

## SAFETY DATA SHEET

According to JIS Z 7253:2012  
 Revision Date 06-Sep-2019  
 Version 2.02

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

|   |   |
|---|---|
| <b>Product name</b>                             | D(-)-Penicillamine  |
| <b>Product code</b>                             | 169-18672,161-18671   |
| <b>CAS RN</b>                                   | 52-67-5   |
| <b>Formula</b>                                  | (CH <sub>3</sub> ) <sub>2</sub> C(SH)CH(NH <sub>2</sub> )COOH   |
| <b>Manufacturer</b>                             | FUJIFILM Wako Pure Chemical Corporation<br>1-2 Doshomachi 3-Chome<br>Chuo-ku, Osaka 540-8605, Japan<br>Phone: +81-6-6203-3741<br>Fax: +81-6-6203-5964 |
| <b>Supplier</b>                                 | FUJIFILM Wako Pure Chemical Corporation<br>1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan<br>Phone: +81-6-6203-3741<br>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**

Skin corrosion/irritation

Category 2

Serious eye damage/eye irritation

Category 2A

**Pictograms****Signal word**

Warning

**Hazard statements**

H315 - Causes skin irritation

H319 - Causes serious eye irritation

**Precautionary statements-(Prevention)**

- Wash face, hands and any exposed skin thoroughly after handling
- Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary statements-(Response)**

- 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 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

**Precautionary statements-(Storage)**

- Not applicable

**Precautionary statements-(Disposal)**

- Not applicable

**Others**

**Other hazards** Not available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Single Substance or Mixture** Substance

**Formula** (CH<sub>3</sub>)<sub>2</sub>C(SH)CH(NH<sub>2</sub>)COOH

| Chemical Name      | Weight-% | Molecular weight | ENCS     | ISHL No. | CAS RN  |
|--------------------|----------|------------------|----------|----------|---------|
| D(-)-Penicillamine | 97.5     | 149.21           | (2)-2758 | 公表       | 52-67-5 |

**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 (CO<sub>2</sub>), Foam, Extinguishing powder, Sand

**Unsuitable extinguishing media**

No information available

**Special extinguishing method**

No information available

**Specific hazards arising from the chemical product**

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

**Protection of 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**

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.

**Storage****Safe storage conditions****Storage conditions**

Store away from sunlight in a cool (2-10 °C) well-ventilated dry place. Packed with an inert gas.

**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****Form****Color**

White - nearly white

**Appearance**

crystals - powder

**Odor**

No data available

**pH**

No data available

**Melting point/freezing point**

202 - 206 °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**

No data available

**Solubilities**

water : soluble . Ethanol , acetone : practically insoluble,or

|   |                   |
|---|-------------------|
| n-Octanol/water partition coefficient:(log Pow) | insoluble .       |
| Auto-ignition temperature:                      | No data available |
| Decomposition temperature:                      | No data available |
| Viscosity (coefficient of viscosity)            | No data available |
| Dynamic viscosity                               | No data available |

## Section 10: STABILITY AND REACTIVITY

### Stability

|                   |  |
|-------------------|--|
| <b>Stability</b>  | Stable under recommended storage conditions. |
| <b>Reactivity</b> | No data available                            |

### Hazardous reactions

None under normal processing

### Conditions to avoid

Extremes of temperature and direct sunlight

### Incompatible materials

Strong oxidizing agents

### Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Sulfur oxides (SO<sub>x</sub>)

## Section 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

| Chemical Name      | Oral LD50          | Dermal LD50 | Inhalation LC50 |
|--------------------|--------------------|-------------|-----------------|
| D(-)-Penicillamine | 6170 mg/kg ( Rat ) | N/A         | N/A             |

|  |                   |
|--|-------------------|
| <b>Skin irritation/corrosion</b>         | No data available |
| <b>Serious eye damage/ irritation</b>    | No data available |
| <b>Respiratory or skin sensitization</b> | No data available |
| <b>Reproductive cell mutagenicity</b>    | No data available |
| <b>Carcinogenicity</b>                   | No data available |
| <b>Reproductive toxicity</b>             | No data available |
| <b>STOT-single exposure</b>              | No data available |
| <b>STOT-repeated exposure</b>            | No data available |
| <b>Aspiration hazard</b>                 | No data available |

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity** No information available

**Other data** No data available

|                                      |                          |
|--------------------------------------|--------------------------|
| <b>Persistence and degradability</b> | No information available |
| <b>Bioaccumulative potential</b>     | No information available |
| <b>Mobility in soil</b>              | No information available |
| <b>Hazard to the ozone layer</b>     | 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

|  |                          |
|--|--------------------------|
| <b>ADR/RID</b>   | Not regulated            |
| UN number  | -                        |
| Proper shipping name:  |                          |
| UN classification  |                          |
| Subsidiary hazard class  |                          |
| Packing group  |                          |
| Marine pollutant   | Not applicable           |
| <b>IMDG</b>  | Not regulated            |
| UN number  | -                        |
| Proper shipping name:  |                          |
| UN classification  |                          |
| 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 |
| <b>IATA</b>  | Not regulated            |
| UN number  | -                        |
| Proper shipping name:  |                          |
| UN classification  |                          |
| Subsidiary hazard class  |                          |
| Packing group  |                          |
| Environmentally Hazardous Substance                                      | Not applicable           |

### Section 15: REGULATORY INFORMATION

|   |                |
|---|----------------|
| <b>International Inventories</b>                                    |                |
| EINECS/ELINCS   | Listed         |
| TSCA  | -              |
| <b>Japanese regulations</b>   |                |
| 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 | Not applicable |
| Civil Aeronautics Law   | Not applicable |
| Pollutant Release and Transfer Register Law                         | Not applicable |
| Export Trade Control Order  | Not applicable |

### Section 16: OTHER INFORMATION

|  |   |
|--|---|
| <b>Key literature references and sources for data etc.</b> | NITE: National Institute of Technology and Evaluation (JAPAN)<br><a href="http://www.safe.nite.go.jp/japan/db.html">http://www.safe.nite.go.jp/japan/db.html</a><br>IATA dangerous Goods Regulations<br>RTECS:Registry of Toxic Effects of Chemical Substances<br>Japan Industrial Safety and Health Association GHS Model SDS<br>Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.<br>Chemical Dictionary, Kyouritsu Publishing Co., Ltd.<br>etc |
|--|---|

**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, 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(2014). \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**