



## MATERIAL SAFETY DATA SHEET

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** TwistTube 2470**Manufacturer:**

Federal-Mogul Corporation  
 26555 Northwestern Highway  
 Southfield, MI 48033

**MSDS#** BH-144**24hr Emerg # (Infotrac):** 1-800-535-5053**International:** 001-352-323-3500**Non-Emerg #:** 248-354-9844

### SECTION 2: COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Bentley-Harris TwistTube 2470 is a self-wrapping oversleeve designed to provide a combination of electromagnetic shielding and mechanical protection. Polyester and metallized nylon yarns are used in the weaving process to create a product that not only offers a high level of shielding protection, it is also flexible and lightweight. Unlike foils and films, the woven fabric of TwistTube 2470 is durable and tear resistant, enabling it to provide long-term protection. The product offers superior abrasion protection and maintains a circular profile when flexed. It allows for quick and easy bundling of wires and cable assemblies. The unique design easily allows for breakouts.

Although several of the ingredients used to formulate this product may be hazardous in the raw state, the manufacturing process results in a solid, infusible form, binding and otherwise, rendering the product inert. The constituents identified below may be present in quantities greater than 1% (0.1% for carcinogens) that may be released from the product by overheating, burning, machining, abrading, or riveting.

This information provides the minimum criteria for safe usage and handling of this product. Companies using this product should develop their own occupational health program to protect employees from injury or adverse health effects.

Ingredient	CAS No.	% Weight	OSHA PEL	ACGIH TLV
Metallized Nylon	25038-54-4	5-9	None Established	None Established
Polyester Multifilament Yarn	25038-59-9	70-75	None Established	None Established
Silver (metal)	7440-22-4	<2	0.01 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>
Copper (dust)	7440-50-8	15-20	1 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>
Tin (metal)	7440-31-5	2-4	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>

### SECTION 3: HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Shipped material is not considered hazardous, but operations (e.g., overheating, burning, machining, abrading, or riveting) that can create airborne dust should be avoided.

## POTENTIAL HEALTH EFFECTS (continued)

### Inhalation:

Dust created from abrasion or vapors created from heating may cause respiratory irritation.

### Skin:

Molten material can cause thermal burns.

### Eye:

Dust particles may cause irritation or corneal injury.

### Ingestion:

Not a probable route of entry.

### Carcinogenicity:

	COMPONENT NTP IARC OSHA
Metallized Nylon	No No No
Polyester Multifilament Yarn	No No No
Silver	No No No
Copper	No No No
Tin	No No No

### Symptoms and Effects of Exposure to Selected Individual Components

**Exposure Hazards:** None known

#### SECTION 4: FIRST AID MEASURES

**Inhalation:** Move to fresh air. Seek medical attention.

**Eye Contact:** Rinse thoroughly with ample amounts of water. Seek medical attention.

**Skin Contact:** Wash thoroughly with soap and water. If molten material falls on skin, do not attempt to remove the material from the skin; cool immediately with water. Seek medical attention.

**Ingestion:** Not a probable route of entry. Seek medical attention.

#### SECTION 5: FIRE FIGHTING MEASURES

This product is inherently flame resistant.

**Flashpoint:** N/A      **LEL:** N/A      **UEL:** N/A      **Autoignition Temperature:** N/A

**Extinguishing Media:** Use media suitable for surrounding fire.

**Unusual Fire and Explosion Hazards:** None known

**Special Fire-Fighting Procedure:** Wear self-contained breathing apparatus when extinguishing a fire. Hazardous decomposition products are generated in fire conditions.

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

Scrap monofilament may present a slipping hazard. If dust is generated during machining, abrading or riveting, remove dust by vacuuming or wet-mopping. Do not use compressed air to blow dust from surfaces.

#### SECTION 7: HANDLING AND STORAGE

If dust is generated while shipping product, remove dust by vacuuming or wet-mopping and place in an air-tight polyethylene bag. Vacuums used for this purpose should be equipped with HEPA filters. Do not use compressed air to blow dust from surfaces.

#### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ventilation Protection:** Any operation which may produce dust, including machining, grinding, riveting, or abrading this product, should be adequately exhausted to prevent inhalation of dust.

**Respiratory Protection:** Use a NIOSH-approved respirator if there is a potential for exposure to exceed applicable PELs or TLVs. (See 29 CFR 1910.134, OSHA Respiratory Protection Standard.)

**Skin Protection:** If skin irritation occurs, gloves and other protective garments may be worn. Wash hands after working with material.

**Eyes:** Wear safety glasses or goggles, as necessary, if dust exposure is possible.

#### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Boiling Point:</b>	N/A	<b>Vapor Pressure:</b>	N/A
<b>Melting Point:</b>	125°C	<b>Vapor Density (air = 1):</b>	N/A
<b>pH:</b>	N/A	<b>% Volatile:</b>	N/A
<b>Specific Gravity:</b>	1.15 g/cc	<b>Evaporation Rate:</b>	N/A
<b>Water Solubility:</b>	Insoluble	<b>Form, Color, and Odor:</b>	Solid, black, odorless

#### SECTION 10: STABILITY AND REACTIVITY

<b>Stability:</b>	Stable at normal temperatures and storage conditions.
<b>Incompatibility (Materials/Conditions to Avoid):</b>	None known
<b>Hazardous Polymerization:</b>	Will not polymerize
<b>Decomposition Products:</b>	Thermal decomposition will start at temperatures greater than 300°C producing such by-products as carbon monoxide and trace amounts of esters, alcohols acids, and acetaldehyde.

#### SECTION 11: TOXICOLOGICAL INFORMATION

<b>Inhalation:</b>	Refer to Section 3
<b>Skin:</b>	Refer to Section 3
<b>Eye:</b>	Refer to Section 3
<b>Ingestion:</b>	Refer to Section 3
<b>Acute:</b>	None known
<b>Chronic:</b>	None known

#### SECTION 12: ECOLOGICAL INFORMATION

Not available

#### SECTION 13: DISPOSAL CONSIDERATIONS

Federal and state law regulates disposal of scrap material or dust as solid waste; disposal must be in accordance with federal and state laws. Contact local regulatory agencies for guidance.

#### SECTION 14: TRANSPORTATION INFORMATION

<b>Proper Shipping Name:</b>	Not regulated
<b>Hazard Class:</b>	None
<b>Identification Number:</b>	None
<b>Packing Group:</b>	N/A
<b>Shipping Label:</b>	None
<b>Additional Marking Requirement:</b>	None

## SECTION 15: REGULATORY INFORMATION

<b>U.S. TSCA:</b>	Chemicals used in the manufacture of this product are listed on the U.S. Toxic Substances Control Act (TSCA) Inventory						
<b>California Proposition 65:</b>	This product does not contain ingredients known to the State of California to cause cancer, birth defects or other reproductive effects.						
<b>SARA Title III – Section 313 Supplier Notification:</b>	This product contains the following chemicals subject to SARA Title III/CERCLA “reportable quantities” (RQs) and/or “threshold planning quantities” (TPQs) and/or are classified as “Toxic Chemicals” under the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and 40 CFR 372.						
	<table> <tr> <th>Ingredient</th><th>CAS Number</th></tr> <tr> <td>Silver</td><td>7440-22-4</td></tr> <tr> <td>Copper</td><td>7440-50-8</td></tr> </table>	Ingredient	CAS Number	Silver	7440-22-4	Copper	7440-50-8
Ingredient	CAS Number						
Silver	7440-22-4						
Copper	7440-50-8						
<b>RCRA Hazardous Waste Code:</b>	Not Available						
<b>CERCLA Hazardous Substances:</b>	Not Available						
<b>OSHA:</b>	Not Available						
<b>WHMIS Classification:</b>	Not Available						

## SECTION 16: OTHER INFORMATION

### Abbreviations:

CAS No.:	Chemical Abstract Services Number
OSHA PEL:	U.S. Occupational Safety and Health Administration Permissible Exposure Limit
ACGIH TLV:	American Conference of Governmental Industrial Hygienists Threshold Limit Value (2004)
mg/m <sup>3</sup> :	Milligrams per cubic meter
N/A:	Not Applicable
IARC:	International Agency for Research on Cancer
NTP:	National Toxicology Program
NIOSH:	National Institute of Occupational Safety and Health
HEPA:	High-efficiency particulate air

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