



# MATERIAL SAFETY DATA SHEET

## PTFE LF-100

### SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

ISSUED: 5/10/07

**DAIKIN TRADE NAME:** PTFE LF-100  
**CHEMICAL NAME:** Polytetrafluoroethylene  
**DAIKIN AMERICA INC.** 20 OLYMPIC DRIVE, ORANGEBURG, NEW YORK 10962  
**EMERGENCY PHONE:** 1-256-306-5000  
**PRODUCT INFORMATION:** 1-800-365-9570 9 am to 5 pm Eastern Standard Time

### SECTION 2: HAZARDS IDENTIFICATION

**PHYSICAL DESCRIPTION:** Off-white powder, solid  
**ODOR:** None; product packaging contains an absorbent silica gel pack  
**EMERGENCY OVERVIEW:** The primary hazard occurs when material is exposed to high temperatures, whether by processing or fire. At temperatures above 260 °C (500 °F), local exhaust ventilation must be used to control exposures to hazardous gases, vapors, or fumes. At temperatures above 380 °C (715 °F), thermal decomposition products such as hydrogen fluoride (HF), perfluoroisobutylene (PFIB), and carbonyl fluoride (COF<sub>2</sub>) will be produced. Inhalation may result in serious lung irritation. Symptoms of exposure may include chills, headache, nausea, breathing discomfort, cough, or sore throat. These symptoms generally disappear within 24 ~ 48 hours.  
**POTENTIAL HEALTH EFFECTS:** Harmful if swallowed. May cause mild eye and skin irritation.  
**HMIS RATINGS:** Health: 1  
 Flammability: 0  
 Reactivity: 0

### SECTION 3: INFORMATION ON INGREDIENTS

COMPONENT	CAS. NO.	Wt%	OSHA (PEL)	ACGIH (TLV)
Polytetrafluoroethylene	9002-84-0	100	ND	ND

\*All ingredients in quantities  $\geq$  1% (0.1% for carcinogens or teratogens) that are potentially hazardous per OSHA definitions.  
 TWA = Time Weighted Average ( 8 hours ).  
 OSHA PEL's may vary from state to state.

### SECTION 4. FIRST AID PROCEDURES

**EYE CONTACT:** Immediately flush with plenty of water for 15 minutes. If irritation occurs, immediately get medical attention.  
**SKIN CONTACT:** Wash affected area with soap and water. A burn from molten material should be treated as a thermal burn.  
**INGESTION:** Do not induce vomiting. Give glasses of water and consult a physician for further evaluation and treatment.  
**INHALATION:** If exposed to excessive levels of dust or fumes, move to fresh air and get medical attention.

**NOTE TO PHYSICIANS:** In the event of inhalation of gases generated by high temperature decomposition of the product the patient needs to be treated for hydrogen fluoride inhalation. Excessive exposure to thermal degradation products could result in delayed pulmonary edema in some cases, and on very high exposure, damage to the liver and kidneys.

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**SECTION 5. FIRE FIGHTING MEASURES**

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<b>FLASH POINT:</b>	Non-flammable
<b>FLAMMABLE LIMITS:</b>	LEL: Not Applicable      UEL: Not Applicable
<b>HAZARDOUS COMBUSTION PRODUCTS:</b>	Toxic and corrosive by product, including HF, COF <sub>2</sub> , PFIB, etc. may be formed by thermal decomposition.
<b>EXTINGUISHING MEDIA:</b>	Foam, CO <sub>2</sub> , Dry chemical and water spray
<b>PROTECTIVE EQUIPMENT:</b>	When fighting fires involving or exposing this material to heat wear a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) and full bunker gear. Evolution of acidic gases may require washdown of protective clothing prior to removal.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

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Sweep up material, avoid generating dust. Collect the spilled material and separate from other waste. If material is molten, attempt to confine the spill until the material cools and solidifies, then scrape up.  
Put into separate containers. Dispose of properly.

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**SECTION 7. HANDLING & STORAGE**

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**HANDLING:**

Close containers after each use.

Do not eat, drink, or smoke while handling this product.

Wash exposed area thoroughly with soap and water after handling.

If smoking tobacco becomes contaminated by this material, exposure to toxic gases through inhalation can occur. Therefore, do not smoke in the work areas and wash hands and face after handling in order to avoid transfer of the material onto smoking materials.

Keep material away from excessive heat, sparks, and flames.

Remove the absorbent silica gel pack from the product before processing.

**STORAGE:**

Store in cool, dry, well ventilated area 7 to 32 °C (45 to 90 °F).

Do not store with flammable materials, such as solvents or oils.

Do not allow material to be exposed to excessive heat.

Keep material away from sparks and flames.

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**SECTION 8. EXPOSURE CONTROLS & PERSONAL PROTECTICE EQUIPMENT**

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<b>RESPIRATORY PROTECTION:</b>	Wear respirator suitable for particulate exposure protection in fine powder or dusty areas. Wear respirator suitable for protection from hazardous gases, vapors, or fumes when material is heated above 260 °C.
<b>EYE PROTECTION:</b>	Safety glasses with side shields or goggles.
<b>PROTECTIVE CLOTHING:</b>	Normal full clean room clothing should be worn.
<b>OTHER PROTECTIVE EQUIPMENT:</b>	Safety shower and eyewash station should be accessible in the work area.
<b>ENGINEERING CONTROLS:</b>	Avoid generating and inhalation of dust. Use local exhaust if this material is heated above 260 °C (500 °F). Provide good ventilation and use local exhaust when coating.

## SECTION 9. PHYSICAL & CHEMICAL PARAMETERS

PHYSICAL STATE:	Solid
pH:	Not applicable
VAPOR PRESSURE:	Not applicable
VAPOR DENSITY:	Not applicable
BOILING POINT (°C):	Not applicable
MELTING POINT (°C):	325 ~ 335 °C
SOLUBILITY:	Insoluble in water
SPECIFIC GRAVITY (H <sub>2</sub> O=1):	2.19 ~ 2.21
OTHER PROPERTIES:	Average Particle Size: 10 ~ 20 Micrometers

## SECTION 10. STABILITY & REACTIVITY

STABILITY:	Stable
CONDITIONS TO AVOID:	Heat, sparks, and open flames
HAZARDOUS POLYMERIZATION:	Should not occur
INCOMPATIBILITIES:	Molten alkali metals, interhalogen compounds, and some kinds of amines.
HAZARDOUS DECOMPOSITION PRODUCTS:	Toxic and corrosive gases including HF, COF <sub>2</sub> , PFIB
HAZARDOUS POLYMERIZATION:	Should not occur.

## SECTION 11. TOXICOLOGICAL INFORMATION

### ACUTE EFFECTS OF EXPOSURE

EYE CONTACT:	Mild eye irritation may occur.
SKIN CONTACT:	Mild skin irritation may occur.
INGESTION:	Do not ingest. Swallowing large amounts of the material may cause illness.
INHALATION:	During normal handling conditions, inhalation of excessive dust may cause upper respiratory tract irritation. Exposure to excessive dust may cause eye and mucus membrane irritation. Inhalation of thermal decomposition products including hydrogen fluoride (HF), perfluoroisobutylene (PFIB), and carbonyl fluoride (COF <sub>2</sub> ) may be produced. Inhalation may result in serious lung irritation. Symptoms of exposure may include chills, headache, nausea, breathing discomfort, cough, or sore throat. These symptoms generally disappear within 24 ~ 48 hours.

CHRONIC EFFECTS:	None known
OTHER:	Fluoropolymer is not listed with OSHA, NTP or IARC as a carcinogenic chemical.
EXPOSURE GUIDELINES:	Particulates Not Otherwise Specified (PNOC): 15 mg/m <sup>3</sup> OSHA PEL (TWA) 10 mg/m <sup>3</sup> ACGIH (TWA)

Excessive exposure to thermal degradation products could result in delayed pulmonary edema in some cases, and on very high exposure, damage to the liver and kidneys. These substances exposure limits are:

Decomposition Products:	Perfluoroisobutylene:	10 ppb, ACGIH TLV (Ceiling)
	Carbonyl Fluoride:	2 ppm, ACGIH TLV (TWA) 5 ppm ACGIH TLV (STEL)
	Hydrogen Fluoride:	2 ppm, OSHA PEL (TWA) 0.5 ppm, ACGIH TLV (TWA)

## SECTION 12. ECOLOGICAL INFORMATION

BIODEGRADABILITY:	No Data
BIOACCUMULATION:	No Data

POTENTIAL ENVIRONMENTAL EFFECTS: None known with proper cleanup. Runoff from fire fighting efforts involving this material may contain hydrofluoric acid. Depending on the concentration this should be contained and treated prior to discharge.

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**SECTION 13. DISPOSAL CONSIDERATIONS**

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Comply with Federal, State, and Local regulations concerning health and environment when disposing of materials. Regulations may also apply to absorbent silica gel packs, empty containers, liners, or rinsate. **DO NOT INCINERATE** unless incinerator is capable of scrubbing hydrogen fluoride and other acidic combustion products.

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**SECTION 14. TRANSPORT INFORMATION**

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**UN CLASSIFICATION:** Not applicable  
**DOT HAZARD DESCRIPTION:** Not applicable  
**CANADIAN TRANSPORTATION OF DANGEROUS GOODS (TDG):** Not applicable  
**PACKING GROUP:** Not applicable

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**SECTION 15. REGULATORY INFORMATION**

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**TSCA:** All components of this product are in compliance with the inventory listing regulations of the U.S. Toxic Substance Control Act (TSCA) chemical substance inventory.

**SARA Title III:** Not applicable

**CERCLA RQ:** Not applicable

**Canadian Workplace Hazardous Materials Information System (WHMIS):** Does not meet criteria.

**Canadian Environmental Protection Act (CEPA) and Domestic Substance List (DSL):** All components of this product are included on the Canadian DSL.

**European Inventory of Existing Commercial Chemical Substances (EINECS):** All components of this product are included under EINECS (monomer listed).

**Risk Phrases:** None

**Safety Phrases:** None

**Hazard Warning Label:** Not required in accordance with Directive 67/548/EC.

**European Union (EU) Classification and Labeling Information:** Classification has not been published in Commission Directives 93/72/EEC or 94/69/EC for components of this product.

States such as Pennsylvania, New Jersey, California, Vermont, Massachusetts and Rhode Island may have specific requirements or components of this product listed; consult specific state regulatory requirements for additional information.

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**SECTION 16. OTHER INFORMATION**

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For additional information, refer to the American Conference of Governmental Industrial Hygienists (ACGIH) documentation of TLV's (Threshold Limit Values) for individual components, Fluoropolymers Safe Handling Guide published by The Society of the Plastics Industry, and the DOT Emergency Response Guidebook.

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