DAIKIN

MATERIAL SAFETY DATA SHEET

Neoflon FEP NP Series

SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION MSDS-FEP ISSUED 8/26/05

DAIKIN TRADE NAME:	Neoflon FEP NP Series Powder and Pellet
FEATURE AND APPLICATION:	Fluorocarbon polymer with thermal and chemical resistance
CHEMICAL FAMILY:	Fluorinated-Ethylene Propylene (FEP)
GRADE NO:	NP-130

DAIKIN AMERICA, INC. 20 OLYMPIC DRIVE, ORANGEBURG, NEW YORK 10962
EMERGENCY PHONE: 1-256-306-5000
PRODUCT INFORMATION: 1-800-365-9570

SECTION 2: HAZARDS IDENTIFICATION

PHYSICAL DESCRIPTION: Translucent powder or pellet
ODOR: None
POTENTIAL HEALTH EFFECTS: Pellet dust may cause skin, eye and respiratory irritation. Harmful if large amounts are swallowed. Harmful if thermal decomposition products are inhaled. Skin burns from contact with molten material while processing at elevated temperatures.

The fluoropolymer contained in this product in its raw form is nearly inert. Processing above 350 °C, may produce hydrogen fluoride and other toxic fluorinated compounds. Inhalation of these compounds may result in serious lung irritation. Inhalation of vapors and fumes may cause flu-like symptoms (e.g., chills, fever, cough) that may not occur until several hours after exposure and typically pass within about 36 to 48 hours.

HMIS / NFPA RATINGS: Health: 1
Fire: 0
Reactivity: 0

SECTION 3: INFORMATION ON INGREDIENTS

COMPONENT	CAS. NO.	Wt%	OSHA (PEL)	ACGIH (TLV)
NON-HAZARDOUS INGREDIENTS				
Tetrafluoroethylene Hexafluoropropylene Copolymer	25067-11-2	100%	None	None

*All ingredients in quantities ≥ 1% (0.1% for carcinogens) that are potentially hazardous per OSHA definitions.

SECTION 4. FIRST AID PROCEDURES

INGESTION:	Give 8-10 ounces of water by mouth and induce vomiting. Consult a physician immediately.
EYE CONTACT:	Flush with large amounts of water for 10-15 minutes. Consult a physician if needed.
SKIN CONTACT:	Wash affected area with soap and water. Do not attempt to remove molten material. Immediately flush affected area with plenty of cold water and cover with a clean dressing. Consult a physician.
INHALATION:	Leave the contaminated area and seek fresh air. If breathing is difficult, contact a physician.

SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT (METHOD USED):	None (Closed cup method)
FLAMMABLE LIMITS:	LEL: No data UEL: No data
HAZARDOUS COMBUSTION PRODUCTS:	Toxic by-products including hydrofluoric acid, perfluoroisobutylene, and carbonyl fluoride may be formed by processing at temperatures above 350 °C.
EXTINGUISHING MEDIA:	Water spray, alcohol foam, CO_2 and dry chemical
PROTECTIVE EQUIPMENT:	Use NIOSH/MSHA approved SCBA and bunker gear. Evolution of acidic gases may require complete washdown of protective clothing prior to removal.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Ensure cleanup is done only by trained personnel wearing appropriate personal protective equipment.
Ventilate area and cover with absorbent material.
Collect spilled material in a container and seal.
Spilled material is a slipping hazard.

SECTION 7. HANDLING & STORAGE

HANDLING

Use product only for intended purpose.
Do not allow material to be exposed to excessive heat (e. g., from use of torch, welding, etc).
Provide good room ventilation.
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 material onto tobacco.

STORAGE

Keep away from heat, steam or sunlight.
Store in a tightly closed container.

SECTION 8. EXPOSURE CONTROLS & PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION:	If necessary, use an air-purifying respirator with dust/mist cartridges to protect against airborne particulates, when handling below 350 °C. If material is heated above 350 °C, use a positive pressure supplied air respirator or SCBA.
EYE PROTECTION:	Safety glasses with sideshields or goggles
PROTECTIVE CLOTHING:	Appropriate gloves and clean room clothing. Thermal burn resistant gloves when handling extrudate.
VENTILATION:	Use local exhaust ventilation if heating the material during normal processing.
OTHER PROTECTIVE EQUIPMENT:	Eyewash station and safety shower.

SECTION 9. PHYSICAL & CHEMICAL PARAMETERS

MELTING POINT (°C):	245 ~ 275 °C
APPARENT DENSITY (H_2O=1):	Approximately 1.0 ~ 1.5 at 23 °C
VAPOR PRESSURE:	Not applicable
EVAPORATION RATE (Butyl acetate=1):	Not applicable
VOLATILES:	Not applicable
SOLUBILITY IN WATER:	Insoluble

SECTION 10. STABILITY & REACTIVITY

STABILITY:	Stable
CONDITIONS TO AVOID:	Excessive heat, sparks and open flame – material will decompose.
HAZARDOUS POLYMERIZATION:	Should not occur
INCOMPATIBILITIES:	May react with metals, such as sodium, magnesium, aluminum at elevated temperatures (above 425 °C); may react upon prolonged exposure to fluorine or in oxygen-fluorine mixtures at high temperatures and pressures. Contact with incompatible materials may result in fire or explosion.
	Hazardous decomposition or by-products and toxic by-products including hydrofluoric acid, perfluoroisobutylene, and carbonyl fluoride may be formed at very high temperatures above 350 °C.

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS OF EXPOSURE

Ingestion:	Harmful if swallowed. Small amounts (tablespoonfuls) during normal handling are not likely to cause injury. Larger amounts may cause injury.
Eye Contact:	May cause eye irritation.
Skin Contact:	May cause slight irritation.
Inhalation:	Pellet dust may cause respiratory irritation. When thermally decomposed, this material can cause polymer fume fever.

CHRONIC EFFECTS OF EXPOSURE: No data available

CARCINOGENICITY: None of the components in this material are listed by NTP, OSHA or IARC.

OTHER POTENTIAL HAZARDS (OF THE PURE MATERIALS)

Fluorocarbon polymer: No data

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 may include: perfluoroisobutylene (TLV = 10 ppb), carbonyl fluoride (TLV = 2 ppm TWA, 5 ppm STEL), hydrogen fluoride (TLV = 3 ppm, Ceiling).

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY:	No data. Expected to be low due to the near-zero water solubility of the polymer. Material is considered inert and not expected to be biodegradable or toxic.
ENVIRONMENTAL FATE:	No data

SECTION 13. DISPOSAL CONSIDERATIONS

Comply with Federal, State and Local regulations concerning health and environment when disposing of materials. Regulations may also apply to empty containers, liners, or rinsate. Usually considered an inert packaging material that can be recycled or landfilled. DO NOT INCINERATE unless incinerator is capable of scrubbing hydrogen fluoride and other acidic combustion products.

SECTION 14. TRANSPORT INFORMATION

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

OTHER: 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.

Daikin America, Inc. (DAI) believes the information in this MSDS to be correct as of the date issued, but DAI assumes no liability for the accuracy or completeness of the data relied on in preparing this MSDS. DAI makes no warranties in this MSDS, either express or implied, and excludes all warranties, including without limitation any implied warranty of merchantability, fitness for a particular purpose or course of performance, or usage of trade.

DAI may provide MSDS information in electronic form as a customer service. Due to the remote possibility that electronic transfer may result in errors, omissions or alterations in this information, DAI makes no representation or warranty as to its completeness or accuracy when so transferred.