

**PFA Fluoroplastic Resin**

Version 2.0

Revision Date 04/29/2015

Ref. 150000002866

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : PFA Fluoroplastic Resin  
Tradename/Synonym : PFA 411HP-J, 416HP, 416HP X, 420HP-J, 430HP, 440HP, 440HP-J, 440HPA, 440HPA X, 440HPB, 440HPB X, 440HPD, 441HP-J, 445HP, 445HP X, 450HP, 450HP X, 450HP-J, PFA450HP LMX, 451HP, 451HP X, 451HP-J, 9738-JN, TE7229, TE7230, TE7237, TE7237A, TE7237B, TE7239, TE7242, TE7243, TE7250, TE7256, TE7262, TE7286

Product Use : Resin for moulding and/or extrusion, For industrial use only.

Restrictions on use :  
Do not use in medical applications involving permanent implantation in the human body., See Section 16

Manufacturer/Supplier : DuPont  
1007 Market Street  
Wilmington, DE 19898  
United States of America

Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)  
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)  
Transport Emergency : CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

**SECTION 2. HAZARDS IDENTIFICATION**

Not classified as a hazardous substance or mixture according to the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard 2012.

**Other hazards**

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The thermal decomposition vapours of fluorinated plastics may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

This product does not contain any components that require disclosure according to OSHA Hazard Communication Standard 2012.

**SECTION 4. FIRST AID MEASURES**

General advice	: No applicable data available.
Inhalation	: Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. Consult a physician.
Skin contact	: No hazards which require special first aid measures. Wash off with soap and water. Cool skin rapidly with cold water after contact with molten material. Do not peel polymer from the skin. Consult a physician.
Eye contact	: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Get medical attention immediately.
Ingestion	: Not a probable route of exposure. However, in case of accidental ingestion, call a physician.
Most important symptoms/effects, acute and delayed	: Polymer fume fever
Protection of first-aiders	: First Aid responders should pay attention to self-protection and use the recommended protective clothing
Notes to physician	: Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

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Suitable extinguishing media	: Carbon dioxide (CO <sub>2</sub> ), Dry powder, Foam, Water
Unsuitable extinguishing media	: No applicable data available.
Specific hazards	: Difficult to ignite, and flame goes out when initiating source is removed. Hazardous thermal decomposition products: acid fluorides Fluorinated compounds Hydrogen fluoride Carbon monoxide
Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus. Wear suitable protective equipment. Wear neoprene gloves during cleaning up work after a fire.
Further information	: Protect from hydrogen fluoride fumes which react with water to form hydrofluoric acid.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel)	: Ventilate the area. Refer to protective measures listed in sections 7 and 8. Material can create slippery conditions.
Environmental precautions	: No special environmental precautions required.
Spill Cleanup	: Sweep up and shovel into suitable containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.
Accidental Release Measures	: No applicable data available.

**SECTION 7. HANDLING AND STORAGE**

Handling (Personnel)	: For personal protection see section 8. Protect from contamination. When opening containers, avoid breathing vapours that may be emanating. Avoid
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breathing dust. Avoid contamination of cigarettes or tobacco with dust from this material. In case of insufficient ventilation, wear suitable respiratory equipment. Provide appropriate exhaust ventilation at dryers, machinery and at places where dust or volatiles can be generated. Do not use a torch to clean this material from equipment without local exhaust ventilation and respirator.  
Wash hands and face before breaks and immediately after handling the product.

- Handling (Physical Aspects) : Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).
- Dust explosion class : No applicable data available.
- Storage : Keep container tightly closed in a dry and well-ventilated place. Protect from contamination.  
Stable under recommended storage conditions.
- Storage period : No applicable data available.
- Storage temperature : No applicable data available.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

- Engineering controls : Ensure adequate ventilation, especially in confined areas. Good general ventilation should be provided to keep dust concentrations below the exposure limits. Local exhaust ventilation should be employed to minimize airborne contamination.
- Personal protective equipment
  - Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
  - Hand protection : Additional protection: Protective gloves (Type : Kevlar® - heat resistant, use possible until worn out)
  - Eye protection : Safety glasses with side-shields
  - Skin and body protection : If there is a potential for contact with hot/molten material wear heat resistant clothing and footwear.  
Regular cleaning of equipment, work area and clothing.
- Exposure Guidelines  
Exposure Limit Values

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This product does not contain any exposure limits that require disclosure according to OSHA Hazard Communication Standard 2012.

## Non-Constituent(s)

Dust (inhalable and respirable fraction)			
Permissible exposure limit:	(OSHA)	5 mg/m <sup>3</sup>	8 hr. TWA Respirable fraction.
Permissible exposure limit:	(OSHA)	15 mg/m <sup>3</sup>	8 hr. TWA Total dust.
TLV	(ACGIH)	3 mg/m <sup>3</sup>	TWA Respirable particles.
TLV	(ACGIH)	10 mg/m <sup>3</sup>	TWA Inhalable particles.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

## Appearance

Physical state : solid  
Form : pellets  
Color : translucent

Odor : none

Odor threshold : No applicable data available.

pH : No applicable data available.

Melting point/freezing point : Melting point  
300 - 310 °C (572 - 590 °F)

Boiling point/boiling range : No applicable data available.

Flash point : Not applicable

Evaporation rate : No applicable data available.

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Flammability (solid, gas)	: No applicable data available.
Upper explosion limit	: No applicable data available.
Lower explosion limit	: No applicable data available.
Vapour Pressure	: No applicable data available.
Vapour density	: No applicable data available.
Specific gravity (Relative density)	: 2.1 - 2.2
Water solubility	: insoluble
Solubility(ies)	: No applicable data available.
Partition coefficient: n-octanol/water	: No applicable data available.
Auto-ignition temperature	: 520 - 560 °C
Ignition temperature	: 530 - 550 °C
Decomposition temperature	: No applicable data available.
Viscosity, kinematic	: No applicable data available.
Viscosity, dynamic	: No applicable data available.
Limiting oxygen index	: > 95 % ASTM D 2863

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: The product is chemically stable. Stable under normal conditions.
Possibility of hazardous reactions	: During drying, cleaning and moulding, small amounts of hazardous gases and/or particulate matter may be released. These may irritate eyes, nose and throat. Large molten masses may give off hazardous gases.
Conditions to avoid	: To avoid thermal decomposition, do not overheat. Abnormally long

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processing time or high temperatures can produce irritating and toxic fumes.  
Stable under normal conditions.

Incompatible materials : Finely divided aluminium Powdered metals, potent oxidizers like fluorine (F<sub>2</sub>), and, related compounds, Contact with incompatible materials can cause fire and explosion.

Hazardous decomposition products : Hazardous thermal decomposition products:: Hydrogen fluoride, Carbonyl fluoride, acid fluorides

**SECTION 11. TOXICOLOGICAL INFORMATION**

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Further information : The product contains no substances classified as hazardous to health in concentrations which should be taken into account.

**Carcinogenicity**

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

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

**SECTION 12. ECOLOGICAL INFORMATION**

Additional ecological information : The product contains no substances classified as hazardous to the environment in concentrations which should be taken into account.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste disposal methods - Product : Like most thermoplastic plastics the product can be recycled. If recycling is not practicable, dispose of in compliance with local regulations. Incinerate only if incinerator is capable of scrubbing out hydrogen fluoride and other acidic combustion products.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for

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recycling or disposal.

**SECTION 14. TRANSPORT INFORMATION**

Not classified as dangerous in the meaning of transport regulations.

**SECTION 15. REGULATORY INFORMATION**

TSCA : On the inventory, or in compliance with the inventory

SARA 313 Regulated Chemical(s) : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65 : WARNING! This product contains a chemical or chemicals known to the State of California to cause cancer. Tetrafluoroethylene

**SECTION 16. OTHER INFORMATION**

Restrictions for use : Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of the DuPont POLICY Regarding Medical Applications and DuPont CAUTION Regarding Medical Applications.

The DuPont Oval Logo is a registered trademark of E.I. du Pont de Nemours and Company. Before use also read the following bulletin(s): Fluoropolymer Safe Handling Guide published by the Society of the Plastics Industry. For further information contact the local DuPont office or DuPont's nominated distributors.





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Contact person : MSDS Coordinator, DuPont Chemicals and Fluoroproducts, Wilmington, DE  
19898, (800) 441-7515

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