

1. Information about the goods and manufacturer

Name of Goods

135°C Mil-Spec Thin Wall Flame-retardant Heat Shrink Tubing

Description of Goods

Irradiated Polyolefin Thin Wall Heat Shrink Tubing

Name of Manufacturer or Supplier of the goods

Premier Farnell
150 Armley Road
Leeds LS12 2QQ
Tel. : +44 (0) 870 129 8608

Emergency telephone number

+44 (0) 870 202530

2. Chemical Properties

Ingredient	Chemical Formula	Function	Percentage	Supplier	CAS No.
Polyolefin	(CH ₂ CH ₂) _n	Main Material	50%	China Sinopec	9002-88-4
Magnesium hydroxide	Mg(OH) ₂	Flame Retardants	35%	Jinhaohui Material Co., Ltd.	1309-42-8
Brominated flame retardants	-	Flame Retardants	10%	Shanghai Haiyi Co., Ltd	-
Pigment	Pigment	Colorant	5%	Huawangcai Co., Ltd	83524-75-8

2. Chemical Properties

Key Hazards	Toxicological Effects on Health: After the tubes are ignited, the flame will selfextinguish 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

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

Properties		Test Method	Standard	
Physical Properties	Tensile strength /MPa	GB/T1040	≥10.4	
	Elongation/%	GB/T1040	≥200	
	Tensile strength after aging/MPa	UL 224: 158°C × 168hr	≥7.3	
	Elongation after aging/%	UL 224: 158°C × 168hr	≥100	
	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)	GB/T1408	≥15	
	Dielectric Withstand	300V	UL 224	No breakdown at 1500V
		600V	UL 224	No breakdown at 2500V
	Volume resistance/Ω·cm	GB/T1410	≥1 × 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	

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.

13. Waste Disposal

Trash disposal : It is suggested that the waste be collected to waste-collection station for treatment.
Personal protective measures : No

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

Reference : CTI/ITS/SGS Test Report

Part Number
FPHS-0XX-XXXX

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