Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>N,N-Dimethylformamide Di-t-butyl Acetal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product code</strong></td>
<td>049-18161</td>
</tr>
<tr>
<td><strong>CAS No</strong></td>
<td>36805-97-7</td>
</tr>
<tr>
<td><strong>Formula</strong></td>
<td>C11H25NO2</td>
</tr>
<tr>
<td><strong>Manufacturer</strong></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><strong>Supplier</strong></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><strong>Emergency telephone number</strong></td>
<td>+81-6-6203-3741 / +81-3-3270-8571</td>
</tr>
<tr>
<td><strong>Recommended uses and restrictions on use</strong></td>
<td>For research purposes</td>
</tr>
<tr>
<td><strong>Announcement of company name change</strong></td>
<td>Company name has changed since April 1, 2018. Former name was “Wako Pure Chemical Industries, Ltd.”</td>
</tr>
</tbody>
</table>

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**

![Pictogram](image)

**Signal word** Warning

**Hazard statements**

- H226 - Flammable liquid and vapor
- 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/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

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 CO2, 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

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Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture
Substance

Formula
C11H25NO2

<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>
</tr>
</thead>
<tbody>
<tr>
<td>1,1-Di-tert-butoxytrimethylamine</td>
<td>80.0</td>
<td>203.32</td>
<td>N/A</td>
<td>N/A</td>
<td>36805-97-7</td>
</tr>
</tbody>
</table>

Impurities and/or Additives: Not applicable

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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.

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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 contaminent 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. Make a seal or plug immediately after use, as it decomposes by moisture. 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.

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

Safe packaging material
Polyvinyl chloride

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
Hand protection  Impermeable protective 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>colorless - pale yellow</td>
</tr>
<tr>
<td>Color</td>
<td>clear</td>
</tr>
<tr>
<td>Turbidity</td>
<td>liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<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>75-78 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>35 °C</td>
</tr>
<tr>
<td>Evaporation rate, flammable, gas</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></td>
</tr>
<tr>
<td>Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour density</td>
<td>7.06 (air=1)</td>
</tr>
<tr>
<td>Specific Gravity / Relative density</td>
<td>0.848</td>
</tr>
<tr>
<td>Solubilities</td>
<td>Ethanol, acetone : Very soluble. water : practically insoluble or insoluble.</td>
</tr>
<tr>
<td>n-Octanol/water partition coefficient: (log Pow)</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity (coefficient of viscosity)</td>
<td>No data available</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### Section 10: STABILITY AND REACTIVITY

**Stability**  
May be altered by light. Altered by moisture.  
**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, Moisture

**Incompatible materials**  
Strong oxidizing agents

**Hazardous decomposition products**  
Carbon monooxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx)

### Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**  
No data available

**Skin irritation/corrosion**  
No data available
Serious eye damage/ irritation  
Respiratory or skin sensitization  
Reproductive cell mutagenicity  
Carcinogenicity  
Reproductive toxicity  
STOT-single exposure  
STOT-repeated exposure  
Aspiration hazard  

No data available  
No data available  
No data available  
No data available  
No data available  
No data available  
No data available  
No data available

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### Section 12: ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>No information available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other data</td>
<td>No data available</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>No information available</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No information available</td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>No information available</td>
</tr>
<tr>
<td>Hazard to the ozone layer</td>
<td>No information available</td>
</tr>
</tbody>
</table>

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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**  
UN number: UN1993  
Proper shipping name: Flammable liquid, n.o.s. (1,1-Di-tert-butoxytrimethylamine)  
UN classification: 3  
Subsidiary hazard class:  
Packing group: III  
Marine pollutant: Not applicable

**IMDG**  
UN number: UN1993  
Proper shipping name: Flammable liquid, n.o.s. (1,1-Di-tert-butoxytrimethylamine)  
UN classification: 3  
Subsidiary hazard class:  
Packing group: III  
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: UN1993  
Proper shipping name: Flammable liquid, n.o.s. (1,1-Di-tert-butoxytrimethylamine)  
UN classification: 3  
Subsidiary hazard class:  
Packing group: III  
Environmentally Hazardous: 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 Regulations for the carriage and storage of dangerous goods in ship: Flammable Liquids (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
- 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
- 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