MATERIAL SAFETY DATA SHEET

POLYFLON PTFE M-111

SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

MSDS-MOLD ISSUED: 1/31/07

DAIKIN TRADE NAME:	**DAIKIN-POLYFLON PTFE M SERIES POWDER**
CHEMICAL NAME:	**Polytetrafluoroethylene**
TYPICAL PRODUCT USES:	**PTFE Packing, gaskets, chemical linings, valves, sheets, etc.**
MANUFACTURER:	**DAIKIN FLUOROCHEMICALS (CHINA) CO., LTD.** **CHANGSU INTERNATIONAL CHEMICAL INDUSTRIAL PARK, HAIYU TOWN** **CHANGSU CITY, JIANGSU PROVINCE 215522 CHINA** **PHONE: (+86) 512-5232-2266 FAX: (+86) 512-5232-2366**
SUPPLIER IN US:	**DAIKIN AMERICA INC.** **20 OLYMPIC DRIVE, ORANGEBURG, NEW YORK 10962** **PHONE: 1-800-365-9570 9 am to 5 pm Eastern Standard Time**
EMERGENCY PHONE:	**1-256-306-5000**

SECTION 2: HAZARDS IDENTIFICATION

PHYSICAL DESCRIPTION:		**Off white powder**
ODOR:		**None**
EMERGENCY OVERVIEW:		**The primary hazard occurs in the event of high temperature exposure, whether by fire or processing. At temperatures above 260 °C (500 °F), inhaling thermal decomposition products could result in chills, headaches, nausea, breathing discomfort, cough or sore throat. These symptoms generally disappear within 24-48 hours. Above 450 °C (840 °F), hydrogen fluoride, perfluoroisobutylene and carbonyl fluoride are produced; inhalation under these conditions may result in serious lung irritation.**
POTENTIAL HEALTH EFFECTS:		**May irritate eyes and skin. Do not swallow.**
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**

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. If skin contact with hot material occurs, do not attempt to remove molten material. Immediately flush affected area with plenty of cold water and cover with a clean dressing. Have burn treated by a physician.**
INGESTION:	**If gastrointestinal symptoms develop, get medical attention.**
INHALATION:	**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.

SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT:	Non-flammable
FLAMMABLE LIMITS:	LEL: Not Applicable UEL: Not Applicable
HAZARDOUS COMBUSTION PRODUCTS:	Toxic and corrosive by product, including hydrogen fluoride, carbonyl fluoride, perfluoroisobutylene, etc. may be formed by thermal decomposition.
EXTINGUISHING MEDIA:	Foam, CO_2, Dry chemical and water spray
FIRE FIGHTING INSTRUCTIONS:	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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Collect the spilled material and separate from other waste. Put into separate containers. Dispose of properly.

WARNING: Fluoropolymers spilled during handling should be cleaned up immediately and appropriate measures taken to prevent the creation of a slippery surface. It is advisable that some form of anti-slip flooring or similar preventive measures be provided in areas where fluoropolymer resins are regularly handled.

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.

SECTION 7. HANDLING & STORAGE

HANDLING:

Close containers after each use.

Wash hands 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.

STORAGE:

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.

SECTION 8. EXPOSURE CONTROLS & PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION:	Wear respirator in fine powder or dusty areas. Respirator for acidic gases is needed when the material is heated above 260 °C.
EYE PROTECTION:	Goggles or safety glasses with side shields.
PROTECTIVE CLOTHING:	Normal full clean-room clothing should be worn, including gloves.
OTHER PROTECTIVE EQUIPMENT:	Safety shower and eyewash station should be accessible in the work area.
ENGINEERING CONTROLS:	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.

EXPOSURE GUIDELINE:

Particulates Not Otherwise Specified (PNOC): 15 mg/m3 OSHA PEL (TWA), 10 mg/m3 ACGIH (TWA)

Decomposition Products: Perfluoroisobutylene TLV = 10 ppb

Carbonyl Fluoride TLV = 2 ppm TWA, 5ppm STEL

Hydrogen Fluoride TLV = 2 ppm Ceiling, 0.5 ppm TWA

SECTION 9. PHYSICAL & CHEMICAL PARAMETERS

PHYSICAL STATE:	**Solid, white powder**
pH:	**Not applicable**
VAPOR PRESSURE:	**Not applicable**
VAPOR DENSITY:	**Not applicable**
BOILING POINT OF POLYMER (°C):	**Not applicable**
FREEZING OR MELTING POINT (°C):	**332 ~ 352 degrees °C**
SOLUBILITY (water):	**Insoluble**
SPECIFIC GRAVITY (H_2O=1):	**2.10 ~ 2.30**
OTHER PROPERTIES:	**Average Particle Size: 10 ~ 800 Microns (Generally 10 ~ 100 Microns)**

SECTION 10. STABILITY & REACTIVITY

STABILITY:	**Stable**
CONDITIONS TO AVOID:	**Heat, sparks, and open flames**
INCOMPATIBILITIES:	**Molten alkali metals, interhalogen compounds, and some kinds of amines. Finely divided metallic powder or filler. Small particles of fluoropolymer resins can become extremely combustible in the presence of various metal fines. Metal fines (e.g., aluminum and magnesium) mixed with powdered PTFE, when exposed to temperatures above 420 °C, may react violently producing fire and/or explosion.**
HAZARDOUS DECOMPOSITION PRODUCTS:	**Toxic and corrosive gases including HF, COF_2, PFIB**
HAZARDOUS POLYMERIZATION:	**Should not occur**

SECTION 11. TOXICOLOGICAL INFORMATION

EYE CONTACT:	**Normally low irritation is expected**
SKIN CONTACT:	**Low irritation to skin**
INGESTION:	**Do not swallow. Small amounts (tablespoonfuls) swallowed during normal handling operation are not likely to cause injury. Swallowing larger amounts of material may cause injury.**
INHALATION:	**Normally inhalation problems are not expected (unless heated). When thermally decomposed, this fluoropolymer may cause polymer fume fever.**
CHRONIC EFFECTS:	**None known**
OTHER:	**Fluoropolymer is not listed with OSHA, NTP or IARC as a carcinogenic chemical.**

SECTION 12. ECOLOGICAL INFORMATION

BIODEGRADABILITY: **No Data**

BIOACCUMULATION: **No Data. Ecotoxicity is expected to be low based on the near-zero water solubility of the polymer. Material is considered inert and not expected to be biodegradable or toxic.**

SECTION 13. DISPOSAL CONSIDERATIONS

This material can be disposed of using a landfill or by incineration. Using a landfill is the best method of disposal. When incinerating, mix with flammable material, use industrial or commercial incinerator. Incinerator must be capable of scrubbing hydrogen fluoride and other acidic combustion products. Comply with Federal, State, and Local regulations concerning health and environment.

SECTION 14. TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME:	**Not applicable**
HAZARD CLASS:	**Not applicable**
UN IDENTIFICATION NUMBER:	**Not applicable**
PACKING GROUP:	**Not applicable**

SECTION 15. REGULATORY INFORMATION

TSCA: All components of this product are in compliance with the inventory listing requirements 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.

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.

SECTION 16. OTHER INFORMATION

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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