

PTFE - Material Safety Data Sheet

Product Identification

Product Name: PTFE - Polytetrafluoroethylene

Composition and Information on Ingredients

- 1) Virgin PTFE
- 2) Chemically Modified Virgin PTFE
- 3) 15%-25% Glass Filled PTFE
- 4) 5%-15% Glass + 5% MOS2 Filled PTFE
- 5) 25%-35% Carbon Filled PTFE
- 6) 15% Graphite Filled PTFE
- 7) 40%-60% Bronze Filled PTFE
- 8) 55% Bronze + 5% MOS2 Filled PTFE

Physical and Chemical Properties

Heated above 400°C (750°F) can evolve as degradation products: Hydrogen fluoride 7664-39-3 <1 Carbonyl fluoride 353-50-4<1.

Boiling Point	Not Applicable
Melting Point	327-372 °C (621-648 °F)
Flash Point (Method used)	530-550 °C (986-1022 °F), ASTM D1929
Auto Ignition temperature	520-560 °C (968-1040 °F), ASTM D1929
UL-94 Flammability Rating: V-0 Limiting Oxygen Index Method	>95, ASTM D 2863
Appearance and Odour	Translucent to milky-white PTFE products or related product: no odour
Colour	Translucent to milky-white
Specific Gravity (h ₂ o=1)	2.13-2.20 at 25 °F
Vapour Pressure (mm hg)	Not Applicable
Vapour Density (air=1)	Not Applicable
Evaporation Rate (butyl acetate=1)	Not Applicable
Solubility in Water	Insoluble

Remarks: - 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

Potential Health Effects

Eye Contact	May cause eye irritation with discomfort, tearing, or blurring of vision.
Skin Contact	May cause skin irritation with discomfort or rash. The product diluted 1:4 with water was not a skin irritant or a skin sensitizer in human patch testing.
Ingestion	May cause non-specific discomfort, such as nausea, headache, or weakness, heartburn, vomiting, or diarrhoea. Ingestion of Hexylene glycol may cause temporary nervous system depression with anaesthetic effects such as dizziness, headache, confusion, in-coordination, and loss of consciousness.
Inhalation	May cause irritation of the upper respiratory passages or lung irritation effects with cough, discomfort, difficulty breathing, shortness of breath, or pulmonary edema (body fluid in the lungs). Symptoms may be modest initially followed in hours by severe shortness of breath requiring prompt medical attention.
Chronic Hazards	
Medical Conditions aggravated By Exposure	
Carcinogen	None of the components present in this material at concentrations equal to or greater than 0.1% is listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

First Aid Measures

Eye Contact	In case of contact, immediately flush eyes with plenty of water and get medical attention if irritation occurs.
Skin Contact	The PTFE PRODUCTS is not likely to be hazardous by skin contact.
Ingestion	No specific intervention is indicated as the PTFE PRODUCTS is not likely to be hazardous by ingestion. If gastrointestinal symptoms develop, get medical attention
Inhalation	No specific intervention is indicated as the PTFE PRODUCTS is not likely to be hazardous by inhalation. Consult a physician if necessary. If exposed from fumes from overheating or combustion, move to fresh air. Consult a physician if symptoms persist.

Note to Physicians: Activated charcoal mixture may be administered. To prepare activated charcoal mixture, suspend 50 grams activated charcoal in 400 ml water and mix thoroughly. Administer 5 ml/kg or 350 ml for an average adult.

Fire Fighting Measures

Flash Point	530-550 °C (986-1022 °F), ASTM D1929
Flammability Limits	
Extinguishing Media	Water, foam, dry chemical, CO ₂ , as appropriate for surrounding fire
Special Fire Fighting Procedures	Wear self-contained breathing Wear full protective equipment, Wear full protective equipment.
Unusual Fire and Explosion Hazards	<ul style="list-style-type: none"> Unusual fire and explosion hazards products will emit toxic fumes at high temperatures. Does not burn without an external flame. Protect from hydrogen fluoride fumes which react with water to form hydrofluoric acid. Wear neoprene gloves when handling refuse from a fire involving PTFE (Polytetrafluoroethylene). Difficult to ignite, and flame goes out when initiating source is removed (UL-94). Limited flame spread and low smoke generation (NFPA 262-1990, UL-910). Complies with NFPA definition of "limited combustible" material. High self-ignition and auto-ignition temperatures (ASTM D1929). Hazardous gases/vapours produced in a fire are hydrogen fluoride (HF), carbon monoxide, and potentially toxic fluorinated compounds.
Hazardous Combustion Products:	

Accidental Release Measures

Personal precautions and emergency procedures	Where the material temperature is above 300 °C (572 °F), use a positive pressure supplied air respirator. In case of emergency, evacuate the area and ventilate the area with fresh air.
Methods and Material for containment and cleaning up	Recover undamaged material, clean as needed, and reuse. Prevent material from entering sewers, waterways, or low areas. Soak up with sawdust, sand, oil dry or other absorbent material. Shovel or sweep up. Place in container for disposal. Flush spill area with water.
Special Precaution	In handling and storage Above 275 °C (527 °F), PTFE PRODUCTS can evolve toxic gaseous products. Provide good ventilation or respirator if there exists a probability of exceeding 260 °C

Handling and Storage

Avoid breathing vapours or mist. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Do not store or consume food, drink, or tobacco in areas where they may become contaminated with this material. Avoid circumstances that produce respirable particles unless suitable ventilation and respirator.

Engineering Controls	Keep container tightly closed. Use only with adequate ventilation. Vent heated extruder or dryer fumes outside work area. Do not aerosolize. In spray applications, use airless type pressure spray equipment at less than 60 psi, and exhaust ducts, drip pans, or other design features to minimize worker exposure to mists and overspray.
Protective clothing	Where there is potential for skin contact have available and wear as appropriate, impervious gloves, apron, pants, and jacket.

Environmental Information

Avoid release to the environment.

Disposal Considerations

Preferred methods for disposal are recycling and landfill. With incineration, gaseous products should be removed by alkaline scrubbing. Separate waste of this material from others and comply with Federal, State, and Local regulations concerning health and environment

Disclaimer

To the best of our knowledge the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy or completeness of such information. We strongly recommend that users seek and adhere to the manufacturer's or supplier's current instructions for handling each material they use and they satisfy themselves that they can meet all applicable safety and health standards. This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.