

Product Name: MFA FluoroGrip™ Acrylic

Manufacturer Information

Manufacturer's Name	Address	Product Information	Emergency Telephone Number	Date Prepared
Integument Technologies, Inc	70 Pearce Avenue Tonawanda, NY 14150	716-873-1199	800-535-5053	2-19-01

Section I – Identification of Product

- MFA FluoroGrip™ consisting of:
 - A. Surface Oxygenated Fluoropolymer Film and,
 - B. Acrylic pressure sensitive adhesive (PSA) transfer tape with release liner.

Section II – Composition

A. MFA Film		
Ingredient Name	CAS #	Weight %
Propane, 1,1,1,2,2,3,3-heptafluoro-3-[trifluoroethenyl]oxy]-polymer with tetrafluoroethene and (trifluoromethoxy) ethene	165178-32-5	100%

- The products as supplied are not considered hazardous as defined in the US Code of Federal Regulations, 29CFR 1910.1200. The products are considered an “article” as supplied for its intended and foreseen use. All components appear on TSCA Inventory. The products contain 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, 40 CFR part 372, based on available data.

B. Acrylic Adhesive		
Composition is provided in % dry weight, unless otherwise noted		
<u>Ingredient Name</u>	<u>CAS Number</u>	<u>Weight %</u>
Proprietary Acrylate Copolymer Adhesive:	N/A	52.5
Paper Release Liner:	N/A	47.5
Residual Solvent in adhesive consists of:		
<u>CAS Number</u>		
<u>Weight %</u>		
<u>ACGI</u>		
<u>OSHAA**</u>		

TWA

Ethyl Acetate
141-78-6
<.1
400
400

Toluene*
108-88-3
<.1
50
100

Vinyl acetate*
108-05-4
<.1
10***
10

Isopropanol
67-63-0
<.1
400
400

* Reportable under SARA Title III Section 313

** in PPM

*** TLV

Section III – Health Hazard Data

A. MFA Film

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

Eyes

Inhalation

Ingestion

Not anticipated under recommended usage conditions. Molten or heated materials can cause serious burns.

Not anticipated under recommended usage conditions. Molten or heated materials can cause serious burns.

Not anticipated under recommended usage conditions. Exposure to fumes cause an influenza-like condition which is sometimes called "polymer fume fever."

Not anticipated under recommended usage conditions.

Ingredients found on one of the OSHA

None known.

<i>designated carcinogen lists</i>	
------------------------------------	--

B. Acrylic Adhesive	
<i>Effects of Overexposure</i>	
Acute	N/A
Chronic	N/A
Eyes/Mucosa	Irritation to eyes or Mucosa not anticipated when proper industrial handling is observed.
Skin	Exposure is not expected to cause skin irritation.

Section IV – First Aid Measures

A. MFA Film	
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. May cause influenza-like symptoms if thermal decomposition products are inhaled (“polymer fume fever”), chills, headache. Avoid contamination of tobacco products. Remove victim to fresh air. If not breathing, perform mouth to mouth resuscitation and seek medical attention.
Ingestion	Not anticipated under recommended usage conditions. First aid is normally not required. Do not give anything by mouth to an unconscious person.
Advice to physician	Expect influenza-like symptoms if thermal decomposition products are inhaled: chills, fever, headache, shortness of breath, coughing. This is known as “polymer fume fever” and will pass after 24 to 48 hours providing no further exposure occurs.

B. Acrylic Adhesive	
Skin	No adverse effects anticipated when proper handling and safety precautions are observed.
Eyes	Wash with water for 5 minutes. If necessary, consult a physician.
Ingestion	No adverse effects anticipated when proper handling and safety precautions are observed.
Inhalation	No adverse effects anticipated by this route of exposure.

Section V – Fire Fighting Measures

A. MFA Film	
Flammable Properties	<p>Flash Point: Does not flash.</p> <p>Flash Point Method: N/A</p> <p>Auto Ignition Temperature: Not Known.</p> <p>Upper Flame Limit (volume % in air): N/A</p> <p>Lower Flame Limit (volume % in air): N/A</p> <p>Oxygen Index: > 95%</p>
Extinguishing Media	Water, foam, carbon dioxide, dry chemical.
Unusual Fire and Explosive Hazards	Thermal degradation products liberated upon prolonged heating or in a fire are hydrogen fluoride (HF) and carbonyl fluoride (COF ₂) which are toxic gases if inhaled or if they come in contact with moist skin. HF has an ACGIH TLV/TWA ceiling value of 3 ppm (2.6 mg/m ³) and an OSHA ceiling PEL/TWA of 3 ppm. COF ₂ has an ACGIH TLV/TWA of 2 ppm (5.4 mg/m ³) and a ceiling value of 5 ppm (13 mg/m ³).

Special Fire Fighting Precautions/Instructions	Personnel entering the area should have full skin protection, including acid resistant clothing and self-contained breathing apparatus (SCBA) operated in the positive pressure mode. Do not enter fire area without proper protection. Fight fire from safe distance.
---	--

B. Acrylic Adhesive	
Flammable Properties	Flash Point: Does not flash. Auto Ignition Temperature: > 1000° F Upper Flame Limit (volume % in air): N/A Lower Flame Limit (volume % in air): N/A
Extinguishing Media	Water, foam, carbon dioxide, dry chemical.
Special Firefighting Procedures	None known.
Unusual Fire and Explosion Hazards	None known.

Section VI – Accidental Release Measures

A. MFA Film

- In case of spills or other release, sweep or pick up and dispose of in a solid waste container.

B. Acrylic Adhesive

- Dispose of material in accordance with local, state, and federal rules and regulations.

Section VII – Handling and Storage

- Storage Recommendations (FluoroGrip™):** Store in a clean, dry, dust free environment to maintain material cleanliness – preferably in its original packaging, preferably at 50 - 70° F.

A. MFA Film

- Normal Handling:** Products are physiologically inert and non-toxic at normal temperatures. At high temperatures, some decomposition can be expected with evolution of gaseous and particulate products which are toxic if inhaled. This can give rise to a characteristic syndrome with influenza-type symptoms known as “polymer fume fever.” These symptoms subside within 24-48 hours away from further exposure with no long-term effects. Keep away from ignition sources. Do not smoke while using fluoropolymers.

B. Acrylic Adhesive

- Normal Handling:** Keep area clean to avoid contamination of product.

Section VIII – Exposure Controls/Personal Protection

A. MFA Film	
Ventilation	Ensure good ventilation or exhaust if there is the possibility of fumes being evolved. Not required if material is used within specified processing parameters.
Fire and Explosion	N/A
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.
Exposure Guidelines/Limits	N/A
Other Exposure Limits for Potential Decomposition Products	Thermal degradation products liberated upon prolonged heating or in a fire are hydrogen fluoride (HF) and carbonyl fluoride (COF ₂) which are toxic gases if inhaled or if they come in contact with moist skin. HF has an ACGIH TLV/TWA ceiling value of 3 ppm (2.6

	mg/m ³) and an OSHA ceiling PEL/TWA of 3 ppm. COF ₂ has an ACGIH TLV/TWA of 2 ppm (5.4 mg/m ³) and a ceiling value of 5 ppm (13 mg/m ³).
--	---

B. Acrylic Adhesive	
Exposure Guidelines	None at this time.
Conditions under which personal protective equipment is normally recommended	Skin Protection: No special requirements should be necessary.
	Clothing Requirements: None.
	Respiratory Protection: No special requirements should be necessary.
	Glove Requirements: None.
	Ventilation Protection: No special requirements should be necessary
	Wash Requirements: None.

Section IX – Physical and Chemical Properties

A. MFA Film		
Appearance: Clear to transparent film	Physical State: Solid	Odor: Odorless
Specific Gravity (H₂O = 1): 2.12-2.17	Solubility in Water (weight %): Insoluble	pH: N/A
Boiling Point: N/A	Melting Point: 280-290° C	Vapor Pressure: N/A
Vapor Density: Solid material	Evaporation Rate: N/A	% Volatiles: N/A
Ignition Temperature: N/A	Flash Point: Does not flash	Thermal Decomposition: See Section X

B. Acrylic Adhesive	
Evaporation Rate: N/A	Solubility in Water (weight %): N/A
Vapor Pressure: N/A	Viscosity: N/A
Vapor Density: N/A	Appearance: Adhesive films: Translucent.
Boiling Point: N/A	Odor: Characteristic slight organic odor.

Section X – Stability and Reactivity

A. MFA Film

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Avoid exposure to open flames or temperatures exceeding recommended processing temperatures.
Incompatibilities/Reacts	MFA film reacts with alkali compounds and halogenated compounds at elevated temperatures. Will burn in atmospheres of 95% oxygen when ignition source is present. E-CTFE film reacts with alkali metals and interhalogen compounds at elevated temperatures. Will burn in atmospheres of 60% oxygen when ignition source is present.
Hazardous Decomposition Products	Thermal decomposition will evolve hydrogen fluoride, carbonyl fluoride, and other perfluoroolefins.
Hazardous Polymerization	Will not occur.

B. Acrylic Adhesive	
Chemical Stability	Stable under normal conditions.
Conditions to Avoid	None known.
Hazardous Decomposition Products	Oxides of carbon, nitrogen.
Hazardous Polymerization	Will not occur.

Section XI – Toxicological Information

A. MFA Film	
General	No potential health hazards when used within processing guidelines.
Immediate (Acute) Effects	See section VII. Material is considered inert.
Toxicity of Product	Non-toxic when used within recommended guidelines.
Other Data	None.

B. Acrylic Adhesive

- No Information Available.

Section XII – Ecological Information

A. MFA Film

- No known harmful effects of the environment. Material is considered inert and not expected to be biodegradable or toxic.

B. Acrylic Adhesive

- No Information Available

Section XIII – Disposal Considerations

A. MFA Film

- Dispose of fluoropolymer 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 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.

B. Acrylic Adhesive

- Dispose in accordance with federal and/or state regulations covering solid waste disposal.

Section XIV – Transportation Information

A. MFA Film		
DOT Designation	UN No	ICAO/IATA
Not hazardous	Not determined	Not hazardous

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

B. Acrylic Adhesive

- No Information Available

Section XV – Regulatory Information

A. MFA Film
Toxic Substances Control Act (TSCA)
TSCA Inventory Status: All components are listed on the TSCA inventory.
Other TSCA Issues: The products are considered an article under TSCA.

SARA Title III/CERCLA										
<p>“Reportable Quantities” (RQ’s) and/or “Threshold Planning Quantities” (TPQ’s) exist for the following ingredients.</p> <table> <thead> <tr> <th><u>Ingredient Name</u></th> <th><u>SARA/CERCLA RQ (lb.)</u></th> <th><u>SARA EHS TPQ (lb)</u></th> </tr> </thead> <tbody> <tr> <td colspan="3">No ingredients listed in this section.</td> </tr> </tbody> </table> <p>Spills or releases resulting in the loss of any ingredient at or above RQ requires immediate notification to the National Response Center [(800)-424-8802] and to your Local Emergency Planning Committee.</p> <p>Section 311 Hazard Class: None. The following ingredients are SARA 313 “Toxic Chemicals,” CAS Numbers and weight percents are found in Section II.</p> <table> <thead> <tr> <th><u>Ingredient Name</u></th> <th><u>Comment</u></th> </tr> </thead> <tbody> <tr> <td colspan="2">No ingredients listed in this section.</td> </tr> </tbody> </table>	<u>Ingredient Name</u>	<u>SARA/CERCLA RQ (lb.)</u>	<u>SARA EHS TPQ (lb)</u>	No ingredients listed in this section.			<u>Ingredient Name</u>	<u>Comment</u>	No ingredients listed in this section.	
<u>Ingredient Name</u>	<u>SARA/CERCLA RQ (lb.)</u>	<u>SARA EHS TPQ (lb)</u>								
No ingredients listed in this section.										
<u>Ingredient Name</u>	<u>Comment</u>									
No ingredients listed in this section.										

State Right-to-Know				
<p>In addition to the ingredients found in Section II, the following are listed for state right-to-know purposes.</p> <table> <thead> <tr> <th><u>Ingredient Name</u></th> <th><u>Comment</u></th> </tr> </thead> <tbody> <tr> <td colspan="2">No ingredients listed in this section.</td> </tr> </tbody> </table> <p>Additional Regulatory Information: None.</p> <p>WHMIS Classification (Canada): Not a controlled substance. (Considered to be a manufactured article.)</p> <p>Foreign Inventory Status: Not determined.</p>	<u>Ingredient Name</u>	<u>Comment</u>	No ingredients listed in this section.	
<u>Ingredient Name</u>	<u>Comment</u>			
No ingredients listed in this section.				

B. Acrylic Adhesive

- No Information Available

Section XVI – Additional Information

- The information and recommendations set forth above are taken from sources believed to be accurate as of the date hereof; however, Integument Technologies, Inc. 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 regulations.