



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

PRODUCT: PF 689C MEDIUM ACTIVATOR FOR PF 688C

SECTION 01: IDENTIFICATION

Product identifier..... PF 689C MEDIUM ACTIVATOR FOR PF 688C
 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: 4 Reactivity: 1.
 HMIS..... H: 2 F:4 R: 1.

SECTION 02: HAZARD IDENTIFICATION



Hazard Classification..... Flammable Liquid 2. Sensitization - Skin — Category 1. Sensitization - Respiratory — Category 1. Eye Damage/Irritation — Category 2A. Acute Toxicity (Inhalation) — Category 3. Specific Target Organ Toxicity — Single Exposure — Category 3. (Respiratory system). (Narcotic Effects). (CNS).
 Signal Word..... DANGER.
 Hazard Description..... H225 Highly flammable liquid and vapour. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H331 Toxic if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties 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. P284 In case of inadequate ventilation wear respiratory protection.
 Response P302 + P352 - If on skin: wash with plenty of water. 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. 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. P311 Call a POISON CENTRE or doctor. P312 Call a POISON CENTER/doctor if you feel unwell. P321 - For specific treatment see section 4 on this SDS. P333 + P313 If skin irritation or rash occurs, get medical advice/attention. P337 + P313 - If eye irritation persists get medical attention. P342 + P311 If experiencing respiratory symptoms; call poison center or doctor. 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+P433+P435 Store in a well ventilated area. Keep container tightly closed. Keep cool. P405 Store locked up.
 Disposal..... P501 Dispose all unused, waste or empty containers in accordance with local regulations.
 Other hazards..... None known.
 Note This product mixture has been classified based on its ingredients.

PRODUCT: PF 689C MEDIUM ACTIVATOR FOR PF 688C**SECTION 03: COMPOSITION / INFORMATION ON INGREDIENTS**

CHEMICAL NAME AND SYNONYMS	CAS #	WT. %
Homopolymer of HDI	28182-81-2	30-60
tert-Butyl acetate	540-88-5	15-40
4-Chlorobenzotrifluoride	98-56-6	10-30
<<The actual concentration(s) withheld as a trade secret>>		

SECTION 04: FIRST-AID MEASURES

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.
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.
Inhalation.....	Move to fresh air. Make victim comfortable for breathing. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the product. Obtain immediate medical attention.
Ingestion.....	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. Get medical attention if symptoms occur.
Most important symptoms and effects, whether acute or delayed	Harmful if swallowed, in contact with skin or if inhaled. Can cause central nervous system depression. Can cause skin sensitization. Can cause respiratory sensitization. Symptoms may include allergic skin reaction, dermatitis or rash.
Additional information.....	In all cases, if irritation persists seek medical attention. 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 extinguishing media.....	"Alcohol" foam, CO2, dry chemical.
Unsuitable extinguishing media.....	Do not use solid water streams or water jet.
Specific hazards arising from the hazardous product, such as the nature of any hazardous combustion products	During fire, gases hazardous to health may be formed.
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. Do not allow run-off into drains, surface waters or ground waters.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Environmental precautions.....	Do not allow product to leak into drains or waterways. If spill does contaminate waterways then inform authorities.
Personal precautions, protective equipment and emergency procedures	No action shall be taken involving any personal risk or without suitable training. Take precautions against static discharge. Equipment should be grounded. Use non-sparking tools and equipment to pick up the spilled material. 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. Beware of vapours accumulating to form explosive concentrations. Vapors can form explosive mixture in air.
Methods and materials for containment and cleaning up	Wear proper personal protection equipment. Contain spilled material and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations. Treat original container as hazardous due to any residual product still in container.

SECTION 07: HANDLING AND STORAGE

Precautions for safe handling.....	Ensure that equipment is properly bonded and grounded during filling and transferring as product may become electrostatically charged. Use adequate ventilation. Do not breathe vapours, mist or dust. Wear respiratory protection if material is heated, sprayed, used in confined space, or if exposure limit is exceeded. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed vapour or spray
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PRODUCT: PF 689C MEDIUM ACTIVATOR FOR PF 688C**SECTION 07: HANDLING AND STORAGE**

Precautions for safe handling.....	mist. Avoid skin and eye contact. Avoid formation of aerosol. Do not spray on a naked flame or any incandescent material. Employees should wash hands and face before eating or drinking. Smoking, eating and drinking should be prohibited in the application area. Wash thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Keep away from heat, sparks, and open flames. Exposure to vapours of heated isocyanates can be extremely dangerous. Store in tightly closed containers to prevent moisture contamination. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Provide adequate ventilation to protect from these hazards and to keep below maximum exposure values. Electrical installations / working materials must comply with the technological safety standards. Incompatible materials include, but not limited to: Strong reducing agents. Acids. Bases. Nitrates. Plastics.

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	
tert-Butyl acetate	200 ppm CA ON AB BC: 50ppm (TWA), 200ppm (STEL)	Not established	200 ppm	Not established	200 ppm	
4-Chlorobenzotrifluoride	Not established	Not established	Not established	Not established	Not established	Not established
Appropriate engineering controls.....	Explosion-proof exhaust ventilation. Local exhaust should be used to maintain levels below the exposure limits.					
Personal Protective Equipment Gloves/ type.....	Impervious gloves. Consult your personal protective equipment supplier for additional recommendations.					
Eye/type.....	Chemical safety goggles and full faceshield if a splash hazard exists. Consult your personal protective equipment supplier for additional recommendations.					
Respiratory/type.....	Wear an appropriate, properly fitted respirator when contaminant levels exceed the recommended exposure limits. Full Face Mask with organic vapor cartridge, Type A filter. Consult your personal protective equipment supplier for additional recommendations.					
Clothing/type.....	Wear impervious protective clothing. Consult your personal protective equipment supplier for additional recommendations.					
Footwear/type.....	Wear chemical resistant safety boots. Consult your personal protective equipment supplier for additional recommendations.					
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.					

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical state.....	Liquid.
Colour.....	Not available.
Odour.....	Not available.
Odour threshold (ppm).....	Not available.
pH.....	Not applicable.
Melting / Freezing point (deg C).....	Not available.
Initial boiling point / boiling range (deg C).....	Not available.
Flash point (deg C), method.....	Not available.
Evaporation rate.....	Not available.
Flammability (solids and gases).....	Not applicable. Flammable liquid.
Upper flammable limit (% vol).....	Not available.
Lower flammable limit (% vol).....	Not available.
Vapour pressure (mm Hg).....	Not available.
Vapour density (air=1).....	Not available.
Relative Density (Specific Gravity).....	1.053.
Solubility.....	Not available.
Partition coefficient — n-octanol/water.....	Not available.
Auto ignition temperature (deg C).....	Not available.
Decomposition temperature.....	Not available.
Viscosity.....	Not available.
% Volume Volatile exempt.....	56.90.
Formula LBS/GAL.....	8.79.
% Weight Solids.....	47.50.
% Volume Solids.....	43.12.
% Weight Volatile (VOC).....	0.00.
% Volume Volatile (VOC).....	44.30.
Total MIR.....	0.08.

PRODUCT: PF 689C MEDIUM ACTIVATOR FOR PF 688C**SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

Coverage (sq ft/gal @ 1 mil).....	692.
Percent weight binder.....	47.5.
Percent volume binder.....	43.1.
Eq. WT. NCO.....	410.53.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Keep away from sparks or open flame.
Chemical stability.....	Stable at normal temperatures and pressures.
Possibility of hazardous reactions.....	Vapours may form explosive mixture with air.
Conditions to avoid, including static	Avoid heat, spark, open flames.
discharge, shock or vibration	
Hazardous decomposition products.....	Acetic acid. Carbon oxides.

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)
tert-Butyl acetate	>2,230 mg/m ³ 4 hours rat	4,100 mg/kg (rat, oral); >2,000 mg/kg (rabbit, dermal)
4-Chlorobenzotrifluoride	4479 ppm	>6,800 mg/kg (rat oral); >2,700 mg/kg (rabbit dermal)
Route of exposure.....	Eye contact. Skin contact. Inhalation. Ingestion.	
ATEmix:.....	ATEmix - TBAC 22 mg/L (inhalation) 4 hour vapour. ATEmix - 9756 mg/L (inhalation) vapour (diisocyanate).	
Serious eye damage/eye irritation.....	Causes serious eye irritation.	
Skin corrosion/irritation.....	Causes skin irritation. Solvents may decrease the skin.	
Carcinogenicity.....	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC or ACGIH.	
Reproductive effects.....	No component of this product present at levels greater than or equal to 0.1% .	
Mutagenicity.....	No component of this product present at levels greater than or equal to 0.1% .	
Respiratory Sensitization.....	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Skin Sensitization.....	May cause an allergic skin reaction.	
STOT-SE.....	Central nervous system. Respiratory system.	
STOT-RE.....	Not classified.	
Aspiration Hazard.....	May be harmful if swallowed and enters airways.	

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity.....	p-Chlorobenzotrifluoride - LC50 3 mg/L 96hr (Zebra fish). EC50 2 mg/L 48hr (Daphnia Magna). EC50 >0.41 mg/L 96hr (Green Algae).
Persistence and degradability.....	Product data not available.
Bioaccumulative potential.....	Product data not available.
Mobility in soil.....	Product data not available.

SECTION 13: DISPOSAL CONSIDERATIONS

Information on safe handling for disposal and methods of disposal, including any contaminated packaging	This material and its container must be disposed of as hazardous waste. Avoid release to the environment. 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 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 (5 L). Refer to 49CFR 172.101 for additional non-bulk packaging requirement.
IATA Classification (Air).....	UN1263 - PAINT RELATED MATERIAL - Class 3 - Packing Group II. Limited Quantity. Do not ship by air without checking appropriate IATA regulations.
IMDG Classification (Marine).....	UN1263 - PAINT RELATED MATERIAL - Class 3 - Packing Group II - EmS: F-E S-E. Limited Quantity. Check IMDG regulations for limited quantity exemptions.
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. .

PRODUCT: PF 689C MEDIUM ACTIVATOR FOR PF 688C**SECTION 15: REGULATORY INFORMATION**

CEPA status.....	On Domestic Substances List (DSL).
National Pollutant Release Inventory (NPRI)	None listed in this product.
Environmental Emergency Regulations....	None listed in this product.
Categorization of the DSL.....	None listed in this product.
New Substances Risk Assessment	(CAS # 540-88-5).
Summary	
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	None.
substances	
Section 311/312 - hazard categories.....	Immediate health, delayed health, fire hazard.
Section 313.....	None above De minimus % limit.
EPA hazardous air pollutants (HAPS)	Hexamethylene diisocyanate.
40CFR63	
California Proposition 65.....	This product does not contain any chemical(s) known to the State of California to cause cancer or reproductive toxicity. For more information, go to www.P65Warnings.ca.gov .

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	2024-05-04