



Pro Form Products Ltd.  
604 McGeachie Drive  
Milton, Ontario, L9T 3Y5  
Canada  
905-878-4990

**PRODUCT: PF 225 FAST CURE URETHANE WINDSHIELD ADHESIVE (BLACK)**

### SECTION 01: IDENTIFICATION

Product identifier..... PF 225 FAST CURE URETHANE WINDSHIELD ADHESIVE (BLACK)  
Initial supplier identifier..... Pro Form Products Ltd.  
604 McGeachie Drive  
Milton, Ontario L9T3Y5  
Tel (905) 878-4990 Fax (905) 878-1189  
24 hour emergency number..... For transportation emergencies (in Canada) call CANUTEC 1-888-226-8832 (CAN-UTEC);  
IN THE UNITED STATES CALL CHEMTREC 1-800-424-9300.  
\*\* For medical emergencies contact your local poison control centre \*\*.  
Recommended use and restrictions on .. Adhesive applications.  
use  
Chemical family..... Aromatic isocyanate prepolymer.  
Hazard rating  
NFPA rating..... Health: 2 Fire: 1 Reactivity: 0.  
HMIS..... H: 2 F: 1 R: 1.

### SECTION 02: HAZARD IDENTIFICATION



Signal Word..... DANGER.  
Hazard Classification..... Eye Irritation — Category 2A. Acute Toxicity 4. Respiratory Sensitizer 1. Skin Irritation —  
Category 2. Skin Sensitizer 1.  
Hazard Description..... H302 Harmful if swallowed. H313 May be harmful in contact with skin. H315 Causes skin  
irritation. H317 May cause an allergic skin reaction. H320 Causes eye irritation. H332  
Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if  
inhaled. H335 May cause respiratory irritation.  
Prevention..... P251 Do not pierce or burn container, even after use. P261 Avoid breathing dust. P261  
Avoid breathing mists, vapours and sprays. P264 Wash thoroughly after handling. P270 Do  
not eat drink or smoke while using this product. P271 Use only outdoors or in a well  
ventilated area. P272 Contaminated work clothing should not be allowed out of the  
workplace. P273 Avoid release to the environment. P280 Wear protective gloves and eye  
protection. P202 Do not handle this product until all safety instructions have been read and  
understood. P284 In case of inadequate ventilation wear respiratory protection. P233 Keep  
container tightly closed.

### SECTION 03: COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME AND SYNONYMS	CAS #	WT. %
1,2-BENZENEDICARBOXYLIC ACID, C8-C10 DI-ALKYL ESTERS	71662-46-9	10-20
Hexane, 1,6-diisocyanato-, homopolymer	28182-81-2	1-5
DIISONONYL PHTHALATE	28553-12-0	1-10
Benzene, 1,1'-methylenebis[4-isocyanato- (MDI)	101-68-8	0.1-1

### SECTION 04: FIRST-AID MEASURES

Eye contact..... In case of contact, immediately flush eyes, keeping eyelids open, with plenty of water for at  
least 15 minutes. Check for and remove any contact lenses, if safe and easy to do so.  
Consult a physician if irritation continues.  
Skin contact..... Immediately flush skin with plenty of soap and water. Remove contaminated clothing.  
Wash clothing before reuse. If irritation persists, seek medical attention.  
Inhalation..... If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is  
difficult, give oxygen, obtain medical attention.

**PRODUCT: PF 225 FAST CURE URETHANE WINDSHIELD ADHESIVE (BLACK)****SECTION 04: FIRST-AID MEASURES**

Ingestion.....	Do not induce vomiting. Rinse mouth with water. Give 1 to 2 glasses of water to drink. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs have victim lean forward with head down to prevent aspiration of fluid into the lungs. Get medical attention.
Additional information.....	In all cases, if irritation persists seek medical attention. Eye: stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapours have produced reversible corneal epithelial edema impairing vision. Skin: this compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. If burned, treat as thermal burn. Ingestion: treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound. Respiratory: this compound is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate. In the event of an incident involving this product ensure that medical authorities are provided a copy of this safety data sheet.

**SECTION 05: FIRE-FIGHTING MEASURES**

Suitable and unsuitable extinguishing media	Carbon dioxide. Foam. Dry chemical. In cases of larger fires, water spray should be used.
Specific hazards arising from the hazardous product, such as the nature of any hazardous combustion products	Oxides of carbon (CO, CO <sub>2</sub> ). Oxides of nitrogen. Hydrogen cyanide. Isocyanates. Dense black smoke. Other potentially toxic fumes.
Special protective equipment and precautions for fire-fighters	Firefighter should be equipped with self-contained breathing apparatus and full protective clothing to protect against potentially toxic and irritating fumes. During a fire, isocyanate vapours and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Cool fire-exposed containers with cold water spray. Heat will cause pressure buildup and may cause explosive rupture. Heat will cause pressure buildup and may cause explosive rupture.
Unusual fire / explosion hazards.....	During a fire, irritating and toxic gases and aerosols may be generated by thermal decomposition and combustion. Reaction between water or foam and hot MDI can be vigorous.

**SECTION 06: ACCIDENTAL RELEASE MEASURES**

Leak/spill.....	Isolate area and keep unauthorized people away. Do not walk through spilled material. Wear recommended protective equipment. Ventilate area. Open windows and doors to allow air circulation. Dike area to prevent spreading. The use of absorbent socks or spill pillows may be required. Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, provincial, state, and federal regulations. Stop leak if safe to do so. Prevent runoff into drains, sewers, and other waterways.
Major spills.....	If transportation spill occurs in United States, call Chemtrec 1-800-424-9300. If transportation spill occurs in Canada, call Canutec at (613) 996-6666. If temporary control of isocyanate vapour is required, a blanket of protein foam may be placed over spill. Large quantities may be pumped into closed, but not sealed, containers for disposal.
Minor spills.....	Cover spill area with suitable absorbent material (e.g., sand, earth, sawdust, vermiculite, Oil-Dri, Kitty Litter, etc.). Saturate absorbent material with neutralizing solution. Recommended portion is ten parts neutralizing solution to one part spilled material. Suggested neutralization solution: 90% water + 5% concentrated ammonia + 5% detergent (dish soap). Add an additional layer of absorbent material. Use shovel to move absorbent material around to ensure that all spilled material comes in contact with the neutralizing solution. Shovel all absorbed material, including absorbent socks or spill pillows, into an appropriate salvage drum. Allow to stand (covered loosely) for 48 to 72 hours, to allow any gases to escape.
Clean up.....	Decontaminate spill area with decontamination solution. Area can then be washed with soap and water.

**SECTION 07: HANDLING AND STORAGE**

Precautions for safe handling.....	Avoid skin and eye contact. Do not breathe vapours, mist or dust. Use adequate ventilation. Keep container closed when not in use. Do not reseal if contamination is suspected. Decomposition products can be highly toxic and irritating. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapour or spray mist. Warning properties (irritation of the eyes, nose and throat or odour) are not adequate to prevent chronic overexposure from inhalation. Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Wear respiratory protection if material is heated, sprayed, used in confined space, or if exposure limit is exceeded. Employee education and training are important.
Conditions for safe storage, including any incompatibilities	Store in a cool, dry and well ventilated area. Keep container closed when not in use. Do not reseal if contamination is suspected.

**PRODUCT: PF 225 FAST CURE URETHANE WINDSHIELD ADHESIVE (BLACK)****SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION**

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	REL NIOSH
1,2-BENZENEDICARBOX YLIC ACID, C8-C10 DI-ALKYL ESTERS	No data	No data	No data	No data	No data
	No data				
Hexane, 1,6-diisocyanato- homopolymer	Not Established	Not Established	Not Established	Not Established	Not Established
	Supplier OEL: 0.5mg/m3 (TWA)				
DIISONONYL PHTHALATE	No data	No data	No data	No data	No data
	No data				
Benzene, 1,1'-methylenebis[4-isocy anato- (MDI)	0.005 ppm	Not established	0.005 ppm TWA	0.005 ppm AB OEL TWA	0.05 mg/m3

**Personal Protective Equipment**

Eye/type.....	Chemical safety goggles. Chemical safety goggles and full faceshield if a splash hazard exists.
Respiratory/type.....	In case of insufficient ventilation, wear suitable respiratory equipment. An approved air purifying respirator with organic vapour cartridges and particulate prefilter can be used to minimize exposure. Respiratory equipment required during spraying. The use of a positive pressure air supplied respirator is mandatory when airborne concentrations are not known or airborne solvent levels are 10 times the appropriate exposure limit or spraying is performed in a confined space or with limited ventilation. Use NIOSH approved respirator or equipment. Do not exceed the use limits of the respirator.
Gloves/ type.....	Chemical resistant gloves: butyl rubber, nitrile rubber, neoprene, PVC.
Clothing/type.....	Wear adequate protective clothes. Wear long sleeves and trousers to prevent dermal exposure.
Footwear/type.....	Safety boots per local regulations.
Other/type.....	Eye wash facility and emergency shower should be in close proximity. Employees should wash their hands and face before eating, drinking, or using tobacco products.
Appropriate engineering controls.....	Ventilate adequately. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination. Vent work area to ensure airborne concentrations are below the current occupational exposure limits. Avoid breathing mists; if general ventilation or local exhaust is inadequate, persons exposed to mists should wear approved breathing devices.
Monitoring.....	Exposure levels must be monitored by accepted monitoring techniques to ensure that the TLV is not exceeded.
Medical surveillance.....	Medical supervision of all employees who handle or come in contact with isocyanates is recommended. These should include preemployment and periodic medical examinations with pulmonary function test (FEC, FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurring skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted. These should include preemployment and periodic medical examinations with pulmonary function test (fev, fvc as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

## Exposure limits

**SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

Appearance/Physical state.....	Paste. Thixotropic.
Colour.....	No data.
Odour.....	Sweet odour.
Odour threshold (ppm).....	Not available.
Vapour pressure (mm Hg).....	Not available.
Vapour density (air=1).....	No data.
pH.....	No data.
Relative Density (Specific Gravity).....	1.36 g/ml (20C).
Melting / Freezing point (deg C).....	Not available.
Solubility.....	Insoluble in water. Completely soluble in organic solvents. Reacts slowly with water to liberate CO2 gas.
Initial boiling point / boiling range (deg C).	244.

**PRODUCT: PF 225 FAST CURE URETHANE WINDSHIELD ADHESIVE (BLACK)****SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

Evaporation rate.....	Not available.
Flash point (deg C), method.....	>100 (estimated).
Auto ignition temperature (deg C).....	380.
Upper flammable limit (% vol).....	No data.
Lower flammable limit (% vol).....	No data.
Partition coefficient — n-octanol/water.....	Not available.
Viscosity.....	150000 - 250000 cps.
VOC (less water).....	0.0 g/L - 0.0 lb/usg.

**SECTION 10: STABILITY AND REACTIVITY**

Chemical stability.....	Stable at normal temperatures and pressures.
Reactivity .....	Reacts slowly with water, forming carbon dioxide.
Conditions to avoid, including static discharge, shock or vibration .....	Water, amines, strong bases, alcohols. Copper alloys.
Hazardous decomposition products.....	See hazardous combustion products section 5.
Possibility of hazardous reactions.....	Contact with moisture, other materials that react with isocyanates, or temperatures above 177C, may cause polymerization.

**SECTION 11: TOXICOLOGICAL INFORMATION**

INGREDIENTS	LC50	LD50
1,2-BENZENEDICARBOXYLIC ACID, C8-C10 DI-ALKYL ESTERS	No data	No data
Hexane, 1,6-diisocyanato-, homopolymer	4.63 mg/L rat 4 hours	>5,000 mg/kg oral rat >5,000 mg/kg dermal rabbit
DIISONONYL PHTHALATE	>4.4 mg/L rat 4 hours	>9,800 mg/kg oral rat >3,160 mg/kg dermal rabbit
Benzene, 1,1'-methylenebis[4-isocyanato- (MDI)	490 mg/m <sup>3</sup> 4 hr 0.369 mg/L 4 hr	9,200 mg/kg rat oral >7,900 mg/kg rabbit dermal
Route of exposure.....	Eye contact. Skin contact. Inhalation.	
Effects of acute exposure.....	Causes skin irritation. Causes reddening, stinging and swelling. Persons previously sensitized can experience an allergic reaction with symptoms of reddening, itching, swelling and rash. Cured product is difficult to remove. Contact with MDI can cause discoloration. Causes eye irritation. Can cause tearing, reddening and swelling. May cause temporary corneal damage. Isocyanate vapour/mists at concentrations above the exposure limits can irritate (burning sensation) the mucous membranes in the respiratory tract. This can cause a runny nose, sore throat, coughing, chest discomfort, difficult breathing and reduced pulmonary functioning. Persons with pre-existing, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV with similar symptoms, as well as asthma attack. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema. Chemical or hypersensitive pneumonitis, with flu-like symptoms has also been reported. These symptoms can be delayed up to several hours after exposure. Effects are usually reversible. Can result in irritation in the digestive tract. Aspiration of liquid into lungs can cause chemical pneumonitis. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.	
Effects of chronic exposure.....	As a result of previous repeated overexposure or a single large dose, certain individuals develop sensitization which will cause them to react to a later exposure to product at levels well below the exposure limit. Symptoms including chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed. 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. Prolonged or repeated exposure may cause lung damage, including a decrease in lung function. Prolonged vapour contact may cause conjunctivitis. Prolonged skin contact may cause reddening, swelling, rash, scaling, blistering, and in some cases, sensitization. Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.	
Sensitizing capability of material.....	Isocyanates are known to cause skin and respiratory sensitization in humans. Animal tests have indicated that respiratory sensitization can result from skin contact with diisocyanates.	
Carcinogenicity of material.....	This product is not listed by IARC or NIOSH or regulated as a carcinogen by OSHA.	
Toxicological Data		

**PRODUCT: PF 225 FAST CURE URETHANE WINDSHIELD ADHESIVE (BLACK)****SECTION 12: ECOLOGICAL INFORMATION**

Environmental..... Do not allow to enter waters, waste water or soil.  
 Persistence and degradability..... Not available.

**SECTION 13: DISPOSAL CONSIDERATIONS**

Information on safe handling for disposal and methods of disposal, including any contaminated packaging . Dispose of waste in accordance with all applicable federal, provincial/State and local regulations. Industrial incineration is the preferred method. Empty containers retain product residue; observe all precautions for the product. Decontaminate containers prior to disposal. Empty decontaminated containers should be crushed to prevent reuse. Do not heat or cut empty containers with electric or gas torch as vapours and gases may be toxic.

**SECTION 14: TRANSPORT INFORMATION**

TDG Classification..... Not regulated.  
 IATA Classification (Air)..... Not regulated.  
 IMDG Classification (Marine)..... Not regulated.  
 Marine Pollutant..... No.

**SECTION 15: REGULATORY INFORMATION**

WHMIS 1988 classification..... D2A, D2B.  
 CEPA status..... On Domestic Substances List (DSL).  
 OSHA..... This product is considered hazardous under the OSHA Hazard Communication Standard.  
 SARA Title III  
 Section 302 - extremely hazardous substances ..... None.  
 Section 311/312 - hazard categories..... Immediate health, delayed health.  
 Section 313..... Methylene diisocyanate (MDI). Polymeric diphenylmethane diisocyanate.  
 EPA hazardous air pollutants (HAPS) ..... Methylene Diphenyl Diisocyanate (MDI). Hexamethylene diisocyanate.  
 40CFR63  
 TSCA inventory status..... All components are listed.  
 California Proposition 65..... This product does not contain any chemical(s) listed on California's Proposition 65.

**SECTION 16: OTHER INFORMATION**

Prepared by: ..... REGULATORY AFFAIRS.  
 Telephone number:..... (800) 387-7981.  
 Disclaimer:..... DISCLAIMER: All information appearing herein is based upon data obtained from experience and recognized technical sources. To the best of our knowledge, it is believed to be correct as of the date of issue but we make no representations as to its accuracy or sufficiency and do not suggest or guarantee that any hazards listed herein are the only ones which exist. The hazard information contained herein is offered solely for the consideration of the user, subject to his own investigation and verification of compliance with applicable regulations, including the safe use of the product under every foreseeable condition. The information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.  
 Review Date:..... 2022-11-30.  
 Date of the latest revision of the safety data sheet .. 2016-08-25