



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

PRODUCT: PF 491 DTM 2K URETHANE HIGH BUILD PRIMER ACTIVATOR

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..... PF 491 DTM 2K URETHANE HIGH BUILD PRIMER ACTIVATOR

Recommended use and restrictions on .. Paints. Accelerator and activator.
use

Chemical family..... Mixture.

NFPA rating..... Health: 2 Fire: 4 Reactivity: 1.

HMIS..... H: 2 F: 4 R: 1.

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..... Flammable Liquid 2. Skin Sensitizer — Category 1. Acute Toxicity (Inhalation) — Category 4. Specific Target Organ Toxicity — Single Exposure — Category 3. (respiratory system). (narcotic effects).

Hazard Description..... H225 Highly flammable liquid and vapour. H317 May cause an allergic skin reaction. 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. 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 P303 + P361 + P353 If on skin or in hair: take off all contaminated clothing immediately. Rinse thoroughly with water and use safety shower . P370 + P378 In case of fire - use dry chemical powder, CO2 or foam to extinguish. P304 + P340 - If inhaled remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTER/doctor if you feel unwell. 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.

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. %
tert-Butyl acetate	540-88-5	60-80
Homopolymer of HDI	28182-81-2	15-40
<<The actual concentration(s) withheld as a trade secret>>		

PRODUCT: PF 491 DTM 2K URETHANE HIGH BUILD PRIMER ACTIVATOR**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. Obtain medical attention.
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.....	Do not induce vomiting. Rinse mouth with water. If ingestion is suspected, contact physician or poison control center immediately. 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.
Most important symptoms and effects, whether acute or delayed	Harmful if swallowed, in contact with skin or if inhaled. Can cause skin sensitization. May cause respiratory sensitization. High vapour concentrations may be irritating to the respiratory tract. Can cause central nervous system depression. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
Additional information.....	Treat victims symptomatically. In all cases, if irritation persists seek medical attention. Skin: this compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. If burned, treat as thermal burn. 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	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. This material may produce a floating fire hazard. Thermal decomposition products are toxic. May include: Oxides of carbon (CO, CO ₂). Smoke. Other potentially toxic fumes. Under hot acidic conditions: Isobutylene. Acetic acid. 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.

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. Take precautions against static discharge. Equipment should be grounded.
Methods and materials for containment and cleaning up	
Leak/spill.....	Ventilate. Eliminate all sources of ignition. Avoid all personal contact. Evacuate all non-essential personnel. Contain the spill. Prevent runoff into drains, sewers, and other waterways. Absorb with earth, sand, or another dry inert material. 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.

SECTION 07: HANDLING AND STORAGE

Precautions for safe handling.....	Employee education and training are important. 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 mist. Prevent accumulation of electrostatic charges. Ensure that equipment is properly bonded and grounded during filling and transferring as product may become electrostatically charged. Avoid skin and eye contact. Wash thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Store in a cool and dry place, for product integrity. Keep away from heat, sparks, and open flames. Store in tightly closed containers to prevent moisture contamination. Attacks some types of rubber, plastics and coatings.

PRODUCT: PF 491 DTM 2K URETHANE HIGH BUILD PRIMER ACTIVATOR
SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	REL	NIOSH
tert-Butyl acetate	200 ppm CA ON: 50ppm (TWA), 150ppm (STEL)	Not established	200 ppm	Not established	200 ppm	
Homopolymer of HDI	5 mg/m3 Supplier: 0.5 mg/m3 (TWA)	Not established	5 mg/m3	Not established	5 mg/m3	
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. Explosion-proof exhaust ventilation.					
Personal Protective Equipment						
Eye/type.....	Chemical safety goggles and full faceshield if a splash hazard exists.					
Gloves/ type.....	Wear skin protection equipment. The selection of skin protection equipment depends on the nature of the work to be performed. The following gloves are recommended :. Butyl rubber. Contact glove supplier for recommendations. Practice good hygiene, wash thoroughly before handling any food.					
Respiratory/type.....	A positive pressure, supplied-air respirator or a self-contained breathing apparatus is recommended. Whenever concentrations of isocyanates exceed the exposure limit or are not known, respiratory protection must be worn. At least an air-purifying respirator equipped with an organic vapour cartridge and particulate pre-filters must be worn. 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.					
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. 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. 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.....	Clear to pale yellow.
Odour.....	Camphor-like.
Odour threshold (ppm).....	Not available.
pH.....	Not applicable.
Melting / Freezing point (deg C).....	< -58 C.
Initial boiling point / boiling range (deg C).....	> 98 °C.
Flash point (deg C), method.....	4 °C. (estimate; lowest flash point ingredient).
Evaporation rate.....	No data.
Flammability (solids and gases).....	Not applicable. Flammable liquid.
Upper flammable limit (% vol).....	6.9.
Lower flammable limit (% vol).....	1.2.
Vapour pressure (mm Hg).....	Not available.
Vapour density (air=1).....	No data.
Relative Density (Specific Gravity).....	0.951.
Pounds / USG.....	7.94.
Solubility.....	Reacts slowly with water to liberate CO2 gas.
Partition coefficient — n-octanol/water.....	No data.
Auto ignition temperature (deg C).....	438.
Decomposition temperature.....	No data.
Viscosity.....	13" Zahn #2.
% Volatile by volume.....	0.0.
VOC (less water).....	0.0.

PRODUCT: PF 491 DTM 2K URETHANE HIGH BUILD PRIMER ACTIVATOR**SECTION 10: STABILITY AND REACTIVITY**

Reactivity	Product is stable; hazardous polymerization will not occur.
Chemical stability.....	Stable at normal temperatures and pressures.
Possibility of hazardous reactions.....	Reacts with: Alcohols. Amines. substances which contain active hydrogen. Reacts with water, with formation of carbon dioxide.
Conditions to avoid, including static discharge, shock or vibration	Avoid heat, spark, open flames. Moisture.
Incompatible materials.....	Strong oxidizing agents. Acids. Alkalies. Nitrates. Plastics. Water. Alcohols. Amines.
Hazardous decomposition products.....	No hazardous decomposition products when stored and handled correctly. Under hot acidic conditions: Isobutylene and acetic acid.

SECTION 11: TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
tert-Butyl acetate	>2,230 mg/m ³ 4 hours rat	4,100 mg/kg (rat, oral); >2,000 mg/kg (rabbit, dermal)
Homopolymer of HDI	390-453 mg/m ³ rat 4 hours	> 5,000 mg/kg (rat, oral); > 5,000 mg/kg (rabbit, dermal)
Route of exposure.....	Eye contact. Skin contact. Inhalation.	
Symptoms related to the physical, chemical and toxicological characteristics		
Effects of acute exposure.....	Can be irritating to eyes and skin. May cause sensitization by skin contact. Harmful if swallowed. Harmful if inhaled. Inhalation may cause respiratory tract irritation. Inhalation of vapours or mist may cause drowsiness or dizziness. The substance may cause sensitization of the respiratory tract. 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. May cause central nervous system effects such as headache, nausea, vomiting and weakness.	
Effects of chronic exposure.....	Prolonged or repeated exposure may cause lung damage, including a decrease in lung function. Prolonged skin contact may cause reddening, swelling, rash, scaling, blistering, and in some cases, sensitization. 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. Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.	
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.....	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 data on reproductive effects were found in the literature sources consulted.	
Mutagenicity.....	The data does not allow for an adequate assessment of the mutagenic effect.	
Specific Target Organ Toxicity	May cause drowsiness or dizziness. May cause respiratory irritation.	
Acute Toxicity Estimate (ATE).....	ATE mix (oral): . >4000 mg/kg.	

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity..... Product data 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.

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. Limited Quantity. Do not ship by air without checking appropriate IATA regulations.

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SECTION 14: TRANSPORT INFORMATION

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. .

SECTION 15: REGULATORY INFORMATION

CEPA status..... A component of this product is not on the NDSL.

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. Methanol.

40CFR63

California Proposition 65..... *** ! WARNING: This product can expose you to chemicals including [see below], which are known to the State of California to cause birth defects or other reproductive harm. (Methanol). 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.

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data sheet