



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

PRODUCT: PF 463 SLOW ACTIVATOR FOR PF 460

SECTION 01: IDENTIFICATION

Product identifier..... PF 463 SLOW 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 . This product
use should not be used for any other purpose other than the ones described in this section.
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. Acute Toxicity 4. Skin Irritation — Category 2. Skin Sensitizer —
Category 1. Eye Irritant 2. Respiratory Sensitizer — Category 1.
Hazard Description..... H225 Highly flammable liquid and vapour. H302 Harmful if swallowed. H312 Harmful in
contact with skin. 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.
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. 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. P280 Wear protective gloves and eye
protection. P284 In case of inadequate ventilation wear respiratory protection.
Response P312 Call a POISON CENTER/doctor if you feel unwell. P321 - For specific treatment see
section 4 on this SDS. P301 + P312 If swallowed call a poison control centre. P330 Rinse
mouth. P303 + P361 + P353 If on skin or in hair: take off all contaminated clothing
immediately. Rinse thoroughly with water and use safety shower . 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. P305 + P351 + P338 If in
eyes rinse continuously 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..... P403 + P235 Store in well ventilated area. Keep cool.
Disposal..... P501 Dispose all unused, waste or empty containers in accordance with local regulations.

SECTION 03: COMPOSITION / INFORMATION ON INGREDIENTS

| CHEMICAL NAME AND SYNONYMS | CAS # | WT. % |
|----------------------------|------------|-------|
| Homopolymer of HDI | 28182-81-2 | 34-40 |
| Methyl Acetate | 79-20-9 | 46-51 |
| 2-Butoxyethyl Acetate | 112-07-2 | 13-14 |

PRODUCT: PF 463 SLOW ACTIVATOR FOR PF 460**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. |
| Ingestion..... | Rinse mouth with water. Give 1 to 2 glasses of water to drink. Never give anything by mouth to an unconscious person. Do not induce vomiting. If spontaneous vomiting occurs have victim lean forward with head down to prevent aspiration of fluid into the lungs. Seek medical assistance as soon as possible. |
| Additional information..... | See sections 2 and 11. In the event of an incident involving this product ensure that medical authorities are provided a copy of this safety data sheet. 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 all cases, if irritation persists seek medical attention. |

SECTION 05: FIRE-FIGHTING MEASURES

| | |
|--|--|
| Suitable and unsuitable extinguishing media | Dry chemical. Carbon dioxide. Foam. Do not use water. |
| Specific hazards arising from the hazardous product, such as the nature of any hazardous combustion products | Oxides of carbon (CO, CO ₂). Oxides of nitrogen. Hydrogen cyanide. Isocyanates. Isocyanic acid. Forms peroxides of unknown stability. Chlorine gases and fluorine containing gases can be produced. 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. Cool fire-exposed containers with cold water spray. Heat will cause pressure buildup and may cause explosive rupture. |
| Unusual fire / explosion hazards..... | 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. |

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. |

SECTION 07: HANDLING AND STORAGE

| | |
|------------------------------------|--|
| Precautions for safe handling..... | Do not breathe vapours, mist or dust. Avoid skin and eye contact. Use adequate ventilation. Exposure to vapours of heated isocyanates can be extremely dangerous. 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. Wash thoroughly after handling. Decomposition products are highly toxic and irritating. Ensure that equipment is properly bonded and grounded during filling and transferring as product may become electrostatically charged. Employee education and training are important. |
|------------------------------------|--|

PRODUCT: PF 463 SLOW ACTIVATOR FOR PF 460**SECTION 07: HANDLING AND STORAGE**

Conditions for safe storage, including any incompatibilities

Store in a cool, dry and well ventilated area. Store in tightly closed containers to prevent moisture contamination. Keep away from heat, sparks, and open flames. Keep away from foodstuffs. Do not reseal if contamination is suspected.

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 | |
| | AB/BC/ON/PQ: 200ppm (TWA), 250ppm (STEL) | | | | | |
| 2-Butoxyethyl Acetate | 20 ppm TLV | Not established | Not established | Not established | 5 ppm | |
| Appropriate engineering controls..... | Local exhaust should be used to maintain levels below the TLV whenever isocyanate is processed, heated or spray applied. Wear an appropriate, properly fitted respirator when contaminant levels exceed the recommended exposure limits. Thermal processing equipment should be ventilated to control gases and fumes given off during processing. | | | | | |
| Eye/type..... | Chemical safety goggles. Chemical safety goggles and full faceshield if a splash hazard exists. Contact lenses should not be worn when working with this chemical. | | | | | |
| 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. Use NIOSH approved respirator or equipment. Do not exceed the use limits of the respirator. | | | | | |
| Gloves/ type..... | Chemical resistant gloves. Butyl rubber. Neoprene. Nitrile rubber. Practice good hygiene, wash thoroughly before handling any food. | | | | | |
| 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 should be close in proximity. Emergency shower should be in close proximity. Educate and train employees on the safe use and handling of the product. | | | | | |
| 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. | | | | | |

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|---|
| Appearance/Physical state..... | Liquid. |
| Colour..... | Light yellow. |
| Odour..... | Weak naphthalene 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)..... | 1.014 - 8.46 lb/gal. |
| 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..... | Slow. |
| Flammability (solids and gases)..... | Flammable liquid. |
| Flash point (deg C), method..... | -15.6°C. (Setaflash Closed Cup). |

PRODUCT: PF 463 SLOW ACTIVATOR FOR PF 460**SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

| | |
|--|--|
| Auto ignition temperature (deg C)..... | 340. |
| 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)..... | 131.8 g/L - 1.10 lb/gal Total MIR: 0.41. |
| Viscosity..... | 15.0 sec Zahn #2. |

SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| Reactivity | This is a stable material. |
| Chemical stability..... | Stable at normal temperatures and pressures. Product can undergo hazardous polymerization. |
| 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) |
| 2-Butoxyethyl Acetate | > 450 ppm rat 6h | 1,600 mg/kg (rat, oral) 1,480 mg/kg (rabbit, dermal) |
| Route of exposure..... | Eye contact. Skin contact. Inhalation. Ingestion. | |
| Effects of acute exposure..... | Causes eye irritation. Can cause tearing, reddening and swelling. May cause temporary corneal damage. 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 hyperreactivity 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. 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. Ingestion may result in gastrointestinal irritation, 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. Chronic exposure to organic solvents may cause permanent brain and nervous system damage. | |
| 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..... | 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. | |

PRODUCT: PF 463 SLOW ACTIVATOR FOR PF 460**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..... 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 None.
 substances
 Section 311/312 - hazard categories..... Immediate health, delayed health, fire hazard.
 Section 313..... Hexamethylene diisocyanate.
 EPA hazardous air pollutants (HAPS) Hexamethylene diisocyanate.
 40CFR63
 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 .. 2016-06-22
 data sheet