



SAFETY DATA SHEET

Neoflon ETFE EP Series

SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

DAIKIN TRADE NAME:	Neoflon ETFE EP Series Powder and Pellet EP-521, EP-541, EP-543
FEATURE AND APPLICATION:	Fluorocarbon polymer; thermal and chemical resistance
CHEMICAL FAMILY:	Ethylene Tetrafluoroethylene Copolymer (ETFE)
COMPANY:	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: HAZARD IDENTIFICATION

GHS CLASSIFICATION:	Eye Irritation, Category 2B Mild Skin Irritation – Not Classified Acute Toxicity – Classification Not Possible Respiratory Sensitization – Classification Not Possible Skin Sensitization – Not Classified
GHS LABEL REQUIREMENTS:	Symbol – None Signal Word - Warning Hazard Statement(s) – H320 - Causes eye irritation Precautionary Statement(s) - P264 – Wash hands thoroughly after handling P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 – If eye irritation persists: Get medical attention.
OTHER HAZARDS:	The fluoropolymer contained in this product in its raw form is nearly inert. Processing above 200 °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. Contact with molten material will cause burns. Excessive airborne concentrations of the powder may cause reduced visibility. The powder may form combustible dust concentrations in air. CAUTION - Sufficient ventilation is required when first opening or stirring of product. Off-gassing may occur and be present within the storage container (bag, drum, gaylord, or any other product packaging).

SECTION 3: INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	Wt%
ETFE copolymer	94228-79-2	100

SECTION 4. FIRST AID MEASURES

INGESTION: 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.

If you come in contact with molten material, do not attempt to remove it. Immediately flush affected area with cold water and cover with a clean dressing. Consult a physician to remove molten material.

INHALATION: Leave the contaminated area and seek fresh air. If breathing is difficult, contact a physician.

SECTION 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Alcohol foam, CO₂, dry chemical or water spray

PROTECTIVE EQUIPMENT: Use NIOSH/MSHA approved SCBA and bunker gear. Evolution of acidic gases may require complete wash down of protective clothing prior to removal.

HAZARDOUS COMBUSTION PRODUCTS: In case of fire or if processing at high temperatures, toxic gases including hydrofluoric acid, perfluoroisobutylene, and carbonyl fluoride may be formed.

EXPLOSION: Fine dust dispersed in air in sufficient concentration, and in the presence of an ignition source, is a potential dust explosion hazard. The minimum explosible concentration is 175 g/m³.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Ensure cleanup is done only by trained personnel wearing appropriate personal protective equipment.

Collect spilled material in a container and seal.

Do not allow to enter sewer, surface or ground water.

Spilled material is a slipping hazard.

SECTION 7. HANDLING & STORAGE

HANDLING

CAUTION - Sufficient ventilation is required when first opening or stirring of product. Off-gassing may occur and be present within the storage container (bag, drum, gaylord, or any other product packaging).

Use product only for intended purpose.

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 material onto tobacco.

Do not allow material to be exposed to excessive heat (e. g., from use of torch, welding, etc).

Provide good room ventilation.

STORAGE

Keep away from heat, steam or sunlight.

Store in a tightly closed container.

SECTION 8. EXPOSURE CONTROLS & PERSONAL PROTECTIVE EQUIPMENT

EXPOSURE LIMITS:

Particulates, not otherwise regulated

OSHA PEL: 15 mg/m³

ACGIH TLV: 10 mg/m³

NIOSH REL: 10 mg/m³

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 = 2 ppm Ceiling, 0.5 ppm TWA).

RESPIRATORY PROTECTION:

Normally not necessary. If material is heated above 200 °C, use a respirator for acidic gases. Respirator for nuisance dusts is required if airborne levels exceed the established Occupational Exposure Limits.

EYE PROTECTION:

Safety glasses with side shields or goggles

PROTECTIVE CLOTHING:

Appropriate gloves and clean room clothing. Thermal burn resistant gloves when handling extrudate.

VENTILATION:

Use local exhaust ventilation if material is heated above 200 °C or if molding or curing.

OTHER PROTECTIVE EQUIPMENT:

Eyewash station and safety shower.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE:

Translucent, milky-white polymer powder or pellet

ODOR:

None

ODOR THRESHOLD:

Not Applicable

pH:

Not Applicable

MELTING POINT:

250 ~ 270 °C

BOILING POINT/RANGE:

Not Applicable

FLASH POINT:

Non-flammable

FLAMMABLE LIMITS:

LEL – None

UEL – None

EVAPORATION RATE (Butyl acetate=1):

Not Applicable

VAPOR PRESSURE:

Not Applicable

VAPOR DENSITY:

Not Applicable

SPECIFIC GRAVITY (H₂O=1):

1.70 ~ 1.88 at approximately 25 °C

APPARENT DENSITY:

0.8 ~ 1.2 g/cm³

SOLUBILITY(IES):

Insoluble

PARTITION COEFFICIENT (n-octanol/water):

Not Available

AUTO-IGNITION TEMPERATURE:

Not Applicable

DECOMPOSITION TEMPERATURE:

228 - 241 °C (1 ppm TGA)

VISCOSITY:

Not Applicable

SECTION 10. STABILITY & REACTIVITY

STABILITY:

Stable

CONDITIONS TO AVOID:

Heat, sparks and open flame – material will decompose.

INCOMPATIBILITIES:

Molten alkali metals, interhalogen compounds, and some kinds of amines; finely divided metallic powder or filler.

HAZARDOUS POLYMERIZATION:

Should not occur

HAZARDOUS DECOMPOSITION:

Decomposition or by-products and toxic by-products including hydrofluoric acid, perfluoroisobutylene, and carbonyl fluoride may be formed at very high temperatures.

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:	When thermally decomposed, this material can cause polymer fume fever. Airborne concentrations of the powder in excess of Occupational Exposure Limits may cause irritation to the upper respiratory tract and may aggravate pre-existing respiratory conditions.

CHRONIC EFFECTS OF EXPOSURE:	No Data Available
ACUTE TOXICITY:	No Data Available
SKIN CORROSION/IRRITATION:	No Data Available
SERIOUS EYE DAMAGE/IRRITATION:	No Data Available
RESPIRATORY OR SKIN SENSITIZATION:	No Data Available
GERM CELL MUTAGENICITY:	No Data Available
CARCINOGENICITY:	None of the components in this material are listed by NTP, OSHA or IARC.
REPRODUCTIVE TOXICITY:	No Data Available
STOT-SINGLE EXPOSURE:	No Data Available
STOT-REPEATED EXPOSURE:	No Data Available
ASPIRATION HAZARD:	Not Applicable

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.
California Proposition 65:	This product does not contain intentionally added (meaning deliberate use in the formulation of a product or subpart where its continued presence is desired to provide a specific characteristic, appearance or quality) materials which are listed on the California Proposition 65 list.
REACH SVHC:	This product does not contain intentionally added (meaning deliberate use in the formulation of a product or subpart where its continued presence is desired to provide a specific characteristic, appearance or quality) materials which are listed on the REACH Substances of Very High Concern (SVHC) list.
RoHS:	This product does not contain intentionally added lead, mercury, cadmium, PBB (polybrominated biphenyl) or PBDE (polybrominated diphenyl ether); unintentionally added (trace) amounts of lead, mercury, hexavalent chromium, PBB (polybrominated biphenyl), or

PBDE (polybrominated diphenyl ether) in amounts greater than 1000 ppm (0.1% by weight) per homogenous material (substance or mixture of substances with uniform composition such as solders, resins, platings, etc.); cadmium in amounts greater than 75 ppm per homogenous material.

Declaration on Allergens: Based upon the information provided by Daikin America Inc.'s suppliers, none of the constituent parts used by Daikin America Inc. in the manufacture of this product were made with peanuts, tree nuts, fish, shell fish, eggs, milk, wheat or soy (or any ingredients derived from these products).

Animals or Animal bi-products: Based on a comprehensive investigation, no animals or animal bi-products are used in the manufacturing process. Please note that we do not investigate the contents of peripherals and/or package accessories.

Human or Human bi-products: Based on a comprehensive investigation, no human or human bi-products are used in the manufacturing process. Please note that we do not investigate the contents of peripherals and/or package accessories.

Absence of PFOA: This product does not contain intentionally added PFOA (perfluorooctanoic acid).

Other: State and local regulations may have specific requirements for this product or components of this product; consult specific state and local 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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