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PRODUCT: POLARFOAM PF-7217-0

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT & COMPANY INFORMATION

MANUFACTURER OF CHEMICAL COMPONENTS
 DEMILEC Inc. Distr.-PFSI, a Div. Of Demilec Inc.
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PRODUCT
 Trade name: PF-7217-0 Resin COMPONENT
 Chemical name: Mix of polyols, blowing agents, catalysts and others additives.
 Chemical family: Rigid Polyurethane Foam
 Product use: Component B of a spray Polyurethane System

EMERGENCY TELEPHONE
 CANUTEC (613) 996-6666

SECTION 2: HAZARDS IDENTIFICATION

Physical State / Odor	Liquid / Ester
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Emergency Overview / Warning

Physical / Chemical Hazards	Acute Health Hazard / Chronic Health Hazard / Fire Hazard: Toxic vapors may be released during burning or thermal decomposition.
Routes of Entry	Eye contact, skin contact, inhalation, ingestion.
Eye Contact	Product liquids, aerosols or vapors are irritating. Vapors may cause a transient condition known as glaucopsia, resulting in blurred vision and appearance of halos around bright objects.
Skin Contact	May cause irritation and dermatitis.
Ingestion	May cause irritation to throat, esophagus and stomach (nausea, abdominal pains, vomiting and diarrhea). May cause liver and kidney damage.
Inhalation	May cause headaches, dizziness, drowsiness and other central nervous system effects.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS	CAS #	%
Polyol blend	Trade Secret	40-70
1,1,1,3,3-Pentafluoropropane	460-73-1	7-13
Tris-iso-chloropropyl phosphate	13674-84-5	10 – 30
Trans 1,2 dichloroethylene	156-60-5	1 – 5
Tertiary Amine Catalyst	Trade Secret	1 – 5

SECTION 4: FIRST AID MEASURES	
Eye Contact	Immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. Obtain medical attention immediately.
Skin Contact	In case of contact, immediately remove contaminated clothing and shoes. Immediately flush skin with plenty of soap and cold water. Do not use hot water. Wash contaminated clothing and shoes thoroughly before reuse. For severe exposures, immediately get under safety shower and start rinsing. If the irritation develops, obtain medical attention.
Inhalation	Move exposed person to fresh air. Keep person warm and at rest. If not breathing, breathing irregularly, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Obtain medical attention if adverse health effects persist. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Ingestion	Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water (250 ml). Stop if the exposed person feels sick, as vomiting may be dangerous. Obtain medical attention if symptoms occur. DO NOT induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter lungs. Get immediate medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband.
Protection of First-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Notes to Physician	Following severe exposure the patient should be kept under medical review for at least 48 hours.

SECTION 5: FIRE FIGHTING MEASURES	
Flash Point	> 93°C (200°F)
Auto-Ignition Temperature	Not Established
Upper Flammable Limit (% vol.)	Not Established
Lower Flammable Limit (% vol.)	Not Established
Suitable Extinguishing Media	Dry chemical, carbon dioxide (CO ₂), foam, water spray for large fires.
Hazardous Products of Thermal Decomposition	Combustion products may include carbon monoxide, carbon dioxide, nitrogen oxides, halogenated compounds, traces of ammonia vapors, aldehydes and ketones, low molecular weight organic products.
Special Fire Fighting Procedures	Firefighter should be equipped with self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode to protect against potentially toxic and irritating fumes generated by thermal decomposition or combustion during a fire. They should wear appropriate protective equipment such as PVC boots, gloves, safety helmet and protective clothing. Material supports combustion.

SECTION 6: ACCIDENTAL RELEASE MEASURES	
Spill and Leak Procedures	
Personal Precautions	Avoid breathing vapors or mist. Provide adequate ventilation. Use suitable protective

	equipment.
Environmental Precautions	Avoid spreading of spilled material, runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution.
Methods for Cleaning-up	Spread sawdust absorbent over the spill area and leave to react for at least 30 minutes in order to absorb as much of the remaining product as possible. Shovel into suitable metal containers for waste disposal. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose via a licensed waste disposal contractor. The spill area should then be washed down with soap and warm water to dilute and remove remaining traces of material. Ventilate area to remove the remaining vapors.

SECTION 7: HANDLING & STORAGE

Storage Temperature	15 – 30°C (59 – 86°F) (minimum – maximum)
Storage Life	6 months
Handling	Avoid breathing vapors and contact with eyes or skin. Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
Storage	Store in tightly closed containers in a cool, dry and ventilated place away from incompatible materials, food and drink. Product is hygroscopic, keep it away from moisture. Store away from ignition sources. Protect containers against physical damage. Smoking in area is prohibited.
Precautions	If contamination with isocyanates is suspected, do not reseal containers. Employee education and training in safe handling of this product are required.
Packaging Containers	Original Container.

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limit Values		
For Product	Not evaluated	
For Ingredients		
Ingredients	WEEL (AIHA) (TWA) – 8 hr	OSHA PEL (TWA) – 8 hr
Polyol blend	N/A	N/A
1,1,1,3,3-Pentafluoropropane	300 ppm / 1644 mg/m³	Not Listed
Tris-iso-chloropropyl phosphate	Not Listed	Not Listed
Trans 1,2 dichloroethylene	N/A	200 ppm / 790 mg/m³
Tertiary Amine Catalyst	N/A	N/A
Eye Protection	Eye protection is required when directly handling liquid product. Use chemical goggles and face shields or full-faced air-supplied respirator. Persons who work with this product should not wear contact lenses.	
Skin Protection	Use long-sleeves protective clothing impervious to chemicals, boots and chemical-resistant gloves such as Nitrile/butadiene rubber ("nitrile" or "NBR"), Butyl rubber, Polyvinyl chloride ("PVC" or "vinyl"), Polychloroprene (Neoprene*). Protective gloves should be worn when handling freshly made polyurethane products to avoid contact with trace residual materials that may be hazardous in contact with skin. Wash hands, forearms and face thoroughly after handling chemical products, before eating, drinking, smoking and using the lavatory and at the end of the working period.	

Respiratory Protection	An air-supplied respirator should be worn during applications and when the product is being heated or in environments of high concentrations well above TLV.
Environmental Exposure Controls / Ventilation Requirements	Local exhaust should be used to maintain a fresh supply of air. Open-air well ventilated foam spraying area: Use air-purifying respirator and eye protection goggles, chemical resistant gloves and long-sleeved protective clothing. Be sure to establish a safety zone to keep out nonessential personnel. Protect people, cars, etc., against airborne overspray. Spraying foam in enclosed areas: Use full-face air-supplied respirator, chemical resistant gloves and long-sleeved protective clothing. Make sure that others do not enter the area until residual vapors have been vented away. On-line foam processing: Permanent ventilation equipment is necessary for on-line processing. Efficiency of this equipment must be checked regularly, especially in foaming operations where fans, duct and filters can become blocked with over-processed foam. Relevant operators must use air-purifying respirator, chemical protective goggles and face shields, chemical-resistant gloves and long sleeved coveralls.
Additional Protective Measures	Safety showers and eye wash stations should be easily accessible to the work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Liquid
Odor	Ester odor
Viscosity @ 25°C (77°F), cps	300-450
Specific Gravity @ 25°C (77°F)	1.23– 1.27
Flash Point	> 93°C (200°F)
Auto-Ignition Temperature	Not Established
Boiling Point	Not Established
Freezing / Melting Point	Not Established
Vapor Pressure	7-9 PSig @ 25°C (77°F), Static.
Vapor Density (Air = 1)	4.6 for 1,1,1,3,3 – Pentafluoropropane
Solubility in Water	Moderate

SECTION 10: STABILITY AND REACTIVITY	
Stability	This product is considered stable under normal and anticipated storage and handling conditions.
Conditions to Avoid	Avoid exposure to moisture and high temperatures to protect product quality.
Materials to Avoid	Strong oxidizing materials, strong acids and alkali or alkaline earth metals (aluminum, zinc, beryllium and copper). Avoid unintended contact with isocyanates.
Hazardous Polymerization	Will not occur.
Hazardous Products of Decomposition	Combustion products may include carbon monoxide, carbon dioxide, nitrogen oxides, halogenated compounds, traces of ammonia vapors, aldehydes and ketones, low molecular weight organic products.
Decomposition Temperature	Not Established

SECTION 11: TOXICOLOGICAL INFORMATION

	Acute Oral Toxicity, LD50 (Rat)	Acute Inhalation Toxicity, LC50 (Rat)	Acute Dermal Toxicity, LD50 (Rabbit)	Repeated Dose Toxicity (Rat)
Polyol blend	> 10 000 mg/kg	N/A	> 20 000 mg/kg	N/A
1,1,1,3,3-Pentafluoropropane	N/A	> 200 000 ppm (4 hrs)	> 2000 mg/kg	28 days, inhalation: NOAEL: 50,000 ppm 90 days, inhalation: NOAEL: 2,000 ppm
Tris-iso-chloropropyl phosphate	< 2000 mg/kg	> 4.6 mg/l aerosol (4 hrs)	> 2000 mg/kg (24 hrs)	90 Days, oral: NOAEL: 36 mg/kg
Trans 1,2 dichloroethylene	1235 mg/kg	8000 ppm	> 5000 mg/kg	N/A
Tertiary Amine Catalyst	1630 mg/kg	290 ppm (6 hrs)	280 mg/kg	N/A

*Tertiary Amine: can cause severe eye and skin irritation; prolonged contact may result in chemical burns and permanent damage of liver, stomach, lungs.

Potential Acute Health Effects

Eye Contact	Product liquids, aerosols or vapors are irritating. Vapors may cause a transient condition known as glaucopsia, resulting in blurred vision and appearance of halos around bright objects.
Skin Contact	May cause irritation and dermatitis.
Ingestion	May cause irritation to throat, esophagus and stomach (nausea, abdominal pains, vomiting and diarrhea).
Inhalation	May cause headaches, dizziness, anesthesia, drowsiness and other central nervous system effects.

Potential Chronic Health Effects

Sensitization	Not known or reported
Carcinogenic Effects	The components of this product are not listed.
Mutagenic Effects	No known significant effects or critical hazards.
Reproductive Effects	No known significant effects or critical hazards.
Developmental Effects	No known significant effects or critical hazards.

SECTION 12: ECOLOGICAL INFORMATION

Ecological testing has not been conducted for this product. Available toxicological data for individual ingredients are summarized below.

Aquatic Toxicity Data For Components Toxicity

Polyol blend	N/A
1,1,1,3,3 – Pentafluoropropane	LC50: > 81.8 mg/l (96 hrs) (fish: rainbow trout); EC50: > 97.9 mg/l (48 hrs) (Daphnia magna)
Tris-iso-chloropropyl phosphate	LC50: 51 mg/l (96 hrs) (fish: fathead minnow); 180 mg/l (96 hrs) (fish: bluegill sunfish); LC50: 131 mg/l (96 hrs) (Daphnia magna)

Trans 1,2 dichloroethylene	LC50: 135 mg/l (96 hrs) (fish: bluegill sunfish); LC50: 170 – 290 mg/l (48 hrs) (Daphnia magna)
Tertiary Amine Catalyst	LC50 (96 hrs): 220 mg/l (golden orfe); EC50 (48 hrs): 76 mg/l (Daphnia magna)

SECTION 13: DISPOSAL CONSIDERATION

Waste Disposal Method	The generation of waste should be avoided or minimized whenever possible. Waste must be disposed of in compliance with federal, state or local environmental control regulations. Dispose of surplus and non-recyclable products via licensed waste disposal contractor. Incineration is the preferred method. If incinerated, toxic and corrosive combustion gases must be properly handled.
Empty Container Precautions	Empty containers retain product residue (liquid and / or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.
Demilec Inc. has no control over the management practices or manufacturing processes of parties handling or using this material. The information presented here pertains only to the product as shipped in its original condition as described in MSDS Section 3 (Ingredients).	

SECTION 14: TRANSPORTATION INFORMATION

Technical Shipping Name	PF7217-0 B-SIDE COMPONENT
Land Transport / DOT Classification	Non-regulated
Sea Transport / IMDG Classification	Non-regulated
Air Transport / ICAO / IATA Classification	Aviation regulated liquid, n.o.s (contains Hydrofluorocarbon) UN 3334 / Hazard Class or Division: 9 / Packaging Group III Hazardous Label: Miscellaneous
TDG Classification	Non-regulated
Emergency Telephone Number	CANUTEC (613) 996-6666

SECTION 15: REGULATORY INFORMATION

Canada	
WHMIS	Class D-2B Material causing other toxic effects (toxic)
CEPA (DSL)	All components are listed.
U.S. Federal Regulations	
OSHA Hazcom Standard Rating	This material is classified hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200)
HSC Classification	Irritant
U.S. Toxic Substances Control Act / TSCA	All ingredients are listed on the TSCA Inventory
U.S. EPA CERCLA Hazardous Substances (40CFR 302)	Trans, 1,2 dichloroethylene RQ = 1000 lbs
SARA Section 311/312 Hazard Categories	Acute Health Hazard; Chronic Health Hazard; Fire Hazard
U.S. EPA EPCRA SARA Title III Section 302 Extremely Hazardous	None

Substance (40 CFR 355, Appendix A)	
U.S. EPA EPCRA SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required	None
U.S. EPA RCRA Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40CFR 261)	If discarded in its purchased form, this product will not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)
State Regulations	Check individual state requirements.

SECTION 16: OTHER INFORMATION		
HMIS Rating 0-Minimal; 1- Slight; 2- Moderate; 3- Serious; 4- Severe; * - Chronic Health Hazard	Health	2
	Fire Hazard	1
	Reactivity	0
NFPA Rating 0- Insignificant; 1- Slight; 2- Moderate; 3- High; 4- Extreme	Health Hazard: 2 Flammability Hazard: 1 Instability Hazard: 0	
This product does not contain nor is it manufactured with ozone depleting substances.		
Notice: <i>The information herein is presented in good faith and believed to be accurate as of the effective date shown bellow. However, no warranty expressed or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is user's responsibility to ensure that its activities comply with country, provincial and local laws.</i> <i>This product may present hazards and should be used with caution. While certain hazards are described in this publication, no guarantee is made that these are only hazards that exist. Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.</i>		
Prepared By	Demilec Inc./PFSI, a Division of Demilec Inc.	
Preparation Date	May, 2012	
Current Issue Date	January, 2014	

Substance (40 CFR 355, Appendix A)	
U.S. EPA EPCRA SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required	None
U.S. EPA RCRA Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40CFR 261)	If discarded in its purchased form, this product will not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)
State Regulations	Check individual state requirements.

SECTION 16: OTHER INFORMATION		
HMIS Rating 0-Minimal; 1- Slight; 2- Moderate; 3- Serious; 4- Severe; * - Chronic Health Hazard	Health	2
	Fire Hazard	1
	Reactivity	0
NFPA Rating 0- Insignificant; 1- Slight; 2- Moderate; 3- High; 4- Extreme	Health Hazard: 2 Flammability Hazard: 1 Instability Hazard: 0	
This product does not contain nor is it manufactured with ozone depleting substances.		
Notice: <i>The information herein is presented in good faith and believed to be accurate as of the effective date shown bellow. However, no warranty expressed or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is user's responsibility to ensure that its activities comply with country, provincial and local laws.</i> <i>This product may present hazards and should be used with caution. While certain hazards are described in this publication, no guarantee is made that these are only hazards that exist. Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.</i>		
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