MATERIAL SAFETY DATA SHEET

Stretch-Vac™ 250

1. PRODUCT AND COMPANY NAME

PRODUCT NAME: Stretch-Vac™ 250

DESCRIPTION: Copolymer, Medium Temperature Bagging Film

MANUFACTURER: Richmond Aircraft Products
13503 Pumice Street
Norwalk, CA 90650

FOR MORE INFORMATION CALL: 562-404-2440
IN CASE OF EMERGENCY CALL: 562-404-2440

2. COMPOSITION/INFORMATION ON INGREDIENTS

The following potentially hazardous ingredient(s) are used to formulate this product. As supplied, the ingredient(s) are bound in the polymer matrix. Because they are bound in the matrix, they are not expected to create any unusual hazards when handled and processed according to good manufacturing and industrial hygiene practices and the guidelines provided in this MSDS.

Ingredient Name	CAS #	% of Ingredient
Silica, amorphous, diatomaceous earth	(CAS 68855-54-9)	1-5%

3. HAZARD IDENTIFICATION

POTENTIAL HEALTH HAZARDS

Route of Entry: N/A
Target Organs: N/A
Inhalation: Thermoplastic Polyurethane (TPU) film is generally non-hazardous under ambient conditions as well as under recommended processing temperatures and conditions when following good manufacturing practices. However, as is common for all Diphenylmethane Diisocyanate (MDI)-based thermoplastic urethanes, if the material is subjected to temperatures above its decomposition temperature (482F / 250C in the case of this product), MDI may be liberated. The following effects reflect the potential health hazards associated with

	overexposure to MDI. Diisocyanate vapors or mist at concentrations above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract.(nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyper reactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed tip to several hours after exposure. These effects are usually reversible. In the event of material decomposition due to exceeding the decomposition temperature of this product, release of MDI may occur. As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization to diisocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to diisocyanates at levels well below the TLV or PEL. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Extreme asthmatic reactions can be life threatening. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Sensitization can be permanent. Chronic overexposure to diisocyanates has also been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.
Skin Contact:	In the event of material decomposition due to exceeding the decomposition temperature of this product, release of MDI may occur. May cause allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Contact with heated material can cause thermal burns. Prolonged contact can cause reddening, swelling, rash, and, in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms as a result of contact with very small amounts of liquid material or as a result of exposure to vapor.
Eye Contact:	In the event of material decomposition due to exceeding the decomposition temperature of this product, release of MDI may occur. Vapor may cause irritation with symptoms of burning and tearing. May cause temporary corneal injury.
Ingestion:	Not a route of exposure. Not considered hazardous.

4. FIRST AID MEASURES

Inhalation: None needed under normal usage. If exposed to vapors at elevated processing temperatures, remove to fresh air.

Skin Contact: In case of skin contact, wash affected areas with soap and water. Get medical attention if thermal burn occurs.

Eye Contact: In case of contact, flush eyes with plenty of lukewarm water. Get medical attention if irritation develops.

Ingestion: Get Medical attention

Notes to physician:

In the event of possible diisocyanate exposure due to thermal decomposition: Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision. Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound. Inhalation: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Flash Point (Method Used): >210C (410F)

LEL: N/A

UEL: N/A

Extinguishing Method: Water, foam, dry chemical

Special Fire Fighting Procedures: Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

Unusual Fire and Explosion Hazards: Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

6. ACCIDENTAL RELEASE MEASURES

Always wear recommended personal protective equipment. If molten, allow material to cool and place into an appropriate marked container for disposal.

7. HANDLING AND STORAGE

Handling Precautions: Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Avoid breathing dust. Containers should be kept tightly closed to prevent contamination. Material is hygroscopic and may absorb small amounts of atmospheric moisture.

Storage Requirements: Maximum storage temperature 65C (149F)

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering Controls: During normal processing, use general dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines. Special ventilation and personal protective equipment (PPE) is required to control exposure to potentially harmful decomposition products whenever a TPU is heated to temperatures above its decomposition temperature. Examples would include hot knife cutting, grinding, or sawing.

Protective Equipment: NIOSH approved air-supplied respirator during die cleaning, high temperature processing or when thermal decomposition is suspected. Wear heat resistant gloves when handling molten material. Safety glasses with side-shields.

Exposure Guideline/Other: Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Purgings should be collected as small flat thin shapes or thin strands to allow for rapid cooling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Plastic film
Physical Status:	Solid
Odor:	No odor
pH:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Boiling Point:	N/A
Freezing/Melting Point:	>150C-200C (302F-392F)
Solubility:	Negligible
Spec. Grav./Density:	1.1 – 1.3

10. STABILITY AND REACTIVITY

Stability:	Normally Stable
Conditions to avoid:	None known
Materials to avoid (Incompatibility):	None known
Hazardous Decomposition Products:	By Fire and Thermal Decomposition: Carbon Dioxide; hydrogen cyanide; Amines; 4,4'-Diphenylmethane Diisocyanate (MDI); aldehydes, Carbon monoxide, Amines, nitriles, nitrogen oxides (NOx), hydrocarbons, MDI, other potentially toxic fumes
Hazardous Polymerization:	Will not occur

11. TOXICOLOGICAL INFORMATION

Immediate (Acute) Effects:	See Section 3
Delayed (Sub-chronic and chronic) Effects:	See Section 3
Other Data:	None

12. ECOLOGICAL INFORMATION

Material is considered inert and not expected to be biodegradable or toxic

13. DISPOSAL CONSIDERATIONS

Dispose of in compliance with Federal, state and local government regulations. Usually is considered an inert packaging material that can be recycled or landfilled.

14. TRANSPORT INFORMATION

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.

15. REGULATORY INFORMATION

United States Federal Regulations

OSHA Hazcom Standard Rating: Non-Hazardous

US Toxic Substances Control Act: Listed on the TSCA Inventory

US EPA CERCLA Hazardous Substances (40 CFR 302):

Components
None

SARA Section 311/312 Hazard Categories: Non-Hazardous under Section 311/312

US EPA Emergency Planning Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A):

Components
None

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US EPA Emergency Planning Right-To-Know Act (EPCRA) SARA Title III Section 311 Toxic Chemicals (40 CFR 372.65) – Supplier Notification Required:

Components
None

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Weight %	Components	CAS-No.
>=1%	Thermoplastic Polyurethane	
>=1%	Unknown	
1-5%	Silica, amorphous, diatomaceous earth	68855-54-9

16. OTHER INFORMATION

HMIS Rating

Health: 0
Flammability: 1
Physical Hazard: 0

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