



## Material Safety Data Sheet

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** FP-301 CLEAR HEAT SHRINK TUBING

**MANUFACTURER:** 3M

**DIVISION:** Electrical Markets Division

**ADDRESS:** 3M Center  
St. Paul, MN 55144-1000

**EMERGENCY PHONE:** 1-800-364-3577 or (651) 737-6501 (24 hours)

**Issue Date:** 11/11/2008

**Supersedes Date:** 09/24/2008

**Document Group:** 06-1819-9

**Product Use:**

Intended Use: Electrical  
Specific Use: Electrical wire insulation for splices

### SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
POLYETHYLENE	Trade Secret	60 - 65
ETHYLENE POLYMER	Trade Secret	5 - 10
POLYMER WITH ETHENE	37433-35-5	5 - 10
ETHYLENE-METHACRYLIC ACID POLYMER	25053-53-6	5 - 10
ESTER POLYMER	Trade Secret	1 - 5
TRIAZINE	Trade Secret	1 - 3
THIODIPROPIONATE	Trade Secret	1 - 2

This product is in compliance with EU RoHS Directive 2002/95/EC as of 01 January 2004.

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Odor, Color, Grade:** Clear tubing, various sizes, odorless

**General Physical Form:** Solid

**Immediate health, physical, and environmental hazards:** Contact with aluminum or zinc in a pressurized system may generate hydrogen gas which could create an explosion hazard.

### 3.2 POTENTIAL HEALTH EFFECTS

**Eye Contact:**

Vapors from heated material may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:**

Contact with the skin during product use is not expected to result in significant irritation.

**Inhalation:**

Vapors from heated material may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Ingestion:**

No health effects are expected.

## SECTION 4: FIRST AID MEASURES

### 4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention. If exposed to vapors or smoke, immediately flush eyes with large amounts of water. Get immediate medical attention.

**Skin Contact:** Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

**Inhalation:** If signs/symptoms develop, remove person to fresh air. If signs/symptoms persist, get medical attention. No need for first aid is anticipated.

**If Swallowed:** No need for first aid is anticipated.

## SECTION 5: FIRE FIGHTING MEASURES

### 5.1 FLAMMABLE PROPERTIES

<b>Autoignition temperature</b>	<i>No Data Available</i>
<b>Flash Point</b>	<i>No Data Available</i>
<b>Flammable Limits - LEL</b>	<i>No Data Available</i>
<b>Flammable Limits - UEL</b>	<i>No Data Available</i>

### 5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

### 5.3 PROTECTION OF FIRE FIGHTERS

**Special Fire Fighting Procedures:** Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

**Unusual Fire and Explosion Hazards:** Contact with aluminum or zinc in a pressurized system may generate hydrogen gas which could create an explosion hazard.

**Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.**

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** Not applicable.

**In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.**

## SECTION 7: HANDLING AND STORAGE

### 7.1 HANDLING

Keep out of the reach of children. Avoid eye contact with vapors, mists, or spray. Avoid skin contact with hot material. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment. Do not ingest. For industrial or professional use only. Keep away from aluminum and zinc.

### 7.2 STORAGE

Store away from heat. Store out of direct sunlight.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

WHEN USING THIS PRODUCT IN A CONFINED SPACE OR WHERE VENTILATION MAY BE INADEQUATE THEN RESPIRATORY PROTECTION MAY BE WORN. INADEQUATE VENTILATION OR CONFINED SPACES WOULD CAUSE VAPORS FROM HEATING OF THIS PRODUCT TO BE PRESENT IN THE USER'S BREATHING ZONE AND MAY CAUSE RESPIRATORY IRRITATION. EXCESSIVE HEATING OF THIS PRODUCT BEYOND THE RECOMMENDED APPLICATION TEMPERATURE OF 250 DEGREES FAHRENHEIT IS NOT RECOMMENDED AND MAY RESULT IN THERMAL DEGRADATION AND DECOMPOSITION PRODUCTS WHICH MAY RESULT IN ADVERSE HEALTH EFFECTS.

### 8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### 8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

Avoid eye contact with vapors or smoke resulting from overheating or when used in confined areas.

#### 8.2.2 Skin Protection

Wear appropriate gloves, such as Nomex, when handling this material to prevent thermal burns. Avoid skin contact with hot material.

#### 8.2.3 Respiratory Protection

Avoid breathing of fumes.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface supplied-air respirator. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

**8.2.4 Prevention of Swallowing**

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Do not ingest.

**8.3 EXPOSURE GUIDELINES**

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
ESTER POLYMER	CMRG	TWA	10 mg/m3	

**SOURCE OF EXPOSURE LIMIT DATA:**

- ACGIH: American Conference of Governmental Industrial Hygienists
- CMRG: Chemical Manufacturer Recommended Guideline
- OSHA: Occupational Safety and Health Administration
- AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Odor, Color, Grade:</b>	Clear tubing, various sizes, odorless
<b>General Physical Form:</b>	Solid
<b>Autoignition temperature</b>	<i>No Data Available</i>
<b>Flash Point</b>	<i>No Data Available</i>
<b>Flammable Limits - LEL</b>	<i>No Data Available</i>
<b>Flammable Limits - UEL</b>	<i>No Data Available</i>
<b>Boiling point</b>	<i>Not Applicable</i>
<b>Density</b>	<i>No Data Available</i>
<b>Vapor Density</b>	<i>Not Applicable</i>
<b>Vapor Density</b>	<i>No Data Available</i>
<b>Vapor Pressure</b>	<i>Not Applicable</i>
<b>Specific Gravity</b>	0.9 [Ref Std: WATER=1]
<b>pH</b>	<i>Not Applicable</i>
<b>Melting point</b>	<i>No Data Available</i>
<b>Solubility in Water</b>	Nil
<b>Evaporation rate</b>	<i>Not Applicable</i>
<b>Viscosity</b>	<i>Not Applicable</i>

**SECTION 10: STABILITY AND REACTIVITY**

**Stability:** Stable.

**Materials and Conditions to Avoid:** Reactive metals

**Hazardous Polymerization:** Hazardous polymerization will not occur.

### Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Toxic Vapor, Gas, Particulate	At Elevated Temperatures

**Hazardous Decomposition:** Heating product beyond temperature recommended by instruction sheet may cause release of toxic vapors, gases, or particulates.

## SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

## SECTION 12: ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL INFORMATION

Not applicable.

### CHEMICAL FATE INFORMATION

Not applicable.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Dispose of waste product in a sanitary landfill. As a disposal alternative, incinerate in an industrial or commercial facility in the presence of a combustible material.

**EPA Hazardous Waste Number (RCRA):** Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

## SECTION 14: TRANSPORT INFORMATION

### ID Number(s):

80-6102-1906-7, 80-6102-1907-5, 80-6102-1908-3, 80-6102-1991-9, 80-6102-1992-7, 80-6102-1993-5, 80-6102-1994-3, 80-6102-1995-0, 80-6102-1996-8, 80-6102-1997-6, 80-6102-1998-4, 80-6102-1999-2, 80-6102-2000-8, 80-6102-2001-6, 80-6102-2002-4, 80-6102-2055-2, 80-6102-2056-0, 80-6102-2057-8, 80-6102-2058-6, 80-6102-2059-4, 80-6102-2060-2, 80-6102-2061-0, 80-6102-2062-8, 80-6102-2063-6, 80-6102-4075-8, 80-6102-4077-4, 80-6102-4083-2, 80-6102-4087-3, 80-6102-4088-1, 80-6102-4099-8, 80-6102-4116-0, 80-6102-4119-4, 80-6102-4120-2, 80-6102-4133-5, 80-6102-4138-4, 80-6102-4147-5, 80-6102-4150-9, 80-6102-4156-6, 80-6102-4158-2, 80-6102-4160-8, 80-6102-4164-0, 80-6102-4166-5, 80-6102-6079-8, 80-6102-6087-1, 80-6102-6094-7, 80-6102-6097-0, 80-6102-6100-2, 80-6102-6104-4, 80-6102-6106-9, 80-6105-4563-6, 80-6105-4564-4, 80-6106-4654-1, 80-6106-4658-2, 80-6106-4660-8, 80-6106-4691-3, 80-6106-4711-9, 80-6106-4729-1, 80-6106-4810-9, 80-6106-4818-2, 80-6106-4830-7, 80-6106-4832-3, 80-6106-4904-0, 80-6106-7574-8, 80-6106-7575-5, 80-6106-7606-8, 80-6106-7612-6, 80-6106-7615-9, 80-6106-7783-5, 80-6106-7792-6, 80-6106-7966-6, 80-6106-9070-5, 80-6106-9073-9, 80-6106-9074-7, 80-6106-9121-6, 80-6106-9372-5

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

## SECTION 15: REGULATORY INFORMATION

### US FEDERAL REGULATIONS

Contact 3M for more information.

#### 311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

### STATE REGULATIONS

Contact 3M for more information.

### CHEMICAL INVENTORIES

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

### INTERNATIONAL REGULATIONS

Contact 3M for more information.

WHMIS: Hazardous

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## SECTION 16: OTHER INFORMATION

### NFPA Hazard Classification

Health: 1 Flammability: 1 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes:

Section 8: Prevention of swallowing information was modified.

Section 2: Ingredient table was modified.

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