



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M PSTH 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: 02/20/2009
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Product Use:

Intended Use: Electrical
 Specific Use: Electrical insulation for wires and cables

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
CAPROLACTAM	105-60-2	50 - 65
METHYL ACRYLATE	96-33-3	10 - 25
BIS(PENTOBROMO PHENYL)ETHANE	84852-53-9	10 - 25
VINYLDENE FLUORIDE-HEXAFLUOROPROPYLENE POLYMER	9011-17-0	1 - 10
PHENARSAZINE OXIDE	58-36-6	1 - 10
CALCIUM CARBONATE	471-34-1	1 - 10
ANTIMONY TRIOXIDE	1309-64-4	1 - 10
ESTER	6683-19-8	1 - 10
TRIALLYL CYANURATE	101-37-1	1 - 10

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Solid, Black Tubing

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:

No health effects are expected.

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.

If thermal decomposition occurs:

May be harmful if inhaled.

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.

Skin Contact: No need for first aid is anticipated.

Inhalation: If signs/symptoms develop, remove person to fresh air. If signs/symptoms persist, get medical attention.

If Swallowed: No need for first aid is anticipated.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</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: Not applicable.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Ventilate the area with fresh air. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities.

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

Avoid eye contact with vapors, mists, or spray. Avoid skin contact with hot material. Do not breathe vapors. 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 eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid contact with oxidizing agents. Keep away from aluminum and zinc. For industrial or professional use only.

7.2 STORAGE

Store away from heat. Store out of direct sunlight. Store away from oxidizing agents. Store in a cool, dry place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

If exhaust ventilation is not available, use appropriate respiratory protection. Provide appropriate local exhaust when product is heated.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

The following eye protection(s) are recommended: Indirect Vented Goggles.

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 vapors created during extrusion or processing at elevated temperatures. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface pressure demand self-contained breathing apparatus. 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.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
ANTIMONY TRIOXIDE	ACGIH	TWA, as Sb	0.5 mg/m3	
ANTIMONY TRIOXIDE	CMRG	TWA, as Sb	0.2 mg/m3	
ESTER	CMRG	TWA	10 mg/m3	
CALCIUM CARBONATE	CMRG	TWA	10 mg/m3	
CALCIUM CARBONATE	CMRG	STEL	20 mg/m3	
CAPROLACTAM	ACGIH	TWA, inhalable fraction and vapor	5 mg/m3	Table A5
CAPROLACTAM	OSHA	TWA, as dust	1 mg/m3	Table Z-1
CAPROLACTAM	OSHA	STEL, as dust	3 mg/m3	Table Z-1
CAPROLACTAM	OSHA	TWA, as vapor	5 ppm	Table Z-1
METHYL ACRYLATE	ACGIH	TWA	2 ppm	Sensitizer; Skin Notation*;Table A4
METHYL ACRYLATE	OSHA	TWA	10 ppm	Skin Notation*; Table Z-1
PHENARSAZINE OXIDE	CMRG	TWA	0.1 mg/m3	

* Substance(s) refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

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

Odor, Color, Grade:	Solid, Black Tubing
General Physical Form:	Solid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
Boiling point	<i>No Data Available</i>
Density	<i>No Data Available</i>
Vapor Density	<i>Not Applicable</i>
 Vapor Pressure	 <i>Not Applicable</i>
 Specific Gravity	 <i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>No Data Available</i>

Solubility In Water

No Data Available

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: High shear and high temperature conditions; Sparks and/or flames; Reactive metals

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Fluoride	During Combustion
Oxides of Antimony	During Combustion

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.

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 permitted hazardous waste facility.

EPA Hazardous Waste Number (RCRA): D004 (Arsenic)

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

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

80-6106-7545-8, 80-6106-7546-6, 80-6106-7547-4, 80-6106-7548-2, 80-6106-7549-0, 80-6106-7550-8, 80-6106-7551-6, 80-6106-7552-4, 80-6106-7553-2, 80-6106-7645-6, 80-6108-5827-8

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

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
ANTIMONY TRIOXIDE (ANTIMONY COMPOUNDS)	1309-64-4	1 - 10
METHYL ACRYLATE	96-33-3	10 - 25
PHENARSAZINE OXIDE (ARSENIC, ORGANIC COMPOUNDS)	58-36-6	1 - 10

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.

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.

No revision information is available.

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