

SAFETY DATA SHEET

According to GB/T 16483 and GB/T 17519

Version 8.2

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N,N-Dimethylacetamide**SECTION 1: Identification of the substance/ mixture and of the company/ undertaking****1.1 Product identifiers**

Product name : N,N-Dimethylacetamide

Product Number : TNJ028-2002

Brand : TNJ

CAS-No. : 127- 19-5

1.2 Details of the supplier of the safety data sheetCompany : Hefei TNJ Chemical Industry Co.,Ltd.
D1508 Xincheng Business Center, Qianshan Road,
HEFEI
230022 ANHUI
CHINA

Telephone : +86 551 65418684

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1.3 Emergency telephoneEmergency Phone # : +86 532 83889090 (NRCC) 400 120 4937
(CHEMTREC)**1.4 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : For R&D use only. Not for pharmaceutical, household or other uses

SECTION 2: Hazards identification**Summary of emergency**

liquid, clear colorless Ammonia odor Combustible liquid., May be harmful if swallowed., Harmful in contact with skin or if inhaled., Causes serious eye irritation., May damage fertility or the unborn child. Show this material safety data sheet to the doctor in attendance. After inhalation: fresh air. Immediately call in physician., If breathing stops: immediately apply artificial respiration, if necessary also oxygen. In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower., Consult a physician. After eye contact: rinse out with plenty of water., Call in ophthalmologist., Remove contact lenses. After swallowing: immediately make victim drink water (two glasses at most)., Consult a physician. Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire. Violent reactions possible with: Strong oxidizing agents, Halogenated hydrocarbon, nitrates, tetrachloromethane, Aldehydes, Strong acids

2.1 GHS Classification

Flammable liquids (Category 4), H227
Acute toxicity, Oral (Category 5), H303
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Serious eye damage/eye irritation (Category 2A), H319
Reproductive toxicity (Category 1B), H360

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard Statements

H227 Combustible liquid.
H303 May be harmful if swallowed.
H312 + H332 Harmful in contact with skin or if inhaled.
H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child.

Precautionary Statements

Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P261 Avoid breathing mist or vapors.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell .
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 dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage

P403 + P235 Store in a well-ventilated place. Keep cool .
P405 Store locked up.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

Restricted to professional users.

Reduced Labeling (<= 125 ml)

Pictogram



Signal Word

Danger

Hazard Statements

H227 Combustible liquid.
H303 May be harmful if swallowed.
H312 + H332 Harmful in contact with skin or if inhaled.
H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child.

Precautionary Statements none

2.3 Physical and chemical hazards

H227 Combustible liquid.

2.4 Health hazards

H303 May be harmful if swallowed.
H332 Harmful if inhaled.
H312 Harmful in contact with skin.
H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child.

2.5 Environmental hazards

Referring to current information, no environmental hazard.

2.6 Other hazards - none

SECTION 3: Composition/ information on ingredients

Substance / Mixture: Substance

3.1 Substances

Formula : CH₃CON(CH₃)₂
Molecular weight : 87.12 g/mol
CAS-No. : 127- 19-5
EC-No. : 204-826-4
Index-No. : 616-011-00-4

Hazardous ingredients

Component	Classification	Concentration
N, N- Dimethylacetamide	Flammable liquids Category 4; Acute toxicity Category 5; Acute toxicity Category 4; Serious eye damage/ eye irritation Category 2 A; Reproductive toxicity Category 1B; H227, H303, H332, H312, H319, H360	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

4.4 Notes to physician

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂) Foam Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Nitrogen oxides (NO_x)

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system .

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10) . Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Advice on safe handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities**Storage conditions**

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Hygroscopic. Store under inert gas.

Storage class

Storage class (TRGS 510) : 6. 1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

SECTION 8: Exposure controls/ personal protection**8.1 Control parameters****Ingredients with workplace control parameters**

Component	CAS-No.	Value	Control parameters	Basis
N,N-Dimethylacetamide	127- 19-5	PC-TWA	20 mg/m ³	Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.
	Remarks	Skin		

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
	127- 19-5	N-Methylacetamide	20mg/g creatinine	Urine	China. Biological Occupational Exposure Indices
	Remarks	End of last shift of the week			

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Workers	Skin contact	Long-term systemic effects	13.6mg/kg BW/d
Workers	Inhalation	Long-term systemic effects	36 mg/m ³

Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	0.15 mg/kg
Sea water	0.0966 mg/l
Fresh water	0.5 mg/l
Fresh water sediment	2.27 mg/kg
Sewage treatment plant	485 mg/l
Aquatic intermittent release	5 mg/l

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection.
Wash hands and face after working with substance.

Personal protective equipment

Eye/ face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523- 1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material : butyl-rubber

Minimum layer thickness: 0.7 mm

Break through time : 480 min

Material tested: Butoject® (KCL 898)

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Splash contact

Material : Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time : 30 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Body Protection

protective clothing

Respiratory protection

required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|--|
| a) Physical state | liquid, clear |
| b) Color | colorless |
| c) Odor | Ammonia odor |
| d) Melting point/freezing point | Melting point: - 18.6 °C |
| e) Initial boiling point and boiling range | ca.161 °C at 1,013.25 hPa |
| f) Flammability (solid, gas) | No data available |
| g) Upper/lower flammability or explosive limits | Upper explosion limit: 11.5 %(V)
Lower explosion limit: 1.8 %(V) |
| h) Flash point | 64 °C - closed cup |
| i) Autoignition temperature | 345 °C
at 999 - 1,011 hPa - DIN 51794 |
| j) Decomposition temperature | No data available |
| k) pH | ca.4 at 200 g/l at 20 °C |
| l) Viscosity | Viscosity, kinematic: No data available
Viscosity, dynamic: 0.92 mPa.s at 25 °C |
| m) Water solubility | 1,000 g/l at 20 °C - completely miscible |
| n) Partition coefficient: n-octanol/water | log Pow : -0.77 - Bioaccumulation is not expected., (Lit.) |
| o) Vapor pressure | 2 hPa at 21.7 °C |
| p) Density | 0.94 g/cm ³ at 20 °C |
| Relative density | No data available |
| q) Relative vapor density | No data available |
| r) Particle characteristics | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | none |

9.2 Other safety information

- | | |
|------------------------|--------------------|
| Dissociation constant | -0.19 at 25 °C |
| Relative vapor density | 3.01 - (Air = 1.0) |

SECTION 10: Stability and reactivity

10.1 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.2 Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents

Halogenated hydrocarbon

nitrates

tetrachloromethane

Aldehydes

Strong acids

10.3 Conditions to avoid

Strong heating.

10.4 Incompatible materials

No data available

10.5 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 4,300 mg/kg

Remarks: (RTECS)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute toxicity estimate Inhalation - 4 h - 11.1 mg/l - vapor

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3. 1/3.2)

Acute toxicity estimate Dermal - 1,100. 1 mg/kg

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3. 1/3.2)

Skin corrosion/ irritation

Skin - Rabbit

Result: No skin irritation

(OECD Test Guideline 404)

Serious eye damage/ eye irritation

Eyes - Rabbit

Result: Irritating to eyes.

(OECD Test Guideline 405)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Guinea pig

Result: negative

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type : Ames test

Test system : Salmonella typhimurium

Metabolic activation : with and without metabolic activation

Method : OECD Test Guideline 471

Result: negative

Test Type : Mutagenicity (mammal cell test): chromosome aberration.

Test system : Human lymphocytes

Metabolic activation : with and without metabolic activation

Method : OECD Test Guideline 473

Result: negative

Test Type : In vitro mammalian cell gene mutation test

Test system : Chinese hamster lung cells
Metabolic activation : with and without metabolic activation
Method : OECD Test Guideline 476
Result: negative

Carcinogenicity

No data available

Reproductive toxicity

May damage the unborn child.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 2 yr - NOAEL (No observed adverse effect level) - 100 - 300 mg/kg - LOAEL (Lowest observed adverse effect level) - 300 - 1,000 mg/kg

impaired judgment, emotional instability, toxic psychosis, nystagmus, dysarthria, Ataxia.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption of toxic quantities:

Nausea
Vomiting
inebriation
muscle twitching
hallucinations
Diarrhea

lack of appetite
narcosis
Coma

Damage to:

Liver
Kidney
Central nervous system

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	static test LC50 - Leuciscus idus (Golden orfe) - > 500 mg/l - 96 h (DIN 38412 T15)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 500 mg/l - 48 h (Regulation (EC) No. 440/2008, Annex, C.2)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 500 mg/l - 72 h (DIN 38412)

12.2 Persistence and degradability

SECTION 16: Other information**Full text of H-Statements referred to under sections 2 and 3.**

H227	Combustible liquid.
H303	May be harmful if swallowed.
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H360	May damage fertility or the unborn child.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. We shall not be held liable for any damage resulting from handling or from contact with the above product.

End of SDS