

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision Date** 08-Oct-2020  
 Version 2.02

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)
<b>Product code</b>	018-11092,012-11095,010-11091
<b>Manufacturer</b>	FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-5964
<b>Supplier</b>	FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-2029
<b>Emergency telephone number</b>	+81-6-6203-3741 / +81-3-3270-8571
<b>Recommended uses and restrictions on use</b>	For research purposes

## Section 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/sparks/open flames/hot surfaces. — 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 CO<sub>2</sub>, dry chemical, or 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

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Single Substance or Mixture**      Substance

**Formula**      C<sub>16</sub>H<sub>28</sub>N<sub>4</sub>O<sub>2</sub>

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	95.0	308.42	(2)-1542	N/A	15545-97-8

**Impurities and/or Additives :**      Methanol <0.1%

### 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**

Water, Foam

**Unsuitable extinguishing media**

Powder, Carbondioxide

**Specific hazards arising from the chemical product**

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

**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 contaminant and methods and materials for cleaning up**

Sweep up and gather scattered particles, and collect it in an empty airtight container.

**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

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

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity)

### Storage

#### Safe storage conditions

**Storage conditions** Container protected from light, and store tightly closed in freezer (-20°C). Store locked up.

**Safe packaging material** Polyethylene

**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

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

### Personal protective equipment

**Respiratory protection** Dust mask

**Hand protection** Protection gloves

**Eye protection** protective eyeglasses or chemical safety goggles

**Skin and body protection** Long-sleeved work clothes

### General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Form

**Color** White - nearly white

**Appearance** crystalline powder

**Odor** characteristic odor

**Melting point/freezing point** 85 °C (dec.)

**Boiling point, initial boiling point and boiling range** No data available

**Flammability** 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

**Flash point** No data available

**Auto-ignition temperature:** No data available

**Decomposition temperature:** No data available

**pH** No data available

**Viscosity (coefficient of viscosity)** No data available

**Dynamic viscosity** No data available

**Solubilities** water : practically insoluble, or insoluble . acetone , methanol , Ethanol : soluble .

n-Octanol/water partition coefficient:(log Pow)	No data available
Vapour pressure	No data available
Specific Gravity / Relative density	No data available
Vapour density	No data available
Particle characteristics	No data available

## Section 10: STABILITY AND REACTIVITY

### Stability

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

### Hazardous reactions

None under normal processing

### 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 (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>)

## Section 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	2028mg/kg(Mouse(male)), 2900mg/kg(V-70)(Mouse(female))	N/A	3200mg/m <sup>3</sup> /4h(IUCLID)

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	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
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	Causes skin irritation.

### Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	Causes serious eye irritation

### Respiratory or skin sensitization

No data available

### Reproductive cell mutagenicity

No data available

### Carcinogenicity

No data available

### Reproductive toxicity

No data available

### STOT-single exposure

Chemical Name	STOT -single exposure- source information
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	Based on the NITE GHS classification results.

### STOT-repeated exposure

No data available

### Aspiration hazard

No data available

## Section 12: ECOLOGICAL INFORMATION

### Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile)	Algae EC50 18.64mg/L 72h(IUCLID)	Zebra fish LC50 >100mg/L 96h(IUCLID)	Daphnia magna EC50>106mg/L 48h(IUCLID)

Other data	No data available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
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	UN3236
Proper shipping name:	Self-reactive solid type D, temperature controlled
UN classification	4.1
Subsidiary hazard class	
Packing group	
Marine pollutant	Not applicable

#### IMDG

UN number	UN3236
Proper shipping name:	Self-reactive solid type D, temperature controlled
UN classification	4.1
Subsidiary hazard class	
Packing group	
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	UN3236
Proper shipping name:	Self-reactive solid type D, temperature controlled
UN classification	4.1
Subsidiary hazard class	
Packing group	
Environmentally Hazardous Substance	Not applicable

### Section 15: REGULATORY INFORMATION

#### International Inventories

EINECS/ELINCS	Listed
TSCA	Listed

#### Japanese regulations

Fire Service Act	Category V, azo compounds, dangerous grade 2
Poisonous and Deleterious Substances Control Law	Deleterious Substances 3rd. Grade
Industrial Safety and Health Act	Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1)
Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc	Priority Assessment Chemical Substances (Law Article 2, Para.5)

<b>Regulations for the carriage and storage of dangerous goods in ship</b>	Flammable Solids - Flammable Solids (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
<b>Civil Aeronautics Law</b>	Forbidden (Ordinance Art.194)
<b>Marine Pollution Prevention Law</b>	Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Y
<b>Pollutant Release and Transfer Register Law</b>	Not applicable
<b>Export Trade Control Order</b>	Not applicable
<b>Air Pollution Control Law</b>	Specified Substances

Chemical Name	Poisonous and Deleterious Substances Control Law	Industrial Safety and Health Act Substances (Law Art.57-2)	Pollutant Release and Transfer Register Law
2,2'-Azobis(4-methoxy-2,4-dimethylvaleronitrile) 15545-97-8 ( 95.0 )	Applicable	-	-

## Section 16: OTHER INFORMATION

### Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)  
<http://www.safe.nite.go.jp/japan/db.html>  
 IATA dangerous Goods Regulations  
 RTECS:Registry of Toxic Effects of Chemical Substances  
 Japan Industrial Safety and Health Association GHS Model SDS  
 Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.  
 Chemical Dictionary, Kyouritsu Publishing Co., Ltd.  
 etc

### 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 Z7252(2019). \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**