SAFETY DATA SHEET

According to JIS Z 7253:2012
Revision Date 27-Apr-2018
Version 1.01

Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>t-Butyldimethylsilyl Trifluoromethanesulfonate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>026-19051,024-19052</td>
</tr>
<tr>
<td>CAS No</td>
<td>69739-34-0</td>
</tr>
<tr>
<td>Formula</td>
<td>C7H15F3O3SSi</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 purposes</td>
</tr>
<tr>
<td>restrictions on use</td>
<td></td>
</tr>
<tr>
<td>Announcement of company name</td>
<td>Company name has changed since April 1, 2018. Former name was &quot;Wako Pure Chemical Industries, Ltd.&quot;</td>
</tr>
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</table>

Section 2: HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture

- Flammable liquids: Category 3
- Skin corrosion/irritation: Category 1
- Specific target organ toxicity (single exposure): Category 3
  - Respiratory tract irritation

Pictograms

Signal word
Danger

Hazard statements

- H226 - Flammable liquid and vapor
- H314 - Causes severe skin burns and eye damage
- H335 - May cause respiratory irritation

Precautionary statements-(Prevention)

- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handling
• Wear protective gloves/protective clothing/eye protection/face protection
• Use only outdoors or in a well-ventilated area
• Keep away from heat/sparks/open flames/hot surfaces. — No smoking
• Keep container tightly closed
• Ground/bond container and receiving equipment
• Use explosion-proof electrical/ventilating/lighting/equipment
• Use only non-sparking tools
• Take precautionary measures against static discharge
• Keep cool

Precautionary statements-(Response)
• IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
• Immediately call a POISON CENTER or doctor/physician
• IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
• Wash contaminated clothing before reuse.
• IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
• Call a POISON CENTER or doctor/physician if you feel unwell.
• IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
• In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary statements-(Storage)
• Store locked up.
• Store in a well-ventilated place. Keep container tightly closed

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 C7H15F3O3Si

<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>t-Butyldimethylsilyl Trifluoromethanesulfonate</td>
<td>97.0</td>
<td>264.34</td>
<td>N/A</td>
<td>N/A</td>
<td>69739-34-0</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
- 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
- Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

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
- Highly flammable. Avoid contact with high temperature objects, spark, and 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
- Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). 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. Packed with an inert gas.

Safe packaging material
- Glass

Incompatible substances
- Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

W01W0102-1905 JGHEEN
t-Butyldimethylsilyl Trifluoromethanesulfonate
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: gas mask for organic gas
Hand protection: Impermeable protective 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Colorless - reddish yellow</td>
</tr>
<tr>
<td>Turbidity</td>
<td>clear -</td>
</tr>
<tr>
<td>Appearance</td>
<td>liquid</td>
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<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</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>36 °C</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>
</tbody>
</table>

Section 10: STABILITY AND REACTIVITY

Stability
- 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, Heat, flames and sparks, static electricity, spark

Incompatible materials
- Strong oxidizing agents

Hazardous decomposition products
- Sulfur oxides (SOx), Halides

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
UN number UN2920
Proper shipping name: Corrosive liquid, flammable, n.o.s. (t-Butyldimethylsilyl Trifluoromethanesulfonate)
UN classification 8
Subsidiary hazard class 3
Packing group II
Marine pollutant Not applicable

IMDG
UN number UN2920
Proper shipping name: Corrosive liquid, flammable, n.o.s. (t-Butyldimethylsilyl Trifluoromethanesulfonate)
UN classification 8
Subsidiary hazard class 3
Packing group II
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: UN2920
Proper shipping name: Corrosive liquid, flammable, n.o.s. (t-Butyldimethylsilyl Trifluoromethanesulfonate)
UN classification: 8
Subsidiary hazard class: 3
Packing group: II
Environmentally Hazardous Substance: Not applicable

Section 15: REGULATORY INFORMATION

International Inventories
EINECS/ELINCS: Listed
TSCA: -

Japanese regulations
Fire Service Act: Category IV, Class II petroleum, dangerous grade 3
Poisonous and Deleterious Substances Control Law: Not applicable
Industrial Safety and Health Act:
   Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)
Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc
   Corrosive Substances (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law: Corrosive Substances (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)
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 Organic Chemistry, SSOCJ, Koudansha Scientific Co Ltd.
Chemical Dictionary, Kyoritsu 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