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Material Safety Datasheet

XP-267

EMERGENCY TELEPHONE:	724-746-6050 or 856-227-0500
ISSUE DATE:	September 13, 2013
REVISION DATE:	September 13, 2013
PART NAME:	XP-267
CHEMICAL NAME:	Fluoropolymer + PBI and inorganic modifiers

1. Information on Ingredients

MATERIAL	CAS Number	%
Tetrafluoroethylene-Perfluoro(Propyl Vinyl Ether) Copolymer	26655-005	Proprietary
Purified Carbon	64743-05-1	Proprietary

Material is not known to contain Toxic Chemicals under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Additives in this product do not present a respiration hazard unless the product is ground to a powder of respirable size and the dust is inhaled. All dusts can potentially cause injury to the respiratory tract if respirable particles are generated and inhaled in sufficiently high concentrations. Good industrial hygiene practices, as with all dusts, should include precautions to prevent inhalation of respirable particles.

2. Hazard Identification

Tetrafluoroethylene-Perfluoro(Propyl Vinyl Ether) Copolymer
Inhalation of PTFE dust may cause generalized irritation of the nose, throat and lungs with cough, difficulty breathing or shortness of breath.

Heating PTFE above 300^{o}C (572^{o}F) may liberate a fine particulate fume. Inhalation may produce polymer fume fever, a temporary flu-like condition with fever, chills, nausea, shortness of breath, chest tightness, muscle or joint ache, and sometimes cough and elevated white blood cell count. The symptoms are often delayed 4 to 24 hours after exposure. These signs are generally temporary, lasting 24 – 48 hours and resolve without further complications. However, some individuals with repeated episodes of polymer fume fever have reported persistent pulmonary effects. Protection against polymer fume fever should also provide protection against any potential chronic effects.

Exposure to decomposition products from PTFE heated above 400°C (752°F)may cause pulmonary inflammation, hemorrhage or edema. These more serious consequences of exposure may occur from extreme thermal decomposition of PTFE which can liberate fume particles and toxic gases (carbonyl fluoride, hydrogen fluoride, and other fluorinated gases) especially under conditions of poor ventilation and/or confined spaces. The decomposition products may initially produce chest tightness or pain, chills, fever, nausea, with shortness of breath, cough, wheezing and progression into pulmonary edema. Edema may be delayed in onset and requires medical treatment. In severe cases, if medical intervention is delayed, pulmonary edema may become life threatening. Recovery is generally complete within a few days; in some rare cases, persistent lung function abnormalities have been reported. Compared to nonsmokers, polymer fume fever symptoms appear to be more prevalent and serious in smokers. Smokers must avoid contamination of tobacco with residual polymer from their hands or from fumes, and should was their hands before smoking.

Significant skin permeation and systemic toxicity after contact with the dust appears unlikely. There are no reports of human sensitization from contact with dust.

If PTFE dusts contact the eye, mechanical irritation with tearing, pain or blurred vision may result.

Individuals with pre-existing diseases of the lungs or cardiovascular system may have increased susceptibility to the reduction in blood oxygen that may develop after excessive exposures to thermal decomposition products.

CARCINOGENICITY INFORMATION

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

3. First Aid Measures

INHALATION

No specific intervention is indicated as the compound is not likely to be hazardous by inhalation. Consult a physician if necessary. If exposed to fumes from overheating or combustion, move to fresh air. Consult a physician if symptoms persist.

SKIN CONTACT

The compound is not likely to be hazardous by skin contact, but cleansing the skin after use is advised. If molten polymer gets on skin, cool rapidly with cold water. Do not attempt to peel polymer from skin. Seek medical treatment for thermal burn.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for tat least 15 minutes. Call a physician if irritation persists.

INGESTION

No specific intervention is indicated as compound is not likely to be hazardous by ingestion.

4. Fire Fighting Measures

FLAMMABLE PROPERTIES
Flash Point: Not Applicable

Tetrafluoroethylene-Perfluoro(Propyl Vinyl Ether) Copolymer
Auto ignition Temperature: ≥500°C

Fire and Explosion Hazards :
Like most organic materials in powder form, dust generated from this product may form a flammable dust-air mixture. Potential for a dust explosion may exist. Minimize the generation and accumulation of dust. Keep away from sources of ignition. Burns with invisible flame.

Hazardous gases/vapors produced in fire are Carbonyl Fluoride, Carbon Monoxide, Carbon Dioxide, Hydrogen Fluoride, Perfluorisobutylene (PFIB), and toxic vapor, gas or particulate.

EXTINGUISHING MEDIA
Water, Foam, Dry Chemical, CO_2

FIRE FIGHTING INSTRUCTIONS
Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus.

5. Handling and Storage

HANDLING (Personnel)
See FIRST AID and PERSONAL PROTECTIVE EQUPMENT Sections

HANDLING (Physical Aspects)
Minimize the generation and accumulation of dust.

STORAGE
Store in a cool dry place. Keep away from heat and sunlight.

6. Exposure Controls / Personal Protection

ENGINEERING CONTROLS
VENTILATION: If hot processing this material, use local and/or general exhaust ventilation to control the concentration of vapors and fumes below exposure limits.
In cutting, grinding, or machining operations with this material, use local exhaust to control the concentration of dust below exposure limits.

PRESONAL PROTECTIVE EQUIPMENT
EYE/FACE PROTECTION
Wear safety glasses. Wear coverall chemical splash goggles and face shield when possibility exists for eye or face contact with molten material. A full face mask positive-pressure air-supplied respirator provides protection from eye irritation.

RESPIRATORS

When temperatures exceed 320°C and ventilation is inadequate to maintain concentrations below exposure limits, use a positive-pressure air-supplied respirator. Air-purifying respirators may not provide adequate protection.

During grinding, sawing, routing, drilling or standing operations use a NIOSH/MSHA approved air purifying respirator with dust/mist cartridge or canister if airborne particulate concentrations are expected to exceed permissible exposure levels.

PROTECTIVE CLOTHING

If there is potential contact with hot/molten materials, wear heat resistant clothing and footwear. Wear leather or cotton gloves when grinding, sawing, routing, drilling or sanding.

EXPOSURE GUIDELINES

OTHER APPLICABLE EXPOSURE LIMITS

Purified Carbon

PEL (OSHA):	15 mg/m^3
	5 mg/ m^3
TLV (ACGIH):	10 mg/m^3
	3 mg/ m^3

7. Physical and Chemical Properties

PHYSICAL DATA

Melting Point:	320 - 345°C
Solubility in Water:	Insoluble
Odor:	None
Color:	Light Brown or Dark Brown
Form:	Rod, Plate, Sheet or Tube (stock shape product)
Specific Gravity:	> 1

8. Stability and Reactivity

CHEMICAL STABILITY

Stable at normal temperatures and storage conditions.

CONDITIONS TO AVOID

Maintain polymer melt temperatures below 320°C. Avoid prolonged exposure at or above the recommended processing temperatures.

INCOMPATIBITLY WITH OTHER MATERIALS

Incompatible with strong oxidizing agents, acids, alkali and alkaline earth metals. Reactions with metals in powder form occur from 370°C onwards.

DECOMPOSTION

Decomposition of this material depends on the length of time it is exposed to elevated temperatures.

At temperatures elevated above 380°C the following hazardous decomposition by-products may be given off: Carbonyl Fluoride, Carbon Monoxide, Carbon Dioxide, Hydrogen Fluoride, Perfluorisobutylene (PFIB), and toxic vapor, gas or particulate.

POLYMERIZATION
Polymerization will not occur.

9. Toxicological Information

This product has not been tested as a separate entity. Therefore, the hazards must be evaluated on the basis of the individual ingredients, and those hazards must be assumed to be additive in the absence of complete information. The hazards described in this document have been evaluated based on a threshold of 1.0% for all hazardous ingredients and 0.1% for any possible carcinogens.

Acute Effects:

This product is not expected to present any acute toxicological effects in that under normal conditions of use, it will not release or otherwise results in exposure to a hazardous chemical.

The LD50 and LC50 for this product have not been determined.

Chronic Effects:

None Known.

10. Ecological Information

AQUATIC TOXICITY
No information is available. Toxicity is expected to be low based on insolubility in water. Do not discharge to streams, ponds, lakes or sewers.

11. Disposal Considerations

WASTE DISPOSAL

Preferred options for disposal are (1) recycling, (2) incineration with energy recovery, and (3) landfill. The high fuel value of this product makes option 2 very desirable for material that cannot be recycled, but incinerator must be capable of scrubbing out acidic combustion products. Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial, and local regulation.

12. Transportation Information

SHIPPING INFORMATION
Not regulated in transportation by DOT/IMO/IATA.

13. Regulatory Information

U.S. FEDERAL TREGULATIONS

TSCA Inventory Status: In compliance with TSCA Inventory requirements for commercial purposes.

STATE REGULATIONS (U.S.)

STATE RIGHT-TO-KNOW

No substances on the state hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated.

Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for special hazardous substances) – None known.

WARNING – Substances known to the state of California to cause cancer, birth defects or other reproductive harm – None Known.

Substances on the New Jersey workplace hazardous substance list present at the concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens) – None known.

14. Other Information

ADDITIONAL INFORMATION

MEDICAL USE: CAUTION – Do not use in medical applications involving permanent implantation in the human body.

This Material Safety Data Sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in this data sheet which we received from sources outside our company. We believe this information to be correct but cannot guarantee its accuracy or completeness. Health and safety precaution in this data sheet may not be adequate for all individuals and/or situations. It is the user's responsibility to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in the data sheet shall be construed as a permission or recommendation for the use of any product in a manner that may infringe existing patents. No warranty is made, either expressed or implied.