SAFETY DATA SHEET

TLP 10F-1

Revision Date 2017/03/03 Document no. 13*122688141112

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/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : TLP 10F-1

Supplier's details

Company : Du Pont-Mitsui Fluorochemicals CO.,LTD.
Street address : Kamiyacho Prime Place, 4-1-17, Toranomon, Minato-ku, Tokyo
Telephone : 050-3823-0670
Telefax : 03-3432-5571

Responsible Department : Fluoropolymers

Emergency telephone number : 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, For industrial use only.

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2. HAZARDS IDENTIFICATION

GHS-Classification

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

Endpoints which are not classified, cannot be classified or are not applicable are not shown.

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

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Substance

Components

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

4. FIRST AID MEASURES

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

Inhalation : Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. Consult a physician.

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.

Eye contact	:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Get medical attention immediately.
Ingestion	:	Not a probable route of exposure. However, in case of accidental ingestion, call a physician.
Most important symptoms/effects, acute and delayed	:	No information available.
Protection of first-aiders	:	If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	:	No information available.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2), Dry powder, Foam, Water
Specific hazards	:	Hazardous thermal decomposition products: Acid fluorides Fluorinated compounds Hydrogen fluoride Carbon monoxide
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Wear suitable protective equipment. Wear neoprene gloves during cleaning up work after a fire.
Specific extinguishing methods	:	No information available.
Specific methods	:	Difficult to ignite, and flame goes out when initiating source is removed.

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.

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. In case of insufficient ventilation, wear suitable respiratory equipment. Provide appropriate exhaust ventilation at dryers, machinery and at places where dust or volatiles can be generated. 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 for safe handling	:	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).
Hygiene measures	:	Wash hands and face before breaks and immediately after handling the product.

Storage

Suitable storage conditions	:	Keep container tightly closed in a dry and well-ventilated place. Protect from contamination. Storage period: Stable under recommended storage conditions.
Suitable container and packaging materials for safe storage	:	No information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical Name	Occupational Exposure Limits	Regulation
Dust (inhalable and respirable fraction)		
TLV	0.025 mg/m3 (Dust.) The exposure limit is calculated from the equation, 3.0/(1.19*(% free silica)+1) using a value of 100% free silica. Lower percentages of free silica will yield higher exposure limits.	ISHL (04 2009)
TWA	8 mg/m3 (Total dust.)(Class 3 dust)	JSOH OELs (05 2012)
TWA	2 mg/m3 (Respirable dust.) (Class 3 dust)	JSOH OELs (05 2012)
TWA	4 mg/m3 (Total dust.) (Class 2 dust)	JSOH OELs (05 2012)
TWA	1 mg/m3 (Respirable dust.) (Class 2 dust)	JSOH OELs (05 2012)
TWA	10 mg/m3 (Inhalable particles.)	US ACGIH (03 2013)
TWA	3 mg/m3 (Respirable particles.)	US ACGIH (03 2013)

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.
Biological Limits	:	No information available.

Personal protective equipment

Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hand protection	:	Protective gloves (Type : Kevlar® - heat resistant, use possible until worn out)

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (Physical state, form, colour, etc.)

Physical state	:	solid
Form	:	powder
Colour	:	white

Odour	:	none
Odour Threshold	:	No information available.
pH	:	Not applicable

Melting point/freezing point

Melting point/range	:	327 - 342 ℃

Boiling point, initial boiling point and boiling range

Boiling point/boiling range	:	Not applicable

Flash point	:	Not applicable
Evaporation rate	:	No information available.
Flammability (solid, gas)	:	No information available.

Upper/lower flammability or explosive limits

Upper explosion limit	:	No information available.
Lower explosion limit	:	No information available.

Vapour pressure	:	Not applicable
Vapour density	:	No information available.

Density

Density	:	2.1 - 2.3 g/cm3

Solubility(ies)

Water solubility	:	insoluble

Partition coefficient: n-octanol/water	:	No information available.

Auto-ignition temperature

Ignition temperature	:	520 - 550 ℃ Method: ASTM D 1929

Decomposition temperature	:	No information available.

Viscosity (coefficient of viscosity)

Viscosity, kinematic : No information available.

Molecular weight : No information available.

Other data

Limiting oxygen index : > 95 %
Method: ASTM D 2863

10. STABILITY AND REACTIVITY

Reactivity : No information available.

Chemical 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 : No information available.

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

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral

Polytetrafluoroethylene : LD50/Rat: > 11,280 mg/kg

Inhalation

TLP 10F-1 : The thermal decomposition vapours of fluorinated plastics may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

Skin corrosion/irritation

Polytetrafluoroethylene : Species: Rabbit
Result: No skin irritation
Classification: Not classified as irritant

Species: human
Result: No skin irritation
Classification: Not classified as irritant

Serious eye damage/eye irritation

No information available.

Respiratory or skin sensitisation

Polytetrafluoroethylene : Species: human
Result: Does not cause skin sensitisation.
Classification: Not a skin sensitizer.
Patch test on human volunteers did not demonstrate sensitisation properties.

Germ cell mutagenicity

Polytetrafluoroethylene : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Polytetrafluoroethylene : Not classifiable as a human carcinogen.

Reproductive toxicity

Polytetrafluoroethylene : Reproductive toxicity: No toxicity to reproduction

Specific Target Organ Toxicity

Specific target organ toxicity - single exposure

Polytetrafluoroethylene : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

Polytetrafluoroethylene : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Polytetrafluoroethylene : No aspiration toxicity classification

Other

Polytetrafluoroethylene : Repeated dose toxicity:
Oral - feed/Rat
No toxicologically significant effects were found.

The substance is a polymer and is not expected to produce toxic effects.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Acute and prolonged toxicity to fish

Polytetrafluoroethylene : The substance is a polymer and is not expected to produce toxic effects.

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in soil

No information available.

Other adverse effects

TLP 10F-1 : This product has no known ecotoxicological effects.

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	:	Not applicable
Matters needing attention for transportation	:	Not applicable
Emergency Response Guidebook Number	:	Not applicable

15. REGULATORY INFORMATION

No major statutes concerning chemical substances are applicable in Japan.

16. OTHER INFORMATION

Do not use or resell the materials sold or provided by DuPont – Mitsui Fluorochemicals to the third parties in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless agreed to by DuPont – Mitsui Fluorochemicals in a written agreement covering such use.
For further information, please contact your DuPont - Mitsui Fluorochemicals representative.

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