PRO

SAFETY DATA SHEET

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

PRODUCT: PF 597C UNIVERSAL HARDENER

FORM

SECTION 01: IDENTIFICATION

Initial supplier identifier	Pro Form Products Ltd. 604 McGeachie Drive Milton, Ontario L9T3Y5 Tel (905) 878-4990 Fax (905) 878-1189
Product identifier	
Recommended use and restrictions on	Paints. Accelerator and activator.
use	
Chemical family	Mixture.
NFPA rating	•
HMIS	
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 **.

SECTION 02: HAZARD IDENTIFICATION



Signal Word	DANGER.
Hazard Classification	— Category 1. Eye Irritation — Category 2A. Acute Toxicity (Inhalation) — Category 4.
	Respiratory Sensitizer — Category 1. Specific Target Organ Toxicity — Single Exposure — Category 3. (respiratory system). Carcinogenicity — Category 2. Reproductive Toxicity
Hazard Description	 Category 2. H225 Highly flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319
	Causes serious eye irritation. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H351
	This product contains ingredients that are suspected of causing cancer. H361 Suspected of
Prevention	damaging fertility or the unborn child. P201 Obtain special instructions before use. P202 Do not handle this product until all
	safety instructions have been read and understood. P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking. P233 Keep container tightly closed. P240
	Ground and bond container and receiving equipment. P241 Use explosion proof equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against
	static discharge. P261 Avoid breathing mists, vapours and sprays. P264 Wash thoroughly after handling. P271 Use only outdoors or in a well ventilated area. P272 Contaminated
	work clothing should not be allowed out of the workplace. P280 Wear protective gloves and eye protection. P284 In case of inadequate ventilation wear respiratory protection.
Response	P370 + P378 In case of fire - use dry chemical powder, CO2 or foam to extinguish. P303 + P361 + P353 If on skin or in hair: take off all contaminated clothing immediately. Rinse
	thoroughly with water and use safety shower . P302 + P352 - If on skin: wash with plenty of water. P333 + P313 If skin irritation or rash occurs, get medical advice/attention. P362 +
	P364 - Take off contaminated clothing and wash before reuse. P305 + P351 + P338 If in eyes rinse cautiously with water for several minutes. Remove contact lenses, if present and
	easy to do. Continue rinsing until medical help arrives. P337 + P313 - If eye irritation persists get medical attention. P304 + P340 - If inhaled remove person to fresh air and
	keep comfortable for breathing. P342 + P311 If experiencing respiratory symptoms; call poison center or doctor. P301 + P310 If swallowed IMMEDIATELY CALL A POISON
	CONTROL CENTRE and follow instructions provided by the centre. P331 Do NOT induce vomiting. P308 + P313 If exposed or concerned, get medical advice/attention. P321 - For
Storage	specific treatment see section 4 on this SDS. P405 Store locked up. P235 Keep cool. P403 + P233 Store in a well ventilated area. Keep
Disposal	container tightly closed.
Note	This product mixture has been classified based on its ingredients.



SECTION 03: COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME AND SYNONYMS	CAS #	WT. %	
tert-Butyl acetate	540-88-5	10-20	
Homopolymer of HDI	28182-81-2	10-20	
Homopolymer of IPDI	53880-05-0	10-20	
n-Butyl Acetate	123-86-4	10-20	
Ethyl 3-Ethoxypropionate	763-69-9	5-10	
Methyl Isobutyl Ketone	108-10-1	5-10	
n-Amyl acetate	628-63-7	5-10	
Methyl Ethyl Ketone	78-93-3	3-7	
Solvent Naphtha, Light Aromatics	64742-95-6	1-5	
Propylene Glycol Monomethyl Ether Acetate	108-65-6	1-5	
Diisobutyl Ketone	108-83-8	0.5-5	
1,3,5-Trimethylbenzene	108-67-8	0.5-5	
Propyl Benzene	103-65-1	0.5-5	
1,2,4-Trimethylbenzene	95-63-6	0.5-5	
Xylene	1330-20-7	0.1-1	
Cumene	98-82-8	0.1-1	
Isophorone Diisocyanate	4098-71-9	<0.5	
Hexamethylene -1,6-Diisocyanate	822-06-0	< 0.2	

SECTION 04: FIRST-AID MEASURES

Eye contact	Check for and remove any contact lenses, if safe and easy to do so. In case of contact, immediately flush eyes, keeping eyelids open, with plenty of water for at least 15 minutes. Consult a physician if irritation continues.
Skin contact	Immediately remove all contaminated clothing; flush skin with water for at least 15 minutes. 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.
Ingestion	
Most important symptoms and effects, whether acute or delayed	
Additional information	

SECTION 05: FIRE-FIGHTING MEASURES

Suitable and unsuitable extinguishing	Dry chemical. Carbon dioxide. Foam. In cases of larger fires, water spray should be used.
media	Do not use water in a jet.
Special protective equipment and	Firefighter should be equipped with self-contained breathing apparatus and full protective
precautions for fire-fighters	clothing to protect against potentially toxic and irritating fumes. Solvent vapours may be
precautions for me-lighters	heavier than air and may build up and travel along the ground to an ignition source, which may result in a flash back to the source of the vapours. Cool fire-exposed containers with cold water spray. Heat will cause pressure buildup and may cause explosive rupture

may result in a flash back to the source of the vapours. Cool fire-exposed containers with cold water spray. Heat will cause pressure buildup and may cause explosive rupture. During a fire, isocyanate vapours and other irritating, highly toxic gases may be generated by thermal decomposition or combustion.



SAFETY DATA SHEET

PRODUCT: PF 597C UNIVERSAL HARDENER

SECTION 05: FIRE-FIGHTING MEASURES

Specific hazards arising from the hazardous product, such as the nature of any hazardous combustion products Oxides of carbon (CO, CO2). Oxides of nitrogen. Hydrogen cyanide. Isocyanates. Isocyanic acid. Dense black smoke. Other potentially toxic fumes.

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. Open windows and doors to allow air circulation. Dike area to prevent spreading. The use of absorbent socks or spill pillows may be required. Stop leak if safe to do so. Prevent runoff into drains, sewers, and other waterways.
Major spills	If temporary control of isocyanate vapour is required, a blanket of protein foam may be placed over spill. 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. Large guantities 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. Add further amounts of neutralizing solution. 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	Keep away from heat, sparks, and open flame. Always adopt precautionary measures against build-up of static which may arise from appliances, handling and the containers in which product is packed. Ground handling equipment. Avoid skin and eye contact. Avoid breathing vapours or mist. Use adequate ventilation. Wear respiratory protection if material is heated, sprayed, used in confined space, or if exposure limit is exceeded. Keep container closed when not in use. Handle and open container with care. Do not reseal if
Conditions for safe storage, including any	contamination is suspected. Employees should wash hands and face before eating or drinking. Store in a cool, dry and well ventilated area. Keep away from heat, sparks, and open
incompatibilities	flames. Store in tightly closed containers to prevent moisture contamination. Do not store above 50 deg C.

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	ACG TWA	H TLV STEL	OSH PEL	A PEL STEL	NIOSH REL
tert-Butyl acetate	200 ppm	Not established	200 ppm	Not established	200 ppm
	CA ON AB BC: 50pp	om (TWA), 200ppm (ST	EL)		
Homopolymer of HDI	5 mg/m3	Not established	5 mg/m3	Not established	5 mg/m3
	Supplier: 0.5 mg/m3	(TWA)			
Homopolymer of IPDI	Not established	Not established	Not established	Not established	Not established
n-Butyl Acetate	50 ppm	150 ppm	150 ppm	200 ppm	150 ppm / STEL 200 ppm
	CA ON: 50ppm (TW	A), 150ppm (STEL)			
Ethyl 3-Ethoxypropionate	Not established	Not established	Not established	Not established	Not established
Methyl Isobutyl Ketone	50 ppm	75 ppm	100 ppm	Not established	50 ppm / STEL 75 ppm
	ON: 20 ppm (TWA),	75 ppm (STEL)			
n-Amyl acetate	50 ppm/15 minutes	100 ppm	100 ppm	Not established	100 ppm
Methyl Ethyl Ketone	200 ppm	300 ppm	200 ppm	Not established	200 ppm TWA
	CA ON: 200ppm (TV	VA), 300ppm (STEL)			
Solvent Naphtha, Light Aromatics	Not established	Not established	500 ppm (2000 mg/m3) TWA	Not established	350 mg/m3 TWA

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SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	AC	CGIH TLV STEL	OSł	HA PEL STEL	NIOSH
INGREDIENTS		SILL		SILL	
Propylene Glycol Monomethyl Ether Acetate	Not established	Not established	Not established	Not established	Not established
Diisobutyl Ketone	25 ppm	Not established	50 ppm	Not established	25 ppm
1,3,5-Trimethylbenzene	Not established	Not established	Not established	Not established	25 ppm
Propyl Benzene	Not established	Not established	Not established	Not established	Not established
1,2,4-Trimethylbenzene	25 ppm	Not established	Not established	Not established	25 ppm
Xylene	50 ppm	150 ppm	100 ppm TWA	Not established	Not established
	CA ON: 100ppm	(TWA); 150ppm (STEL)			
Cumene	50 ppm	Not established	50 ppm TWA	Not established	Not established
Isophorone Diisocyanate	0.005 ppm	Not established	Not established	Not established	0.005 ppm skin
Hexamethylene -1,6-Diisocyanate	0.005 ppm	Not established	Not established	Not established	0.005 ppm
Eye/type Gloves/ type Clothing/type Footwear/type Other/type Appropriate engineering Medical surveillance	y controls	respirator. Whenever co known, respiratory prote respirator is mandatory levels are 10 times the a space or with limited ver Chemical safety goggles should not be worn whe Chemical resistant glove wash thoroughly before Wear adequate protective exposure. Safety boots per local re Eye wash facility and er Ventilate adequately. E environmental contamin the current occupational local exhaust is inadequate devices. Medical supervision of a	ection must be worn. T when airborne concent appropriate exposure I ntilation. s and full faceshield if n working with this che es. Butyl rubber. Neop handling any food. ve clothes. Wear long egulations. nergency shower show xhaust air may need to vation. Vent work area I exposure limits. Avo late, persons exposed all employees who han	he use of a positive pres trations are not known of imit or spraying is perfor a splash hazard exists. (emical. rene. Nitrile rubber. Prace sleeves and trousers to uld be in close proximity. to be cleaned by scrubbe to ensure airborne cond id breathing mists; if gen to mists should wear ap udle or come in contact w	ssure air supplied r airborne solvent med in a confined Contact lenses ctice good hygiene, prevent dermal ers or filters to reduce centrations are below leral ventilation or proved breathing vith isocyanates is
Monitoring		recommended. These s with pulmonary function conditions, chronic bron or sensitization should b diagnosed as sensitized should include preemplo test (fev, fvc as a minim other chronic respiratory excluded from working v isocyanate, no further e Exposure levels must be TLV is not exceeded.	should include preemp test (FEC, FVC as a r chitis, other chronic re be excluded from work to an isocyanate, no byment and periodic m um). Persons with asti vith isocyanates. Once xposure can be permit	Novment and periodic me minimum). Persons with espiratory diseases or re- ing with isocyanates. Of further exposure can be nedical examinations with hmatic-type conditions, of t skin eczema or sensitiz e a person is diagnosed tted.	edical examinations asthmatic-type curring skin eczema nce a person is permitted. These n pulmonary function chronic bronchitis, cation should be as sensitized to an

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Colour	Liquid. Light yellow. Characteristic odour. Solvent odour. Not available. Not available. No data. 3.36 lbs/USG; 1.002. Not available. Negligible. Reacts slowly with water to liberate CO2 gas. No data. No data. Not available. 9 °C. (estimate; lowest flash point ingredient). No data.
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SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

SECTION 10: STABILITY AND REACTIVITY

Chemical stability Reactivity	Stable at normal temperatures and pressures. Avoid heat, sparks and flames. Contact with moisture and other materials will react with isocvanates.
Possibility of hazardous reactions	Contact with moisture, other materials that react with isocyanates, or temperatures above 177C, may cause polymerization.
Conditions to avoid, including static discharge, shock or vibration	
Hazardous decomposition products	See hazardous combustion products section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC	C50		LD50
tert-Butyl acetate	>2	>2,230 mg/m3 4 hours rat		4,100 mg/kg (rat, oral); >2,000 mg/kg (rabbit, dermal)
Homopolymer of HDI	39	0-453 mg/m3 rat 4 h	nours	> 5,000 mg/kg (rat, oral); > 5,000 mg/kg (rabbit, dermal)
Homopolymer of IPDI	No	ot Available		Not Available
n-Butyl Acetate		3 mg/L vapour, at) dust/mist	5.2 mg/L	10760 mg/kg (rat, oral) 14112 mg/kg (rabbit, dermal)
Ethyl 3-Ethoxypropionate	>9	98 ppm 6 hours		4,309 mg/kg rat oral 4,080 mg/kg rabbit dermal
Methyl Isobutyl Ketone	8.2	2 - 16.4 mg/L 4 hour	s rat	2080 mg/kg (rat oral) >16,000 mg/kg (rabbit dermal)
n-Amyl acetate	>9	76 ppm 4 hours rat		6500 mg/kg rat oral 8359 mg/kg rabbit dermal
Methyl Ethyl Ketone	>5 11	5,000 ppm (6 hours, 000 ppm (45 minute	rat), s, mouse)	3,400 mg/kg (rat, oral), >8000 mg/kg (rabbit, dermal), 670 mg/kg (mouse, oral)
Solvent Naphtha, Light Aromatics		2 mg/L 4 hours, rat ours, rat	3400 ppm 4	>5,000 mg/kg (rat oral) >2,000 mg/kg (rabbit dermal)
Propylene Glycol Monomethyl Ether Acetate	e No	ot Available		8,532 mg/kg (rat oral) >5,000 mg/kg (rabbit dermal)
Diisobutyl Ketone	>2	2,300 ppm 4 hours		5,285 mg/kg (rat oral) >2000 mg/kg (rat dermal)
1,3,5-Trimethylbenzene	No	ot Available		Not Available
Propyl Benzene	No	ot Available		6,040 mg/kg rat oral
1,2,4-Trimethylbenzene	>2	,000 ppm 48 hours	rat	3,280 mg/kg rat oral
Xylene	63	50 ppm 4 hours rat		>3523 mg/kg rat oral
Cumene	No	Data		50 PPM, SKIN
Isophorone Diisocyanate	12	3 mg/m3 4 hours ra	t	>1,000 mg/kg (rat oral) 1,060 mg/kg (rat dermal)
Hexamethylene -1,6-Diisocyanate	22	ppm 4 hours rat		738 mg/kg rat oral 593 mg/kg rabbit dermal
Route of exposure Effects of acute exposure	Irritating to eyes, skin and re	nhalation. Skin abso espiratory system. M	lay be harmf	ul if absorbed through the skin.

Irritating to eyes, skin and respiratory system. May be harmful if absorbed through the skin. 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.

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SAFETY DATA SHEET

PRODUCT: PF 597C UNIVERSAL HARDENER

SECTION 11: TOXICOLOGICAL INFORMATION

Effects of chronic exposure	Reports have associated repeated or prolonged overexposure to solvents with permanent brain and nervous system damage. Prolonged or repeated exposure may lead to liver, kidney or central nervous system symptoms. Repeated or prolonged contact with eyes may cause conjunctivitis. 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. Sensitization can be permanent.
Skin absorption Sensitizing capability of material	May be harmful if absorbed through the skin. 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	Methyl Isobutyl Ketone is possibly carcinogenic to humans (IARC Group 2B). Solvent Naphtha is classified as a possible carcinogen. Cumene is listed by IARC in Group 2B as a
Reproductive effects	in some animal studies have been reported to cause health effects on the developing embryo/fetus. The relevance of this to humans is not known. In one study, Methyl Ethyl
Mutagenicity	Ketone has been found to cause embryol toxicity in large concentrations. The data do not allow for an adequate assessment of the mutagenic effect.

SECTION 12: ECOLOGICAL INFORMATION

Environmental..... Do not allow to enter waters, waste water or soil. 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. Empty containers must be handled with care due to product residue.

SECTION 14: TRANSPORT INFORMATION

TDG Classification	
DOT Classification (Road)	the Limited Quantity exemption when packaged in containers less than 5 liters. UN1263 - PAINT RELATED MATERIAL - Class 3 - Packing Group II - Ltd Qty (1 litre).
IATA Classification (Air)	Refer to 49CRF 172.101 for additional non-bulk packaging requirements. UN1263 - PAINT RELATED MATERIAL - Class 3 - Packing Group II. Limited Quantity.
IMDG Classification (Marine)	
Marine Pollutant	Limited Quantity. Check IMDG regulations for limited quantity exemptions. Potential marine pollutant.
Proof of Classification	In accordance with Part 2.2.1 of the Transportation of Dangerous Goods Regulations (July 2, 2014) - we certify that classification of this product is correct.

SECTION 15: REGULATORY INFORMATION

CEPA status	On Domestic Substances List (DSL).
TSCA inventory status OSHA	
SARA Title III	This product is considered hazardous under the OSHA Hazard Communication Standard.
Section 302 - extremely hazardous	Isophorone Diisocyanate.
substances	have a first to be able of the state of the state of the second
5	Immediate health, delayed health, fire hazard.
Section 313	1,2,4-Trimethylbenzene. Methyl Isobutyl Ketone. Cumene. Hexamethylene diisocyanate. Methyl Isobutyl Ketone. Xylene.
EPA hazardous air pollutants (HAPS) 40CFR63	Cumene. Hexametrylene dilsocyanate. Metryl isobutyl Ketone. Xylene.
California Proposition 65	*WARNING: This product contains a chemical known to the State of California to cause
	birth defects or other reproductive harm. *WARNING: This product contains a chemical known to the State of California to cause cancer.

SECTION 16: OTHER INFORMATION

Prepared by: Telephone number: Disclaimer:	
	to be correct as of the date of issue but we make no representations as to its accuracy or

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sufficiency and do not suggest or guarantee that any hazards listed herein are the only

SECTION 16: OTHER INFORMATION

Disclaimer:	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: Date of the latest revision of the safety data sheet	2022-11-30. 2017-12-12

