



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

PRODUCT: PF 468 SLOW ACTIVATOR FOR PF 465

SECTION 01: IDENTIFICATION

Product identifier..... PF 468 SLOW ACTIVATOR FOR PF 465
 Other means of identification
 Chemical family..... Mixture.
 Recommended use and restrictions on .. Paints. Accelerator and activator.
 use
 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 **.
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 NFPA rating..... Health: 2 Fire: 2 Reactivity: 0.
 HMIS..... H: 2 F: 2 R: 0.

SECTION 02: HAZARD IDENTIFICATION



Hazard Classification..... Flammable Liquid 3. Skin Irritation — Category 2. Skin Sensitizer — Category 1. Eye Irritation — Category 2A. Acute Toxicity (Inhalation) — Category 4. Specific Target Organ Toxicity — Single Exposure — Category 3. (respiratory system). (narcotic effects).
 Signal Word..... WARNING.
 Hazard Description..... H226 Flammable liquid and vapour. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness.
 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. 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.
 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. P362 + P364 - Take off contaminated clothing and wash before reuse. P333 + P313 If skin irritation or rash occurs, get medical advice/attention. 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. P312 Call a POISON CENTER/doctor if you feel unwell.
 Storage..... P233 Keep container tightly closed. P403 + P235 Store in well ventilated area. Keep cool. P405 Store locked up.
 Disposal..... P501 Dispose all unused, waste or empty containers in accordance with local regulations.
 Note This product mixture has been classified based on its ingredients.

SECTION 03: COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME AND SYNONYMS	CAS #	WT. %
Homopolymer of HDI	28182-81-2	40-70
4-Chlorobenzotrifluoride	98-56-6	10-30
2-Butoxyethyl Acetate	112-07-2	7-13

PRODUCT: PF 468 SLOW ACTIVATOR FOR PF 465**SECTION 03: COMPOSITION / INFORMATION ON INGREDIENTS**

Light aromatic naphtha*	64742-95-6	1-5
<<The actual concentration(s) withheld as a trade secret>> .		
*Light aromatic naphtha (64742-95-6) contains:		
1,2,4-trimethylbenzene (<32%), Cumene (<1.1%), and xylene (<2.2%)		

SECTION 04: FIRST-AID MEASURES

Inhalation.....	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen, obtain medical attention.
Ingestion.....	If ingestion is suspected, contact physician or poison control center immediately. Do not induce vomiting. Rinse mouth with water. 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.
Skin contact.....	Remove all contaminated clothing and immediately wash the exposed areas with copious amounts of water for a minimum of 30 minutes or up to 60 minutes for critical body areas. If irritation persists, seek medical attention.
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. Obtain medical attention.
Most important symptoms and effects, whether acute or delayed	Harmful if swallowed, in contact with skin or if inhaled. Causes skin and eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Can cause skin sensitization. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
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. Contains a respiratory sensitizer @ <0.1%. 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	Dry chemical. Carbon dioxide. Foam. In cases of larger fires, water spray should be used. Do not use water in a jet.
Specific hazards arising from the hazardous product, such as the nature of any hazardous combustion products	Thermal decomposition products are toxic. May include: Oxides of carbon (CO, CO ₂). Oxides of nitrogen. Hydrogen cyanide. Isocyanates. 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. 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	No action shall be taken involving any personal risk or without suitable training. 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. Use non-sparking tools and equipment to pick up the spilled material.
Methods and materials for containment and cleaning up	
Leak/spill.....	Ventilate. Eliminate all sources of ignition. Contain the spill. Avoid all personal contact. 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. Evacuate all non-essential personnel. Prevent runoff into drains, sewers, and other waterways. Absorb with earth, sand, or another dry inert material. Shovel into suitable unsealed containers, transport to well-ventilated area (outside) and treat with neutralizing solution: mixture of water (80%) with non-ionic surfactant Tergitol TMN-10 (20%); or water (90%), concentrated ammonia (3-8%) and detergent (2%).

PRODUCT: PF 468 SLOW ACTIVATOR FOR PF 465**SECTION 06: ACCIDENTAL RELEASE MEASURES**

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.

SECTION 07: HANDLING AND STORAGE

Precautions for safe handling..... Keep away from heat, sparks, and open flame. Ensure that equipment is properly bonded and grounded during filling and transferring as product may become electrostatically charged. Do not breathe vapours, mist or dust. Use adequate ventilation. Wear respiratory protection if material is heated, sprayed, used in confined space, or if exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odour) are not adequate to prevent chronic overexposure from inhalation. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed vapour or spray mist. Avoid skin and eye contact. Decomposition products are highly toxic and irritating. Wash thoroughly after handling. Employee education and training are important.

Conditions for safe storage, including any incompatibilities Store in tightly closed containers to prevent moisture contamination. Keep away from heat, sparks, and open flames. Do not resealed if contamination is suspected. Exposure to vapours of heated isocyanates can be extremely dangerous.

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	REL	NIOSH
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Homopolymer of HDI	5 mg/m3 Supplier: 0.5 mg/m3 (TWA)	Not established	5 mg/m3	Not established	5 mg/m3	
4-Chlorobenzotrifluoride	Not established	Not established	Not established	Not established	Not established	Not established
2-Butoxyethyl Acetate	20 ppm TLV	Not established	Not established	Not established	5 ppm	
Light aromatic naphtha*	Not established	Not established	500 ppm (2000 mg/m3) TWA	Not established	350 mg/m3 TWA	

Appropriate engineering controls..... Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits. Local mechanical exhaust ventilation should be used at sources of air contamination, such as open process equipment, or during purging operations, to capture gases and fumes that may be emitted. Standard reference sources regarding industrial ventilation (ie. ACGIH industrial ventilation) should be consulted for guidance about adequate ventilation.

Personal Protective Equipment
Respiratory/type..... Whenever concentrations of isocyanates exceed the exposure limit or are not known, respiratory protection must be worn. A positive pressure, supplied-air respirator or a self-contained breathing apparatus is recommended. At least an air-purifying respirator equipped with an organic vapour cartridge and particulate pre-filters must be worn. However, this should be permitted only for short periods of time (< 1 hour) at relatively low concentrations (at or near the exposure limit). 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. Do not exceed the use limits of the respirator.

Eye/type..... Liquid chemical goggles. Contact lenses should not be worn when working with this chemical.

Gloves/ type..... Wear skin protection equipment. The selection of skin protection equipment depends on the nature of the work to be performed. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. The following gloves are recommended : Nitrile rubber. Contact glove supplier for recommendations.

Clothing/type..... Wear adequate protective clothes. Wear impervious protective clothing.

Footwear/type..... Safety boots per local regulations.

Other/type..... Emergency showers and eye wash stations should be available. Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees on the safe use and handling of the product.

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

PRODUCT: PF 468 SLOW ACTIVATOR FOR PF 465**SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION**

Medical surveillance..... 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.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical state..... Liquid.
 Colour..... Light yellow.
 Odour..... Characteristic odour.
 Odour threshold (ppm)..... Not available.
 pH..... Not applicable.
 Melting / Freezing point (deg C)..... < -24 C.
 Initial boiling point / boiling range (deg C). > 139°C.
 Flash point (deg C), method..... 43°C (109°F).
 Evaporation rate..... Not available.
 Flammability (solids and gases)..... Not applicable.
 Upper flammable limit (% vol)..... 10.5.
 Lower flammable limit (% vol)..... 0.9.
 Vapour pressure (mm Hg)..... Not available.
 Vapour density (air=1)..... Not available.
 Relative Density (Specific Gravity)..... 1.174.
 Pounds / USG..... 9.8.
 Solubility..... Negligible.
 Partition coefficient — n-octanol/water..... Not available.
 Auto ignition temperature (deg C)..... Not available.
 Decomposition temperature..... Not available.
 Viscosity..... 15.0 sec Zahn #2.
 VOC (less water)..... 1.13 lbs/USG; 135.4 g/L.

SECTION 10: STABILITY AND REACTIVITY

Reactivity Contact with moisture and other materials will react with isocyanates.
 Chemical stability..... Stable at normal temperatures and pressures.
 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 Avoid heat, spark, open flames. Moisture.
 discharge, shock or vibration
 Incompatible materials..... Water, Amines, Strong bases, Alcohols, Copper alloys. Strong oxidizing agents.
 Hazardous decomposition products..... No hazardous decomposition products when stored and handled correctly. Thermal decomposition may produce acrid smoke and irritating fumes. See hazardous combustion products section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
Homopolymer of HDI	390-453 mg/m3 rat 4 hours	> 5,000 mg/kg (rat, oral); > 5,000 mg/kg (rabbit, dermal)
4-Chlorobenzotrifluoride	4479 ppm	>6,800 mg/kg (rat oral); >2,700 mg/kg (rabbit dermal)
2-Butoxyethyl Acetate	> 450 ppm rat 6h	1,600 mg/kg (rat, oral) 1,480 mg/kg (rabbit, dermal)
Light aromatic naphtha*	10.2 mg/L (inhal, hr.)	>3400 mg/kg (oral, rat). >2000 mg/kg (dermal, rabbit)
Route of exposure.....	Eye contact. Skin contact. Inhalation.	
Symptoms related to the physical, chemical and toxicological characteristics		
Skin contact.....	Causes skin irritation. Causes reddening, stinging and swelling. Persons previously sensitized can experience allergic reaction with symptoms of reddening, itching, swelling and rash.	
Skin absorption.....	Not available.	
Eye contact.....	Causes eye irritation. Can cause tearing, reddening and swelling. May cause temporary corneal damage. Vapours can produce irritation. Symptoms include tearing and reddening.	
Ingestion.....	May be harmful or fatal if swallowed. May cause central nervous system effects such as headache, nausea, vomiting and weakness.	

PRODUCT: PF 468 SLOW ACTIVATOR FOR PF 465**SECTION 11: TOXICOLOGICAL INFORMATION**

Inhalation (acute).....	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 preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limit with similar symptoms as well as asthma attack. Exposure well above the exposure limit 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. Solvent vapours may be irritating to the eyes, nose and throat, resulting in redness, burning and itching of eyes, dryness of the throat and tightness in the chest. Breathing of high vapour concentrations may cause anesthetic effects and serious health effects. Excessive inhalation of vapours can cause respiratory irritation, dizziness, headache, nausea and asphyxiation.
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. Chronic exposure to organic solvents may cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.
Carcinogenicity of material.....	None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.
Reproductive effects.....	No component of this product present at levels greater than or equal to 0.1% .
Sensitizing capability of material.....	May cause sensitization by skin contact.
Specific Target Organ Toxicity	May cause drowsiness or dizziness. May cause respiratory irritation.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity.....	Product data not available.
Persistence and degradability.....	Product data not available.
Bioaccumulative potential.....	Product data not available.
Mobility in soil.....	Product data not available.
Other adverse effects.....	Do not allow to enter waters, waste water or soil.

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.
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SECTION 14: TRANSPORT INFORMATION

TDG Classification.....	UN1263 - PAINT RELATED MATERIAL - Class 3 - Packing Group III - 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 III - This product meets the limited quantity exemption when packaged in containers less than 5 liters . 49CFR173.150 provides an exception to the requirements of subsection 172.101 flammable liquids in Packing Group III and combustible liquids, inner packagings not over 5.0 L (1.3 gallons) net capacity each, packed in a strong outer packaging.
IATA Classification (Air).....	UN1263 - PAINT RELATED MATERIAL - Class 3 - Packing Group III. Limited Quantity. Do not ship by air without checking appropriate IATA regulations.
IMDG Classification (Marine).....	UN1263 - PAINT RELATED MATERIAL - Class 3 - Packing Group III - EmS: F-E S-E . Limited Quantity. Check IMDG regulations for limited quantity exemptions.
Marine Pollutant.....	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.....	All components are listed.
OSHA.....	This product is considered hazardous under the OSHA Hazard Communication Standard.
SARA Title III Section 302 - extremely hazardous substances	None.

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SECTION 15: REGULATORY INFORMATION

Section 311/312 - hazard categories.....	Immediate health, delayed health, fire hazard.
Section 313.....	None above De minimus % limit.
EPA hazardous air pollutants (HAPS) 40CFR63	Hexamethylene diisocyanate. Xylene.
California Proposition 65.....	*** ! WARNING: This product can expose you to chemicals including [see below], which are known to the State of California to cause cancer . (Cumene). (Ethyl benzene). For more information, go to www.P65Warnings.ca.gov .

SECTION 16: OTHER INFORMATION

Prepared by:	REGULATORY AFFAIRS. Trivalent Data Systems Ltd. www.trivalent.com .
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	2021-01-18