SAFETY DATA SHEET

According to JIS Z 7253:2019
Issue Date 30-Jul-2025
Revision Number 1.06

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	N,N-Dimethylformamide-d7, 99.5%
Product Code	042-34391,048-34393,046-34394

Supplier
FUJIFILM Wako Pure Chemical Corporation
1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan
Phone: +81-6-6203-3741
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Recommended uses For research use only

Restrictions on use Seek expert judgment when using for purposes other than those recommended.

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Flammable liquids	Category 3
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Vapors)	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 1
Category 1 respiratory system, liver, Digestive tract	
Category 2 respiratory system	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 liver	

Pictograms

Signal word Danger

Hazard statements

H226 - Flammable liquid and vapour
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H312 - Harmful in contact with skin
H331 - Toxic if inhaled
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H370 - Causes damage to the following organs: respiratory system, liver, Digestive tract
H371 - May cause damage to the following organs: respiratory system
H372 - Causes damage to the following organs through prolonged or repeated exposure: liver

Precautionary statements-(Prevention)

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Use only outdoors or in a well-ventilated area
- Wash face, hands and any exposed skin thoroughly after handling
- Do not breathe dust/fume/gas/mist/vapors/spray
- Do not eat, drink or smoke when using this product
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- Keep container tightly closed
- Ground/bond container and receiving equipment
- Use explosion-proof electrical/ ventilating / lighting / equipment
- Use only non-sparking tools
- Take precautionary measures against static discharge
- Keep cool

Precautionary statements-(Response)

- IF exposed: Call a POISON CENTER or doctor/physician
- 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
- Call a POISON CENTER or doctor/physician if you feel unwell
- If skin irritation occurs: Get medical advice/attention
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Call a POISON CENTER or doctor/physician
- In case of fire: Use suitable extinguishing media for extinction

Precautionary statements-(Storage)

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

Precautionary statements-(Disposal)

- Dispose of contents/container to an approved waste disposal plant

Others

Other hazards Not available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula C3D7NO

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
N,N-Dimethylformamide-d7	99.0	80.14	(2)-680	*	4472-41-7

Note on ISHL No.: * in the table means announced chemical substances.

Section 4: FIRST AID MEASURES

Inhalation

Remove to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center

immediately. Do not induce vomiting without medical advice.

Protection of first-aiders

Use personal protective equipment as required.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide (CO2), Foam, Extinguishing powder, Sand

Unsuitable extinguishing media

No information available

Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Vapors may form explosive mixtures with air

Special extinguishing method

No information available

Special protective actions for fire-fighters

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for contaminent and methods and materials for cleaning up

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

Recoverly, neutralization

No information available

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling

Technical measures

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.Use with local exhaust ventilation. To cut with care and wear protective gloves and protective goggles to ampoule time of the opening (Cutting method to check the label). Use with local exhaust ventilation.

Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

Safety handling precautions

Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Storage

Safe storage conditions

Storage conditions	Keep container protect from light, store in well-ventilated place at room temperature (preferably cool). Keep container tightly closed.
Safe packaging material	Ampoule, Glass

Incompatible substances Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
N,N-Dimethylformamide-d7 4472-41-7	10ppm(30mg/m³)Skin	ISHL/ACL: 10 ppm	TWA: 5 ppm Skin

Personal protective equipment

Respiratory protection gas mask for organic gas (JIS T 8152)
Hand protection chemical protective gloves (JIS T 8116)
Eye protection protective eyeglasses or chemical safety goggles (JIS T 8147)
Skin and body protection Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.
If this product is classified as ”Chemical Substances Hazardous to Skin, etc.”, use appropriate protective equipment to them.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Data except for the appearance is described as a non-labeled compound.

Form	
Color	colorless
Turbidity	clear
Appearance	liquid
Odor	no data available
Melting point/freezing point	-61 °C
Boiling point, initial boiling point and boiling range	153 °C
Flammability	Flammable liquid and vapor
Evaporation rate:	no data available
Flammability (solid, gas):	no data available
Upper/lower flammability or explosive limits	
Upper：	no data available
Lower：	no data available
Flash point	57 °C
Auto-ignition temperature:	445 °C
Decomposition temperature:	no data available
pH	no data available
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Solubilities	water , Ethanol , Diethyl ether : freely soluble .
n-Octanol/water partition coefficient:(log Pow)	-0.87
Vapour pressure	0.365kPa
Specific Gravity / Relative density	0.947 - 0.952 g/mL
Vapour density	2.51(Air=1)
Particle characteristics	no data available

Section 10: STABILITY AND REACTIVITY

Stability

Reactivity no data available
Chemical stability May be altered by light.

Hazardous reactions
Reacts violently with strong oxidants.

Conditions to avoid
Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark

Incompatible materials
Strong oxidizing agents

Hazardous decomposition products
Carbon monooxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx)

Section 11: TOXICOLOGICAL INFORMATION

*NITE: National Institute of Technology and Evaluation (JAPAN)
https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput
Data as deuterium compound has not been obtained. The data of non-labeled compound is described.

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
N,N-Dimethylformamide-d7	3000 mg / kg (Rat)	3500 mg / kg (Rat)	4.7 mg / L (Mouse) 4 h

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagencity source information
N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH
N,N-Dimethylformamide-d7 4472-41-7	N/A	Group 2A	N/A	Group 2A

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information

N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

*NITE: National Institute of Technology and Evaluation (JAPAN)
https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput
Data as deuterium compound has not been obtained. The data of non-labeled compound is described.

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
N,N-Dimethylformamide-d7	*EC50:Desmodesmus subspicatus 500 mg/L 96 h*	*LC50 : Oryzias latipes >100mg/L 96 h*	*EC50 : Daphnia magna 6,800 - 13,900 mg/L 48 h*

Other data

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
N,N-Dimethylformamide-d7	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Persistence and degradability Degree of decomposition：4.4 % by BOD
Bioaccumulative potential Bioaccumulative potential
Mobility in soil No information available
Hazard to the ozone layer No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated container and contaminated packaging
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID
UN number UN2265
Proper shipping name: N,N-Dimethylformamide
UN classfication 3
Subsidiary hazard class
Packing group III
Marine pollutant Not applicable

IMDG
UN number UN2265
Proper shipping name: N,N-Dimethylformamide
UN classfication 3
Subsidiary hazard class
Packing group III
Marine pollutant (Sea) Not applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

IATA
UN number UN2265
Proper shipping name: N,N-Dimethylformamide
UN classfication 3
Subsidiary hazard class
Packing group III

Environmentally Hazardous Substance Not applicable

Section 15: REGULATORY INFORMATION

Japanese regulations

Fire Service Act Category IV, Class II petroleums, dangerous grade 3 water-soluble

Poisonous and Deleterious Substances Control Law Not applicable

Industrial Safety and Health Act Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57)
Notifiable Substances (Law Art.57-2)
Class 2 Organic Solvents (Enforcement Order Attached Table No.6-2, Ordinance on Prevention of Organic Solvent Poisoning Art.1, Para.1, Item 5)
Substances with Health Hazards Prevention Guideline(Carcinogenicity Substance)
Substances designated by the Minister of Health, Labor and Welfare as carcinogenic(Ordinance on Industrial Safety and Health Art.577, Para.2)
Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1)
Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)
Chemical Substances Hazardous to Skin, etc.(Regulations Article 594-2 Paragraph 1)

Regulations for the carriage and storage of dangerous goods in ship Flammable Liquids (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)

Civil Aeronautics Law Flammable Liquids (Ordinance Art.194, MITL Nortification for Air Transportation of Explosives etc., Attached Table 1)

Marine Pollution Prevention Law Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Y

Pollutant Release and Transfer Register Law (2023.4.1-) Class 1

Class 1 - No. 232

Air Pollution Control Law Hazardous Air Pollutants

Chemical Name	Poisonous and Deleterious Substances Control Law	Industrial Safety and Health Act Substances (Law Art.57-2)	Pollutant Release and Transfer Register Law (2023.4.1-)
N,N-Dimethylformamide-d7 4472-41-7 (99.0)	-	Applicable	Applicable

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.
NITE: National Institute of Technology and Evaluation (JAPAN)
https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput
IATA dangerous Goods Regulations
RTECS:Registry of Toxic Effects of Chemical Substances
Japan Industrial Safety and Health Association GHS Model SDS
Dictionary of Synthetic Oraganic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.
Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
etc

Record of SDS revisions The following contents were revised. Hazards identification. Exposure controls/personal protection. Stability and reactivity. Toxicological information. Ecological information. Regulatory information.

Disclaimer
This SDS is according to JIS Z 7253: 2019. 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, 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.
GHS Classification is according to JIS Z 7252:2019. *JIS: Japanese Industrial Standards

End of Safety Data Sheet