



MATERIAL SAFETY DATA SHEET

Product Name: Endocor PL, UL Listed Plenum Raceway

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16.	OTHER INFORMATION
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16.1 AVAILABLE LITERATURE AND BROCHURES

Additional information on this product may be obtained by calling the Endot Industries, Inc. Customer Service Center at 1-800-443-6368.

16.2 SPECIFIC HAZARD RATING SYSTEM

NATIONAL FIRE PROTECTION AGENCY (NFPA®) AND NATIONAL PAINT AND COATING ASSOCIATION (NCPA®) HAZARD RATING CLASSIFICATION:

	NFPA®	HMIS®
Health	0	0
Fire	0	0
Reactivity	0	0

16.3 RECOMMENDED USES AND RESTRICTIONS

These products are for use in fiber cable systems. Endocor, Enduct, Super-Corr and Bore duct products are ducts, innerduct or conduits are placed in existing conduits and installed using direct burial techniques, by plowing into the ground and with horizontal directional drilling equipment. Not all products are suitable for all of the mentioned applications. Consult with Endot Industries, Inc. Customer Service for further application information.

16.4 REVISION

Version: I.

Revision: 10-31-2000



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15.2 STATE RIGHT TO KNOW

In addition to the ingredients found in section 2, the following are listed for state right to know purposes.

<u>INGREDIENT NAME</u>	<u>WEIGHT %</u>	<u>COMMENT</u>
None	Not applicable	None



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114.	TRANSPORT INFORMATION
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Proper Shipping Name: NOT REGULATED

15. REGULATORY INFORMATION

15.1 FEDERAL/NATIONAL

TOXIC SUBSTANCES CONTROL ACT (TSCA)

This material is not regulated by D.O.T.

This material is not hazardous by OSHA Hazardous Communication Standard 29 CFR 1910.1200

This material is listed on the TSCA Inventory

This material is not subject to specific CERLA reporting requirements.

This material is not subject to SARA 313 reporting requirements

This material is not subject to California Safe Drinking Water and Toxic Enforcement Act (Proposition 65) reporting.



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12. ECOLOGICAL INFORMATION

No specific data.

Biologically inert and non-degradable.

13. DISPOSAL CONSIDERATIONS

Waste Treatment:

- Dispose of in compliance with local/federal and national regulations.
- It is recommended to contact the producer for recycling/recovery.
- OR
- Send the product to an authorized waste incinerator
- The incinerator must be equipped with a system for neutralization of hydrogen fluoride (HF).
- OR
- Dispose of product at a landfill authorized for industrial waste.
- Unused short pieces of pipe and tubing should be recycled or disposed through an approved waste management facility.



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11.	TOXICOLOGICAL INFORMATION
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Comments: No specific data. Biologically inert and little toxicity in bulk form.

NOTE: Decomposition risk: When decomposed by high heat, or by smoking tobacco or cigarettes contaminated with polymer dust, a flu-like illness with fevers and chills may result which will pass within 36-48 hours. Acute or chronic overexposure to hydrogen fluoride can injure the liver and kidneys.



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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Pipe or tubing in coils or on reels

Appearance: Natural opaque white coiled corrugated tubing.

Odor: Odorless

pH: *Not applicable.*

Solubility in Water (by weight): Insoluble.

Slightly Soluble in Dimethyl formamide, N-methyl pyrrolidone, Dimethyl acetamide

Boiling Point: (1013 mbars)

Decomposition temperature: 290° C

Freezing Point: *Not applicable.*

Specific Gravity (H₂O = 1): 1.04 – 1.15

Vapor Pressure at 20°C: *Not applicable.*

Vapor Density (air = 1): *Not applicable.*

Melting Point: 157°C – 163°C

10.	STABILITY AND REACTIVITY
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10.1 STABILITY/INSTABILITY Stable under certain conditions. Decomposition produces dangerous gases upon contact with flames, or hot metallic surfaces.

Conditions to Avoid: Prolonged exposure to temperatures over 290 Deg. C. will cause resin decomposition. Naked flames, sparks.

Thermal Decomposition: Thermal breakdown products may Hydrogen fluoride, Particulates of carbon, Carbon Monoxide, Carbonyl fluoride.



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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 EXPOSURE LIMITS

Authorized limit values

- ACGIH TLV ®: 10 mg/m³ inhalable and 3 mg/m³ respirable Particulates Not Otherwise Classified (PNOC).
- OSHA Permissible Exposure Limit 5 mg/m³ total dust, 5 mg/m³ respirable fraction PNOC
- The OSHA Permissible Exposure Limit for hydrogen fluoride from decomposition is 3 ppm.
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8.2 PERSONAL PROTECTION

Respiratory Protection:

- Use NIOSH-approved mechanical filter respirator if unable to control airborne dust, fumes, and vapor.
- In case of decomposition hazard use air supplied full face respirator to prevent exposure to hydrofluoric acid.
- Self contained breathing apparatus in medium confinement/insufficient oxygen/ in case of large uncontrolled emissions.

Hand protection:

- Protective gloves against molten polymer.
- Protective gloves if risk of decomposition.
-

Ventilation: Local exhaust ventilation is recommended for control of airborne dust, fumes, and vapor, particularly in confined areas if extensive cutting of pipe or tubing is to take place.

Other Protective None required

8.3 ENGINEERING CONTROLS

- Physical handling and processing of this product such as through cutting and grinding, etc., can generate fines and dust particles that can, under certain conditions, pose an explosion hazard. Good housekeeping is to be practiced throughout the facility.
- Provide local ventilation suitable for the product decomposition risk.



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5.7 HAZARDOUS COMBUSTION PRODUCTS

Sec Section 10.1 - Thermal Decomposition

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken if Material is Released or Spilled:

Sweep up and collect in suitable container for disposal. To prevent littering, avoid releases to surface waters.

CAUTION: PVDF-6 pellets on floors are slippery and can cause falls.

Personal Precautions: Wear suitable protective equipment. See Section 8.2 - Personal Protection.

Environmental Precautions: Prevent discharges into the environment (sewers, rivers, soils etc.)

7. HANDLING AND STORAGE

7.1 HANDLING

General Handling

Store in a manner to prevent stand alone coils of conduit or innerduct from falling or toppling over. Coiled product on reels must be stored on level surfaces to prevent accidental rolling. Reels must be chocked to prevent unintended movement of the reels. Reels should never be manually moved, proper equipment such as fork lift trucks must be used to safely transport material.

When unloading reels of conduit from a trailer use of proper equipment is required to prevent personal injury or death. Never push or pull reels or coil stacks from a trailer. Release only one reel at a time making sure all other reels are securely held in place and only release a reel after material handling equipment has been placed to lift the reel off the trailer. Lift only with equipment designed to lift heavy objects in a safe and secure manner.

Ventilation

No special precautions are needed for coiled pipe and tubing.

7.2 Storage

Store away from heat sources

Stores away from combustible substances.



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5.2 EXTINGUISHING MEDIA

Use any standard agent (water, foam, dry chemical, carbon dioxide).

5.3 EXTINGUISHING MEDIA TO AVOID

No information currently available

5.4 SPECIAL FIRE FIGHTING PROCEDURES

In a fire, the polymer is considered auto-extinguishing and so is unable to propagate fire.

Strong energy source necessary for ignition.

Formation of dangerous gas/vapors in case of combustion.

Do not direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.

5.5 PROTECTIVE MEASURES IN CASE OF INTERVENTION

Evacuate all non-essential personnel.

Intervention only by capable personnel who are trained and aware of the hazards of the product.

Wear self-contained, positive-pressure breathing apparatus (full face-piece type) and full protective clothing.

Wear chemically resistant suits.

After intervention proceed to clean the equipment (take shower, remove clothing carefully, clean and check).

5.6 OTHER PRECAUTIONS

If safe to do so, remove the exposed containers

Avoid dispersing the dust in clouds when using extinguishing means.

After the fire, proceed rapidly to clean the surfaces exposed to the fumes in order to limit damage to equipment.

As for any fire, ventilate and clean the rooms before reentry.

5.6 UNUSUAL FIRE AND EXPLOSION HAZARDS

Avoid dispersion of dust into air to reduce potential for dust ignition/explosions. See Section 8.3 - Engineering Controls



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3.3 POTENTIAL ENVIRONMENTAL EFFECTS

See Section 12 for Ecological Information.

4.	FIRST AID PROCEDURES
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4.1 INHALATION

If dust from pipe or tubing is inhaled, remove to fresh air

4.2 EYE CONTACT

In case of dust contact with eye(s), flush eyes thoroughly with water for several minutes, remove contact lenses, if worn. Seek medical advice if irritation persists. For thermal eye burns, immediately flush eyes with water and continue washing for several minutes, **DO NOT** remove contact lenses, if worn. Obtain medical attention without delay, preferably from an ophthalmologist.

4.3 SKIN CONTACT

For irritation flush skin with cool running water. Wash affected area with mild soap and water. Obtain medical attention if irritation persists.

For thermal skin burns, remove clothing, any jewelry, without attempting to peel from the skin. Leave blisters intact. Wash the area thoroughly with room temperature tap water. Do not use ice. Cover the wounded area with gauze dressing moistened with cool water; keep the dressing moist. Seek medical attention for burns.

4.4 INGESTION

No emergency care anticipated.

5. FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Flash Point – Not applicable

Flammability – Lower limit = 70g/m³

Auto-flammability – No data

Danger of Explosion – Negligible

Oxidizing properties – Non-oxidizer



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3. HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Appearance Corrugated tubing 1/2" through 2" inside diameter with annular corrugations internally and externally.

Physical State Continuous length coils of 100 feet or greater, coils on wooden or steel reels in lengths up to 10,000 feet per reel depending on the inside diameter of the product, or 20 ft. or 40 ft. lengths. **Odor** Negligible odor

Hazards of product None

3.2 POTENTIAL HEALTH EFFECTS

GENERAL HEALTH HAZARDS

Hazards due to contact with the product at high temperature. In case of decomposition, releases dangerous products: Note: When decomposed by high heat or by smoking tobacco or cigarettes contaminated with polymer dust, may cause flu-like illness with fever and chills which will pass within 36-48 hours. Possibility of ingestion hazard to wildlife.

Effects of Single Acute Overexposure

Inhalation: Negligible

Eye Contact: Mechanical irritation from the particulates generated by the product.

Skin Contact: Negligible

Ingestion: Negligible:

Skin Absorption: No evidence of harmful effects from available information.



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Endot Industries, Inc. urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: 1) Notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety; 2) Furnish this same information to each of its customers for the product; and 3) Request its customers to notify their employees, customers, and other users of the product of this information.

1.	CHEMICAL PRODUCT AND COMPANY IDENTIFICATION
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1.1 IDENTIFICATION

Product Name: Endocor PL, UL Listed Plenum Raceway

Product Use: Conduit for Fiber Optic Cables used in Building wiring applications

Chemical Name: Base Resin: PVDF SOLEF®

Chemical Family: Natural Copolymer of vinylidene fluoride and hexafluoropropylene (granules) Resin

Formula: $(C_2H_2F_2)_x(C_3F_6)_y$

Synonym: PVDF

1.2 COMPANY IDENTIFICATION

Endot Industries, Inc.
60 Green Pond Road
Rockaway, NJ 07866
973 625 8500

2. Component

	CAS NUMBER	WEIGHT %
Ingredient Name: Vinylidene fluoride	75-38-7	90%
Hexafluoropropylene	116-15-4	10%