

SAFETY DATA SHEET

Issue Date 08-Jun-2026
Revision Number 1.09

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

Product identifier

Product Name 1,1'-Azobis(cyclohexane-1-carbonitrile)
Other means of identification
Product Code(s) 014-11072,018-11075

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
1-2, Doshomachi 3-Chome,
Chuo-ku Osaka 540-8605, Japan
Tel : +81-6-6203-3741
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Distributor

FUJIFILM Biosciences Inc.
2501 Pullman Street, Suite 200
Santa Ana, CA 92705, U.S.A.
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2. HAZARDS IDENTIFICATION

GHS classification**Classification of the substance or mixture****Self-reactive substances and mixtures**

Type D

Pictograms**Signal word**

Danger

Hazard statements

H242 - Heating may cause a fire

Precautionary statements-(Prevention)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking Keep/Store away from clothing/ combustible materials Keep only in original container Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements-(Response)

In case of fire: Use Water spray, fog or regular foam for extinction

Precautionary statements-(Storage)

Store in a well-ventilated place. Keep cool Store away from other materials

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 Substance

Formula NCC6H10N:NC6H10CN

Chemical Name	Molecular weight	CAS RN	Weight-%
1,1'-Azobis(cyclohexane-1-carbonitrile)	244.34	2094-98-6	95.0

Impurities and/or Additives: Not applicable

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

Water. Foam.

Unsuitable Extinguishing media Powder. Carbondioxide.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data

Sensitivity to Mechanical none.

Impact

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 Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Container containing the recovered material is distinguished from the other garbage and store in a cool, dark place without sealed until processing. Use a secure tool that does not generate a spark.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures Do not give shock. Avoid contact with strong oxidizing agents.

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 tightly closed. Store in a cool (2-10 °C) place. Store locked up.

Packaging materials Polyethylene.

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 Not applicable

Personal protective equipment

Respiratory protection Dust mask (JIS T 8151)

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

White - nearly white

Appearance

crystals - crystalline powder

Odor

characteristic odor

pH

no data available

Melting point/freezing point

114 - 119 °C

Boiling point, initial boiling point and boiling range

no data available

Flash point

no data available

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	1.1
Solubilities	acetone , chloroform , benzene : freely soluble . MIBK , Ethanol , methanol : soluble . water , petroleum ether : practically insoluble .
n-Octanol/water partition coefficient:(log Pow)	no data available
Auto-ignition temperature:	320 °C
Decomposition temperature:	80 °C (SADT)
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

Stability

Chemical stability	Stable under recommended normal conditions.
Reactivity	no data available

Hazardous reactions

Decompose at an accelerating pace and discharge nitrogen gas. May cause runaway reaction by heat or sunlight because of self-reactivity. Decompose gradually if stored it higher than 20°C.

Conditions to avoid

Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark, Shock

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x), nitrogen gas

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
1,1'-Azobis(cyclohexane-1-carbonitrile)	>11800 mg/kg(Rat)	N/A	N/A

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
1,1'-Azobis(cyclohexane-1-carbonitrile)	Approximate lethal dose(ALD),(orl, rat): >11800mg/kg	No data available	No data available

Skin irritation/corrosion

no data available

Chemical Name	Skin corrosion/irritation source information
1,1'-Azobis(cyclohexane-1-carbonitrile)	Skin irritation ; rabbit : Negative

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
1,1'-Azobis(cyclohexane-1-carbonitrile)	Eye: Mild

Respiratory or skin sensitization

no data available

Reproductive cell mutagenicity

Chemical Name	germ cell mutagenicity source information
1,1'-Azobis(cyclohexane-1-carbonitrile)	Reverse mutation assay in S.typhimurium and E.coli Negative

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure	no data available
STOT-repeated exposure	no data available
Aspiration hazard	no data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

no data available

Persistence and degradability

No information available

Bioaccumulative potential

No information available

Mobility

no data available

Chemical Name	Partition coefficient
1,1'-Azobis(cyclohexane-1-carbonitrile) 2094-98-6	3.256

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	UN3226
Proper shipping name:	SELF-REACTIVE SOLID TYPE D (1,1'-Azodi(hexahydrobenzonitrile))
UN classification	4.1
Subsidiary hazard class	
Packing group	
Marine pollutant	Not applicable

IATA

UN/ID No	UN3226
Proper shipping name:	SELF-REACTIVE SOLID TYPE D (1,1'-Azodi(hexahydrobenzonitrile))
UN classification	4.1
Subsidiary hazard class	
Packing group	
Environmentally Hazardous Substance	Not applicable

IMDG

UN/ID No	UN3226
Proper shipping name:	SELF-REACTIVE SOLID TYPE D (1,1'-Azodi(hexahydrobenzonitrile))
UN classification	4.1
Subsidiary hazard class	

Packing group
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 does not contain any 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 %
1,1'-Azobis(cyclohexane-1-carbonitrile) - 2094-98-6	2094-98-6	95.0	N/A

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, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any chemicals regulated by Proposition 65

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

Issue Date 08-Jun-2026

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