SAFETY DATA SHEET

According to JIS Z 7253:2019
Revision Date 09-Sep-2020
Version 3.02

Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Bis(acetylacetonato)copper(II), 99.9%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>026-09541</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
Acute toxicity - Oral Category 4
Reproductive Toxicity Category 2

Pictograms

Signal word Warning

Hazard statements
H302 - Harmful if swallowed
H361 - Suspected of damaging fertility or the unborn child

Precautionary statements-(Prevention)
• Obtain special instructions before use
• Do not handle until all safety precautions have been read and understood
• Use personal protective equipment as required.
• Wash face, hands and any exposed skin thoroughly after handling
• Do not eat, drink or smoke when using this product

Precautionary statements-(Response)
• IF exposed or concerned: Get medical advice/attention
• IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
• Rinse mouth.

Precautionary statements-(Storage)
• Store locked up.

Precautionary statements-(Disposal)
• Dispose of contents/container to an approved waste disposal plant
Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula Cu(C₅H₇O₂)₂

<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>Bis(acetylacetonato)copper(II)</td>
<td>99.9</td>
<td>261.76</td>
<td>(2)-2181,(2)-2142</td>
<td>公表</td>
<td>13395-16-9</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.

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
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 garge. 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 well-ventilated place at room temperature (preferably cool).

Safe packaging material
Glass

Incompatible substances
Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSOANL 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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>JSOH (Japan)</th>
<th>ISHL (Japan)</th>
<th>ACGIH</th>
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</thead>
<tbody>
<tr>
<td>Bis(acetylacetonato)copper(II)</td>
<td>N/A</td>
<td>N/A</td>
<td>TWA: 1 mg/m$^3$ Cu dust and mist</td>
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<tr>
<td>13395-16-9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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: blue
Appearance: crystals
Odor: No data available
Melting point/freezing point: 230 °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: No data available

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

Stability

Reactivity
Chemical stability
No data available
Stable under recommended storage conditions.

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 (CO2), Metal oxides

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity
No data available

Skin irritation/corrosion
No data available
Serious eye damage/ irritation
No data available
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
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
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

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>UN classification</th>
<th>Subsidiary hazard class</th>
<th>Packing group</th>
<th>Marine pollutant</th>
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</thead>
<tbody>
<tr>
<td>Not regulated</td>
<td>-</td>
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</table>

<table>
<thead>
<tr>
<th>IMDG</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>UN classification</th>
<th>Subsidiary hazard class</th>
<th>Packing group</th>
<th>Marine pollutant (Sea)</th>
<th>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</th>
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</thead>
<tbody>
<tr>
<td>Not regulated</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No information available</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>IATA</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>UN classification</th>
<th>Subsidiary hazard class</th>
<th>Packing group</th>
<th>Environmentally Hazardous Substance</th>
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</thead>
<tbody>
<tr>
<td>Not regulated</td>
<td>-</td>
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</table>

### Section 15: REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>International Inventories</th>
<th>EINECS/ELINCS</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed</td>
<td>Listed</td>
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</tr>
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</table>

<table>
<thead>
<tr>
<th>Japanese regulations</th>
<th>Fire Service Act</th>
<th>Poisonous and Deleterious Substances Control Law</th>
<th>Industrial Safety and Health Act</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Harmful Substances Whose Names Are to Be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18)</td>
<td>Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9)No.379</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulations for the carriage and storage of dangerous goods in ship</th>
<th>Not applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Civil Aeronautics Law</th>
<th>Pollutant Release and Transfer Register Law</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Pollution Control Act</th>
<th>Export Trade Control Order</th>
<th>Air Pollution Control Law</th>
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</thead>
<tbody>
<tr>
<td>Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)</td>
<td>Not applicable</td>
<td>Hazardous Air Pollutants</td>
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</tbody>
</table>

<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>
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<tbody>
<tr>
<td>Bis(acetylacetonato)copper(II) 13395-16-9 (99.9% subtracting method)</td>
<td>-</td>
<td>Applicable</td>
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</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, 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