SAFETY DATA SHEET

According to JIS Z 7253:2012
Revision Date 10-Apr-2018
Version 1.03

Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>O-(N-Succinimidyl)-N,N,N',N'-tetramethyluronium Tetrafluoroborate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>190-16601, 196-16603, 198-16602</td>
</tr>
<tr>
<td>CAS No</td>
<td>105832-38-0</td>
</tr>
<tr>
<td>Formula</td>
<td>C9H16N3O3·BF4</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 restrictions on use</td>
<td>For research purposes</td>
</tr>
</tbody>
</table>
| Announcement of company name change | Company name has changed since April 1, 2018. Former name was "Wako Pure Chemical Industries, Ltd."

Section 2: HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture
Acute toxicity - Oral                       Category 3
Skin corrosion/irritation                   Category 2
Serious eye damage/eye irritation           Category 2A

Pictograms

Signal word     Danger

Hazard statements
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H301 - Toxic if swallowed

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

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
• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
• Rinse mouth.

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 C9H16N3O3·BF4

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Weight-%</th>
<th>Molecular weight</th>
<th>ENCS</th>
<th>ISHL No.</th>
<th>CAS No.</th>
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<tbody>
<tr>
<td>2-Succinimido-1,1,3,3-tetramethyluronium Tetrafluoroborate</td>
<td>98.0</td>
<td>301.05</td>
<td>N/A</td>
<td>N/A</td>
<td>105832-38-0</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

Special extinguishing method
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.

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
Keep container protect from light tightly closed. Store in a cool (2-10 °C) place. Packed with an inert gas. 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, protective boots
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>crystals - powder</td>
</tr>
<tr>
<td>Color</td>
<td>White - nearly white</td>
</tr>
<tr>
<td>Appearance</td>
<td>crystals - powder</td>
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<tr>
<td>Odor</td>
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<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>195 - 200 °C</td>
</tr>
<tr>
<td>Boiling point, initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
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<tr>
<td>Vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific Gravity / Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubilities</td>
<td>acetonitrile : soluble .</td>
</tr>
<tr>
<td>n-Octanol/water partition coefficient:(log Pow)</td>
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</tr>
<tr>
<td>Auto-ignition temperature:</td>
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<tr>
<td>Decomposition temperature:</td>
<td>No data available</td>
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<tr>
<td>Viscosity (coefficient of viscosity)</td>
<td>No data available</td>
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<tr>
<td>Dynamic viscosity</td>
<td>No data available</td>
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</tbody>
</table>

### Section 10: STABILITY AND REACTIVITY

**Stability**

- May be altered by light.

**Reactivity**

- 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 (CO2), Nitrogen oxides (NOx), Halides, Boron oxide

### 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**

**ADR/RID**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN2811</th>
</tr>
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<tbody>
<tr>
<td>Proper shipping name:</td>
<td>Toxic solid, organic, n.o.s. (2-Succinimidyl-1,1,3,3-tetramethyluronium Tetrafluoroborate)</td>
</tr>
<tr>
<td>UN classification</td>
<td>6.1</td>
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<tr>
<td>Subsidiary hazard class</td>
<td>III</td>
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<tr>
<td>Packing group</td>
<td>III</td>
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<tr>
<td>Marine pollutant</td>
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**IMDG**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN2811</th>
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<tr>
<td>Proper shipping name:</td>
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<td>III</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Marine pollutant (Sea)</td>
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<td>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</td>
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</table>

**IATA**

<table>
<thead>
<tr>
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<tbody>
<tr>
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<td>III</td>
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<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Environmentally Hazardous</td>
<td>Not applicable</td>
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</table>
Section 15: REGULATORY INFORMATION

International Inventories
EINECS/ELINCS -
TSCA -

Japanese regulations
Fire Service Act Not applicable
Poisonous and Deleterious Substances Control Law Deleterious Substances 2nd. Grade
Industrial Safety and Health Act 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 Notification for Air Transportation of Explosives etc., Attached Table 1)
Pollutant Release and Transfer Register Law Class 1
Water Pollution Control Act Class 1 - No. 405
Export Trade Control Order Not applicable
Air Pollution Control Law Hazardous Air Pollutants
Soil Contamination Control Law Designated Hazardous Substances

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.
IATA dangerous Goods Regulations
RTECS: Registry of Toxic Effects of Chemical Substances
Japan Industrial Safety and Health Association GHS Model SDS Dictionary of Synthetic Organic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.
Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
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

Product information
You might get a product which indicates a former company name, during the period of transition.
End of Safety Data Sheet