

## 1. Information about the goods and manufacturer

### Name of Goods

3:1 Dual Wall Flame-retardant Heat Shrink Tubing

### Description of Goods

Irradiated Polyolefin Heat Shrink Tubing with meltable adhesive liner

### Name of Manufacturer or Supplier of the goods

Premier Farnell plc

150 Armley Road, Leeds, LS12 2QQ

+44 (0) 8701 202530

### 1.4. Emergency telephone number

+44 1865 407333

## 2. Chemical Properties

Ingredient	Chemical Formula	Chemical Formula	Percentage	CAS No.
Ethylene-vinylacetate copolymer	$(\text{CH}_2\text{CH}_2)_m-(\text{CH}_2-\text{CH}-\text{COOCH}_3)_n$	Main Material	50%	24937-78-8
Magnesium hydroxide	$\text{Mg}(\text{OH})_2$	Flame Retardants	30%	1309-42-8
DBDPE	$\text{C}_{14}\text{H}_4\text{Br}_{10}$	Flame Retardants	10%	84852-53-9
Anti-oxide	$\text{C}_{35}\text{H}_{62}\text{O}_3$	Antioxidant	1%	6683-19-8
Pigment	Pigment	Colorant	4%	1333-86-4
Printing Ink	-	Print	-	-
EVA	$(\text{C}_2\text{H}_4)_x.(\text{C}_4\text{H}_2\text{O}_2)_y$	Sealant	5%	-

## 3. Hazard Information

### Key Hazards

Toxicological Effects on Health: After the tubes are ignited, the flame will self-extinguish in a short time. A little fume will give off and have slight harm on the respiratory passage of the human body.

Influence on Environment: It will cause air pollution when the tubes burn.

Physical and Chemical Hazards: Normally it is in tubular shape, and shrink at 125°C, which perhaps is harmful

Special Hazards: When roasted or fumigated, the smoke given off will have impact on the eyes and respiratory system, and is harmful to the human body.

Main symptoms : Weep, sneeze, cough, etc. These symptoms can be relieved through breathing fresh air.

Hazards generated when burning : The tubing will burn for a short period of time after being ignited.

## 4. First-Aid Measures

### First-aid measures for exposing in different occasions:

Inhalation : During proper operation, there is no danger caused by inhalation.

Skin contact : No damage to skin in normal contact. As skin is easily scratched by the tubes, the operators are suggested to put on gloves in operation.

Eye contact : No harm.

Ingestion : Not edible

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Key harmful effects	: It will impact the respiratory System if you inhale smokes generated by the burning of the tubes.
Protective measures for the rescuers	: Wear respiration protection equipment.
Suggestions to doctor	: Those who have suffered severe damage in respiratory system should keep on inhaling fresh air to relieve the symptom.

## 5. Fire-fighting Measures

Suitable fire-extinguishing agent	: Dry Powder Extinguisher should be used in order to put out the fire in a short time.
Special harms possibly incurred in fire-fighting	: Small amount of smoke will give off when the tubes burn, which will impact the respiratory system of human body.
Special fire-fighting procedures	: No
Special protective equipment for the fire-fighters	: Normal fire-extinguishing equipment.

## 6. Emergency measures for leakage

Attentions need to be paid by individuals	: No
Environmental notice	: No
Cleaning Method	: No

## 7. Operation and Storage

Operation	: The tubes will shrink when heated by oven or heat gun.
Storage	: Pack the tubes with cartons properly and place them at a shady place and at normal temperature.

## 8. Contact controls and personal protection

Contact controls	: Not harmful
Personal protective measures	: No

## 9. Physical and Chemical Properties

Outer Jacket

Properties		Test Method	Test result
Physical Properties	Tensile strength /MPa	ASTM D2671	≥12
	Elongation/%	ASTM D2671	≥300
	Longitudinal Shrinkage	UL224	±8%
	Elongation after aging/%	UL 224: 158°C ×168hr	≥200
Electrical Properties	Dielectric Strength(KV/mm)	IEC243	≥15
	Volume resistance/Ω·cm	UL224	≥1×10 <sup>14</sup>
Chemical Properties	Corrosion	ASTM D2671	No corrosion
	Copper stability	UL 224	PASS
	Flammability	UL 224	VW-1

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## Hot-melt adhesive

Property	Test Method	Test result
Water Absorption	ISO 62	≤0.2%
Softening Point	ASTM E28	95°C
Peel Strength (PE)	ASTM D1000	120N/25mm
Peel Strength (AL)	ASTM D1000	80N/25mm

## 10. Stability and Reactivity of the goods

Stability	: Irresolvable
Hazardous effects under special conditions	: If exposed to fire, the products will burn in a short time and give off smoke.
Conditions to be avoided	: The products will shrink under high temperature.
Substance to be avoided	: Fire
Hazardous decomposition product	: Smoke

## 11. Toxicological Information

Acute Toxicity	: No
Partial Effect	: No
Allergic Reactions	: No
Slow toxicity or long-term toxicity	: No
Special Effects	: No

## 12. Ecological Information

Possible effects on environment	: The products are irresolvable naturally and are not harmful to animals, plants and aquatic life.
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## 13. Waste Disposal

Trash disposal	: It is suggested that the waste be collected to waste-collection station for treatment.
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## 14. Transport Information

Regulations on international transportation	: No
U.N. code	: No
Regulations on Domestic transportation	: No
Special transportation method and notice	: Avoid distortion caused by extrusion and damage caused by edged tools.

## 15. Regulation Information

Applicable regulation	: UL224 (All Except Clear)
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## 16: Other information

NA

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Part Number
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HS114
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HS117 1.2M
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