Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>2,2’-Azobis[2-(2-imidazolin-2-yl)propane]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>010-19352</td>
</tr>
</tbody>
</table>

Manufacturer
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

Supplier
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

Emergency telephone number
+81-6-6203-3741 / +81-3-3270-8571

Recommended uses and restrictions on use
For research purposes

Section 2: HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture
Self-reactive substances and mixtures
Type D
Skin corrosion/irritation
Category 2

Pictograms

Signal word
Danger

Hazard statements
H242 - Heating may cause a fire
H315 - Causes skin irritation

Precautionary statements-(Prevention)
• Wash face, hands and any exposed skin thoroughly after handling
• Wear protective gloves/protective clothing/eye protection/face protection
• Keep away from heat/sparks/open flames/hot surfaces. — No smoking
• Keep/Store away from clothing/combustible materials
• Keep only in original container

Precautionary statements-(Response)
• IF ON SKIN: Wash with plenty of soap and water
• If skin irritation occurs: Get medical advice/attention
• Take off contaminated clothing and wash before reuse
• In case of fire: Use CO2, 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)
Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture: Substance

Formula: C12H22N6

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Weight-%</th>
<th>Molecular weight</th>
<th>ENCS</th>
<th>ISHL No.</th>
<th>CAS RN</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2’-Azobis[2-(2-imidazolin-2-yl)propane]</td>
<td>97.0</td>
<td>250.35</td>
<td>(5)-5870</td>
<td>8-(2)-1271</td>
<td>20858-12-2</td>
</tr>
</tbody>
</table>

Impurities and/or Additives: Not applicable

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 spray (fog), 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.

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. See Section 12 for additional ecological information.

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

Storage
Safe storage conditions
- Keep container protect from light tightly closed. Store in a cool (2-10 °C) place.

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 - slightly yellow
- Appearance: crystalline powder - powder

Odor
No data available

Melting point/freezing point
- 115-125 °C

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 :
Lower :
Flash point
Auto-ignition temperature:
Decomposition temperature:
pH
No data available
No data available
No data available
No data available
No data available
No data available
Section 10: STABILITY AND REACTIVITY

Stability

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

Hazardous reactions
Has self-reactive, resulting in runaway reaction by heat, light, etc.

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 (NOx)

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2’-Azobis[(2-2-imidazolin-2-yl)propane]</td>
<td>rat &gt;2,000mg/kg</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Skin irritation/corrosion

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Skin corrosion/Irritation source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2’-Azobis[(2-2-imidazolin-2-yl)propane]</td>
<td>Skin irritation ; rabbit; Mild.</td>
</tr>
</tbody>
</table>

Serious eye damage/ irritation  No data available
Respiratory or skin sensitization  No data available
Reproductive cell mutagenicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Germ cell mutagenicity source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2’-Azobis[(2-2-imidazolin-2-yl)propane]</td>
<td>Reverse mutation assay in S.typhimurium and E.coli; Weak positive(specific activity value: 0.35X103 mutant colony number/mg)</td>
</tr>
</tbody>
</table>

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

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity  No information available
Other data  No data available
Persistence and degradability  No information available
Bioaccumulative potential  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: Not applicable
- Poisonous and Deleterious Substances Control Law: Not applicable
- Industrial Safety and Health Act: Not applicable
- Regulations for the carriage and storage of dangerous goods in ship: Flammable Solids - Flammable Solids (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
- Civil Aeronautics Law: Forbidden
- Pollutant Release and Transfer Register Law: Not applicable
- Export Trade Control Order: Not applicable

Section 16: OTHER INFORMATION

Key literature references and NITE: National Institute of Technology and Evaluation (JAPAN)
sources for data etc.

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, SSOJC, Koudansha Scientific Co.Ltd.
Chemical Dictionary, Kyoritsu 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