Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Dicyclohexylamine Nitrite</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product code</strong></td>
<td>043-01672, 047-01675</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

<table>
<thead>
<tr>
<th><strong>Flammable solids</strong></th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute toxicity - Oral</strong></td>
<td>Category 3</td>
</tr>
<tr>
<td><strong>Specific target organ toxicity (single exposure)</strong></td>
<td>Category 1 blood forming system</td>
</tr>
</tbody>
</table>

**Pictograms**

![Flammable Solid](image1)
![Toxic](image2)

**Signal word**
Danger

**Hazard statements**

- H228 - Flammable solid
- H301 - Toxic if swallowed
- H370 - Causes damage to the following organs: blood forming system

**Precautionary statements-(Prevention)**

- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Ground/bond container and receiving equipment
- Use explosion-proof electrical/ventilating/lighting/equipment
- Wear protective gloves/protective clothing/eye protection/face protection
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Do not breathe dust/fume/gas/mist/vapors/spray

**Precautionary statements-(Response)**

- IF exposed: Call a POISON CENTER or doctor/physician
- Wash contaminated clothing before reuse.
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
• Rinse mouth.
• In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary statements-(Storage)
• Store locked up.

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
(C6H11)2NH·HNO2

<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>Dicyclohexylamine nitrite</td>
<td>95.0</td>
<td>228.33</td>
<td>(3)-2686,(3)-2259</td>
<td>公表</td>
<td>3129-91-7</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 firefighters
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.

**Recovery, 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**

Highly flammable. Avoid contact with high temperature objects, spark, and 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.

**Storage**

**Safe storage conditions**

- Keep container protect from light, store in well-ventilated place at room temperature (preferably cool).
- Keep container tightly closed.
- Store locked up.

**Safe packaging material**

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**

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**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>White - slightly yellow</td>
</tr>
<tr>
<td>Color</td>
<td>crystalline powder</td>
</tr>
<tr>
<td>Appearance</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>180 °C ( dec. )</td>
</tr>
<tr>
<td>Boiling point, initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability</td>
<td>Flammable solid</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td></td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td></td>
</tr>
</tbody>
</table>
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

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>Dicyclohexylamine nitrite</td>
<td>200 mg/kg (Rat)</td>
<td>909 mg/kg (rat)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Acute toxicity -oral- source information</th>
<th>Acute toxicity -dermal- source information</th>
<th>Acute toxicity -inhalation gas-source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite</td>
<td>Based on the NITE GHS classification results.</td>
<td>Based on the NITE GHS classification results.</td>
<td>Based on the NITE GHS classification results.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Acute toxicity -inhalation vapor-source information</th>
<th>Acute toxicity -inhalation dust-source information</th>
<th>Acute toxicity -inhalation mist-source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite</td>
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</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>Dicyclohexylamine nitrite</td>
<td>Based on the NITE GHS classification results.</td>
</tr>
</tbody>
</table>

Serious eye damage/irritation

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Serious eye damage/irritation source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite</td>
<td>Based on the NITE GHS classification results.</td>
</tr>
</tbody>
</table>

Respiratory or skin sensitization

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Respiratory or Skin sensitization source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite</td>
<td>Based on the NITE GHS classification results.</td>
</tr>
</tbody>
</table>

Reproductive cell mutagenicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>germ cell mutagenicity source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite</td>
<td>Based on the NITE GHS classification results.</td>
</tr>
</tbody>
</table>

Carcinogenicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Carcinogenicity source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite</td>
<td>Based on the NITE GHS classification results.</td>
</tr>
</tbody>
</table>
Dicyclohexylamine nitrite

**Reproductive toxicity**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Reproductive toxicity source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite</td>
<td>Based on the NITE GHS classification results.</td>
</tr>
</tbody>
</table>

**STOT-single exposure**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>STOT -single exposure- source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite</td>
<td>Based on the NITE GHS classification results.</td>
</tr>
</tbody>
</table>

**STOT-repeated exposure**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>STOT -repeated exposure- source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite</td>
<td>Based on the NITE GHS classification results.</td>
</tr>
</tbody>
</table>

**Aspiration hazard**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Aspiration Hazard source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite</td>
<td>Based on the NITE GHS classification results.</td>
</tr>
</tbody>
</table>

---

### Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

No information available

**Other data**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Short-term (acute) hazardous to the aquatic environment</th>
<th>Long-term (chronic) hazardous to the aquatic environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite</td>
<td>Based on the NITE GHS classification results.</td>
<td>Based on the NITE GHS classification results.</td>
</tr>
</tbody>
</table>

**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**: UN2687
- **Proper shipping name**: Dicyclohexylammonium nitrite
- **UN classification**: 4.1
- **Subsidiary hazard class**: III
- **Packing group**: III
- **Marine pollutant**: Not applicable

**IMDG**

- **UN number**: UN2687
- **Proper shipping name**: Dicyclohexylammonium nitrite
- **UN classification**: 4.1
- **Subsidiary hazard class**: III
- **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**: UN2687
Proper shipping name: Dicyclohexylammonium nitrite
UN classification: 4.1
Subsidiary hazard class: III
Packing group: III
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: Deleterious Substances 3rd. Grade
- Industrial Safety and Health Act: Not applicable
- Regulations for the carriage and storage of dangerous goods in ship: Flammable Solids - Flammable Solids (Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
- Civil Aeronautics Law: Flammable Solids (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)
- Pollutant Release and Transfer Register Law: Not applicable
- Water Pollution Control Act: Harmful Substances (Law Art.2, Enforcement Order Art.2, Ordinance Designating Wastewater Standards Art.1)
- Export Trade Control Order: Not applicable

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Poisonous and Deleterious Substances Control Law</th>
<th>Industrial Safety and Health Act Substances (Law Art.57-2)</th>
<th>Pollutant Release and Transfer Register Law</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicyclohexylamine nitrite 3129-91-7 (95.0)</td>
<td>Applicable</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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
- 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