

**Material Safety Data Sheet**  
**Title: NORTON® ETFE FILM**

**HMIS RATING: Health- 0 Flammability- 1 Reactivity- 0**

**SECTION I- Identification of Product**

PRODUCT NAME: NORTON® ETFE Film

OTHER/GENERIC NAMES: Ethylene-Tetrafluoroethylene Copolymer, ETFE Film

FORM: Colored or Natural (uncolored) transparent plastic film.

PRODUCT USE: High temperature laminate, chemical resistance, mold release film

MANUFACTURERS NAME/ADDRESS: Saint-Gobain Performance Plastics Corp.  
150 Dey Road, Wayne, NJ 07470 USA

EMERGENCY TELEPHONE NO.: CHEM-TEL Inc. US: 1-800-255-3924 Worldwide + 01-813-248-0585  
TECHNICAL ASSISTANCE TELEPHONE NO.: 973-696-4700

**SECTION II- Composition/Information on Ingredients**

<u>Ingredient Name</u>	<u>CAS Number</u>	<u>Weight %</u>
Ethylene-Tetrafluoroethylene Copolymer	68258-85-5	>99%
Inert pigment-heavy metal free (Colored Film only)	various	<1%

This product as supplied is not considered hazardous as defined in the US Code of Federal Regulations, 29CFR 1910.1200. This product is considered an "article" as supplied for its intended and foreseen use.

All components appear on TSCA Inventory. This product contains no substances at or above the reporting threshold under Section 313 of Title III of the US EPA Superfund Amendments and Reauthorization Act of 1986 and US Code of Federal Regulations, 40CFR part 372, based on available data.

**SECTION III- Hazards Identification**

EMERGENCY OVERVIEW: No special dangers are known. Use within specified processing parameters, high temperatures could evolve irritating and/or toxic fumes.

Potential Health Hazards:

SKIN: Not anticipated under recommended usage conditions

EYES: Not anticipated under recommended usage conditions.

INHALATION: Not anticipated under recommended usage conditions.

INGESTION: Not anticipated under recommended usage conditions.

DELAYED EFFECTS: Small amounts of Hydrogen Fluoride and Carbonyl Fluoride may be evolved when ETFE is overheated or burned. Inhalation of fumes from overheating ETFE may cause eye, nose, throat, and lung irritation. Lung effects may be delayed for several hours. Inhalation of low concentrations of Hydrogen Fluoride can initially include symptoms of choking, coughing, and severe eye, nose, and throat irritation. Possibly followed after a symptomless period of 1 to 2 days by fever, chills, difficulty in breathing, cyanosis, and pulmonary edema. Inhalation, ingestion, or skin or eye contact with Carbonyl Fluoride may initially include: skin irritation with discomfort or rash; eye corrosion with corneal or conjunctival ulceration; irritation of the upper respiratory passages; or temporary lung irritation effects with cough, discomfort, difficulty breathing, or shortness of breath. Symptoms may be delayed.

Ingredients found on one of the OSHA designated carcinogen lists are listed below:

None listed

**Material Safety Data Sheet**  
**Title: NORTON® ETFE FILM**

---

**Section IV- First Aid Measures**

**SKIN:** Not anticipated under recommended usage conditions. For hot product, immediately immerse in or flush affected area with large amounts of cold water. Cover with clean cotton sheeting or gauze and seek medical advice.

**EYES:** Not anticipated under recommended usage conditions. If necessary, flush eyes with plenty of water. If symptoms persist or injury is suspected, seek medical advice.

**INHALATION:** Not anticipated under recommended usage conditions. If exposed to fumes from overheating or combustion, move to fresh air. If not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

**INGESTION:** Not anticipated under recommended usage conditions.

**ADVICE TO PHYSICIAN:** Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposure from thermal decomposition products.

**SECTION V- Fire Fighting Measures**

Flammable Properties

FLASH POINT: 470 °C (875 °F)  
FLASH POINT METHOD: ASTM D1929  
AUTO IGNITION TEMPERATURE: 510 - 515 °C (950 - 959 °F)  
AUTO IGNITION TEMPERATURE: ASTM D1929  
UPPER FLAME LIMIT (volume % in Air): N/A  
LOWER FLAME LIMIT (volume % in Air): N/A  
OXYGEN INDEX: 30%  
OXYGEN INDEX METHOD: ASTM D6283

**EXTINGUISHING MEDIA:** Water, foam, carbon dioxide, dry chemical.

**UNUSUAL FIRE AND EXPLOSIVE HAZARDS:** Hazardous gases/vapors produced in fire are hydrogen fluoride (HF), carbon monoxide, potentially toxic fluorinated compounds.

**SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:** Wear self-contained breathing apparatus. Wear full protective equipment. Hydrogen Fluoride fumes emitted during a fire can react with water to form hydrofluoric acid. Wear neoprene gloves when handling refuse from fire.

**SECTION VI- Accidental Release Measures**

**IN CASE OF SPILLS OR OTHER RELEASE:** Spilled material may be a slipping hazard. Recover undamaged and minimally contaminated material for reuse and/or reclamation.

**SECTION VII- Handling and Storage**

**NORMAL HANDLING:** Product is physiologically inert and non-toxic at normal temperatures. Above 270 °C (518 °F), some decomposition of ETFE products may be expected with evolution of gaseous and particulate products, which are toxic if inhaled.

**STORAGE RECOMMENDATIONS:** No special requirements. Keep product in original packaging to protect from dirt and damage.

**Material Safety Data Sheet**  
**Title: NORTON® ETFE FILM**

**SECTION VIII- Exposure Controls/Personal Protection**

VENTILATION: Ensure good ventilation or exhaust if there is the possibility of fumes being evolved. Not required if material is used under anticipated conditions.

FIRE AND EXPLOSION: Wear self-contained breathing apparatus. Wear full protective equipment. Hydrogen Fluoride fumes emitted during a fire can react with water to form hydrofluoric acid. Wear neoprene gloves when handling refuse from fire.

PERSONAL PROTECTIVE EQUIPMENT: None required if material is used within specified processing parameters. Normal safety equipment should always be used in an industrial environment.

ADDITIONAL RECOMMENDATIONS: Heat resistant clothing and skin covering when working with hot product. Do not smoke while handling material. Keep tobacco products away from sources of contamination: hands and clothes. When temperatures exceed 270 °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.

EXPOSURE GUIDELINES/LIMITS: Not applicable

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:

<u>Substance</u>	<u>PEL (OSHA)</u>	<u>TLV (ACGIH)</u>
Hydrogen fluoride	3ppm, 8 Hr. TWA, as F	3ppm, 2.6 mg/m <sup>3</sup> ,
Carbonyl fluoride	None established	2ppm, 5.4 mg/m <sup>3</sup> , 8 hr.

**SECTION IX- Physical and Chemical Properties**

APPEARANCE: Colored transparent film

PHYSICAL STATE: Solid

ODOR: Odorless

SPECIFIC GRAVITY (H<sub>2</sub>O = 1): 1.7

SOLUBILITY IN WATER (weight %): Insoluble

pH: Not applicable

BOILING POINT: Not applicable

MELTING POINT: 230 - 270°C (446 - 518 °F)

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

EVAPORATION RATE: Not applicable

% VOLATILES: Not applicable

IGNITION TEMPERATURE: 510 - 515°C (950 - 959°F).

FLASH POINT: 470 °C (878 °F)

THERMAL DECOMPOSITION: See Section X.

**Material Safety Data Sheet**  
**Title: NORTON® ETFE FILM**

---

**SECTION X- Stability and Reactivity**

CHEMICAL STABILITY: Stable. Thermal degradation can begin at approximately 270°C.

CONDITIONS TO AVOID: Avoid exposure to open flame or temperatures exceeding recommended processing temperatures.

INCOMPATIBILITIES/REACTS: Incompatible or can react with finely divided metal powders (e.g. aluminum and magnesium) and potent oxidizers like fluorine (F<sub>2</sub>) and related compounds (e.g. chlorine trifluoride (ClF<sub>3</sub>)). Contact with incompatibles can cause fire and explosion.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition beginning at about 270 °C (518 °F) may evolve hydrogen fluoride (HF), carbonyl fluoride, and other perfluoroolefins.

HAZARDOUS POLYMERIZATION: Will not occur.

**SECTION XI- Toxicological Information**

GENERAL: No potential health hazards when used within processing guidelines. At elevated temperature, thermal decomposition products can be toxic. See section VIII for exposure limits.

IMMEDIATE (ACUTE) EFFECTS: See section III. Material as supplied is considered inert.

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS: Material as supplied is considered inert. See section III for possible effects of overheated or burned material.

TOXICITY OF PRODUCT: Non-toxic when used within recommended guidelines.

OTHER DATA: None.

**SECTION XII- Ecological Information**

Aquatic toxicity: No information is available. Toxicity is expected to be low based on insolubility in water.

**SECTION XIII- Disposal Considerations**

Clean material may be recycled.

Dispose of material as solid waste according to local regulations.

Dispose of packaging as solid waste according to local regulations.

Can be incinerated only if the HF and other acidic effluent can be extracted from the fluegases.

Product as shipped is not considered a RCRA hazardous waste if discarded. This information relates only to uncontaminated product. If used in a process, which contaminates product, then disposal considerations should be re-evaluated.

Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial, and local regulations.

**Material Safety Data Sheet**  
**Title: NORTON® ETFE FILM**

**SECTION XIV- Transport Information**

US DOT PROPER SHIPPING NAME: Not regulated.

US DOT HAZARD CLASS: Not regulated.

US DOT ID NUMBER: Not applicable

UN No.: Not determined

ICAO/IATA: Not regulated.

There is no known transportation requirements associated with this material in the form supplied based on currently available data.

**SECTION XV- Regulatory Information**

Toxic Substances Control Act (TSCA)

TSCA INVENTORY STATUS: In compliance with TSCA Inventory requirements for commercial purposes.

OTHER TSCA ISSUES: This product is considered an article under TSCA.

SARA Title III/CERCLA

"Reportable Quantities" (RQ's) and/or "Threshold Planning Quantities" (TPQ's) exist for the following ingredients.

<u>Ingredient Name</u>	<u>SARA/CERCLA RQ (lb)</u>	<u>SARA EHS TPQ (lb)</u>
No ingredients listed in this section.		

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: None

The following ingredients are SARA 313 "Toxic Chemicals", CAS Numbers and weight percents are found in Section II.

<u>Ingredient Name</u>	<u>Comment</u>
No ingredients listed in this section.	

STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section II, the following are listed for state right-to-know purposes.

<u>Ingredient Name</u>	<u>Weight %</u>	<u>Comment</u>
No ingredients listed in this section.		

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.

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 a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): None known.

**Material Safety Data Sheet**  
**Title: NORTON® ETFE FILM**

ADDITIONAL REGULATORY INFORMATION: None

WHMIS CLASSIFICATION (CANADA): Not a controlled substance. (Considered to be a manufactured article.)

FOREIGN INVENTORY STATUS: Not determined

**SECTION XVI- Other Information**

This material safety data sheet was prepared in compliance with US OSHA Hazard Communication Standard 29CFR 1910.1200 and the European Council Directive 91/155/EEC, 67/548 and 88/379/EEC as well as their relevant amendments, on the approximation of laws, regulations and administrative provisions relative to the classification, packaging and labeling of dangerous substances and preparations.

The information and recommendations set forth above are taken from sources believed to be accurate as of the date hereof; however, Saint-Gobain Performance Plastics Corporation makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof. The information contained in this sheet does not constitute a hazard assessment and should not be used in place of the user's own assessment of workplace risks as required by other health and safety legislation.