SAFETY DATA SHEET

Issue Date 06-Aug-2025
Revision Number 1.07

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name Bredereck's Reagent
Other means of identification
Product Code(s) 026-18831,024-18832

Recommended use of the chemical and restrictions on use
Recommended Use For research use only.
Uses advised against Seek expert judgment when using for purposes other than those recommended.

Details of the supplier of the safety data sheet

Manufacturer Address
FUJIFILM Wako Pure Chemical Corporation
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Distributor
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2. HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture

Flammable liquids	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 3
Category 1 respiratory system, liver, Digestive tract	
Category 3 Respiratory irritation	
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
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H335 - May cause respiratory irritation
H370 - Causes damage to the following organs: respiratory system, liver, Digestive tract
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 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 Use only outdoors or in a well-ventilated area 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

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 if you feel unwell

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Mixture

Formula C9H22N2O

Chemical Name	Molecular weight	CAS RN	Weight-%
t-Butoxybis(dimethylamino)methane	174.28	5815-08-7	94.0 - 95.0
N,N-Dimethylformamide	73.09	68-12-2	<3.0

Impurities and/or Additives： Impurities :, N,N-Dimethylformamide < 3.0 %

4. FIRST AID MEASURES

First aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation Remove to fresh air.

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.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing media
Carbon dioxide (CO2). Foam. Extinguishing powder. Sand.

Specific hazards arising from the chemical
Thermal decomposition can lead to release of irritating and toxic gases and vapors. Vapors may form explosive mixtures with air.

Explosion data

Sensitivity to Mechanical Impact	none.
Sensitivity to Static Discharge	none.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions	See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods and material for containment and cleaning up	Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.Use with local exhaust ventilation.
Protective measures	Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage conditions	Keep container protect from light, store in well-ventilated place at room temperature (preferably cool). Keep container tightly closed. Packed with an inert gas.
Packaging materials	Glass.
Incompatible materials	Strong oxidizing agents.

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	ACGIH	OSHA PEL	NIOSH IDLH
N,N-Dimethylformamide 68-12-2	TWA: 5 ppm Skin	TWA: 10 ppm TWA: 30 mg/m^3 (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m^3 (vacated) S* S*	IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m^3

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	
Color	Colorless - slight yellow
Turbidity	clear
Appearance	liquid
Odor	no data available
pH	no data available
Melting point/freezing point	no data available
Boiling point, initial boiling point and boiling range	no data available
Flash point	41 °C
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
Vapour pressure	no data available
Vapour density	no data available
Specific Gravity / Relative density	no data available
Solubilities	
n-Octanol/water partition coefficient:(log Pow)	no data available
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

Stability

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

Hazardous reactions

None under normal processing

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)

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
N,N-Dimethylformamide	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	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	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	Based on the NITE GHS classification results.

Serious eye damage/ irritation

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

Respiratory or skin sensitization

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

Reproductive cell mutagenicity

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

Carcinogenicity

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

Chemical Name	NTP	IARC	ACGIH	JSOH
N,N-Dimethylformamide 68-12-2	N/A	Group 2A	N/A	Group 2A

Reproductive toxicity

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
N,N-Dimethylformamide 68-12-2	EC50:Desmodesmus subspicatus 500 mg/L 96 h	LC50 : Oryzias latipes > 100 mg/L 96 h	N/A	EC50 : Daphnia magna 6,800 - 13,900 mg/L 48 h

Persistence and degradability
No information available

Bioaccumulative potential
No information available

Mobility

Chemical Name	Partition coefficient
N,N-Dimethylformamide 68-12-2	-1.028

Mobility in soil No information available
Other Data No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Precautionary including method of disposing contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT
UN/ID No UN1993
Proper shipping name: Flammable liquid, n.o.s. (t-Butoxybis(dimethylamino)methane)
UN classfication 3
Subsidiary hazard class
Packing group III
Marine pollutant Not applicable

IATA
UN/ID No UN1993
Proper shipping name: Flammable liquid, n.o.s. (t-Butoxybis(dimethylamino)methane)
UN classfication 3
Subsidiary hazard class
Packing group III
Environmentally Hazardous Substance Not applicable

IMDG
UN/ID No UN1993
Proper shipping name: Flammable liquid, n.o.s. (t-Butoxybis(dimethylamino)methane)
UN classfication 3
Subsidiary hazard class
Packing group III
Marine pollutant (Sea) Not applicable

15. REGULATORY INFORMATION

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a

chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS RN	Weight-%	SARA 313 - Threshold Values %
t-Butoxybis(dimethylamino)methane - 5815-08-7	5815-08-7	94.0 - 95.0	N/A
N,N-Dimethylformamide - 68-12-2	68-12-2	<3.0	0.1

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N,N-Dimethylformamide 68-12-2	100 lb	N/A	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
N,N-Dimethylformamide - 68-12-2	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

Issue Date 06-Aug-2025

Revision Note

No information available

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.

End of Safety Data Sheet