SAFETY DATA SHEET

Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Uranine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>213-00092</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>FUJIFILM Wako Pure Chemical Corporation</td>
</tr>
<tr>
<td></td>
<td>1-2 Doshomachi 3-Chome</td>
</tr>
<tr>
<td></td>
<td>Chuo-ku, Osaka 540-8605, Japan</td>
</tr>
<tr>
<td></td>
<td>Phone: +81-6-6203-3741</td>
</tr>
<tr>
<td></td>
<td>Fax: +81-6-6203-5964</td>
</tr>
<tr>
<td>Supplier</td>
<td>FUJIFILM Wako Pure Chemical Corporation</td>
</tr>
<tr>
<td></td>
<td>1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan</td>
</tr>
<tr>
<td></td>
<td>Phone: +81-6-6203-3741</td>
</tr>
<tr>
<td></td>
<td>Fax: +81-6-6203-2029</td>
</tr>
<tr>
<td>Emergency telephone number</td>
<td>+81-6-6203-3741 / +81-3-3270-8571</td>
</tr>
<tr>
<td>Recommended uses and restrictions on use</td>
<td>For research use only</td>
</tr>
</tbody>
</table>

Section 2: HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture
Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Pictograms
Signal word
none

Hazard statements
Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Precautionary statements-(Prevention)
• Not applicable

Precautionary statements-(Response)
• Not applicable

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
C20H10Na2O5

<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>Uranine sodium</td>
<td>&lt;=100</td>
<td>376.28</td>
<td>(5)-671,(5)-673,(5)-1416</td>
<td>(5)-671,(5)-673,(5)-1416</td>
<td>518-47-8</td>
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</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.

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

**Safe packaging material**
- Glass

**Incompatible substances**
- Strong oxidizing agents

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**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.

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**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Form**
- Color: green or yellowish red- reddish brown
- Appearance: crystals - crystalline powder or mass

**Odor**
- No data available

**Melting point/freezing point**
- 315-395 °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: 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**

n-Octanol/water partition coefficient:(log Pow)
- -0.67

**Vapour pressure**
- No data available

**Specific Gravity / Relative density**
- No data available

**Vapour density**
- No data available

**Particle characteristics**
- No data available

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**Section 10: STABILITY AND REACTIVITY**

**Stability**
**Reactivity**
No data available

**Chemical stability**
May be altered by light. Hygroscopic.

**Hazardous reactions**
None under normal processing

**Conditions to avoid**
Extremes of temperature and direct sunlight, Moisture

**Incompatible materials**
Strong oxidizing agents

**Hazardous decomposition products**
Carbon monoxide (CO), Carbon dioxide (CO2)

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## 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>Uranine sodium</td>
<td>6721 mg/kg (Rat)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**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

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## Section 12: ECOLOGICAL INFORMATION

### Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uranine sodium</td>
<td>N/A</td>
<td>N/A</td>
<td>EC50: <em>Daphnia pulex</em> 337mg/L 48h</td>
</tr>
</tbody>
</table>

**EC50**

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**
To the best of our knowledge, chemical, physical and toxicological properties have not been fully investigated.

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## 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.

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## Section 14: TRANSPORT INFORMATION

**ADR/RID**
Not regulated

**UN number**
-

**Proper shipping name:**
Uranine
UN classification
Subsidiary hazard class
Packing group
Marine pollutant Not applicable

IMDG
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

IATA
UN number
Proper shipping name: UN classification
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 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

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 Oraganic 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