

Safety Data Sheet

pro-POWER

1. Information about the goods and manufacturer:

Name of Goods: Dual Wall Flame-retardant Heat Shrink Tubing (P/N HS400-HS412)
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) 870 129 8608

2. Chemical Properties:

Ingredient	Chemical Formula	Function	Percentage	CAS No.
Polyolefin	$(CH_2CH_2)_n$	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.

Safety Data Sheet

pro-POWER

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. j\

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

Safety Data Sheet

pro-POWER

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/ $\Omega \cdot \text{cm}$	IEC93	$\geq 1 \times 10^{14}$
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

Safety Data Sheet

pro-POWER

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 irremediably naturally and are not harmful to animals, plants and aquatic life.

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

Part Number
HS400
HS401
HS402
HS403
HS404
HS405
HS406
HS407
HS408
HS409
HS410
HS411
HS412

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