

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

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 ¹⁴
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

HS114

HS117 1.2M

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