MSDS Preparation Date (dd/mm/yyyy): 30/12/2008

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product identifier : **IPF™ Green Integrated Polyurethane Foam**

Product Code(s) : IPF™ Green

Product Use : Polyurethane foam - Moisture cure adhesive / sealant.

Chemical Family : Mixture of: Phosphates; Aromatic isocyanates; Hydrocarbon propellant.

Supplier's name and address:

Rivenco Industries Ltd.
45 Pine Ridge Road
Erin, ON, Canada
N0B 1T0

Manufacturer's name and address:

Refer to Supplier

Information Telephone No. : (519) 833-0544 (8 AM to 5 PM EST, Monday to Friday)

24 Hr. Emergency Tel # : (613) 996-6666 (CANUTEC)

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (weight)	ACGIH TLV		OSHA PEL	
			TWA	STEL	PEL	STEL
Polymeric diphenylmethane diisocyanate (PMDI)	**9016-87-9**	40.00 - 50.00	0.005 ppm (As MDI)	N/Av	0.02 ppm (0.2 mg/m³) (Ceiling) (As MDI)	N/Av
Tris(2-chlorisopropyl) -phosphate	**13674-84-5**	15.00 - 20.00	N/Av	N/Av	N/Av	N/Av
Dimethyl ether	**115-10-6**	5.00 - 10.00	1000 ppm (AIHA WEEL)	N/Av	N/Av	N/Av
Isobutane	**75-28-5**	5.00 - 10.00	*1000 ppm	N/Av	N/Av	N/Av
Propane	**74-98-6**	2.00 - 5.00	*1000 ppm	N/Av	1000 ppm	N/Av

*Note: The ACGIH TLV's listed above for Propane and Isobutane, are for 'Aliphatic hydrocarbon gases'.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Yellowish foam contained in a pressurized aerosol can. Odourless.
DANGER!
Flammable aerosol. Contents under pressure. Container may explode if heated.
Water-reactive! May polymerize when heated or on contact with incompatible materials.
POISON! May be fatal if too much is inhaled.
May cause lung inflammation and lung damage with extreme exposures.
May cause allergic respiratory reaction. May cause allergic skin reaction.

POTENTIAL HEALTH EFFECTS

Target organs : Eyes, skin, respiratory system and digestive system.

Routes of exposure : *Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion:* YES

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause irritation of the nose, throat, mucous membranes, and respiratory tract. Symptoms may include sore throat, running nose and shortness of breath. Extremely high exposures may lead to inflammation of lung tissue (chemical pneumonitis), chemical bronchitis and accumulation of fluid in the lungs (pulmonary edema). Symptoms may include coughing, choking and wheezing. Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May result in unconsciousness and possibly death.

Skin : May cause skin irritation. Prolonged or repeated contact may cause a hardening or tanning effect. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

Eyes : May cause eye irritation. Symptoms will include pain, redness and tearing. If product is sprayed directly into the eyes, could cause freezing of the eye.

Ingestion : Ingestion can cause irritation and corrosive action in the mouth, stomach and digestive tract.

Effects of long-term (chronic) exposure

: Prolonged or repeated inhalation may cause severe, permanent respiratory impairment and lung injury.

Conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

Carcinogenic status : See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : Possible sensitizer. See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: See ECOLOGICAL INFORMATION, Section 12.

SECTION 4 - FIRST AID MEASURES

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Seek immediate medical attention/advice.

Skin contact : Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. Seek immediate medical attention/advice. Wash contaminated clothing before reuse.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Ingestion : Do not induce vomiting. Seek immediate medical attention/advice. Never give anything by mouth to an unconscious person.

Notes For Physician : The substance has delayed effects. Keep under medical supervision for at least 48 hours.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Extremely flammable aerosol. Contents under pressure. Container may explode if heated. Material may react with water to produce carbon dioxide gas which could cause pressure buildup in confined spaces. May polymerize when heated or on contact with incompatible materials. The polymerization reaction could cause pressure buildup in closed containers. Vapours are heavier than air and collect in confined and low-lying areas.

Flammability classification (OSHA 29 CFR 1910.1200)

: Flammable aerosol.

Flash point : - 104°C (- 156°F) (propellant)

Flash point Method : N/Av

Auto-ignition temperature : N/Av

Lower flammable limit (% by vol.)

: 1.5 (Isobutane)

Upper flammable limit (% by vol.)

: 18.6 (Dimethyl ether)

Oxidizing properties : None known.

Flame Projection Length : N/Av

Flashback observed : N/Av

Explosion data: Sensitivity to mechanical impact / static discharge

: Aerosols are sensitive to mechanical impact. Vapours in the flammable range may be ignited by a static discharge of sufficient energy.

Suitable extinguishing media : Dry chemical, carbon dioxide and foam. Use water spray with caution. May react with water.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Shield personnel to protect from venting or rupturing containers. Move containers from fire area if safe to do so. Direct water or foam spray may cause frothing which can increase the intensity and range of the fire. Do not allow run-off from fire fighting to enter drains or water courses. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides; nitrogen oxides (NOx); hydrogen cyanide ; Phosphorus compounds; Hydrogen chloride; other unidentified organic compounds.

NFPA Rating

0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

: *Health:* 2 *Flammability:* 3 *Instability:* 1 *Special Hazards:* None

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Respiratory protection should not be needed under normal use and handling conditions. If protection is chosen, an air-purifying respirator equipped with organic vapour cartridges is appropriate. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. For personal protection see section 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

Spill response/cleanup : Ventilate area of release. Remove all sources of ignition. Stop spill or leak at source if safely possible. Contain and absorb spilled material with inert, non-combustible absorbent material, such as sand. Refer to Section 13 for disposal of contaminated material. Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required.

Prohibited materials : Do not use combustible absorbents, such as sawdust.

Special spill response procedures

: In case of a transportation accident, contact CHEMTREC at 1-800-424-9300 or International at 1-703-527-3887. If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).
US CERCLA Reportable quantity (RQ): None reported.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used. Once a person is sensitized, no further exposure to the material that caused the sensitization should be permitted. Medical supervision of employees who come into contact with respiratory sensitizers is recommended. Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Protect from moisture. Use caution when opening cap. Keep containers closed when not in use. Launder clothing before reuse. Keep contaminated clothing in closed containers. Maintain good housekeeping. Do not reseal containers until it is certain that no moisture contamination has occurred.

Storage requirements : Store in a cool, dry, well-ventilated area. Keep away from direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area. Keep containers tightly closed when not in use.

Incompatible materials : Water; Strong bases; Alcohols; Amines; Phenol; Urea.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation and engineering measures

: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Use self-contained breathing apparatus for entry into confined space or for other poorly ventilated areas. Advice should be sought from respiratory protection specialists.

Skin protection : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers.

Eye / face protection : Safety glasses with side-shields or chemical splash goggles.

Other protective equipment : An eyewash station should be made available in the immediate working area. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact.

General hygiene considerations

: Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Separate contaminated work clothes from street clothes. Contaminated work clothing should not be allowed out of the workplace.

Permissible exposure levels : For individual ingredient exposure levels, see Section 2.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Aerosol

Appearance : Yellowish foam contained in a pressurized aerosol can.

Odour : odourless

Odour threshold : N/Av

pH : N/Av

Boiling point : N/Av

Specific gravity : 1.0 - 1.2

Melting/Freezing point : N/Av

Coefficient of water/oil distribution : N/Ap

Vapour pressure (mmHg @ 20° C / 68° F) : 72 - 87 psig (496 - 600 kPa) @ 21.1°C / 70°F

Solubility in water : Insoluble. (Isocyanates: Reacts slowly with water to form CO2 gas.)

Vapour density (Air = 1) : Heavier than air.

Evaporation rate (n-Butyl acetate = 1) : N/Av

Volatile organic Compounds (VOC's) : N/Av

Volatiles (% by weight) : 20 - 25

SECTION 10 - REACTIVITY AND STABILITY DATA

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed. May polymerize when heated or on contact with incompatible materials. Material may react with water to produce carbon dioxide gas which could cause pressure buildup in confined spaces. The reaction with water is slow at temperatures less than 49°C (120°F) but is accelerated at higher temperatures.

Hazardous polymerization : May polymerize when heated or on contact with incompatible materials.

Conditions to avoid : Avoid heat and open flame. Avoid wet or humid conditions. Keep away from direct sunlight.

Materials To Avoid And Incompatibility : See Section 7 (Handling and Storage) for further details.

Hazardous decomposition products : None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicological data : There is no available data for the product itself, only for the ingredients. See Section 2.

Ingredients	LC_{50}(4hr) inh, rat	LD_{50} oral	LD_{50} dermal
Polymeric diphenylmethane diisocyanate (PMDI)	490 mg/m³ (aerosol)	> 10,000 mg/kg (rat)	> 6200 mg/kg (rabbit)
Tris(2-chlorisopropyl) -phosphate	> 4.6 mg/L	1500 mg/kg (rat)	> 2000 mg/kg (rabbit)
Dimethyl ether	164,000 ppm (mouse)	N/Ap	N/Ap
Isobutane	368,000 ppm (mouse)	N/Ap	N/Ap
Propane	N/Av	N/Ap	N/Ap

Carcinogenic status : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects : Not expected to have other reproductive effects.

Teratogenicity : Not expected to be a teratogen.

Mutagenicity : Not expected to be mutagenic in humans.

Epidemiology : No information available.

Sensitization to material : May cause allergic respiratory reaction (sensitization) with asthmatic symptoms such as wheezing and chest tightness. May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema.

Synergistic materials : N/Av

Irritancy : Mild.

other important hazards : None known or reported by the manufacturer.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental effects : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. No data is available on the product itself.

Important environmental characteristics

: Immiscible with water, but will react with water to produce carbon dioxide, and inert, non-biodegradable solids.

Ecotoxicological : No data is available on the product itself.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Do not puncture or incinerate containers.

Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method.

SECTION 14 - TRANSPORTATION INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1950	AEROSOLS	2.1	none	
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				
49CFR/DOT	UN1950	Aerosols	2.1	none	
49CFR/DOT Additional information	For limited quantity shipping information, refer to 49 CFR Section 173.306.				

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

OSHA: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200).

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): None reported.

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Pressurized gas hazard; Immediate (Acute) health hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This product may be subject to SARA notification requirements, since it contains Toxic Chemical constituents above their de minimus concentrations. This product contains: Polymeric diphenylmethane diisocyanate (PMDI).

US State Right to Know Laws:

MSDS Preparation Date (dd/mm/yyyy): 30/12/2008

New Jersey Labeling Requirements: This product contains the following substances required to be disclosed on product labeling: Polymeric diphenylmethane diisocyanate (PMDI) (CAS # 9016-87-9; 40 - 50%); Polyether polyol blend (CAS # Unknown; 30 - 40%); Tris(2-chlorisopropyl)-phosphate (CAS # 13674-84-5; 15 - 20%); Dimethyl ether (CAS # 115-10-6; 5 - 10%); Isobutane (CAS # 75-28-5; 5 - 10%); Propane (CAS # 74-98-6; 2 - 5%).

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

Other U.S. State "Right to Know" Lists: The following chemicals are specifically listed by individual States: Polymeric diphenylmethane diisocyanate (PMDI) (NJ); Dimethyl ether (MA, MN, NJ, PA, RI); Isobutane (MA, NJ, PA); Propane (MA, MN, NJ, PA, RI).

International Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian WHMIS Classification:
- Class A (Pressurized containers);
- Class B5 (Flammable Aerosols);
- Class D1A (Materials Causing Immediate and Serious Toxic Effects, Very Toxic Material);
- Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
- Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16 - OTHER INFORMATION

HMIS Rating : * - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe

Health:	*3	*Flammability:*	4	*Reactivity:*	1

Legend :

ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
EPA: Environmental Protection Agency
HMIS: Hazardous Materials Identification System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
TSCA: Toxic Substance Control Act
WEEL: Workplace Environmental Exposure Level

MSDS Preparation Date (dd/mm/yyyy): 30/12/2008

WHMIS: Workplace Hazardous Materials Identification System

References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2008.
2. International Agency for Research on Cancer Monographs, searched 2008.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2008 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists October 2006 version.
6. California Proposition 65 List - December 19, 2008 version.

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DISCLAIMER OF LIABILITY

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