

PVDF Material Safety Data Sheet Effective Date: 12/09/2009

**1 PRODUCT AND COMPANY IDENTIFICATION**

**MTI Corporation**  
860 South 19th Street  
Richmond, CA94804

**EMERGENCY PHONE NUMBERS:**  
Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887  
Medical: Rocky Mountain Poison Control Center  
(303) 623-5716 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
MTI Tech Support	(510) 525 - 3070	Mon - Fri 9:00am - 6:00pm
MTI Customer Service	(510) 525 - 3070	Mon - Fri 9:00am - 6:00pm

Product Name MTI-PVDF  
Product Synonym(s)  
Chemical Family Fluoropolymer  
Chemical Formula  
Chemical Name Vinylidene Fluoride Polymer  
EPA Reg Num  
Product Use

**2 COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
Ethene, 1,1-difluoro-, homopolymer	24937-79-9	100	N

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Communication Standard (29 CFR 1910.1200)

While this material is not classified as hazardous under Federal OSHA regulations, this MSDS contains valuable information critical to the safe handling and proper use of this product. This MSDS should be retained and available for employees and other users of this product.

The components of this product are all on the TSCA inventory list.

**3 HAZARDS IDENTIFICATION**

**Emergency Overview**

Odorless Clear Pellets

**CAUTION!**  
MELT PROCESSING RELEASES VAPORS WHICH MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION

**Potential Health Effects**

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. As a finished product, it is a synthetic, high molecular weight polymer. Due to its chemical and physical properties, this material does not require special handling other than the good industrial hygiene and safety practices employed with any industrial material of this type. Under normal processing conditions, this material will release fume or vapor. Components of these releases may vary with processing time and temperatures. These process releases may

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produce eye, skin and/or respiratory tract irritation and, with repeated or prolonged exposures, nausea, drowsiness, headache and weakness. Although unlikely under normal handling conditions, if this material is heated in excess of 600 F (315 C) hazardous decomposition products will be produced. Hazardous decomposition products include hydrogen fluoride and oxides of carbon, the concentrations of which vary with temperature and heating regimens.

#### 4 FIRST AID MEASURES

IN CASE OF CONTACT, flush the area with plenty of water. Remove material from clothing. Wash clothing before reuse. If molten polymer gets on the skin, cool rapidly with cold water. Do not attempt to peel polymer from the skin. Obtain medical treatment for thermal burns.

IF SWALLOWED, induce vomiting immediately as directed by medical personnel. Get medical attention. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air.

GENERIC FIRST AID, The hydrogen fluoride (HF) decomposition by-product is extremely corrosive and can cause severe burns which may not immediately visible or painful. Exposure to HF may be fatal if absorbed through the skin, inhaled or swallowed. In all cases of major hydrogen fluoride exposure (including skin burns about the size of the palm of the hand) hypocalcemia may be present. Monitor calcium levels frequently and EKG for signs of calcium depletion. Patients with burns of the neck or face, or with signs of respiratory irritation, should be monitored for delayed pulmonary edema, and edema of the upper airway with respiratory obstruction. Respiratory care should be closely supervised and may include further administration of 2.5% calcium gluconate by nebulization. Do not administer local anesthetics after skin contact as the level of pain is an indication of the effectiveness of the calcium gluconate treatment. If pain continues longer than 30 minutes, consider injecting calcium gluconate (5%) into the skin and subcutaneous tissue beneath, around and within the affected area. If ingestion occurs, do not induce vomiting. Administer 4 to 8 ounces of water followed by 2 to 4 ounces of an antacid containing calcium or magnesium.

First Aid Supplies for Hydrogen Fluoride

Use of the following materials has been shown to be useful for HF treatment as explained above:

- 2.5% calcium gluconate gel
- 1.0% calcium gluconate in saline ocular solution
- 2.5% calcium gluconate in saline inhalant
- antacid containing calcium or magnesium

#### 5 FIRE FIGHTING MEASURES

##### Fire and Explosive Properties

Auto-Ignition Temperature	NE	
Flash Point	NE	Flash Point Method
Flammable Limits- Upper	NA	
Lower	NA	

##### Extinguishing Media

Use water spray, carbon dioxide, foam or dry chemical.

##### Fire Fighting Instructions

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

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**Fire and Explosion Hazards**

When burned, the following hazardous products of combustion can occur: Oxides of carbon and Hydrogen fluoride

**6 ACCIDENTAL RELEASE MEASURES**

**In Case of Spill or Leak**

Contain spill. Sweep or scoop up and remove to suitable container. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

**7 HANDLING AND STORAGE**

**Handling**

Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin and clothing. Process using adequate ventilation. Keep container tightly closed. Avoid breathing processing fumes or vapors. NOTE:

Additional Information:

- Thermal decomposition resulting in hydrogen fluoride exposure.

When HF is first detected, during the decomposition of this product, continue to run the equipment with the heat source to polymer turned off. Ventilate the area, and remove nonessential personnel. In case of a major decomposition event, evacuate all personnel immediately.

**Storage**

Store in a cool, dry place. This material is not hazardous under normal storage conditions; however, material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage.

**8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering Controls**

Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposure. Dilution ventilation is acceptable, but local mechanical exhaust ventilation preferred, if practical, at sources of air contamination such as open process equipment.

**Eye / Face Protection**

Use good industrial practice to avoid eye contact. Processing of this product releases vapors or fumes which may cause eye irritation. Where eye contact may be likely, wear chemical goggles and have eye flushing equipment available.

**Skin Protection**

Minimize skin contamination by following good industrial hygiene practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

**Respiratory Protection**

Avoid breathing processing fumes or vapors. Where airborne exposure is likely, use NIOSH approved respiratory protective equipment appropriate to the material and/or its components and substances released during processing. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitation specification by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full-face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

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**8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Other Protective Equipment**

NOTE:

In the event of thermal decomposition resulting in an HF exposure or release, decontamination of the equipment involves the use of protective equipment. Contact an Industrial Hygienist or safety personnel for type of equipment necessary.

**Airborne Exposure Guidelines for Ingredients**

The components of this product have no established Airborne Exposure Guidelines

- Only those components with exposure limits are printed in this section.
- Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
- ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.

**Other Exposure Limit Information (product-based)**

Exposure Limit Memo:

Hydrogen fluoride (HF) has a TLV of 3 ppm.

**9 PHYSICAL AND CHEMICAL PROPERTIES**

Appearance/Odor	Odorless Clear Pellets
pH	
Specific Gravity	1.76-1.80
Vapor Pressure	NE
Vapor Density	NE
Melting Point	165-172 deg C
Freezing Point	
Boiling Point	NE
Solubility In Water	Negligible
Evaporation Rate	NE
Percent Volatile	NE

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**10 STABILITY AND REACTIVITY**

**Stability**

This material is chemically stable under normal and anticipated storage and handling conditions. This material is chemically stable under normal and anticipated storage and handling conditions. **WARNING:** Thermal decomposition of polymer will generate hydrogen fluoride (HF). Thermal decomposition of the polymer begins to generate HF at 600 degrees F (315 degrees C) and the evolution of HF becomes rapid at 700 degrees F (370 degrees C). See First Aid Measures (Section 4) for additional information on health hazards and treatment of HF.

**Hazardous Polymerization**

Does not occur.

**Incompatibility**

Contact with strong bases, esters and ketones may cause a low energy release. Silica (glass fibers) and titanium dioxide will accelerate thermal decomposition.

**Hazardous Decomposition Products**

Hydrogen fluoride (HF), possible oxides of carbon.

In case of decomposition, see Handling section (7) for additional information.

**11 TOXICOLOGICAL INFORMATION**

**Toxicological Information**

Data on this material and/or its components are summarized below. Ethene, 1,1-difluoro-, homopolymer The toxicity data available on this product indicate that the material is practically non-toxic when given orally (rat LD50 6,000 mg/kg) and causes minimal or no biological response upon subchronic contact or prolonged implantation in tissues. Various solvent extracts of this product also caused no adverse reactions in animals.

**12 ECOLOGICAL INFORMATION**

**Ecotoxicological Information**

No data are available.

**Chemical Fate Information**

No data are available.

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**13 DISPOSAL CONSIDERATIONS**

**Waste Disposal**

Recover, reclaim or recycle when practical. Dispose of in an approved landfill if allowed locally. Incinerate only if the incinerator is fitted to scrub out hydrogen fluoride and other acidic combustion gases. Comply with federal, state and local regulations. Dispose of in a permitted waste management facility if incineration or landfill is not practical.

Pigmented, filled and/or solvent laden product may require special disposal practices in accordance with federal, state and local requirements.

Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

**14 TRANSPORT INFORMATION**

DOT Name Not Regulated  
DOT Technical Name  
DOT Hazard Class  
UN Number  
DOT Packing Group PG  
RQ

**15 REGULATORY INFORMATION**

**Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)**

Immediate (Acute) Health	N	Fire	N
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	N

The components of this product are all on the TSCA inventory list.

**Ingredient Related Regulatory Information:**

<b>SARA Reportable Quantities</b>	<b>CERCLA RQ</b>	<b>SARA TPQ</b>
Ethene, 1,1-difluoro-, homopolymer	NE	

**16 OTHER INFORMATION**

**Revision Information**

Revision Date 16 JUN 2000 Revision Number 2  
Supercedes Revision Dated 06-AUG-1999

**Revision Summary**

The manufacturer has changed its name from Elf Atochem North America, Inc. to ATOFINA Chemicals, Inc.

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**Key**

NE= Not Established    NA= Not Applicable    (R) = Registered Trademark

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