

1. Information about the goods and manufacturer

Name of Goods

Dual Wall Flame-retardant Heat Shrink Tubing

Description of Goods

Heatshrink Tubing (Adhesive Lined) 4:1 Black 20.0mm 1.22m

Details of the supplier of the safety data sheet

Premier Farnell
150 Armley Road
Leeds LS12 2QQ
Tel. : +44 (0) 8701 202530

Emergency telephone number

+44 1865 407333

2. Chemical Properties

Ingredient	Chemical Formula	Function	Percentage	CAS No.
Polyolefin	(CH ₂ CH ₂) _n	Main Material	50%	9002-88-4
Magnesium hydroxide	Mg(OH) ₂	Flame Retardants	30%	1309-42-8
APP	-	Flame Retardants	10%	7723-14-0
Pigment	Pigment	Colorant	5%	83524-75-8
Ho-melt Adhesive	EVA	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 70-125°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	≥10.4
	Elongation/%	ASTM D2671	≥300
	Tensile strength after aging/MPa	UL 224: 158°C×168hr	≥7.3
	Elongation after aging/%	UL 224: 158°C×168hr	≥200
	Heat Resistance	UL 224: 250°C×4hr	No viscosity No Cracking
	Cold blend	UL 224: -30°C×4hr	No Cracking
Electrical Properties	Dielectric Strength(KV/mm)	IEC243	≥20
	Volume resistance/Ω·cm	IEC93	≥1×10 ¹⁴

	Properties	Test Method	Test result
Chemical Properties	Anti Corrosion	UL 224 158°C×168hr	PASS
	Copper stability	UL 224 158°C×168hr	PASS
	Flammability	UL 224	VW-1
	Water Absorption %	ASTM-D570	≤0.5

Hot-melt adhesive

Property	Test Method	Test result
Water Absorption	ASTM D570	≤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 treatment.	: 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

16: Other information

NA

Part Number

HS405

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