Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Tralomethrin Standard (mixture of isomers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>209-12661</td>
</tr>
<tr>
<td>Manufacturer</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: +81-6-6203-5964</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</td>
<td>For research use only</td>
</tr>
<tr>
<td>restrictions on use</td>
<td></td>
</tr>
</tbody>
</table>

Section 2: HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Acute toxicity - Oral</th>
<th>Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 1</td>
</tr>
<tr>
<td>Category 1 nervous system</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Category 2</td>
</tr>
<tr>
<td>Category 2 systemic toxicity</td>
<td></td>
</tr>
<tr>
<td>Short-term (acute) hazardous to the aquatic environment</td>
<td>Category 1</td>
</tr>
<tr>
<td>Long-term (chronic) hazardous to the aquatic environment</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Pictograms

Signal word: Danger

Hazard statements
H319 - Causes serious eye irritation
H301 - Toxic if swallowed
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H370 - Causes damage to the following organs: nervous system
H373 - May cause damage to the following organs through prolonged or repeated exposure: systemic toxicity

Precautionary statements-(Prevention)
• Wash face, hands and any exposed skin thoroughly after handling
• Do not eat, drink or smoke when using this product
• Wear protective gloves/protective clothing/eye protection/face protection
• Do not breathe dust/fume/gas/mist/vapors/spray
Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Single Substance or Mixture**
Substance

**Formula**
C22H19Br4NO3

<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>Tralomethrin</td>
<td>97.0</td>
<td>665.01</td>
<td>(3)-3892</td>
<td>公表</td>
<td>66841-25-6</td>
</tr>
</tbody>
</table>

**Impurities and/or Additives:** Not applicable

**Substances Remarks:** This product is composed of isomer mixture.

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

Form
Color
nearly white- yellowish red

Appearance
crystalline powder or mass

Odor
No data available

Melting point/freezing point
138 - 148 °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
Solubilities:
  acetone: soluble
  water: practically insoluble, or insoluble
n-Octanol/water partition coefficient: (log Pow): No data available
Vapour pressure: No data available
Specific Gravity / Relative density: No data available
Vapour density: No data available
Particle characteristics: No data available

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

Incompatible materials
  Strong oxidizing agents

Hazardous decomposition products
  Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), Halides

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>Tralomethrin</td>
<td>70.6 mg/kg (Rat)</td>
<td>&gt;5000 mg/kg (Rat)</td>
<td>&gt; 0.286 mg/L (Rat) 4 h</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>Tralomethrin</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>
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</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>Tralomethrin</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>

Skin irritation/corrosion

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Skin corrosion/Irritation source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tralomethrin</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>Tralomethrin</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>Tralomethrin</td>
<td>Based on the NITE GHS classification results.</td>
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</tbody>
</table>
Reproductive cell mutagenicity

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

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>JSOH (Japan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tralomethrin</td>
<td></td>
<td></td>
<td></td>
<td>Group 2A</td>
</tr>
</tbody>
</table>

Reproductive toxicity

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

STOT-repeated exposure

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

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>Tralomethrin</td>
<td>N/A</td>
<td>N/A</td>
<td>EC50: Daphnia magna 0.091 ug/L 48 h</td>
</tr>
</tbody>
</table>

Other data

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Short-term (acute) hazardous to the aquatic environment source information</th>
<th>Long-term (chronic) hazardous to the aquatic environment source information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tralomethrin</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

<table>
<thead>
<tr>
<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>
</tr>
</thead>
<tbody>
<tr>
<td>UN2588</td>
<td>Pesticide, solid, toxic, n.o.s. (Tralomethrin)</td>
<td>6.1</td>
<td>III</td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>
IMDG
UN number UN2588
Proper shipping name: Pesticide, solid, toxic, n.o.s. (Tralomethrin)
UN classification 6.1
Subsidiary hazard class III
Packing group III
Marine pollutant (Sea) Yes
Transport in bulk according to No information available
Annex II of MARPOL 73/78 and the IBC Code

IATA
UN number UN2588
Proper shipping name: Pesticide, solid, toxic, n.o.s. (Tralomethrin)
UN classification 6.1
Subsidiary hazard class III
Packing group III
Environmentally Hazardous Substance Yes

Section 15: REGULATORY INFORMATION

International Inventories
EINECS/ELINCS Listed
TSCA -

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 Toxic Substances - Poison (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law Toxic and Infectious Substances (Ordinance Art.194, MITL Nortification for Air Transportation of Explosives etc., Attached Table 1)
Pollutant Release and Transfer Register Law Class 1
Class 1 - No. 139
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>Tralomethrin 66841-25-6 (97.0)</td>
<td>Applicable</td>
<td>-</td>
<td>Applicable</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
Dictionary of Synthetic Oraganic Chemistry , SSOCJ, 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