MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Expando PT Plus (Black)

Manufacturer:
Federal Mogul Corporation
26555 Northwestern Highway
Southfield, MI 48033

24hr Emergency Phone (Infotrac): 1-800-535-5053
International: 001-352-323-3500
Non-Emergency Phone: 248-354-9844

SECTION 2: COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Expando PT Plus (Black) sleeving is a tough, lightweight product used to oversleeve and protect cable assemblies, hoses and wire harnesses. Made of braided polyester monofilaments, Expando PT Plus (Black) increases cut-through strength and abrasion resistance of electrical and thermal insulating surfaces. It is specially treated to eliminate end fray.

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) and may be released from the product by overheating, burning, machining, abrasion, 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
Polyester Monofilament	None Established	>90	None Established	None Established
Acrylamide	79-06-1	<1	0.3 mg/m^3	0.03 mg/m^3
Acrylonitrile	107-13-1	<1	2 ppm	2 ppm
Ethyl acrylate	140-88-5	<1	25 ppm	5 ppm
Formaldehyde	50-00-0	<1	0.75 ppm	0.3 ppm (A2) (C)

A2: Categorized by ACGIH as Suspected Human Carcinogen; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals as with relevance to humans
C: Ceiling Limit

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

Inhalation: Dust from abnormal abrasion or vapors from heating >149°C can cause irritation.

Skin: Molten material can cause thermal burns.

Eye: Dust particles may cause irritation or corneal injury due to mechanical action.

Ingestion: Not a probable route of entry.

POTENTIAL HEALTH EFFECTS (continued)

Carcinogenicity:

COMPONENT NTP IARC OSHA
Polyester Monofilament
No No No
Acrylamide
No Yes (2A) No
Acrylonitrile
Yes Yes (2B) Yes
Ethyl Acrylate
Yes Yes (2B) No
Formaldehyde
Yes Yes (2A) Yes

Symptoms and Effects of Exposure to Selected Individual Components

ACRYLAMIDE
Toxic by ingestion, skin contact, intravenous, intraperitoneal, and other exposure routes. Intoxication has caused peripheral neuropathy, erythemia and peeling of the palms. It can be absorbed through intact skin.

ACRYLONITRILE
Acute – May cause somnolence, general anesthesia, cyanosis and diarrhea. Symptoms include flushing of the face, salivation, irritation of eyes and nose, nausea, deepened respiration, weakness and headache.
Chronic – IARC classifies this component as "probably carcinogenic to humans"."
Other – human systemic irritant, may be toxic by skin and ingestion exposure routes. Target organs include liver brain, kidneys and cardiovascular system.

ETHYL ACRYLATE
Toxic by ingestion and inhalation. Moderately toxic by skin contact and intraperitoneal routes. Human systemic effects by inhalation include eye, olfactory and pulmonary changes.

FORMALDEHYDE
Acute – Gastrointestinal toxicity may occur if ingested; may cause nausea, vomiting and severe abdominal pain. Exposure to the skin may cause irritation and contact dermatitis at moderately low levels. Inhalation may cause irritation of the upper respiratory tract, a burning sensation of the nose and throat, sneezing, coughing, headache, difficulty breathing, nausea, vomiting and excessive thirst. May cause conjunctivitis, eye irritation/redness/burning and excessive tearing.
Chronic – Sensitizing of respiratory tract and development of an asthmatic reaction to further exposure. Sensitization and allergic skin reaction. Can aggravate asthma and inflammatory or fibrotic pulmonary disease.

SECTION 4: FIRST AID MEASURES

Inhalation: Move to fresh air. Seek medical attention.

Eye Contact: Flush with water to remove particle.

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

Ingestion: Obtain medical help.

SECTION 5: FIRE FIGHTING MEASURES

This product is inherently flame resistant, but may ignite at temperatures exceeding 600°C in an oxygen-enriched atmosphere.

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

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

Scrap monofilament may present a slipping hazard. Sweep up and dispose of according to all federal and state disposal procedures. If dust is generated during machining, abrading or riveting, remove the dust by vacuuming or wet-mopping. Vacuums should be equipped with HEPA filters. Do not use compressed air to blow dust from surfaces.

SECTION 7: HANDLING AND STORAGE

Do not heat to greater than 149°C for prolonged periods of time. Avoid breathing fumes at elevated temperatures. If dust is generated while shipping product, remove dust by vacuuming/wet-mopping. 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 potential 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. Wear gloves when winding or unwinding this product.

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	N/A	**Vapor Pressure:**	N/A
Melting Point:	250°C	**Vapor Density (air = 1):**	N/A
pH:	N/A	**% Volatile:**	N/A
Specific Gravity:	1.22-1.38 g/cc	**Evaporation Rate:**	N/A
Water Solubility:	Insoluble	**Form, Color and Odor:**	Solid, black and odorless

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable at normal temperatures and storage conditions.

Incompatibility (Materials/Conditions to Avoid): Strong bases

Hazardous Polymerization: Will not polymerize

Decomposition Products: Thermal decomposition will occur at temperatures greater than 149°C producing such by-products as carbon monoxide, carbon dioxide, esters, alcohols, acids, hydrogen cyanide, oxides of nitrogen, acetaldehyde, and trace amounts of aromatic and aliphatic hydrocarbons.

SECTION 11: TOXICOLOGICAL INFORMATION

Inhalation: Refer to Section 3

Skin: Refer to Section 3

Eye: Refer to Section 3

Ingestion: Refer to Section 3

Acute: None known

Chronic: None known

SECTION 12: ECOLOGICAL INFORMATION

N/A

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

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

SECTION 15: REGULATORY INFORMATION

U.S. TSCA: All chemicals used in the manufacture of this product are listed on the U.S. Toxic Substances Control Act (TSCA) Inventory

California Proposition 65: This product contains ingredients known to the State of California to cause cancer, birth defects or other reproductive effects.

SARA Title III – Section 313 Supplier Notification: 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:

Ingredient	CAS Number
Acrylamide	76-06-1
Acrylonitrile	107-13-1
Ethyl acrylate	140-88-5
Formaldehyde	50-00-0

RCRA Hazardous Waste Code: Not Available

CERCLA Hazardous Substances: Not Available

OSHA: Not Available

WHMIS Classification: 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)
N/A:	Not Applicable
mg/m^3	Milligrams per cubic meter
ppm:	Parts per million
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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