

# FEP Heat Shrink Sleeving Material Safety

## Section 1 - Identification of Product

**PRODUCT NAME:** FEP Heat Shrink Sleeve

**OTHER/GENERIC NAMES:** Fluorinated Ethylene Propylene Copolymer.  
(fluoropolymer)

**FORM:** Transparent heat shrinkable sleeve

**PRODUCT USE:** Heat shrinkable sleeve for electrical, chemical & foodstuff applications.

## Section 2 - Composition/Information on Ingredients

INGREDIENT NAME	CAS NUMBER	WEIGHT %
Pure Virgin FEP Copolymer (Fluorinated Ethylene Propylene Copolymer)	25067-11-2	100 %

This product as supplied is not considered hazardous as defined in the US Code of Federal Regulations, 29CFR 1910.1200. This product is considered an 'article' as supplied for its intended and foreseen use.

All components appear on TSCA Inventory. This product contains no substances at or above the reporting threshold under Section 313 of Title III of the US EPA Superfund Amendments and Re-authorisation Act of 1986 and US Code of Federal Regulations, 40CFR part 372, based on available data.

## Section 3 - Recommended Usage conditions

This product has maximum continuous operating temperature of 200 degree C. If heated above 270 degree C for a prolonged time some decomposition fumes may be evolved. As normal practice is to shrink with hot air guns whose air temperature may be above 270 degree C, good ventilation or fume extraction should be provided.

## Section 4 - Hazardous Identification

**EMERGENCY OVERVIEW:** No special dangers are known. Use within specified processing parameters, high temperatures could evolve irritating and/or toxic fumes.

### POTENTIAL HEALTH HAZARDS

**SKIN:** Not anticipated under recommended usage conditions.

**EYES:** Not anticipated under recommended usage conditions.

**INHALATION:** Not anticipated under recommended usage conditions.

**INGESTION:** Not anticipated under recommended usage conditions.

**DELAYED EFFECTS:** None.

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## Section 5 - First Aid Measures

**SKIN:** Not anticipated under recommended usage conditions. For hot product, immediately immerse in or flush affected area with large amounts of cold water. Cover with clean cotton sheeting or gauze and seek medical advice.

**EYES:** Not anticipated under recommended usage conditions. If necessary, flush eyes with plenty of water. If symptoms persist or injury is suspected, seek medical advice.

**INHALATION:** Not anticipated under recommended usage conditions. May cause Influenza like symptoms if thermal decomposition products are inhaled ('polymer fume-fever') chills, fever, headache. Avoid contamination of tobacco products. Remove victim to fresh air. If not breathing, perform mouth to mouth resuscitation. Seek medical attention.

**INGESTION:** Not anticipated under recommended usage conditions.

**ADVICE TO PHYSICIAN:** Expect influenza-like symptoms if thermal decomposition are inhaled: chills, fever, headache, shortness of breath, coughing. This is known as 'polymer fume-fever' and will pass after 24 to 48 hours providing no further exposure occurs.

## Section 6 - Fire Fighting Measures

### FLAMMABLE PROPERTIES

**FLASH POINT:** Does not flash.

**FLASH POINT METHOD:** N/A

**IGNITION TEMPERATURE:** Not known

**UPPER FLAME LIMIT (volume % in Air):** N/A

**LOWER FLAME LIMIT (volume % in Air):** N/A

**OXYGEN INDEX:** >95%

**EXTINGUISHING MEDIA:** Water, foam, carbon dioxide, dry chemical.

**UNUSUAL FIRE AND EXPLOSIVE HAZARDS:** Does not burn without external source of fuel. Fluoropolymers can increase the relative toxic properties of the gases evolved during a fire.

**SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:** Use self contained breathing apparatus.

## Section 7 - Accidental Release Measures

**IN CASE OF SPILLS OR OTHER RELEASE:** Sweep or pick up and dispose of in a solid waste container.

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## Section 8 - Handling and Storage

**NORMAL HANDLING:** Product is physiologically inert and non toxic at normal temperatures. Above 230 Deg.C, some decomposition of FEP products can be expected with evolution of gaseous and particulate products which are toxic if inhaled. This can give rise to a characteristic syndrome with influenza like symptoms known as 'polymer fume-fever'. These symptoms subside within 24-48 hours away from further exposure with no long term effects. Keep away from ignition sources - do not smoke while using fluoropolymers.

**STORAGE RECOMMENDATIONS:** No special requirement

## Section 9 - Exposure Controls/Personal Protection

**VENTILATION:** Ensure good ventilation or exhaust if there is the possibility of fumes being evolved. Not required if material is used within specified processing parameters.

**FIRE AND EXPLOSION:** Not applicable.

**PERSONAL PROTECTIVE EQUIPMENT:** None required if material is used within specified processing parameters. Normal safety equipment should always be used in an industrial environment.

**ADDITIONAL RECOMMENDATIONS:** Heat resistant clothing and skin covering when working with hot product. Do not smoke while handling material. Keep tobacco products away from sources of contamination: hands and clothes.

**EXPOSURE GUIDELINES/LIMITS:** Not applicable.

**OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:** Not available.

## Section 10 - Physical and Chemical Properties

**APPEARANCE:** Transparent Tube

**PHYSICAL STATE:** Solid

**ODOUR:** Odourless

**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** 2.12-2.17

**SOLUBILITY IN WATER (weight %):** Insoluble

**pH:** Not applicable

**BOILING POINT:** Not applicable

**MELTING POINT:** 260 Deg.C.

**VAPOUR PRESSURE:** Not applicable

**VAPOUR DENSITY:** Not applicable

**EVAPORATION RATE:** Not applicable

**% VOLATILE:** Not applicable

**IGNITION TEMPERATURE:** >500 Deg.C.

**FLASH POINT:** Does not flash

**THERMAL DECOMPOSITION:** See Section 11

## Section 11 - Stability and Reactivity

**CHEMICAL STABILITY:** Stable. Thermal degradation can begin at 230 Deg.C.

**CONDITIONS TO AVOID:** Avoid exposure to open flame or temperatures exceeding recommended processing temperatures.

**INCOMPATIBILITIES/REACTS:** Reacts with molten alkali metals and interhalogen compounds. Will burn in atmosphere of 95% oxygen when an ignition source is present.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition will evolve hydrofluoric acid, carbonyl fluoride and other perfluorolefins.

**HAZARDOUS POLYMERISATION:** Will not occur.

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## Section 12 - Toxicological Information

GENERAL: No potential health hazards when used within processing guidelines. Fluoropolymers are physiologically inert and are considered non-toxic.

IMMEDIATE (ACUTE) EFFECTS: See section 7. Material is considered inert.

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS: None known. Material is considered inert.

TOXICITY OF PRODUCT: Non toxic when used within recommended guidelines.

OTHER DATA: None.

## Section 13 - Ecological Information

No known harmful effects on the environment. Material is considered inert and not expected to be biodegradable or toxic.

### Section 14 - Disposal Considerations

Clean material may be recycled.

Dispose of Fluoropolymer material as solid waste according to local regulations.

Dispose of packaging as solid waste according to local regulations.

Can be incinerated only if the HF effluent can be extracted from the flue gases.

Product as shipped is not considered a RCRA hazardous waste if discarded. This information relates only to contaminated product. If used in a process which contaminates product, then disposal considerations should be evaluated.

## Section 15 - Transport Information

US DOT HAZARD CLASS: Not regulated

US DOT ID NUMBER: Not applicable

UN NO: Not determined

ICAO/IATA: Not regulated

There is no known transportation requirements associated with this material in the form supplied based on currently available data.

## Section 16 - Regulatory Information

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS: All components are listed on the TSCA inventory.

OTHER TSCA ISSUES: This product is considered an article under TSCA.

SARA Title III/CERCLA

'Reportable Quantities' (RQ's) and/or 'Threshold Planning Quantities' (TPQ's) exist for the following ingredients.

Ingredient Name	SARA/CERCLA RQ (lb)	SARA EHS TPQ (lb)
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No ingredients listed in this section.

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Centre and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: None

The following ingredients are SARA 313 'Toxic Chemicals', CAS Numbers and weight percents are found in Section 2.

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Ingredient Name	Comment
No ingredients listed in this section	

## STATE RIGHT-TO-KNOW

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

Ingredient Name	Weight %	Comment
No ingredients listed in this section.		

*ADDITIONAL REGULATORY INFORMATION:* None

*WHMIS CLASSIFICATION (CANADA):* Not a controlled substance. (Considered to be a manufactured article.)

*FOREIGN INVENTORY STATUS:* Not determined

## Section 17 - Other Information

The information and recommendations set forth above are taken from sources believed to be accurate as of the date hereof, however, Adtech Polymer Engineering Ltd makes no warranty with respect to the accuracy of the information or the stability of the recommendations, and assumes no liability to any user thereof. The information contained in this sheet does not constitute a hazard assessment and should not be used in place of the user's own assessment of work-place risks as required by other health and safety legislation.