

# MATERIAL SAFETY DATA SHEET



## Shrink Tape III

### 1. PRODUCT AND COMPANY NAME

**PRODUCT NAME:** Shrink Tape III

**DESCRIPTION:** Clear translucent and white modified halohydrocarbon polymer release films

**MANUFACTURER:** Richmond Aircraft Products  
12801 Ann Street  
Santa Fe Springs, CA 90670

**FOR MORE INFORMATION CALL:** 562-906-3300  
**IN CASE OF EMERGENCY CALL:** 562-906-3300

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient Name</u>	<u>CAS #</u>	<u>% of Ingredient</u>
Polyvinyl Fluoride Polymer	(CAS 24981-14-4)	64-86%
Titanium Dioxide	(CAS 13463-67-7)	2-30%
Iron Oxide	(CAS 1309-37-1) (CAS 8007-18-9)	0-5%
Nickel Antimony Titanium Yellow Pigment	N/A	0.04-25
Calcium Carbonate	(CAS 1317-65-3)	0-15%
Amorphous Silica	(CAS 61790-53-2)	0-5%
Crystalline Silica	(CAS 14464-46-1)	0-5%
Dimethyl Acetamide (DMAC)	(CAS 127-19-5)	<1%
Heated above 400F (204C) can evolve:		
Hydrogen Fluoride	(CAS 7664-39-3)	<1%

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Material is not known to contain Toxic Chemicals under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

## 3. HAZARD IDENTIFICATION

### POTENTIAL HEALTH HAZARDS

<b>Route of Entry:</b>	Inhalation
<b>Target Organs:</b>	N/A
<b>Inhalation:</b>	<p>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 symptom-less period of 1 to 2 days by fever, chills, difficulty in breathing, cyanosis, and pulmonary edema. Acute or chronic overexposure to HF can injure the liver and kidneys. Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposures from hydrogen fluoride. This film is not hazardous as shipped.</p> <p>&lt;1% DMAC may be released when the film is heated to processing temperatures. At temperatures above 400 degrees F (204 degrees C) or on prolonged heating small amounts of hydrogen fluoride will be generated.</p>
<b>Skin Contact:</b>	<p>Human health effects of overexposure by skin contact may include slight irritation with itching, redness or swelling. There are no reports of human sensitization. Skin permeation may occur in amounts capable of producing the effects of systemic toxicity.</p>
<b>Eye Contact:</b>	<p>Eye contact may cause eye irritation with tearing, pain or blurred vision.</p>
<b>Ingestion:</b>	<p>Not a route of exposure. Not considered hazardous.</p>
<b>Other Information:</b>	<p>No information found for "Shrink Tape III" film or polyvinyl fluoride polymer. "Shrink Tape III" PVF film is not hazardous as shipped. &lt;1% DMAC may be released when the film is heated to processing temperatures. At temperatures above 400 degrees F (204 degrees C) or on prolonged heating small amounts of hydrogen fluoride will be generated.</p> <p>Short-term overexposure by inhalation, ingestion or skin contact may cause non-specific effects such as nausea, headache, dizziness, drowsiness, and weakness. Repeated or excessive over-exposure may cause altered liver function or abdominal pain, vomiting or jaundice; abnormal kidney function with altered results on blood tests. Individuals with preexisting diseases of the liver or kidneys may have increased susceptibility to the effects of this material.</p>

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## Carcinogenicity Information:

Material	IARC	NTP	OSHA	ACGIH
Titanium Dioxide	2B			
Nickel Antimony Titanium Yellow Pigment	1	X		A1
Crystalline Silica	1	X		A2

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## 4. FIRST AID MEASURES

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<b>Inhalation:</b>	None needed under normal usage. If exposed to vapors at elevated processing temperatures, remove to fresh air.
<b>Skin Contact:</b>	The compound is not likely to be hazardous by skin contact but cleansing the skin after use is advisable.
<b>Eye Contact:</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. Not a probable route of exposure for this film.
<b>Ingestion:</b>	No specific intervention is indicated as compound is not likely to be hazardous by ingestion. Consult a physician if necessary.

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## 5. FIRE FIGHTING MEASURES

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### FLAMMABLE PROPERTIES

<b>Flash Point (Method Used):</b>	N/A
<b>LEL:</b>	N/A
<b>UEL:</b>	N/A
<b>Extinguishing Method:</b>	Foam, dry chemical, CO <sub>2</sub> , water
<b>Special Fire Fighting Procedures:</b>	Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment.

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**Unusual Fire and Explosion Hazards:** Hazardous gases/vapors produced in fire are hydrogen fluoride and carbon monoxide. Material does not readily burn or support combustion. Will not contribute significantly to the danger associated with fire in a residential or industrial structure because the volume of carbon monoxide and other gases produced in a fire will present a greater hazard than the volume of carbon monoxide and hydrogen fluoride produced by this film.

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## 6. ACCIDENTAL RELEASE MEASURES

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Always wear recommended personal protective equipment. Collect and place in a solid waste container.

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## 7. HANDLING AND STORAGE

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**Handling Precautions:** Use normal personal hygiene and good housekeeping

**Storage Requirements:** Store in a cool, dry area, away from direct heat or sunlight

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## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

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**Engineering Controls:** Use general room ventilation plus local exhaust at points of fume generation to maintain exposure below the PEL/TLV exposure limits.

**Protective Equipment:** Wear Safety glasses. When temperatures exceed 204 degrees C (400 deg F) 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. During grinding, sanding, or sawing operations use a NIOSH/MSHA approved air purifying respirator with dust/mist cartridge or canister if airborne particulate concentrations are expected to exceed permissible exposure levels. If there is potential contact with hot/molten material, wear heat resistant clothing and footwear.

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## Exposure Guideline/Other:

### TITANIUM DIOXIDE

PEL	(OSHA)	15 mg/m <sup>3</sup> , total dust, 8 Hr. TWA
TLV	(ACGIH)	10 mg/m <sup>3</sup> , total dust, 8 Hr. TWA, A4
AEL *	(DuPont)	10 mg/m <sup>3</sup> , 8 & 12 Hr. TWA, total dust 5 mg/m <sup>3</sup> , 8 & 12 Hr. TWA, respirable dust

### IRON OXIDE

PEL	(OSHA)	10 mg/m <sup>3</sup> , as Total Particulate- 8 Hr TWA
TLV	(ACGIH)	5 mg/m <sup>3</sup> , respirable dust, 8 Hr. TWA, A4
AEL *	(DuPont)	None Established

### NICKEL ANTIMONY TITANIUM YELLOW PIGMENT

PEL	(OSHA)	1 mg/m <sup>3</sup> , (8 hr TWA), metal & insol cmpds 1 mg/m <sup>3</sup> , soluble compounds as Ni 8 Hr TWA
TLV	(ACGIH)	1.5 mg/m <sup>3</sup> , metal, as Ni, 8 Hr. TWA, A5 0.1 mg/m <sup>3</sup> , and soluble compounds, as Ni, 8 Hr. TWA, A4 0.2 mg/m <sup>3</sup> , insoluble compounds, as Ni, 8 Hr. TWA, A1
AEL *	(DuPont)	0.02 mg/m <sup>3</sup> , 8- and 12- hour TWA, metal, and inorganic compounds, as Ni

### AMPORPHOUS SILICA

PEL	(OSHA)	80mg/m <sup>3</sup> / % SiO <sub>2</sub> - 8 Hr TWA
AEL *	(DuPont)	1 mg/m <sup>3</sup> , 8 Hr. TWA, respirable dust

### CRYSTALLINE SILICA

PEL	(OSHA)	Total dust, ½*(30 mg/m <sup>3</sup> / %SiO <sub>2</sub> +2) Respirable dust, 1/2*(10 mg/m <sup>3</sup> / % SiO <sub>2</sub> + 2) as 8 Hr TWA's
TLV	(ACGIH)	0.025 mg/m <sup>3</sup> , respirable dust, 8 Hr. TWA, A2
AEL *	(DuPont)	0.1 mg/m <sup>3</sup> , 8 Hr. TWA, respirable dust 0.05 mg/m <sup>3</sup> , 12 Hr. TWA, respirable dust

### DIMETHYL ACETAMIDE (DMAC)

PEL	(OSHA)	10 ppm, 35 mg/m <sup>3</sup> , 8 Hr. TWA, Skin
TLV	(ACGIH)	10 ppm, 36 mg/m <sup>3</sup> , 8 Hr. TWA, Skin, A4
AEL *	(DuPont)	10 ppm, 8 & 12 Hr. TWA, Skin

### HYDROGEN FLUORIDE

PEL	(OSHA)	3 ppm, 8 Hr. TWA, as F
TLV	(ACGIH)	0.5 ppm, 8 Hr. TWA, as F Ceiling 2 ppm, as F
AEL *	(DuPont)	3 ppm, 15 minute TWA

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- AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Appearance:</b>	Plastic film
<b>Physical Status:</b>	Solid
<b>Odor:</b>	No odor
<b>pH:</b>	N/A
<b>Vapor Pressure:</b>	N/A
<b>Vapor Density:</b>	N/A
<b>Boiling Point:</b>	N/A
<b>Decomposition Temp.:</b>	204C (399F)
<b>Solubility:</b>	Insoluble
<b>Spec. Grav./Density:</b>	1.38

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## 10. STABILITY AND REACTIVITY

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<b>Stability:</b>	Normally Stable
<b>Conditions to avoid:</b>	None reasonably foreseen
<b>Materials to avoid (Incompatibility):</b>	None reasonably foreseen
<b>Hazardous Decomposition Products:</b>	Hazardous gases/vapors produced are carbon monoxide and hydrogen fluoride
<b>Hazardous Polymerization:</b>	Will not occur

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## 11. TOXICOLOGICAL INFORMATION

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<b>Immediate (Acute) Effects:</b>	Not determined
<b>Delayed (Sub-chronic and chronic) Effects:</b>	None known
<b>Other Data:</b>	None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

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## 12. ECOLOGICAL INFORMATION

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

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## 13. DISPOSAL CONSIDERATIONS

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Preferred options for disposal are (1) recycling and (2) landfill. Incinerate only if incinerator is capable of scrubbing out hydrogen fluoride and other acidic combustion products. Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial, and local regulations.

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## 14. TRANSPORT INFORMATION

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**US DOT Hazard Class:** Not regulated  
**US DOT ID Number:** Not applicable

For additional information on shipping regulations affecting this material, contact the information number found in Section 1

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## 15. REGULATORY INFORMATION

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### U.S. Federal Regulations

TSCA Inventory Status      In compliance with TSCA Inventory requirements for commercial purposes

### State Regulations (U.S.)

STATE RIGHT-TO-KNOW

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, with the exceptions indicated.

SUBSTANCES ON THE PENNSYLVANIA HAZARDOUS SUBSTANCES LIST PRESENT AT A CONCENTRATION OF 1 % OR MORE (0.01% FOR SPECIAL HAZARDOUS SUBSTANCES)- Antimony and nickel compound, titanium dioxide, iron oxide.

WARNING - SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM- Nickel compound.

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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)- Antimony and nickel compound, titanium dioxide, iron oxide.

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## 16. OTHER INFORMATION

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**Current Issue Date:** 10/05/2010  
**Previous Issue Date:** 01/30/2009