

MATERIAL SAFETY 3M  
 DATA SHEET 3M Center  
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DIVISION: ELECTRICAL PRODUCTS DIVISION  
 TRADE NAME:

EPS SERIES HEAT SHRINK TUBING - RED, BLACK, CLEAR, GRAY  
 ISSUED: March 12, 2001  
 SUPERSEDES: February 02, 2001  
 DOCUMENT: 06-3105-1

1. INGREDIENT	C.A.S. NO.	PERCENT	
Adhesive Lined Polyolefin Tubing - Flame Retardant.....	Unknown		100
ETHYLENE-ETHYL ACRYLATE POLYMER.....	9010-86-0	50	- 60
DECABROMODIPHENYL ETHER.....	1163-19-5	15	- 25
ANTIMONY TRIOXIDE.....	1309-64-4	1	- 10
ZINC OXIDE.....	1314-13-2	1	- 10
MAGNESIUM OXIDE.....	1309-48-4	1	- 10
POLYETHYLENE.....	9002-88-4	1	- 10
TRIMETHYLOLPROPANE TRIMETHACRYLATE.....	3290-92-4	1	- 10
CARBON BLACK.....	1333-86-4	0.5	- 3
TETRAKIS[METHYLENE(3,5-DI-TERT-BUTYL-4- HYDROXYHYDROCINNAMATE)]METHANE.....	6683-19-8	0.1	- 3
BIS(3,5-DI-TERT-BUTYL-4- HYDROXYHYDROCINAMOYL)HYDRAZINE.....	32687-78-8	0.1	- 3
HINDERED PHENOLIC ANITOXIDANT.....	Unknown	0.1	- 2
THIODIETHYLENE BIS(3,5-DI-TERT-BUTYL-4- HYDROXYTHYDROCINNAMATE).....	41484-35-9	0.1	- 3
DILAURYL 3,3'-THIODIPROPIONATE.....	123-28-4	0.1	- 3
STEARIC ACID.....	57-11-4	0.1	- 2
NONABROMODIPHENYL OXIDE.....	63936-56-1	0.1	- 0.7

The components of this product are in compliance with the chemical  
 notification requirements of TSCA.

See Section 4 for Hazardous Decomposition Products. Hazardous  
 components are encased in polymeric matrix throughout normal  
 application temperatures and therefore present minimal potential for  
 exposure.

This product contains the following toxic chemical or chemicals subject to  
 the reporting requirements of Section 313 of Title III of the Emergency

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately



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4. REACTIVITY DATA  
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STABILITY: Stable

INCOMPATIBILITY - MATERIALS/CONDITIONS TO AVOID:

None known.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:

Under recommended usage conditions, hazardous decomposition products are not expected. Hazardous decomposition products anticipated as a result of oxidation (excluding burning), heating, or reaction with another material may include: Carbon Monoxide and Carbon Dioxide, Aldehydes, Hydrogen Bromide, Oxides of Zinc, Oxides of Antimony, Acetic Acid, Toxic Vapors, Gases or Particulates, Irritant Vapors or Gases. Initial decomposition begins at 180 C, and above 240 C significant decomposition occurs with the formation of decomposition products listed above.

Heating product beyond temperature recommended by instruction sheet may cause release of the following compounds: Benzene, Toluene, Formaldehyde, Acetaldehyde, Acetic Acid, Vinyl Acetate, and Hydrogen Bromide.

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5. ENVIRONMENTAL INFORMATION  
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SPILL RESPONSE:

Not applicable.

RECOMMENDED DISPOSAL:

Dispose of waste product in a sanitary landfill.

ENVIRONMENTAL DATA:

No data available.

REGULATORY INFORMATION:

Volatile Organic Compounds: N/A.

VOC Less H2O & Exempt Solvents: N/A.

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

EPCRA HAZARD CLASS:

FIRE HAZARD: No PRESSURE: No REACTIVITY: No ACUTE: No CHRONIC: No

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6. SUGGESTED FIRST AID  
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EYE CONTACT:

Immediately flush eyes with large amounts of water. Get immediate medical attention.

SKIN CONTACT:

If skin contact with hot material occurs: DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Immediately flush affected area with plenty of cold water and cover with a clean dressing. Have burn treated by a physician.

INHALATION:

If signs/symptoms occur, remove person to fresh air. If signs/symptoms continue, call a physician.

IF SWALLOWED:

Drink two glasses of water. Call a physician.

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7. PRECAUTIONARY INFORMATION  
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EYE PROTECTION:

AVOID EYE CONTACT WITH VAPORS OR SMOKE RESULTING FROM OVERHEATING OR WHEN USED IN CONFINED AREAS.

SKIN PROTECTION:

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

RECOMMENDED VENTILATION:

Local exhaust is required for operations using large amounts of material. Conduct air monitoring to determine adequacy of ventilation. Use in a well-ventilated area. Provide sufficient ventilation to maintain emissions below recommended exposure limits. If exhaust ventilation is not adequate, use appropriate respiratory protection.

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.

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 7. PRECAUTIONARY INFORMATION (continued)  
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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-mask organic vapor respirator with dust/mist prefilter.

PREVENTION OF ACCIDENTAL INGESTION:

Wash hands after handling and before eating.

RECOMMENDED STORAGE:

Store at room temperature. Keep out of the reach of children.

FIRE AND EXPLOSION AVOIDANCE:

Not applicable.

HMIS HAZARD RATINGS: HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0  
 PERSONAL PROTECTION: A

EXPOSURE LIMITS

INGREDIENT	VALUE	UNIT	TYPE	AUTH	SKIN*
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Adhesive Lined Polyolefin Tubing - Flame Retardant.....	NONE	NONE	NONE	NONE	
ETHYLENE-ETHYL ACRYLATE POLYMER.....	NONE	NONE	NONE	NONE	
DECABROMODIPHENYL ETHER.....	5	MG/M3	TWA	CMRG	
DECABROMODIPHENYL ETHER.....	5	MG/M3	TWA	AIHA	
ANTIMONY TRIOXIDE.....	0.5	MG/M3	TWA	ACGIH	
		as Sb			
ZINC OXIDE.....	10	MG/M3	TWA	ACGIH	
		AS DUST			
ZINC OXIDE.....	10	MG/M3	TWA	OSHAV	
		AS DUST			
		OSHA VACATED PEL			
ZINC OXIDE.....	5	MG/M3	TWA	ACGIH	
		as fume			
ZINC OXIDE.....	10	MG/M3	STEL	ACGIH	
		as fume			
ZINC OXIDE.....	5	MG/M3	TWA	OSHA	
		as fume			
ZINC OXIDE.....	10	MG/M3	STEL	OSHAV	
		as fume			
		OSHA VACATED PEL			
ZINC OXIDE.....	15	MG/M3	TWA	OSHA	
		AS TOTAL DUST			
ZINC OXIDE.....	5	MG/M3	TWA	OSHA	
		RESPIRABLE			
MAGNESIUM OXIDE.....	10	MG/M3	TWA	ACGIH	
		as fume			
MAGNESIUM OXIDE.....	15	MG/M3	TWA	OSHA	

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EXPOSURE LIMITS (continued)

INGREDIENT	VALUE	UNIT	TYPE	AUTH	SKIN*
AS TOTAL DUST					
POLYETHYLENE.....	NONE	NONE	NONE	NONE	
TRIMETHYLOLPROPANE TRIMETHACRYLATE...	25	PPM	TWA	CMRG	
TRIMETHYLOLPROPANE TRIMETHACRYLATE...	1	MG/M3	TWA	AIHA	
CARBON BLACK.....	3.5	MG/M3	TWA	ACGIH	
CARBON BLACK.....	3.5	MG/M3	TWA	OSHA	
CARBON BLACK.....	0.5	MG/M3	TWA	CMRG	
TETRAKIS[METHYLENE(3,5-DI-TERT-BUTYL-4-HYDROXYHYDROCINNAMATE)]METHANE.....	NONE	NONE	NONE	NONE	
BIS(3,5-DI-TERT-BUTYL-4-HYDROXYHYDROCINNAMOYL)HYDRAZINE....	NONE	NONE	NONE	NONE	
HINDERED PHENOLIC ANITOXIDANT.....	NONE	NONE	NONE	NONE	
THIODIETHYLENE BIS(3,5-DI-TERT-BUTYL-4-HYDROXYTHYDROCINNAMATE)....	NONE	NONE	NONE	NONE	
DILAURYL 3,3'-THIODIPROPIONATE.....	NONE	NONE	NONE	NONE	
STEARIC ACID.....	10	MG/M3	TWA	ACGIH	
AS TOTAL DUST					
NONABROMODIPHENYL OXIDE.....	NONE	NONE	NONE	NONE	

\* SKIN NOTATION: Listed substances indicated with 'Y' under SKIN 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
- AIHA: American Industrial Hygiene Assoc. Workplace Environmental Exposure Level Guideline
- CMRG: Chemical Manufacturer Recommended Exposure Guidelines
- OSHA: Occupational Safety and Health Administration
- OSHAV: Occupational Safety and Health Administration Vacated PEL. Vacated Permissible Exposure Limits (PEL) are enforced as the OSHA PEL in some states. Check with your local regulatory authority.
- NONE: None Established

8. HEALTH HAZARD DATA

EYE CONTACT:

Vapors from heated material may cause eye irritation.

SKIN CONTACT:

Skin Burns (thermal, from contact with hot material): signs/symptoms can include burning pain, red and swollen skin, and blisters.

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8. HEALTH HAZARD DATA (continued)  
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INHALATION:

Vapors of heated material may cause respiratory system irritation.

RESPIRATORY IRRITATION WOULD NOT BE EXPECTED IN APPLICATIONS WHERE ADEQUATE VENTILATION AND PROPER APPLICATION (AT DESIGNATED TEMPERATURES) IS UTILIZED. EXCESSIVE HEATING AND INADEQUATE VENTILATION MAY RESULT IN EXPOSURE TO THERMAL DEGRADATION AND DECOMPOSITION PRODUCTS AS INDICATED IN SECTION 4 OF THIS MSDS UNDER "REACTIVITY DATA-HAZARDOUS DECOMPOSITION PRODUCTS".

IF SWALLOWED:

Ingestion is not a likely route of exposure to this product.

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SECTION CHANGE DATES  
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PRECAUTIONARY INFO. SECTION CHANGED SINCE February 02, 2001 ISSUE

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