



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

PRODUCT: PF 461 FAST ACTIVATOR FOR PF 460

SECTION 01: IDENTIFICATION

Product identifier..... PF 461 FAST ACTIVATOR FOR PF 460
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 .. Accelerator and activator. for industrial use only-keep out of reach of children .
use
Chemical family..... Mixture.
Hazard rating
NFPA rating..... Health: 2 Fire: 3 Reactivity: 0.
HMIS..... H: 2 F: 3 R: 0.

SECTION 02: HAZARD IDENTIFICATION



Signal Word..... DANGER.
Hazard Classification..... Flammable Liquid 2. Skin Irritation — Category 2. Skin Sensitizer 1. Eye Irritation —
Category 2A. Respiratory Sensitizer 1. Specific Target Organ Toxicity — Single Exposure
— Category 3. Specific Target Organ Toxicity — Repeated Exposure — Category 2.
Hazard Description..... H225 Highly flammable liquid and vapour. H315 Causes skin irritation. H317 May cause an
allergic skin reaction. H319 Causes serious eye irritation. H334 May cause allergy or
asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness. H373 May cause damage to the liver and
kidneys through prolonged or repeated contact.
Prevention..... 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. P260 Do not
breathe mist, vapours, or spray. 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 P308 + P311 If exposed or concerned; call a poison center or doctor. P321 - For specific
treatment see section 4 on this SDS. P303 + P361 + P353 If on skin or in hair: take off all
contaminated clothing immediately. Rinse thoroughly with water and use safety shower .
P333 + P313 If skin irritation or rash occurs, get medical advice/attention. P304 + P340 - If
inhaled remove person to fresh air and keep comfortable for breathing. P312 Call a
POISON CENTER/doctor if you feel unwell. 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. P362 + P364 - Take off contaminated clothing and wash before reuse. P370 +
P378 In case of fire - use dry chemical powder, CO2 or foam to extinguish.
Storage..... P233 Keep container tightly closed. P403 Store in a well ventilated area. P405 Store
locked up.
Disposal..... P501 Dispose all unused, waste or empty containers in accordance with local regulations.

PRODUCT: PF 461 FAST ACTIVATOR FOR PF 460**SECTION 03: COMPOSITION / INFORMATION ON INGREDIENTS**

CHEMICAL NAME AND SYNONYMS	CAS #	WT. %
Homopolymer of HDI	28182-81-2	36-46
Methyl Acetate	79-20-9	46-51
Ethyl Acetate	141-78-6	9-11
n-Butyl Acetate	123-86-4	1-5
Solvent Naphtha, Light Aromatics	64742-95-6	1-3
Hexamethylene -1,6-Diisocyanate	822-06-0	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. Consult a physician if irritation continues.
Skin contact.....	Immediately remove all contaminated clothing; flush skin with water for at least 15 minutes. 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.....	Rinse mouth with water. Give 1 to 2 glasses of water to drink. Do not induce vomiting. If spontaneous vomiting occurs have victim lean forward with head down to prevent aspiration of fluid into the lungs. Never give anything by mouth to an unconscious person. Seek medical assistance as soon as possible.
Additional information.....	Treat victims symptomatically. See sections 2 and 11. Skin: this compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. If burned, treat as thermal burn. 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. 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. The main hazard from ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. 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	"Alcohol" foam, CO ₂ , dry chemical. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Use cold water spray to cool exposed containers to minimize risk of rupture. Do not use a solid stream of water.
Specific hazards arising from the hazardous product, such as the nature of any hazardous combustion products	Oxides of carbon (CO, CO ₂). Hydrogen cyanide. Oxides of nitrogen. Thermal decomposition may release isocyanate vapors.
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. Solvent vapours may be 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. During a fire, isocyanate vapours and other irritating, highly toxic gases may be generated by thermal decomposition or combustion.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	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.
Methods and materials for containment and cleaning up	If temporary control of isocyanate vapour is required, a blanket of protein foam may be placed over spill. Process can generate heat. 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. Decontaminate spill area with decontamination solution. Area can then be washed with soap and water.

PRODUCT: PF 461 FAST ACTIVATOR FOR PF 460**SECTION 07: HANDLING AND STORAGE**

Precautions for safe handling..... Avoid breathing vapours or mist. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed vapour or spray mist. Avoid all skin contact and ventilate adequately, otherwise wear an appropriate breathing apparatus. 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. Handle and open container with care. Employees should wash hands and face before eating or drinking. Keep away from heat, sparks, and open flame.

Conditions for safe storage, including any incompatibilities Store in a cool, dry and well ventilated area. Keep away from heat, sparks, and open flames. Keep container closed when not in use. Store away from oxidizing and reducing materials. Keep away from foodstuffs. Store away from sunlight.

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	REL NIOSH
Homopolymer of HDI	5 mg/m3 Supplier: 0.5 mg/m3 (TWA)	Not established	5 mg/m3	Not established	5 mg/m3
Methyl Acetate	200 ppm	250 ppm	200 ppm	250 ppm in some States	200 ppm
Ethyl Acetate	400 ppm CA ON: 400 ppm (TWA)	Not established	400 ppm	Not established	400 ppm
n-Butyl Acetate	50 ppm CA ON: 50ppm (TWA), 150ppm (STEL)	150 ppm	150 ppm	200 ppm	150 ppm / STEL 200 ppm
Solvent Naphtha, Light Aromatics	Not established	Not established	500 ppm (2000 mg/m3) TWA	Not established	350 mg/m3 TWA
Hexamethylene -1,6-Diisocyanate	0.005 ppm	Not established	Not established	Not established	0.005 ppm
Appropriate engineering controls.....	Local exhaust should be used to maintain levels below the TLV whenever isocyanate is processed, heated or spray applied. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.				
Eye/type.....	Chemical safety goggles. Chemical safety goggles and full faceshield if a splash hazard exists.				
Respiratory/type.....	Whenever concentrations of isocyanates exceed the exposure limit or are not known, respiratory protection must be worn. An air-purifying particulate/organic vapour cartridge respirator is required anytime inhalation of vapour above the exposure limit is possible. . 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.				

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical state..... Liquid.

Colour..... Clear.

Odour..... Solvent odour.

Odour threshold (ppm)..... 4.6 ppm.

Vapour pressure (mm Hg)..... Not available.

Vapour density (air=1)..... >1.

pH..... Not applicable.

Relative Density (Specific Gravity)..... 8.43 lb/usg - 1.01 g/mL.

Melting / Freezing point (deg C)..... Not available.

Solubility..... Reacts slowly with water to liberate CO2 gas.

Initial boiling point / boiling range (deg C). 56°C (133 F).

Evaporation rate..... 6.2.

Flammability (solids and gases)..... Flammable liquid.

Flash point (deg C), method..... -15.6°C. (Setaflash Closed Cup).

Auto ignition temperature (deg C)..... 427.

PRODUCT: PF 461 FAST ACTIVATOR FOR PF 460**SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

Upper flammable limit (% vol).....	16.0.
Lower flammable limit (% vol).....	0.9.
Partition coefficient — n-octanol/water.....	Not available.
Decomposition temperature.....	Not exothermic to initial boiling point.
VOC (less water).....	1.2 lb/usg - 143 g/l. Total MIR: 0.18.
Viscosity.....	15 sec Zahn #2. @ 20C.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	This is a stable material.
Chemical stability.....	Stable at normal temperatures and pressures.
Possibility of hazardous reactions.....	Rapid polymerization will occur in the presence of water, amines, alkalis, and alcohol. Avoid skin contact.
Conditions to avoid, including static discharge, shock or vibration	Keep away from heat. Contamination.
Incompatible materials.....	Water, amines, strong acids and bases, strong oxidizing agents, alcohol, copper.
Hazardous decomposition products.....	See hazardous combustion products section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
Homopolymer of HDI	390-453 mg/m ³ rat 4 hours	> 5,000 mg/kg (rat, oral); > 5,000 mg/kg (rabbit, dermal)
Methyl Acetate	>49 mg/L (4 hr) rat	6482 mg/kg (oral rat); >2,000 mg/kg (dermal rat)
Ethyl Acetate	16,000 ppm 6 hours rat	5,600 mg/kg (rat oral)
n-Butyl Acetate	>33 mg/L vapour, 5.2 mg/L (rat) dust/mist	10760 mg/kg (rat, oral) 14112 mg/kg (rabbit, dermal)
Solvent Naphtha, Light Aromatics	5.2 mg/L 4 hours, rat 3400 ppm 4 hours, rat	>5,000 mg/kg (rat oral) >2,000 mg/kg (rabbit dermal)
Hexamethylene -1,6-Diisocyanate	22 ppm 4 hours rat	738 mg/kg rat oral 593 mg/kg rabbit dermal
Route of exposure.....	Eye contact. Skin contact. Inhalation. Ingestion.	
Effects of acute exposure.....	SKIN: Irritant. Can cause reddening, itching and swelling. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling and rash. Cured material is difficult to remove. Contact with MDI can cause discoloration. EYE: Product liquid, aerosols or vapours are irritating. Can cause tearing, reddening and swelling. May cause temporary corneal injury. INHALATION: 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, difficulty breathing and reduced pulmonary functioning. Persons with pre-existing, nonspecific bronchial hyperactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. These symptoms can be delayed up to several hours after exposure. Effects are usually reversible. INGESTION: May cause irritation. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea. Causes eye irritation. Can cause tearing, reddening and swelling. May cause temporary corneal damage. Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal. May cause central nervous system effects such as headache, nausea, vomiting and weakness.	
Effects of chronic exposure.....	Prolonged or repeated exposure may result in skin sensitization. Prolonged or repeated exposure may result in an allergic respiratory reaction in sensitive individuals. Possible damage to liver and kidneys.	
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.....	Solvent Naphtha is classified as a possible carcinogen. Solvent Naphtha (light aromatic solvents): NTP considers the results of a chronic inhalation study in rats to be clear evidence of carcinogenicity in rats.	
Reproductive effects.....	Animal testing of Solvent Naphtha (light aromatic solvents) demonstrated embryo/fetal effect, but no malformation at concentrations producing maternal toxicity.	

SECTION 12: ECOLOGICAL INFORMATION

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

PRODUCT: PF 461 FAST ACTIVATOR FOR PF 460**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.....	UN1263 - PAINT RELATED MATERIAL - Class 3 - Packing Group II - This product meets the Limited Quantity exemption when packaged in containers less than 5 liters.
DOT Classification (Road).....	UN1263 - PAINT RELATED MATERIAL - Class 3 - Packing Group II - Ltd Qty (1 litre). Refer to 49CFR 172.101 for additional non-bulk packaging requirements.
IATA Classification (Air).....	UN1263 - PAINT RELATED MATERIAL - Class 3 - Packing Group II.
IMDG Classification (Marine).....	UN1263 - PAINT RELATED MATERIAL - Class 3 - Packing Group II - EmS: F-E S-E.
Marine Pollutant.....	No.
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).
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, fire hazard.
Section 313.....	Ethyl acetate. Hexamethylene diisocyanate.
EPA hazardous air pollutants (HAPS) 40CFR63	Hexamethylene diisocyanate. Ethyl acetate.
TSCA inventory status.....	All components are listed.
California Proposition 65.....	This product does not contain any chemical(s) known to the State of California to cause cancer or reproductive toxicity.

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 ..	2016-06-22