



# Teflon™ FEP 9819FL

## Fluoroplastic Resin

## Product Information

For inventory control purposes, product name may be followed by an X.

Products labeled FEP 9819FL and FEP 9819FL X are equivalent, and all information in this document is applicable to both.

### Description

Teflon™ FEP 9819FL is a specialty fluoroplastic resin available as a loosely compacted fluff.

Teflon™ FEP 9819FL and the other Teflon™ FEP (fluorinated ethylene propylene) copolymer resins combine the processing ease of conventional thermoplastics with many properties similar to those of polytetrafluoroethylene (PTFE). They have high melt strength and stability at recommended processing temperatures.

Teflon™ FEP 9819FL is preferred for products that are not exposed to severe environmental stress in service. Properly processed products made from neat Teflon™ FEP 9819FL resin provide the superior properties typical of the fluoroplastic resins: retention of properties after service at 204 °C (400 °F), useful properties at -240 °C (-400 °F), and excellent dielectric properties and chemical inertness to nearly all industrial chemicals and solvents. Table 1 shows typical property data for Teflon™ FEP 9819FL. Molded products have moderate stiffness and high ultimate elongation. In a flame, products of Teflon™ FEP 9819FL resist ignition and do not promote flame spread. When ignited by flame from other sources, their contribution of heat is very small and is added at a slow rate with very little smoke.

### Processing

Teflon™ FEP 9819FL requires special processing techniques and should only be used after consultation with Chemours technical personnel. Statements, or data, regarding behavior in a flame situation are not intended to reflect hazards presented by this or any other material when under actual fire conditions.

### Applications

Teflon™ FEP 9819FL is only intended for use in special application processes in consultation with Chemours.

### Safety Precautions

Before using Teflon™ FEP 9819FL resin, refer to the Material Safety Data Sheet and the latest edition of "The Guide to the Safe Handling of Fluoropolymer Resins," published by The Society of the Plastics Industry, Inc. ([www.fluoropolymers.org](http://www.fluoropolymers.org)) or by PlasticsEurope ([www.plasticseurope.org](http://www.plasticseurope.org)).

Open and use containers only in well-ventilated areas using local exhaust ventilation (LEV). Vapors and fumes liberated during hot processing of Teflon™ FEP 9819FL should be exhausted completely from the work area. Contamination of tobacco with these polymers must be avoided. Vapors and fumes liberated during hot processing that are not properly exhausted, or from smoking tobacco or cigarettes contaminated with Teflon™ FEP 9819FL, may cause flu-like symptoms, such as chills, fever, and sore throat. This may not occur until several hours after exposure and will typically pass within about 24 hours.

Mixtures of Teflon™ fluoroplastic resin with some finely divided metals, such as magnesium or aluminum, can be flammable or explosive under some conditions.

### Storage and Handling

The properties of Teflon™ FEP 9819FL resin are not affected by storage time. Ambient storage conditions should be designed to avoid airborne contamination and water condensation on the resin when it is removed from containers.

### Packaging

Teflon™ FEP 9819FL is packaged in 82-kg (180-lb) drums with a polyethylene inner lining.

**Table 1: Typical Property Data for Teflon™ FEP 9819FL Fluoroplastic Resin**

Property	Test Method <sup>1</sup>		Unit	Typical Value
<b>PROCESSING</b>				
Melt Flow Rate (MFR at 372 °C [702 °F]/5.0 kg)	ISO 12086	D 2116	g/10 min	30
Specific Gravity	ISO 1183	D 792	—	2.15
Critical Shear Rate (372 °C/702 °F)	—	Chemours	1/s	200
<b>MECHANICAL</b>				
Tensile Strength, 23 °C (73 °F)	ISO 12086	D 638	MPa (psi)	20 (3,000)
Ultimate Elongation, 23 °C (73 °F)	ISO 12086	D 638	%	300
Flexural Modulus, 23 °C (73 °F)	ISO 178	D 790	MPa (psi)	520 (75,500)
MIT Folding Endurance (0.20 mm, 8 mil film)	—	D 2176 <sup>2</sup>	Cycles	7,000
Hardness, Shore Durometer	ISO 868	D 2240	—	D 55
<b>ELECTRICAL</b>				
Dielectric Constant, 1 MHz	IEC 250	D 150	—	2.03
Dielectric Constant, 1 GHz	IEC 250	D 2520	—	0.0007
Dielectric Strength, Short Time, 0.25 mm (0.010 in) Film	IEC 243	D 149	kV/mm (V/mil)	80 (2,000)
<b>THERMAL</b>				
Melting Point	—	D 4591	°C (°F)	255 (491)
Limiting Oxygen Index	ISO 4589	D 2863	%	> 95
<b>OTHER</b>				
Water Absorption, 24 hr	—	D 570	%	<0.01
Weather and Chemical Resistance	—	—	—	Excellent

Note: Teflon™ FEP 9819FL meets the requirements of ASTM D 2116, Type II.

Typical properties are not suitable for specification purposes.

Statements or data regarding behavior in a flame situation are not intended to reflect hazards presented by this or any other material when under actual fire conditions.

<sup>1</sup> ASTM method unless otherwise specified.

<sup>2</sup> Historical standard.

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