Material Safety Data Sheet

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1. Identification of the substance / preparation and of the company

1.1. Identification of the substance or preparation

Trade name NEOFLON TM FEP
N-10, NP-12X, NP-20, NP-20 Powder, NP-21, NP-30, NP-40, NP-101, NP-102, NP-120, NP-1101, NP-1103, NP-1104, NP-3000

1.2. Company/undertaking identification

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1.3. Emergency Telephone Contacts

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2. Composition / information on ingredients

Name	Amount	CAS RN	Symbols	R-Phrase
FEP	> 98%	25067-11-2	n.ap	n.ap

3. Hazards identification

Skin Burns from contact with molten material. Signs/symptoms may include burning pain, red and swollen skin, and blisters.

Danger! Vapors and fumes liberated during hot processing with this material may cause flu-like symptoms (chills, fever and , sometimes, cough) that may not occur until several hours after exposure and typically pass within about 36 to 48 hours.

HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon Monoxide and Carbon Dioxide, Hydrogen Fluoride (HF), Perfluoroisobutylene (PFIB), Carbonyl Fluoride (COF_2), Toxic Vapors, Gases or Particulates.

4. First-aid measures

Inhalation	When thermal decomposition occur, fresh air. rest. Get medical aid.
Skin Contact	Rinse and then wash skin with water and soap. 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.
Eyes Contact	First rinse with plenty of water for at least 15 minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Rinse mouth. Get medical attention.

5. Fire-fighting measures

General Information	Wear self-sustained respirator (e.g. compressed air respirator). Use water spray to cool fire exposed containers. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Extinguishing Media	Water, powder, alcohol-resistant foam, water in large amounts, carbon dioxide.
Combustion products	These products are harmful CO, CO_2, halogenated compounds. WARNING: TOXIC FLUORINE COMPOUNDS EVOLVED IN FIRE.

6. Accidental release measures

General Information	Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks	Collect spilled material and clean up residue.

7. Handling and storage

Handling	As there is a possibility for inhaling poisonous decomposition gas form smoking a cigarette to which compound may be adhered, “no smoking” practice should be maintained in a work place and after handling materials, wish face and hands thoroughly. Cigarettes are not carried into a work place so that materials may not adhere to there. Keep away from heat.
Storage	Store in a cool, dry area, away from direct heat or sunlight

8. Exposure controls / personal protection

Engineering Controls:

In heat operations which heat the material to temperatures of 205 deg C or higher, local exhaust ventilation should be used.

Exposure Limits

HF	TLV (as F): 0.5 ppm as TWA, 2 ppm as STEL; Ceiling (skin) (ACGIH 2005) MAK: 3ppm; 2.5mg/m^3, BAT 7mg/g creatinine (1999) MAK as STEL: 6ppm, 5mg/m^3 (1999)
COF_2	TLV: 2ppm; 5.4mg/m^3 (as TWA); 5ppm, 13mg/m^3(as STEL) (ACGIH 1997)
PFIB	TLV: 0.01ppm; 0.082mg/m^3 (ceiling values)(ACGIH 1993-1994)

8. Exposure controls/personal protection (continued)

Personal Protective Equipment

Wear safety glasses with side shields.
Wear appropriate gloves, when handling this material to prevent thermal burns.
Wear protective clothing and boots as required.

If thermal decomposition occurs:
Mask for acidic gases must be used to avoid inhalation of the product.

9. Physical and chemical properties

Physical State	Solid; pellet (N-10, NP-20Powder; powder)
Color	Translucent, (N-10, NP-20Powder; white)
Odor	none
Boiling point	n.ap
Melting point	245-275 deg C
Vapor pressure	n.ap
Vapor density	n.ap
Specific gravity	2.12-2.17 @23 deg C
Viscosity	n.ap
Solubility in water	none
Flash point	none
Auto-ignition Temp.	no data
Explosion limits	no data

10. Stability and reactivity

Chemical Stability	Normally stable.
Conditions to Avoid	Exposure to open flame or temperatures exceeding 205 deg C.
Incompatibility	Fluoropolymer may react at lower or higher temperatures. In addition, other materials known to catalyze these reactions include silica, TiO_2, bromides, metallic salts and glass fibers/beads. There may be other materials that can cause such reactions.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, HF, COF_2, PFIB

11. Toxicological information

Hazardous Decomposition Products

If thermal decomposition occurs:
Vapors of heated material may cause respiratory system irritation.

Polymer Fume Fever: A temporary flu-like illness with shortness of breath, fever, coughing, cyanosis and shivering can result from inhalation of fluoropolymer decomposition products. Smoking fluoropolymer contaminated tobacco can contribute to exposure to decomposition products. Symptoms usually appear after two hours and decline within the next 36 to 48 hours. Persistent or cumulative respiratory effects have been rarely documented or observed.

12. Ecological information

Exotoxicity 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.

Bioaccumulation: Not expected to occur.

13. Disposal considerations

Waste Disposal	Dispose of in compliance with local government regulations. Incinerate in an industrial or commercial facility in the presence of a combustible material. Combustion products will include HF. Dispose of waste product in a sanitary landfill. Product may be recycled.

14. Transport information

Hazard Class	none
UN Number	none

15. Regulatory information

TSCA Chemical Inventory	listed
Canadian DSL Inventory	listed
Australian Inventory	listed
Korea Inventory of Chemicals	listed
Philippine Inventory (PICCS)	listed
Japan (ENCS)	listed
EINECS Number	listed by the monomer

Risk Phrases:

Safety Phrases:

S 16 Keep away from sources of ignition – No smoking.

16. Other information

"Guide to the safe handling of Fluoropolymer resins, 3rd edition"
Published by the Fluoropolymers Division of The Society of the Plastics Industry, Inc.

	ICSC;#	RTECS#	EC No
Hydrogen fluoride	0283	MW7875000	009-002-00-6
Carbonyl fluoride	0633	FG6125000	
Perfluoroisobutylene	1216	UD1800000	

ICSC: International Chemical Safety Cards

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