L Y L) - 2 , 2 , 2 - TRIFLUOROACETAMIDE), 3, III

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** Substance is not listed.

· **Seveso category**

O1 Substances or mixtures with hazard statement EUH014

P5c FLAMMABLE LIQUIDS

(Contd. on page 9)

Trade name: N-methyl-N-(trimethylsilyl)trifluoroacetamide

(Contd. of page 8)

- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Dept. Compliance
- **Date of previous version:** 20.01.2021
- **Version number of previous version:** 7.00
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- *** Data compared to the previous version altered.**

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