

**PTFE**

Revision Date 2010/09/01

Document no. 208-9E

This SDS adheres to the standards and regulatory requirements of Japan and may not meet the regulatory requirements in other countries.

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

Product name : TLP 10F-1

Supplier : Du Pont-Mitsui Fluorochemicals CO.,LTD.  
Street address : 5-18, Sarugaku-cho 1-chome, Chiyoda-ku, Tokyo

Responsible Department : Fluoropolymers

Telephone : 03-5281-5807  
Telefax : 03-5281-5550  
Emergency telephone : Safety, Health & Environment (054-334-4827) (Holiday,Night-time 054-335-5507)

**Recommended use of the chemical and restriction on use**

Recommended use : Resin for moulding and/or extrusion

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**2. HAZARDS IDENTIFICATION****GHS-Classification**

Not applicable to classification standard.

**Other hazards which do not result in classification or are not covered by the GHS**

The thermal decomposition vapours of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Pure substance/preparation : Substance  
Common Name : PTFE

**Components**

Chemical Name	CAS-No.	Concentration	ENCS/ISHL Number
Polytetrafluoroethylene	9002-84-0	100 %	(6)-939

**4. FIRST AID MEASURES****General advice**

Never give anything by mouth to an unconscious person. No hazards which require special first aid measures.

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Eye contact	: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Get medical attention immediately.
Skin contact	: No hazards which require special first aid measures. Wash off with soap and water. Cool skin rapidly with cold water after contact with molten material. Do not peel polymer from the skin. Consult a physician.
Inhalation	: Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. Consult a physician.
Ingestion	: Not a probable route of exposure. However, in case of accidental ingestion, call a physician.
Most important symptoms	: No information available.
Protection of first-aiders	: No information available.
Notes to physician	: No information available.

**5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media	: Carbon dioxide (CO <sub>2</sub> ), Dry powder, Foam, Water
Extinguishing media which shall not be used for safety reasons	: No information available.
Specific hazards	: Hazardous decomposition products formed under fire conditions. acid fluorides Fluorinated compounds Hydrofluoric acid, Carbon monoxide
Specific methods	: No information available.
Special protective equipment for fire-fighters	: In the event of fire, wear self-contained breathing apparatus. Wear suitable protective equipment. Wear neoprene gloves during cleaning up work after a fire.

**6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures	: Ventilate the area. Refer to protective measures listed in sections 7 and 8. Material can create slippery conditions.
Environmental precautions	: No special environmental precautions required.
Methods and materials for containment and cleaning up	: Sweep up and shovel into suitable containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.
Prevention of secondary hazards	: No information available.



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### 7. HANDLING AND STORAGE

#### Handling

Technical measures/Precautions : For personal protection see section 8. Protect from contamination. When opening containers, avoid breathing vapours that may be emanating. Avoid breathing dust. Avoid contamination of cigarettes or tobacco with dust from this material. Provide appropriate exhaust ventilation at dryers, machinery and at places where dust or volatiles can be generated. In case of insufficient ventilation, wear suitable respiratory equipment. Do not use a torch to clean this material from equipment without local exhaust ventilation and respirator.

Local exhaust ventilation / adequate ventilation : No information available.

Precautions : No information available.

Precautions for safe handling : Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

#### Storage

Suitable storage conditions : Keep container tightly closed in a dry and well-ventilated place. Protect from contamination.

Stable under recommended storage conditions.

Suitable container and packaging materials for safe storage : No information available.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures : Ensure adequate ventilation, especially in confined areas. Good general ventilation should be provided to keep dust concentrations below the exposure limits. Local exhaust ventilation should be employed to minimize airborne contamination.

#### Occupational Exposure Limits ISHL (Japan) - Occupational Exposure Limits

Chemical Name	Occupational Exposure Limits		Regulation
Dust (inhalable and respirable fraction)	TWA	10 mg/m <sup>3</sup> (Inhalable particles.)	US. ACGIH Threshold Limit Values (2009)
	TWA	3 mg/m <sup>3</sup> (Respirable particles.)	US. ACGIH Threshold Limit Values (2009)
	TWA	2 mg/m <sup>3</sup> (Respirable dust.)	Japanese Society of Occupational Health OEL (04 2007)
	TWA	8 mg/m <sup>3</sup> (Total dust.)	Japanese Society of Occupational Health OEL (04 2007)

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**Personal protective equipment**

- Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Hand protection : No information available.
- Eye protection : Safety glasses with side-shields
- Skin and body protection : If there is a potential for contact with hot/molten material wear heat resistant clothing and footwear.  
Regular cleaning of equipment, work area and clothing.
- Hygiene measures : Wash hands and face before breaks and immediately after handling the product. Do not contaminate tobacco products.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance (Physical state, form, colour, etc.)**

- Physical state : solid
- Form : powder
- Colour : white

**Odour** : none

Odour Threshold : no data available

**pH** : not applicable

**Melting/freezing point**

Melting point/range : 327 - 342 °C

**Boiling point, initial boiling point and boiling range**

Boiling point/boiling range : no data available

**Flash point** : not applicable

**Autoignition temperature** : 530 - 550 °C, Method: ASTM D 1929

**Evaporation rate** : no data available

**Explosive properties**

Upper explosion limit : no data available

Lower explosion limit : no data available

**Vapour pressure** : not applicable

**Vapour density** : no data available

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**Relative density** : no data available**Density** : 2.1 - 2.3 g/cm<sup>3</sup>**Solubility**

Water solubility : insoluble

Solubility in other solvents : no data available

**Partition coefficient:  
n-octanol/water** : no data available**Decomposition temperature** : no data available**Other data** : no data available**10. STABILITY AND REACTIVITY**

Stability : Stable under normal conditions.

Possibility of hazardous reactions : During drying, cleaning and moulding, small amounts of hazardous gases and/or particulate matter may be released. These may irritate eyes, nose and throat. Large molten masses may give off hazardous gases.

Conditions to avoid : To avoid thermal decomposition, do not overheat. Abnormally long processing time or high temperatures can produce irritating and toxic fumes. Stable under normal conditions.

Materials to avoid : Powdered metals, Finely divided aluminium, potent oxidizers like fluorine (F<sub>2</sub>)

Hazardous decomposition products : Hydrogen fluoride, Carbonyl fluoride, acid fluorides

Other : No information available.

**11. TOXICOLOGICAL INFORMATION**Acute toxicity : Polytetrafluoroethylene:  
Oral: LD<sub>50</sub>/rat : > 11,280 mg/kgInhalation: rat :  
Lung irritationSkin corrosion/irritation : Polytetrafluoroethylene:  
No skin irritation  
Species: human  
non-irritant

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- Serious eye damage/eye irritation : Polytetrafluoroethylene:  
Species: animals (unspecified species)  
The substance is a polymer and is not expected to produce toxic effects.
- Respiratory sensitization / Skin sensitization : Polytetrafluoroethylene:  
Patch test on human volunteers did not demonstrate sensitization properties.  
Species: human  
There are no reports of human skin sensitization.
- Mutagenicity : Polytetrafluoroethylene:  
Evidence suggests this substance does not cause genetic damage in animals.
- Carcinogenicity : Polytetrafluoroethylene:  
Overall weight of evidence indicates that the substance is not carcinogenic.
- Reproductive toxicity : Polytetrafluoroethylene:  
Evidence suggests the substance is not a reproductive toxin in animals.
- Target Organs : no data available
- Aspiration toxicity : no data available
- Other : Polytetrafluoroethylene:  
Repeated dose toxicity: Oral - feed, rat  
No toxicologically significant effects were found.

**12. ECOLOGICAL INFORMATION****Ecotoxicity effects**

- Toxicity to fish : Polytetrafluoroethylene:  
Aquatic toxicity is unlikely due to low solubility.
- Persistence and degradability : no data available
- Bioaccumulation : no data available
- Mobility in soil : no data available
- Other adverse effects : PTFE:  
This product has no known eco-toxicological effects.

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**13. DISPOSAL CONSIDERATIONS**

- Disposal regulatory information : Dispose in accordance with the Waste Disposal and Public Cleaning Law (Enforcement Ordinance, Section 6). When consigning for disposal, do so after signing a contract with a (specially controlled) industrial waste disposer approved by the local authority.
- Waste disposal methods : Like most thermoplastic plastics the product can be recycled. If recycling is not practicable, dispose of in compliance with local regulations. Incinerate only if incinerator is capable of scrubbing out hydrogen fluoride and other acidic combustion products.
- Contaminated packaging : When disposing of empty containers, completely remove the content, and dispose of it in accordance with the Waste Disposal and Public Cleaning Law (Enforcement Ordinance, Section 6) in the same manner as with residual wastes. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**14. TRANSPORT INFORMATION**

- International transport regulations : Not classified as dangerous in the meaning of transport regulations.
- UN DG classification : not applicable
- UN-Number : not applicable
- Domestic transport regulations : not applicable
- Additional regulations : No information available.
- Matters needing attention for transportation : No information available.
- Emergency Response Guidebook Number : No information available.

**15. REGULATORY INFORMATION****National regulatory information**

No major statutes concerning chemical substances are applicable in Japan.

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**16. OTHER INFORMATION**

Sources of key data used to compile the Safety Data Sheet : not applicable

Other : The DuPont Oval Logo is a registered trademark of E.I. du Pont de Nemours and Company.

Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from Mitsui-DuPont Fluorochemicals (DuPont) under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your Mitsui-DuPont Fluorochemicals (DuPont) representative. You may also request a copy of the DuPont POLICY Regarding Medical Applications H-50103-3 and DuPont CAUTION Regarding Medical Applications H-50102-3.

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