



## Safety Data Sheet

---

### Section 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: N,N-Dimethyl acetamide

SDS No. : 2454E-5

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

Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

---

### Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Flammable liquids: Category 4

HEALTH HAZARDS

Acute toxicity (Inhalation): Category 3

Serious eye damage/eye irritation: Category 2

Carcinogenicity: Category 1B

Reproductive toxicity: Category 1B

Specific target organ toxicity – single exposure: Category 1 (liver, central nervous system)

Specific target organ toxicity – single exposure: Category 3 (Narcotic effects)

Specific target organ toxicity – repeated exposure: Category 1 (liver, respiratory system)

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

H227 Combustible liquid

H331 Toxic if inhaled

H319 Causes serious eye irritation

H350 May cause cancer

H360 May damage fertility or the unborn child

H370 Causes damage to organs (liver, central nervous system)

H336 May cause drowsiness or dizziness

H372 Causes damage to organs through prolonged or repeated exposure (liver, respiratory system)

PRECAUTIONARY STATEMENT

Prevention



N,N-Dimethyl acetamide,2454E-5,2023/07/11

- P202 Do not handle until all safety precautions have been read and understood.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
 P271 Use only outdoors or in a well-ventilated area.  
 P264 Wash contaminated parts thoroughly after handling.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P280 Use personal protective equipment as required.  
 P270 Do not eat, drink or smoke when using this product.

**Response**

- P370 + P378 In case of fire: Use appropriate media to extinguish.  
 P314 Get medical advice/attention if you feel unwell.  
 P308 + P313 IF exposed or concerned: Get medical advice/attention.  
 P311 Call a POISON CENTER/doctor/physician.  
 P312 Call a POISON CENTER/doctor/physician if you feel unwell.  
 P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/physician.  
 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.  
 P337 + P313 If eye irritation persists: Get medical advice/attention.

**Storage**

- P403 Store in a well-ventilated place. P233 Keep container tightly closed.  
 P405 Store locked up.

**Disposal**

- P501 Dispose of contents/container in accordance with local/national regulation.

**Specific adverse human health effects**

See "11. Toxicological Information".

**Section 3. Composition/information on ingredients**

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS No.	Chemicals No, Japan	Chemical formula
N,N-Dimethyl acetamide	97(min)	127-19-5	2-723	CH <sub>3</sub> CON(CH <sub>3</sub> ) <sub>2</sub>

Note : The figures shown above are not the specifications of the product.

**Section 4. First-aid measures**

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN

Take off immediately all contaminated clothing. Rinse skin with water or shower.

If skin irritation or rash occurs: Get medical advice/attention.

**IF IN EYES**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

**IF SWALLOWED**

Rinse mouth.

Call a POISON CENTER/doctor/physician if you feel unwell.

---

**Section 5. Fire-fighting measures**

## Extinguishing media

## Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

In case of fire, use spraying loaded liquid, foam (water-soluble liquid: alcohol-resistant foam), inactive gases, dry powder, dry sand to extinguish.

\*Fire Service Act Group 4 Hazardous Materials

## Unsuitable extinguishing media

Indoor Fire Plug System or Outdoor Fire Plug System

Sprinkler System

Dry Chemical Extinguishing System-Others (except for phosphates etc., Hydrogen Carbonates etc.)

Fire Extinguisher Discharging Jet Water/Spraying Water

Fire Extinguisher Discharging Jet Loaded Liquid

Fire Extinguisher Discharging Dry Extinguishing agents-Others (except for phosphates etc., Hydrogen Carbonates etc.)

Water Bucket or Water Tank

\*Cabinet Order Concerning the Control of Hazardous Materials (Attached Table 5) Group 4 Hazardous Materials

## Specific hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

See "10.Stability and Reactivity".

## Advice for firefighters

## Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

## Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

---

**Section 6. Accidental release measures**

## Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

## Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

**Methods and materials for containment and cleaning up**

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

**Preventive measures for secondary accident**

Collect spillage.

---

**Section 7. Handling and storage****Precautions for safe handling****Preventive measures**

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

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

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

**Safety Measures**

Do not handle until all safety precautions have been read and understood.

Use only outdoors or in a well-ventilated area.

Recommend to use protective equipment in conformity with the standards.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash hands et al thoroughly after handling.

When using do not eat, drink or smoke.

**Any incompatibilities**

See "10.Stability and Reactivity".

**Advice on general occupational hygiene**

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

**Storage****Conditions for safe storage**

Keep container tightly closed.

Store locked up. (P405)

Store in a cool, dry place. Do not store in direct sunlight.

Storage in accordance with local/national regulation.

**Container and packaging materials for safe handling**

Glass

Polyethylene

Stainless steel

etc.

---

**Section 8. Exposure controls/personal protection****Control parameters****Adopted value**

ACGIH(2018) TWA: 10ppm (Liver, embryo & fetal dam; repro, renal & teratogenic eff)

**Notation**



Skin

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

Hand protection

Wear impervious protective glove.

Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

Skin and body protection

Wear protective clothing.

---

## Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless, clear

Odor: Characteristic odor

Melting point/Freezing point: -20°C

Boiling point or initial boiling point: (N,N-Dimethyl acetamide)165°C

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit:

Lower explosion limit: 1.8 vol %

Upper explosion limit: 11.5 vol %

Flash point: (N,N-Dimethyl acetamide)63°C

Auto-ignition temperature: (N,N-Dimethyl acetamide)490°C

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Soluble

Solubility in solvent data is not available.

n-Octanol/water partition coefficient: log Pow-0.77

Vapor pressure: 0.33 kPa (20°C)

Vapor density: 3.01

Density and/or relative density: 0.94

Relative vapor density (Air=1): 3.01

Relative density of the Vapor/air - mixture at 20°C (Air = 1): 1.01

Particle characteristics data is not available.

Other information

Other information is not available.



---

**Section 10. Stability and Reactivity**

## Reactivity

Not available.

## Chemical stability

Stable under normal storage/handling conditions.

## Possibility of hazardous reactions

Decomposes on heating. This produces toxic fumes. Reacts with strong oxidants. (ICSC 0259)

## Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

## Incompatible materials

Strong oxidizing agents

## Hazardous decomposition products

Carbon oxides, Nitrogen oxides

---

**Section 11. Toxicological Information**

## Information on toxicological effects

## Acute toxicity

## Acute toxicity (Oral)

[Data for components of the product]

[GHS Cat. Japan, base data]

rat LD50=3000-6000mg/kg (SIAR, 2001)

## Acute toxicity (Dermal)

[Data for components of the product]

[GHS Cat. Japan, base data]

male rabbit LD50=2100mg/kg (AICIS IMAP, 2013)

## Acute toxicity (Inhalation)

[Product]

Category 3, Toxic if inhaled

[Data for components of the product]

[GHS Cat. Japan, base data]

vapor: rat LC50=2475ppm/1hr (cal.: 1237.5ppm/4hr) (MOE Result of the initial environmental risk assessment of chemicals, 2017)

mist: rat LC50=10.7-32mg/L/8hr (cal.: 21.4-64mg/L/4hr) (OECD TG 403) (AICIS IMAP, 2013)

## Irritant properties

Skin corrosion/irritation data is not available.

## Serious eye damage/irritation

[Product]

Category 2, Causes serious eye irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

rabbit (equivalent to OECD TG 405) moderate corneal opacity and conjunctival redness (AICIS IMAP, 2013)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

## Carcinogenicity

[Product]

Category 1B, May cause cancer



[Data for components of the product]

[GHS Cat. Japan, base data]

cat.1B; (IARC 123, 2020 et al.)

[IARC]

Group 2B : Possibly carcinogenic to humans

[ACGIH]

A3(2018) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive toxicity

[Product]

Category 1B, May damage fertility or the unborn child

[Data for components of the product]

[GHS Cat. Japan, base data]

cat. 1B; ACGIH 7th, 2018; SIAR, 2001 et al.

Specific target organ toxicity (STOT)

STOT-single exposure

[Product]

Category 1, Causes damage to organs

Category 3, May cause drowsiness or dizziness

[Data for components of the product]

[cat.1]

[GHS Cat. Japan, base data]

liver, central nervous system (MHLW Risk Assessment Report, 2013)

[cat.3 (narcotic effects)]

[GHS Cat. Japan, base data]

narcotic effect (MHLW Risk Assessment Report, 2013)

STOT-repeated exposure

[Product]

Category 1, Causes damage to organs through prolonged or repeated exposure

[Data for components of the product]

[cat.1]

[GHS Cat. Japan, base data]

liver, respiratory system (MOE Result of the initial environmental risk assessment of chemicals, 2017; MHLW Risk Assessment Report, 2013)

Aspiration hazard data is not available.

---

## Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[GHS Cat. Japan, base data]

Algae (*Desmodesmus subspicatus*) ErC50>500mg/L/72hr; Crustacea (*Daphnia magna*)

EC50>500mg/L/48hr; Fish (*Leuciscus idus*) LC50>500mg/L/96hr (MOE Result of the initial environmental risk assessment of chemicals, 2017)

Hazardous to the aquatic environment, long-term (chronic)

[GHS Cat. Japan, base data]

Algae (*Desmodesmus subspicatus*) NOEC=500mg/L/72hr (MOE Result of the initial environmental risk assessment of chemicals, 2017)

Water solubility



N,N-Dimethyl acetamide,2454E-5,2023/07/11

miscible (ICSC, 2008)

**Persistence and degradability**

[Data for components of the product]

Rapidly degradable (BOD\_Degradation : 80%(NO<sub>2</sub>), 107%(NH<sub>3</sub>) (METI Existing Chemical Substances Safety Inspections Data, 1988))**Bioaccumulative potential**

[Data for components of the product]

log Pow=-0.77 (ICSC, 2008)

**Mobility in soil**

Mobility in soil data is not available.

**Other adverse effects**

Ozone depleting chemical data is not available.

---

**Section 13. Disposal considerations**

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

**Waste treatment methods**

Dispose of contents/container as industrial waste. Accordance with local/national regulation.

---

**Section 14. Transport Information**

UN Number or ID Number : Not applicable

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

UN Number or ID Number : Not applicable

**IATA (Dangerous Goods Regulations)**

UN Number or ID Number : Not applicable

**Environmental hazards**

Marine pollutants (yes/no) : no

---

**Section 15. Regulatory Information**

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

**U.S. Toxic Substances Control Act (TSCA) Inventory**

Chemicals listed in TSCA Inventory

Applicable

**Other regulatory information**

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

---

**Section 16. Other information****References and sources for data**

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN

IMDG Code, 2020 Edition (Incorporating Amendment 40-20)

IATA Dangerous Goods Regulations (64th Edition) 2023

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2022 TLVs and BEIs. (ACGIH)





## Supplier's data/information

## General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2021).