



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

**PRODUCT: PF 651C 2K URETHANE PRIMER SEALER ACTIVATOR**

**SECTION 01: Chemical product and company identification**

Manufactured for..... Pro Form Products Ltd.  
604 McGeachie Drive  
Milton, Ontario L9T3Y5  
Tel (905) 878-4990 Fax (905) 878-1189

Product name..... PF 651C 2K URETHANE PRIMER SEALER ACTIVATOR

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

Chemical family..... Mixture.

NFPA rating..... Health: 2 Fire: 3 Reactivity: 1.

HMIS..... H: 2\* F: 3 R: 1.

24 hour emergency number:..... IN CANADA CALL CANUTEC 1-888-226-8832 (CAN-UTEC); IN THE UNITED STATES  
CALL CHEMTREC 1-800-424-9300. .

**SECTION 02: Hazards identification**



Signal Word..... DANGER.

Hazard Classification..... Flammable Liquid 2. Skin Sensitizer 1. Eye Irritant 2A. Acute Toxicity (Inhalation) — 4. Respiratory Sensitizer 1. Specific Target Organ Toxicity — Single Exposure — 3. (respiratory system). Carcinogenicity — 2. Reproductive 2.

Hazard Description..... H225 Highly flammable liquid and vapour. 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. H335 May cause respiratory irritation. H351 This product contains ingredients that are suspected of causing cancer. H361 This product contains ingredients that are suspected of damaging fertility or the unborn child.

Prevention..... P201 Obtain special instructions before use. P202 Do not handle this product until all safety instructions have been read and understood. 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 ..... 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. . P333 + P313 If skin irritation or rash occurs, get medical advice/attention. P362 + P364 - Take off contaminated clothing and wash before reuse. 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. P342 + P311 If experiencing respiratory symptoms; call poison center or doctor. P308 + P313 If exposed or concerned, get medical advice/attention. P321 - For specific treatment see section 4 on this SDS.

Storage..... P405 Store locked up. P235 Keep cool. P403 + P233 Store in a well ventilated area. Keep container tightly closed.

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.

**PRODUCT: PF 651C 2K URETHANE PRIMER SEALER ACTIVATOR****SECTION 03: Composition/Information on Ingredients**

HAZARDOUS INGREDIENTS	CAS #	WT. %
tert-Butyl acetate	540-88-5	30-50
Homopolymer of HDI	28182-81-2	10-30
N-Butyl Acetate	123-86-4	10-20
Ethyl Acetate	141-78-6	6-11
Homopolymer of IPDI	53880-05-0	1-5
Ethyl 3-Ethoxypropionate	763-69-9	1-5
n-Amyl acetate	628-63-7	1-5
Methyl Isobutyl Ketone	108-10-1	1-5
Solvent Naphtha, Light Aromatics	64742-95-6	0.1-1
Propylene Glycol Monomethyl Ether Acetate	108-65-6	0.1-1
Diisobutyl Ketone	108-83-8	0.1-1
Propyl Benzene	103-65-1	0.1-1
1,2,4-Trimethylbenzene	95-63-6	0.1-1
1,3,5-Trimethylbenzene	108-67-8	0.1-1
Xylene	1330-20-7	<0.3
Cumene	98-82-8	<0.2
Hexamethylene Diisocyanate	822-06-0	<0.1
Isophorone Diisocyanate	4098-71-9	<0.1

**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. Check for and remove any contact lenses, if safe and easy to do so. Obtain medical attention.
Skin contact.....	If irritation persists, seek medical attention. Immediately flush skin with plenty of soap and water. Remove contaminated clothing. Wash clothing before reuse.
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. 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. Rinse mouth with water. Do not induce vomiting.
Most important symptoms and effects, ..... whether acute or delayed	Harmful if swallowed, in contact with skin or if inhaled. Causes serious eye irritation. Can cause skin sensitization. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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. 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 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.
Hazardous combustion products.....	Oxides of carbon (CO, CO <sub>2</sub> ). Oxides of nitrogen. Smoke. Hydrogen cyanide. Isocyanates. Other potentially toxic fumes.
Special fire fighting procedures.....	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.

**PRODUCT: PF 651C 2K URETHANE PRIMER SEALER ACTIVATOR****SECTION 06: Accidental release measures**

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. 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%). 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.
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. Large quantities may be pumped into closed, but not sealed, containers for disposal.
Minor spills.....	Absorb isocyanates with sawdust or other absorbent. Pour decontamination solution over spill area and allow to react for at least 10 minutes. Shovel into suitable containers and add further amounts of decontamination solution. Add about 10 parts of decontamination solution per part of isocyanate. Decontamination solution: Decontamination Solution: Mixture of water (80%) with non-ionic surfactant Tergitol TMN-10 (20%), or; water (90%), concentrated ammonia (3-8%) and detergent (2%). Allow to stand uncovered for 72 hours to let carbon dioxide escape.
Clean up.....	Decontaminate floor with decontamination solution, letting stand for at least 15 minutes.

**SECTION 07: Handling and storage**

Handling procedures.....	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. 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.
Storage needs.....	Keep away from heat, sparks, and open flames. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Exposure to vapours of heated isocyanates can be extremely dangerous. Do not store above 50 deg C.

**SECTION 08: Exposure controls / personal protection**

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	REL NIOSH
tert-Butyl acetate	200 ppm	Not established	200 ppm	Not established	200 ppm
Homopolymer of HDI	5 mg/m3	Not established	5 mg/m3	Not established	5 mg/m3
N-Butyl Acetate	150 ppm	200 ppm	150 ppm	200 ppm	150 ppm / STEL 200 ppm
Ethyl Acetate	400 ppm	Not established	400 ppm	Not established	400 ppm
Homopolymer of IPDI	Not established	Not established	Not established	Not established	Not established
Ethyl 3-Ethoxypropionate	Not established	Not established	Not established	Not established	Not established
n-Amyl acetate	50 ppm/15 minutes	100 ppm	100 ppm	Not established	100 ppm
Methyl Isobutyl Ketone	50 ppm	75 ppm	100 ppm	Not established	50 ppm / STEL 75 ppm
Solvent Naphtha, Light Aromatics	Not established	Not established	500 ppm (2000 mg/m3) TWA	Not established	350 mg/m3 TWA
Propylene Glycol Monomethyl Ether Acetate	Not established	Not established	Not established	Not established	Not established
Diisobutyl Ketone	25 ppm	Not established	50 ppm	Not established	25 ppm
Propyl Benzene	Not established	Not established	Not established	Not established	Not established
1,2,4-Trimethylbenzene	25 ppm	Not established	Not established	Not established	25 ppm
1,3,5-Trimethylbenzene	Not established	Not established	Not established	Not established	25 ppm
Xylene	50 ppm	150 ppm	100 ppm TWA	Not established	Not established
Cumene	50 ppm	Not established	50 ppm TWA	Not established	Not established

**PRODUCT: PF 651C 2K URETHANE PRIMER SEALER ACTIVATOR****SECTION 08: Exposure controls / personal protection**

INGREDIENTS	TWA	ACGIH TLV STEL	PEL	OSHA PEL STEL	REL NIOSH
Hexamethylene Diisocyanate	0.005 ppm	Not established	Not established	Not established	0.005 ppm
Isophorone Diisocyanate	0.005 ppm	Not established	Not established	Not established	0.005 ppm skin
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.....		Chemical resistant gloves. Butyl rubber. Neoprene. Nitrile rubber. Practice good hygiene, wash thoroughly before handling any food.			
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.			
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. .			

**SECTION 09: Physical and chemical properties**

Physical state.....	Liquid.
Colour.....	Light yellow.
Odour.....	Solvent odour.
Odour threshold (ppm).....	Not available.
Vapour pressure (mm Hg).....	Not available.
Vapour density (air=1).....	No data.
pH.....	Not applicable.
Relative Density (Specific Gravity).....	7.95 lbs/USG; 0.95.
Melting / Freezing point (deg C).....	No data.
Solubility.....	Negligible. Reacts slowly with water to liberate CO2 gas.
Initial boiling point / boiling range (deg C).....	No data.
Evaporation rate.....	No data.
Flash point (deg C), method.....	-4.0. (estimate; lowest flash point ingredient).
Auto ignition temperature (deg C).....	No Data.
Upper flammable limit (% vol).....	12.8.
Lower flammable limit (% vol).....	1.0.
Coefficient of water/oil distribution.....	Not available.
% Volatile by volume.....	71.66.
VOC.....	2.04 lb/usg - 244.44 g/L.
Viscosity.....	12.94 sec Zahn #2.

**SECTION 10: Stability and reactivity**

Chemical stability.....	Stable at normal temperatures and pressures.
Reactivity .....	Avoid heat, sparks and flames. Contact with moisture, other materials that react with isocyanates, or temperatures above 177 C, may cause polymerization.
Possibility of hazardous reactions.....	Contact with moisture or other materials that react with isocyanates may cause polymerization.
Conditions to avoid.....	Water, amines, strong bases, alcohols. Copper alloys. Acids.
Hazardous decomposition products.....	See hazardous combustion products section 5.

## PRODUCT: PF 651C 2K URETHANE PRIMER SEALER ACTIVATOR

## SECTION 11: Toxicological information

INGREDIENTS	LC50	LD50
tert-Butyl acetate	>2,230 mg/m3 4 hours rat	4,100 mg/kg rat oral >2,000 mg/kg rabbit dermal
Homopolymer of HDI	390-453 mg/m3 rat 4 hours	> 5,000 mg/kg rat oral; > 5,000 mg/kg rabbit dermal
N-Butyl Acetate	>29.2 mg/L 4 hour rat >23.4 mg/L aerosol 4 hour rat	>3200 mg/kg rat oral >5000 mg/kg rabbit dermal
Ethyl Acetate	16,000 ppm 6 hours rat	5,600 mg/kg rat oral
Homopolymer of IPDI	Not Available	Not Available
Ethyl 3-Ethoxypropionate	>998 ppm 6 hours	4,309 mg/kg rat oral 4,080 mg/kg rabbit dermal
n-Amyl acetate	>976 ppm 4 hours rat	6500 mg/kg rat oral 8359 mg/kg rabbit dermal
Methyl Isobutyl Ketone	8.2 - 16.4 mg/L 4 hours rat	2080 mg/kg rat oral >16,000 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
Propylene Glycol Monomethyl Ether Acetate	Not Available	8,532 mg/kg (rat oral) >5,000 mg/kg (rabbit dermal)
Diisobutyl Ketone	>2,300 ppm 4 hours	5,285 mg/kg rat oral >2,000 mg/kg rat dermal
Propyl Benzene	Not Available	6,040 mg/kg rat oral
1,2,4-Trimethylbenzene	>2,000 ppm 48 hours rat	3,280 mg/kg rat oral
1,3,5-Trimethylbenzene	Not Available	Not Available
Xylene	6350 ppm 4 hours rat	>3523 mg/kg rat oral
Cumene	No Data	50 PPM, SKIN
Hexamethylene Diisocyanate	22 ppm 4 hours rat	738 mg/kg rat oral 593 mg/kg rabbit dermal
Isophorone Diisocyanate	123 mg/m3 4 hours rat	>1,000 mg/kg rat oral 1,060 mg/kg rat dermal

Route of exposure.....

Effects of chronic exposure.....

Eye contact. Skin contact. Inhalation.

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.

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. Cured product is difficult to remove.

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. 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. Causes 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

Inhalation (acute).....

Causes eye irritation. Can cause tearing, reddening and swelling. May cause temporary corneal damage. Vapours can produce irritation. Symptoms include tearing and reddening. 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. Causes 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



**PRODUCT: PF 651C 2K URETHANE PRIMER SEALER ACTIVATOR****SECTION 11: Toxicological information**

Inhalation (acute).....	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.
Ingestion.....	May be harmful or fatal if swallowed. Aspiration of material into lungs can cause chemical pneumonitis which can be fatal. May cause central nervous system effects such as headache, nausea, vomiting and weakness.
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.....	Methyl Isobutyl Ketone is possibly carcinogenic to humans (IARC Group 2B). Cumene is listed by IARC in Group 2B as a possible carcinogen. .
Reproductive effects.....	High level exposure to Xylene in some animal studies have been reported to cause health effects on the developing embryo/fetus. The relevance of this to humans is not known. Methyl Isobutyl Ketone is known by the State of California to cause adverse fetal developmental effects.

**SECTION 12: Ecological information**

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

**SECTION 13: Disposal considerations**

Waste disposal.....	Dispose of waste in accordance with all applicable Federal, Provincial/State and local regulations.
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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 (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.
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.....	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 .....	Isophorone Diisocyanate.
Section 311/312 - hazard categories.....	Immediate health, delayed health, fire hazard.
Section 313.....	Methyl Isobutyl Ketone.
EPA hazardous air pollutants (HAPS) .....	Cumene. Hexamethylene diisocyanate. Methyl Isobutyl Ketone. Xylene.
40CFR63	
California Proposition 65.....	*WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. *WARNING: This product contains a chemical known to the State of California to cause cancer.

**SECTION 16: Other information**

Prepared by: .....	REGULATORY AFFAIRS. Trivalent Data Systems Ltd. <a href="http://www.trivalent.com">www.trivalent.com</a> .
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.

**PRODUCT: PF 651C 2K URETHANE PRIMER SEALER ACTIVATOR****SECTION 16: Other information**

Preparation date: ..... DEC 14/2017