

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision date** 09-May-2023  
 Revision Number 2.04

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

|                     |                                    |
|---------------------|------------------------------------|
| <b>Product Name</b> | t-Butyl 2,2,2-Trichloroacetimidate |
| <b>Product Code</b> | 027-18481,025-18482                |

|                                   |   |
|-----------------------------------|---|
| <b>Manufacturer</b>               | FUJIFILM Wako Pure Chemical Corporation<br>1-2 Doshomachi 3-Chome<br>Chuo-ku, Osaka 540-8605, Japan<br>Phone: +81-6-6203-3741<br>Fax: +81-6-6203-5964 |
| <b>Supplier</b>                   | FUJIFILM Wako Pure Chemical Corporation<br>1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan<br>Phone: +81-6-6203-3741<br>Fax: +81-6-6203-2029   |
| <b>Emergency telephone number</b> | +81-6-6203-3741 / +81-3-3270-8571   |
| <b>Recommended uses</b>           | For research use only   |
| <b>Restrictions on use</b>        | Seek expert judgment when using for purposes other than those recommended.  |

## Section 2: HAZARDS IDENTIFICATION

**GHS classification****Classification of the substance or mixture**

Flammable liquids

Category 3

Skin corrosion/irritation

Category 2

Serious eye damage/eye irritation

Category 2A

**Pictograms****Signal word**

Warning

**Hazard statements**

H226 - Flammable liquid and vapour

H315 - Causes skin irritation

H319 - Causes serious eye irritation

**Precautionary statements-(Prevention)**

- Wash face, hands and any exposed skin thoroughly after handling
- Wear protective gloves/protective clothing/eye protection/face protection
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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

**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 skin irritation occurs: Get medical advice/attention
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Precautionary statements-(Storage)**

- Store in a well-ventilated place. Keep cool

**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** C<sub>6</sub>H<sub>10</sub>Cl<sub>3</sub>NO

| Chemical Name                         | Weight-% | Molecular weight | ENCS | ISHL No. | CAS RN     |
|---------------------------------------|----------|------------------|------|----------|------------|
| t-Butyl<br>2,2,2-Trichloroacetimidate | 92.0     | 218.51           | N/A  | N/A      | 98946-18-0 |

**Note on ISHL No.:** \* in the table means announced chemical substances.

**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 (CO<sub>2</sub>), 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. Vapors may form explosive mixtures with air

**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

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). Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

### Storage

#### Safe storage conditions

##### Storage conditions

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

##### 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

gas mask for organic gas ( JIS T 8152 )

#### Hand protection

chemical protective gloves ( JIS T 8116 )

#### 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

White - slightly yellow , upon melting Colorless - slight yellow

|   |                             |
|---|-----------------------------|
| <b>Turbidity</b>  | ( upon melting ) clear      |
| <b>Appearance</b>   | mass or upon melting liquid |
| <b>Odor</b>   | no data available           |
| <b>Melting point/freezing point</b>                           | 21 °C                       |
| <b>Boiling point, initial boiling point and boiling range</b> | 69 °C                       |
| <b>Flammability</b>   | Flammable liquid and vapor  |
| <b>Evaporation rate:</b>                                      | no data available           |
| <b>Flammability (solid, gas):</b>                             | no data available           |
| <b>Upper/lower flammability or explosive limits</b>           |                             |
| <b>Upper:</b>   | no data available           |
| <b>Lower:</b>   | no data available           |
| <b>Flash point</b>  | 55 °C / 131 °F              |
| <b>Auto-ignition temperature:</b>                             | no data available           |
| <b>Decomposition temperature:</b>                             | no data available           |
| <b>pH</b>   | no data available           |
| <b>Viscosity (coefficient of viscosity)</b>                   | no data available           |
| <b>Dynamic viscosity</b>                                      | no data available           |
| <b>Solubilities</b>   | acetone : soluble .         |
| <b>n-Octanol/water partition coefficient:(log Pow)</b>        | no data available           |
| <b>Vapour pressure</b>  | no data available           |
| <b>Specific Gravity / Relative density</b>                    | 1.222 g/cm <sup>3</sup>     |
| <b>Vapour density</b>   | no data available           |
| <b>Particle characteristics</b>                               | no data available           |

## Section 10: STABILITY AND REACTIVITY

### Stability

|   |  |
|---|--|
| <b>Reactivity</b>                       | no data available  |
| <b>Chemical stability</b>               | May be altered by light.   |
| <b>Hazardous reactions</b>              | None under normal processing   |
| <b>Conditions to avoid</b>              | Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark      |
| <b>Incompatible materials</b>           | Strong oxidizing agents  |
| <b>Hazardous decomposition products</b> | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> ), Halides |

## Section 11: TOXICOLOGICAL INFORMATION

|  |                   |
|--|-------------------|
| <b>Acute toxicity</b>                    | no data available |
| <b>Skin irritation/corrosion</b>         | no data available |
| <b>Serious eye damage/ irritation</b>    | no data available |
| <b>Respiratory or skin sensitization</b> | no data available |
| <b>Reproductive cell mutagenicity</b>    | no data available |
| <b>Carcinogenicity</b>                   | no data available |
| <b>Reproductive toxicity</b>             | no data available |
| <b>STOT-single exposure</b>              | no data available |
| <b>STOT-repeated exposure</b>            | no data available |
| <b>Aspiration hazard</b>                 | no data available |

## Section 12: ECOLOGICAL INFORMATION

|                                      |                          |
|--------------------------------------|--------------------------|
| <b>Ecotoxicity</b>                   | No information available |
| <b>Other data</b>                    | no data available        |
| <b>Persistence and degradability</b> | No information available |
| <b>Bioaccumulative potential</b>     | No information available |
| <b>Mobility in soil</b>              | No information available |
| <b>Hazard to the ozone layer</b>     | 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

|                                |  |
|--------------------------------|--|
| <b>UN number</b>               | UN1993   |
| <b>Proper shipping name:</b>   | Flammable liquid, n.o.s. (t-Butyl 2,2,2-Trichloroacetimidate ) |
| <b>UN classification</b>       | 3  |
| <b>Subsidiary hazard class</b> |  |
| <b>Packing group</b>           | III  |
| <b>Marine pollutant</b>        | Not applicable   |

#### IMDG

|   |  |
|---|--|
| <b>UN number</b>  | UN1993   |
| <b>Proper shipping name:</b>  | Flammable liquid, n.o.s. (t-Butyl 2,2,2-Trichloroacetimidate ) |
| <b>UN classification</b>  | 3  |
| <b>Subsidiary hazard class</b>  |  |
| <b>Packing group</b>  | III  |
| <b>Marine pollutant (Sea)</b>   | Not applicable   |
| <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> | No information available                                       |

#### IATA

|  |  |
|--|--|
| <b>UN number</b>                           | UN1993   |
| <b>Proper shipping name:</b>               | Flammable liquid, n.o.s. (t-Butyl 2,2,2-Trichloroacetimidate ) |
| <b>UN classification</b>                   | 3  |
| <b>Subsidiary hazard class</b>             |  |
| <b>Packing group</b>                       | III  |
| <b>Environmentally Hazardous Substance</b> | Not applicable   |

### Section 15: REGULATORY INFORMATION

#### International Inventories

|                      |   |
|----------------------|---|
| <b>EINECS/ELINCS</b> | - |
| <b>TSCA</b>          | - |

#### Japanese regulations

|  |   |
|--|---|
| <b>Fire Service Act</b>                                      | Category IV, Class II petroleums, dangerous grade 3   |
| <b>Poisonous and Deleterious Substances Control Law</b>      | Not applicable  |
| <b>Industrial Safety and Health Act</b>                      | Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)  |
| <b>Regulations for the carriage and storage of dangerous</b> | Flammable Liquids (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1) |

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|  |   |
|--|---|
| <b>goods in ship</b>   |   |
| <b>Civil Aeronautics Law</b>                                   | Flammable Liquids (Ordinance Art.194, MITL Nortification for Air Transportation of Explosives etc., Attached Table 1) |
| <b>Pollutant Release and Transfer Register Law (2023.4.1-)</b> | Not applicable  |
| <b>Export Trade Control Order</b>                              | Not applicable  |

## Section 16: OTHER INFORMATION

|  |  |
|--|--|
| <b>Key literature references and sources for data etc.</b> | NITE: National Institute of Technology and Evaluation (JAPAN)<br><a href="http://www.safe.nite.go.jp/japan/db.html">http://www.safe.nite.go.jp/japan/db.html</a><br>IATA dangerous Goods Regulations<br>RTECS:Registry of Toxic Effects of Chemical Substances<br>Japan Industrial Safety and Health Association GHS Model SDS<br>Dictionary of Synthetic Oraganic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.<br>Chemical Dictionary, Kyouritsu Publishing Co., Ltd.<br>etc |
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### 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 Z 7252:2019. \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**