MATERIAL SAFETY DATA SHEET

SECTION 01 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:

Chemical Name:	**UltraSeal® PF-200 / PF-600 "B" Component, Class 1, CCMC # 13520-L***
Manufacturer:	**RIVENCO INDUSTRIES LTD.** **150 Curtis Drive** **Guelph, Ontario N1K 1N5** **Tel: 519-822-0544** **Fax: 519-822-0543** **Infotrac 24 Hour Emergency Tel: (800)-535-5053**
Date:	**March 25, 2015**
Prepared by:	**Technical Services Department**
WHMIS Classification:	**A, D2B**
Product Use:	**B-Component for Two-Component Polyurethane Foam System**
***CCMC #13520-L:**	**CAN/ULC-S711.2-05, Standard for Thermal Insulation - Bead-Applied Two-Component Polyurethane Air Sealant Foam**

SECTION 02 – COMPOSITION / INFORMATION ON INGREDIENTS:

Ingredients	CAS No.	%	LD50 (Oral-Rat)	LC50 (Inhalation-Rat)
1,1,1,2-Tetrafluoroethane (Non-Flammable Compressed Gas, HFC, Fluorocarbon, 134a)	811-97-2	10.0 – 30.0	Not available	>500,000 ppm, 4 hr
Tris (1-Chloro-2-Propyl) Phosphate	13674-84-5	15.0 – 45.0	2,800 mg/kg	>4.6 mg/l
Tertiary Amine	3030-47-5	1.0 – 5.0	1,630 mg/kg	290 ppm, 6 hr
Diethylene Glycol	111-46-6	1.0 – 5.0	12,565 mg/kg	Not available
Surfactants	Trade Secret	1.0 – 5.0	Not available	Not available

The ingredients listed above are controlled products as defined in CPR, am. SOR/88-555 or 29 CFR 1910.1200

SECTION 03 – HAZARDS INDENTIFICATION:

ROUTES OF ENTRY INTO THE BODY (ACUTE EFFECTS):

Eyes:	**Can cause severe irritation, redness, tearing and blurred vision.**
Skin:	**May cause localized irritation, reddening, swelling or severe burns. Direct, severe, or prolonged exposure may lead to frostbite.**
Inhalation:	**Vapor reduces oxygen available for breathing and is heavier than air. May cause dizziness, headaches, and lethargy. Inhalation of high concentrations of vapor is harmful and may cause heart irregularities. Persons with cardiac arrhythmia may be at increased risk in severe exposure. Can cause irritation of the respiratory system.**
Ingestion:	**Harmful if swallowed. Can cause irritation of mucous membranes in the mouth and digestive tract. Contains a material that is a weak cholinesterase inhibitor. Excessive exposure may result in these symptoms: salivation, sweating, headache, nausea, muscle twitching, incoordination, diarrhea, blurred vision, abdominal cramps, tears, tremors, and chest discomfort.**

WHMIS HAZARD SYMBOL(S):

DANGER: TANK CONTENTS UNDER PRESSURE. DO NOT HEAT ABOVE 120°F (49°C), PUNCTURE OR INCINERATE.

SECTION 04 - FIRST AID MEASURES:

Eyes:	**Flush with copious quantities of lukewarm water. Seek medical attention immediately.**
Skin:	**Use a rag to remove liquid from skin and remove contaminated clothing. Wash thoroughly with non-abrasive soap and water. Cured material may be physically removed by persistent washing with water and a non-abrasive soap. If irritation develops, use mild cream. If it persists, seek medical attention.**
Inhalation:	**Remove to fresh air if breathing difficulty is experienced. If necessary, provide oxygen or artificial respiration by trained personnel and obtain medical attention.**
Ingestion:	**Do not induce vomiting. Drink 1 or 3 glasses of water. Consult physician. Do not give anything orally to an unconscious person.**

SECTION 05 - FIRE FIGHTING MEASURES:

Flammable Conditions:	**The B-component is organic and can burn in the presence of sufficient heat, oxygen and an ignition source.**
Extinguishing Media:	**Carbon dioxide, dry chemical, or chemical foam. Water can be used to cool fire exposed containers to prevent pressure build-up and possible explosion.**
Fire Fighting Measures:	**Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan.**
Flash Point:	**Not available**
Flammability Limits:	**Lower Explosion Limit - Not available** **Upper Explosion Limit – Not available**
Autoignition Temperature:	**Not available**
Hazardous Decomposition Products:	**Carbon oxides, nitrogen oxides and traces of incompletely burned carbon products, hydrogen fluoride and traces of hydrogen cyanide.**
Sensitivity - Impact:	**Contents are not known to be sensitive to mechanical impact.**
Static:	**Contents are not known to be sensitive to static discharge.**

SECTION 06 – ACCIDENTAL RELEASE MEASURES:

Containment / Clean Up:	**Restrict access to the area of the spill. Provide ventilation, NIOSH / MSHA approved respirator and protective clothing. Soak up material with absorbent and place in chemical waste container. Wash spill area thoroughly with soap and water. Local, state, provincial, federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup.**

SECTION 07 – HANDLING AND STORAGE:

Handling and Storage:	**Store under dry conditions, between 60°F (15.5°C) and 80°F (26.6°C). Storage above 90°F (32.2°C) will shorten the shelf life. Storage below 55°F (12.7°C) may affect foam quality if the chemicals are not warmed prior to use. Protect unused product from FREEZING. Use only in well ventilated area.**

SECTION 08 – EXPOSURE CONTROL / PERSONAL PROTECTION:

Component Exposure Limits:	**1,1,1,2-Tetrafluoroethane (CAS# 811-97-2): Provide adequate ventilation to control exposures within the following exposure guidelines: WEEL: 1,000 ppm.** **Diethylene Glycol (CAS# 111-46-6): Provide adequate ventilation to control exposures within the following exposure guidelines: WEEL: 10 mg/m^3.**
Respiratory:	**If vapor levels are expected to exceed exposure guidelines, wear a NIOSH / MSHA approved, positive pressure, supplied air respirator.**
Ventilation:	**In indoor applications, passive ventilation (opening of doors and windows) is recommended. Local exhaust as necessary to keep exposure levels within guidelines.**

Personal Protective Equipment:	**Safety glasses with side-protection, impermeable gloves (e.g., neoprene, nitrile, silver shield (R)), coveralls or apron are important in preventing contamination of eyes, skin and clothing. Wash thoroughly after handling. Facilties storing or utilizing this product should be equipped with an eyewash facility and a safety shower.**

SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES:

Physical State:	**Light yellow to amber colored liquid. Froths to an off-white to yellowish color when released from the container.**
Odor and Appearance:	**Slight fluorocarbon and amine odor**
Odor Threshold:	**Not available**
Specific Gravity:	**1.2**
Vapor Pressure:	**Contents under pressure have a vapor pressure greater than 50 psig (345 kPa).**
Vapor Density:	**Not available**
Evaporation Rate:	**Not available**
Boiling Point:	**1,1,1,2-Tetrafluoroethane (Non-Flammable Compressed Gas, HFC, Fluorocarbon, 134a) boils at -15°F (-26.2°C). Other components boil at temperatures greater than 200°F (93.3°C).**
Freezing Point:	**Not available**
pH:	**Not available**
Coeff. Oil/Water Distribution:	**Not available**

SECTION 10 – STABILITY AND REACTIVITY:

Chemical Stability:	**Stable under normal conditions of use.**
Incompatible Materials:	**Strong oxidizing agents, bases, amines, alcohols, ammonia and small particle metal catalysts.**
Reactive Conditions:	**Heat, sparks and open flame.**
Hazardous Polymerization:	**Should not occur.**

SECTION 11 - TOXICOLOGICAL INFORMATION:

Effects of overexposure:	**Overexposure to fluorocarbon may cause lightheadedness, headaches or lethargy. Persons with cardiac arrhythmia may be at increased risk in severe exposure. Mixture contains components which have been reported to cause effects on the following animal organs: liver, central nervous system and bladder. Tris (1-Chloro-2-Propyl) Phosphate (CAS# 13674-84-5) is reported to be a weak cholinesterase inhibitor. Excessive exposure may result in these symptoms: salivation, sweating, headache, nausea, muscle twitching, incoordination, diarrhea, blurred vision, abdominal cramps, tears, tremors, and chest discomfort. Target organs include: kidney, liver, and sternal bone marrow. Tertiary Amine (CAS# 3030-47-5) can cause cloudy corneas and respiratory tract irritation. Diethylene Glycol (CAS# 111-46-6) has been reported to cause effects on human organs: gastrointestinal tract and kidney.**
Sensitization:	**Not known**
Carcinogenicity:	**No ingredients considered by IARC, NTP or OSHA to be carcinogens.**
Reproductive Toxicity:	**Diethylene Glycol (CAS# 111-46-6) has caused toxicity to the fetus and some birth defects at maternally toxic, high doses in animals.**
Teratogenicity:	**No known applicable information.**
Mutagenicity:	**No known applicable information.**
Synergistic Products:	**No known applicable information.**

SECTION 12 – ECOLOGICAL INFORMATION:

Air:	**Complete information is not yet available.**
Water:	**<u>1,1,1,2-Tetrafluoroethane (CAS# 811-97-2)</u>: Accumulation in aquatic organisms is unlikely.** **<u>Tris (1-Chloro-2-Propyl) Phosphate (CAS# 13674-84-5)</u>: Acute Toxicity to Fish: LC50: 84 mg/l lepomis macrochirus (bluegill), 96 hour exposure. Acute Toxicity to Aquatic Invertebrates: EC50: 63 mg/l Daphnia magna (water flea), 48 hr. Toxicity to Microorganisms: EC50: 784 mg/l, activated sludge, 3 hr.**

	Tertiary Amine (CAS# 3030-47-5): Acute Toxicity to Fish: LC50: 220 mg/l leuciscus idus (golden orfe), 96 hour exposure. **Diethylene Glycol (CAS# 111-46-6):** Material is practically non-toxic on the acute basis. Acute Toxicity to Fish: LC50: >1,000 mg/l oncorhynchus mykiss (rainbow trout), 96 hour exposure. Acute Toxicity to Aquatic Invertebrates: EC50: >48,900 mg/l Daphnia magna (water flea), 48 hr.
Soil:	Complete information is not yet available.

SECTION 13 – DISPOSAL CONSIDERATIONS:

Waste Disposal:	Relieve all pressure prior to disposal using the precautions provided in SECTION – 8. Remove the hoses and with tank inverted, slowly open tank valve, point tank away from face and allow pressure to completely vent. Do not incinerate. Dispose in accordance with Federal, State / Provincial and local regulations.

SECTION 14 - TRANSPORT INFORMATION:

Shipping Information:	For containers greater than 1 liter: **GROUND TRANSPORT:** UN1956 Compressed Gas n.o.s. (Fluorocarbon) 2.2 (Non-Flammable Gas Label). **AIR TRANSPORT:** UN1956 Compressed Gas n.o.s. (Fluorocarbon) 2.2 (Non-Flammable Gas Label). Packing Instruction (Cargo & Passenger) 200. **MARITIME TRANSPORT:** UN1956 Compressed Gas n.o.s. (Fluorocarbon) 2.2 (Non-Flammable Gas Label). Emergency Response Guide Numbers – Consumer Commodity #171, for Aerosols and Compressed Gas #126.

SECTION 15 - REGULATORY INFORMATION:

TSCA Inventory Status:	Chemical components listed on TSCA inventory except as exempted.
NFPA Profile:	Health 2, Flammability 1, Reactivity 1
SARA TITLE III Chemical Listings:	**Section 302 Extremely Hazardous Substances(40 CFR 355):** Not known **Section 304 CERCLA Hazardous Substances (40 CFR 302):** Not known **Section 311/312 Hazard Class (40 CFR 370):** Acute: Yes; Chronic: Yes; Fire: No; Pressure: Yes; Reactive: Yes **Section 313 Toxic Chemicals (40 CFR 372):** This product contains the following toxic chemicals which are subject to reporting under Section 313 (40 CFR Part 372): Diethylene Glycol (CAS# 111-46-6).
State Substance List:	This product contains a listed substance(s) that appears on one or more of the Substance Lists for Pennsylvania, Massachusetts and New Jersey: Diethylene Glycol (CAS# 111-46-6).
California Proposition 65 List:	No known applicable information.
Volatile Organic Content:	0% VOC minus exempt compounds.
Domestic Substance List:	Chemical components listed on DSL except as exempted.

SECTION 16 - OTHER INFORMATION:

The information herein is given in good faith, but no warranty, express or implied, is made. Product users should make independent judgements of the suitability of this information to ensure proper use and to protect the health and safety of employees.