



**3M General Offices**  
3M Center  
St. Paul, MN 55144-1000  
1-800-364-3577 or (651) 737-6501 (24 hours)

4/17/2009 4:30:36 AM

## Material Safety Data Sheet

---

Purchase Order #: 00839553  
Customer Number: GTK7737

MSDS COORDINATOR  
DIGI-KEY CORP  
701 BROOKS AVE S  
THIEF RVR FLS, MN 56701-2757  
United States of America

Dear MSDS COORDINATOR

Enclosed is the Material Safety Data Sheet (MSDS) for the product that your company recently purchased from 3M

Please forward the attached MSDS to the individual in your organization responsible for implementing these regulations.

If you are a distributor and resell this product, OSHA and EPA require that you transmit this MSDS information to your customers at the time of first shipment or whenever you receive revised MSDSs from 3M.

3M MSDSs are available over the Internet at [www.3m.com/MSDSSearch](http://www.3m.com/MSDSSearch). You may also order a CD-ROM of 3M MSDSs by calling 1-800-364-3577.

3M is committed to meeting our customer requirements. Please contact your 3M customer service or sales representative if you have any questions. If you do not know whom to contact, please call the 3M Product Information Center at 1-800-364-3577.

**If you are not currently receiving 3M MSDSs by e-mail and would like to do so, please contact our eMSDS Administrator at [emsdsadmin@mmm.com](mailto:emsdsadmin@mmm.com) or by calling 651-736-5875.**



## Material Safety Data Sheet

Copyright, 2009, 3M Company. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** MFP 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:** 04/10/09  
**Supersedes Date:** 04/10/09

**Document Group:** 06-4644-8

**Product Use:**

General Use: Electrical insulation.  
 Intended Use: Industrial use

### SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
POLY(VINYLLIDENE FLUORIDE)	24937-79-9	40 - 60
VINYLLIDENE FLUORIDE-HEXAFLUOROPROPYLENE POLYMER	9011-17-0	40 - 60
TRIALLYL CYANURATE	101-37-1	1 - 5

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Odor, Color, Grade:** various colors 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

Flammable Limits - LEL

*Not Applicable*

Flammable Limits - UEL

*Not Applicable*

OSHA Flammability Classification:

*Not Applicable*

## 5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam).

## 5.3 PROTECTION OF FIRE FIGHTERS

**Special Fire Fighting Procedures:** When fire fighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

**Unusual Fire and Explosion Hazards:** Not applicable. No unusual fire or explosion hazards are anticipated. 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

For industrial or professional use only. Avoid breathing of fumes. Avoid skin contact with hot material. Avoid eye contact with vapors, mists, or spray. 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

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment. 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 350 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)

**SECTION 10: STABILITY AND REACTIVITY**

**Stability:** Stable.

**Materials and Conditions to Avoid:** Heat; High shear and high temperature conditions; Reactive metals

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

**Hazardous Decomposition or By-Products**

Substance  
Hydrogen Fluoride

Condition  
Not Specified

**Hazardous Decomposition:** Hydrogen fluoride has an ACGIH Threshold Limit Value of 3 parts per million (as fluoride) as a Ceiling Limit and an OSHA PEL of 3 ppm of fluoride as an eight hour Time-Weighted Average and 6 ppm of fluoride as a Short Term Exposure Limit. The odor threshold for HF is 0.04 ppm, providing good warning properties for exposure.

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 determined.

**CHEMICAL FATE INFORMATION**

Not determined.

**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. Combustion products will include HF and HCl. Facility must be capable of handling halogenated materials.

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

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

**SECTION 14: TRANSPORT INFORMATION**

**INTERNATIONAL REGULATIONS**

Contact 3M for more information.

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: 3 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.

**HMIS Hazard Classification**

Health: 1 Flammability: 0 Reactivity: 0 Protection: A

Hazardous Material Identification System (HMIS(r)) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

**Revision Changes:**

Section 2: Ingredient table was modified.

**DISCLAIMER:** The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.

3M MSDSs are available at [www.3M.com](http://www.3M.com)