



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

PRODUCT: PF 227 FOAM GRIP FLEXIBLE URETHANE PART A

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 227 FOAM GRIP FLEXIBLE URETHANE PART A

Recommended use and restrictions on .. Paints. for industrial use only-keep out of reach of children .
use

Chemical family..... Mixture. Polyol preparation.

NFPA rating..... Health: 1 Fire: 0 Reactivity: 0.

HMIS..... H: 1 F: 0 R: 0.

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..... WARNING.

Hazard Classification..... Acute Toxicity (Oral) — Category 4.

Hazard Description..... H302 Harmful if swallowed.

Prevention..... P264 Wash thoroughly after handling. P270 Do not eat drink or smoke while using this
product.

Response P301 + P312 If swallowed call a poison control centre. P330 Rinse mouth.

Storage..... See section 7.

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. % |
|---|------------|-------|
| Poly[oxy(methyl-1,2-ethanediy)], a-hydro-w-hydroxy- <<The actual concentration(s) withheld as a trade secret>> | 25322-69-4 | 15-40 |

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. Consult a physician if irritation continues.

Skin contact..... Immediately remove all contaminated clothing; flush skin with water for at least 15 minutes.
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..... In the event of accidental ingestion, rinse mouth with water; obtain medical advice
immediately. Never give anything by mouth to an unconscious person. If spontaneous
vomiting occurs have victim lean forward with head down to prevent aspiration of fluid into
the lungs.

Most important symptoms and effects, Harmful if swallowed. May cause mild skin irritation. May cause slight eye irritation.
whether acute or delayed

Additional information..... Treat victims symptomatically. In the event of an incident involving this product ensure that
medical authorities are provided a copy of this safety data sheet.

PRODUCT: PF 227 FOAM GRIP FLEXIBLE URETHANE PART A**SECTION 05: FIRE-FIGHTING MEASURES**

Suitable and unsuitable extinguishing media "Alcohol" foam, CO₂, dry chemical. Water fog. 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, CO₂). Oxides of nitrogen. Bromine. Hydrogen bromide. Dense black smoke.

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.

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 Dike area to contain the spill, prevent runoff from going into drains, absorb residual material with an inert absorbent, shovel or pump to a properly labelled container and dispose of as a hazardous waste.

SECTION 07: HANDLING AND STORAGE

Precautions for safe handling..... Keep away from heat, sparks, and open flame. Avoid skin and eye contact. Avoid breathing vapours or mist. Employees should wash hands and face before eating or drinking.

Conditions for safe storage, including any incompatibilities Keep container closed when not in use. Material is hygroscopic and may absorb small amounts of atmospheric moisture. Store away from oxidizing and reducing materials. Isocyanates. Do not store above 50 deg C.

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

| INGREDIENTS | TWA | ACGIH TLV STEL | PEL | OSHA PEL STEL | REL | NIOSH |
|---|---|-------------------|-----------------|------------------|-----------------|-----------------|
| Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy- | Not established | Not established | Not established | Not established | Not established | Not established |
| 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 | Chemical safety goggles and full faceshield if a splash hazard exists. | | | | | |
| Eye/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. Nitrile rubber. Contact glove supplier for recommendations. | | | | | |
| Gloves/ type..... | Local exhaust ventilation is recommended. Wear an appropriate, properly fitted respirator when contaminant levels exceed the recommended exposure limits. | | | | | |
| Respiratory/type..... | Wear adequate protective clothes. | | | | | |
| Clothing/type..... | Safety boots per local regulations. | | | | | |
| Footwear/type..... | Emergency showers and eye wash stations should be available. Employees should wash their hands and face before eating, drinking, or using tobacco products. | | | | | |
| Other/type..... | | | | | | |

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical state..... Liquid.

Colour..... Light yellow.

Odour..... Mild odour.

Odour threshold (ppm)..... Not available.

pH..... No data.

Melting / Freezing point (deg C)..... Not available.

Initial boiling point / boiling range (deg C). Not available.

Flash point (deg C), method..... >100°C, >212°F.

Evaporation rate..... Not available.

Flammability (solids and gases)..... Not applicable.

Upper flammable limit (% vol)..... No data.

Lower flammable limit (% vol)..... No data.

PRODUCT: PF 227 FOAM GRIP FLEXIBLE URETHANE PART A**SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

| | |
|--|-----------------------|
| Vapour pressure (mm Hg)..... | Not available. |
| Vapour density (air=1)..... | Not available. |
| Relative Density (Specific Gravity)..... | 1.117. |
| Pounds / USG..... | 9.32 lbs/USG. |
| Solubility..... | Negligible. |
| Partition coefficient — n-octanol/water..... | Not available. |
| Auto ignition temperature (deg C)..... | > 350 °C. |
| Decomposition temperature..... | Not available. |
| Viscosity..... | Not available. |
| VOC..... | 0.0 g/L - 0.0 lb/usg. |

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..... | Hazardous polymerization will not occur. |
| Conditions to avoid, including static | Keep away from heat. |
| discharge, shock or vibration | |
| Incompatible materials..... | Strong oxidizing agents, acids, bases. Phosphorous. Isocyanates. |
| Hazardous decomposition products..... | No hazardous decomposition products when stored and handled correctly. See hazardous combustion products section 5. |

SECTION 11: TOXICOLOGICAL INFORMATION

| INGREDIENTS | LC50 | LD50 |
|-------------|------|------|
|-------------|------|------|

| | | |
|--|----------------|---|
| Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy- | Not determined | 500-2000 mg/kg (oral,rat); >10000 mg/kg (dermal, rabbit) |
|--|----------------|---|

| | |
|--|---|
| Route of exposure..... | Eye contact. Skin contact. Inhalation. |
| Acute Toxicity Estimate (ATE)..... | ATE mix (oral): . 978-2200 mg/kg. |
| Symptoms related to the physical, chemical and toxicological characteristics | |
| Effects of acute exposure..... | Harmful if swallowed. Can be irritating to eyes and skin. Excessive vapours may cause nasal and respiratory tract irritation. |
| Effects of chronic exposure..... | Not expected to cause any adverse chronic health effects. |
| Carcinogenicity of material..... | This product is not listed by NTP, IARC or regulated as a carcinogen by OSHA. |
| Mutagenicity..... | The data does not allow for an adequate assessment of the mutagenic effect. |
| Reproductive effects..... | No data on reproductive effects were found in the literature sources consulted. |
| Specific Target Organ Toxicity | No known adverse effects. |

SECTION 12: ECOLOGICAL INFORMATION

| | |
|--------------------|---|
| Environmental..... | No product data. 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 as an industrial waste in a manner acceptable to good waste management practice and in accordance with applicable local, provincial/State or federal regulations. Empty containers must be handled with care due to product residue. |
|---|---|

SECTION 14: TRANSPORT INFORMATION

| | |
|-----------------------------------|--|
| TDG Classification..... | Not regulated. |
| IATA Classification (Air)..... | Not regulated. |
| IMDG Classification (Marine)..... | Not regulated. |
| 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). |
| 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. |

PRODUCT: PF 227 FOAM GRIP FLEXIBLE URETHANE PART A**SECTION 15: REGULATORY INFORMATION**

Section 313..... None above De minimus % limit.
 EPA hazardous air pollutants (HAPS) Manganese Compounds.
 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. Trivalent Data Systems Ltd. www.trivalent.com.
 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.

Date of the latest revision of the safety .. 2020-02-25
 data sheet



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Tel (905) 878-4990 Fax (905) 878-1189

Product identifier..... PF 227 FOAM GRIP FLEXIBLE URETHANE PART B

Recommended use and restrictions on .. Paints. for industrial use only-keep out of reach of children .
use

Chemical family..... Mixture. Aromatic isocyanate prepolymer.

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

HMIS..... H: 3 F: 1 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..... Skin Irritation — Category 2. Skin Sensitizer — Category 1. Serious Eye Damage — Category 1. Acute Toxicity (Inhalation) — Category 4. Respiratory Sensitizer — Category 1. Specific Target Organ Toxicity — Single Exposure — Category 3. (respiratory system). Specific Target Organ Toxicity — Repeated Exposure — Category 1.

Hazard Description..... H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H372 Causes damage to organs through prolonged or repeated exposure.

Prevention..... P260 Do not breathe mist, vapours, or spray. 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 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. 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. P310 - Immediately call your local poison control centre.

Storage..... P403 + P233 Store in a well ventilated area. Keep container tightly closed. 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. % |
|--|-------------|-------|
| Propanol, [(1-methyl-1,2-ethanediyl) bis(oxy)]bis-, polymer with 1-isocyanato-2-[(4-isocyanatophenyl) methyl]benzene and 1,1'-methylenebis [4-isocyanatobenzene] | 75880-28-3 | 15-40 |
| Propanol, [(1-methyl-1,2-ethanediyl)bis(oxy)]bis-, polymer with 1,1'-methylenebis [isocyanatobenzene] | 103837-35-0 | 15-40 |
| Diphenylmethanediisocyanate - prepolymer | 72088-97-2 | 15-40 |
| Benzene, 1,1'-methylenebis[4-isocyanato- (MDI) | 101-68-8 | 15-40 |

PRODUCT: PF 227 FOAM GRIP FLEXIBLE URETHANE PART B**SECTION 03: COMPOSITION / INFORMATION ON INGREDIENTS**

| | | |
|---|-----------|-------|
| 2,4-Diphenylmethane diisocyanate (MDI) | 5873-54-1 | 10-30 |
| Isophorone diamine | 2855-13-2 | 1-5 |
| 2,2'-Diphenylmethane diisocyanate (MDI) | 2536-05-2 | <0.6 |

<<The actual concentration(s) withheld as a trade secret>>

SECTION 04: FIRST-AID MEASURES

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|---|--|
| Eye contact..... | Check for and remove any contact lenses, if safe and easy to do so. Immediately flush eyes with running water for a minimum of 30 minutes preferably up to 60 minutes. Get medical attention immediately. |
| 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. |
| 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. Rinse mouth with water. Do not induce vomiting. 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 | Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Causes skin irritation. Can cause skin sensitization. Harmful by inhalation. Can irritate mucous membranes of the respiratory tract. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Harmful if swallowed. Symptoms may include abdominal pain, nausea, vomiting, and diarrhea. |
| 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. 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. Ingestion: treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound. |

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 | Reaction between water or foam and hot MDI can be vigorous. 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. During a fire, isocyanate vapours and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Cool fire-exposed containers with cold water spray. Heat will cause pressure buildup and may cause explosive rupture. Heat will cause pressure buildup and may cause explosive rupture. |

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 | 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. If temporary control of isocyanate vapour is required, a blanket of protein foam may be placed over spill. Process can generate heat. |

PRODUCT: PF 227 FOAM GRIP FLEXIBLE URETHANE PART B**SECTION 06: ACCIDENTAL RELEASE MEASURES**

| | |
|-------------------|---|
| 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%). |
| 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: 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

| | |
|--|--|
| Precautions for safe handling..... | 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. Ensure that equipment is properly bonded and grounded during filling and transferring as product may become electrostatically charged. Employee education and training are important. |
| Conditions for safe storage, including any incompatibilities | Keep away from heat, sparks, and open flames. Store in tightly closed containers to prevent moisture contamination. Exposure to vapours of heated isocyanates can be extremely dangerous. Do not reseal if contamination is suspected. Storage temperature min/max 34-50C. |

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

| INGREDIENTS | TWA | ACGIH TLV STEL | PEL | OSHA PEL STEL | REL | NIOSH |
|--|-----------------|-------------------|-----------------|----------------------|-----------------|-----------------|
| Propanol, [(1-methyl-1,2-ethanediy) bis(oxy)]bis-, polymer with 1-isocyanato-2-[(4-isocyanatophenyl) methyl]benzene and 1,1'-methylenebis[4-isocyanatobenzene] | Not established | Not established | Not established | Not established | Not established | Not established |
| Propanol, [(1-methyl-1,2-ethanediy) bis(oxy)]bis-, polymer with 1,1'-methylenebis[isocyanatobenzene] | Not established | Not established | Not established | Not established | Not established | Not established |
| Diphenylmethanediisocyanate - prepolymer | Not established | Not established | Not established | Not established | Not established | Not established |
| Benzene, 1,1'-methylenebis[4-isocyanato- (MDI)] | 0.005 ppm | Not established | 0.005 ppm TWA | 0.005 ppm AB OEL TWA | 0.05 mg/m3 | |
| 2,4-Diphenylmethane diidocyanate (MDI) | Not established | Not established | Not established | Not established | Not established | Not established |
| Isophorone diamine | Not established | Not established | Not established | Not established | Not established | Not established |
| 2,2'-Diphenylmethane diidocyanate (MDI) | Not established | Not established | Not established | Not established | Not established | Not established |

PRODUCT: PF 227 FOAM GRIP FLEXIBLE URETHANE PART B**SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION**

| | |
|---------------------------------------|---|
| 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 | |
| Eye/type..... | Chemical safety goggles and full faceshield if a splash hazard exists. 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. The following gloves are recommended :. Nitrile rubber. Butyl rubber. Neoprene. Contact glove supplier for recommendations. |
| 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. |
| Clothing/type..... | Wear adequate protective clothes. |
| 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. 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..... | Slight. Aromatic odour. |
| Odour threshold (ppm)..... | Not available. |
| pH..... | No data. |
| Melting / Freezing point (deg C)..... | Not available. |
| Initial boiling point / boiling range (deg C)..... | No data. |
| Flash point (deg C), method..... | 112. (estimate; lowest flash point ingredient). |
| Evaporation rate..... | Not available. |
| Flammability (solids and gases)..... | Not applicable. |
| Upper flammable limit (% vol)..... | No data. |
| Lower flammable limit (% vol)..... | No data. |
| Vapour pressure (mm Hg)..... | Not available. |
| Vapour density (air=1)..... | No data. |
| Relative Density (Specific Gravity)..... | 1.241. |
| Pounds / USG..... | 10.36. |
| Solubility..... | Insoluble. Reacts slowly with water to liberate CO2 gas. |
| Partition coefficient — n-octanol/water..... | Not available. |
| Auto ignition temperature (deg C)..... | No data. |
| Decomposition temperature..... | Polymerizes at 200C. |
| Viscosity..... | Not available. |
| VOC..... | 0.0 g/L - 0.0 lb/usg. |

SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| Reactivity | Reacts slowly with water, forming carbon dioxide. |
| 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 discharge, shock or vibration | Excessive temperatures. Contact with incompatible substances. |
| Incompatible materials..... | Water, Amines, Strong bases, Alcohols, Copper alloys. |

PRODUCT: PF 227 FOAM GRIP FLEXIBLE URETHANE PART B**SECTION 10: STABILITY AND REACTIVITY**

Hazardous decomposition products..... No hazardous decomposition products when stored and handled correctly. See hazardous combustion products section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

| INGREDIENTS | LC50 | LD50 |
|--|--|---|
| Propanol, [(1-methyl-1,2-ethanediyl) bis(oxy)]bis-, polymer with 1-isocyanato-2-[(4-isocyanatophenyl) methyl]benzene and 1,1'-methylenebis [4-isocyanatobenzene] | No data | No data |
| Propanol, [(1-methyl-1,2-ethanediyl)bis(oxy)]bis-, polymer with 1,1'-methylenebis [isocyanatobenzene] | No data | Not data |
| Diphenylmethanediisocyanate - prepolymer | Not determined | Not determined |
| Benzene, 1,1'-methylenebis[4-isocyanato- (MDI) | 490 mg/m3 4 hr 0.369 mg/L 4 hr | 9,200 mg/kg rat oral >7,900 mg/kg rabbit dermal |
| 2,4-Diphenylmethane diidocyanate (MDI) | No data | No data |
| Isophorone diamine | No data | 1030 mg/kg (rat oral); 1800 mg/kg (rabbit dermal) |
| 2,2'-Diphenylmethane diidocyanate (MDI) | 370-490 mg/m3 (4hr.) rat | Not available |
| Route of exposure..... | Eye contact. Skin contact. Inhalation. | |
| Acute Toxicity Estimate (ATE)..... | ATE mix (oral): . >2000 mg/kg. ATE mix (dermal):. >6000 mg/kg. | |
| Symptoms related to the physical, chemical and toxicological characteristics | | |
| Effects of acute exposure..... | Causes skin irritation. Causes reddening, stinging and swelling. Persons previously sensitized can experience an allergic reaction with symptoms of reddening, itching, swelling and rash. Cured product is difficult to remove. Contact with MDI can cause discoloration. Causes eye irritation. Can cause tearing, reddening and swelling. May cause temporary corneal damage. 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 cause adverse health effects. | |
| 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. | |
| 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..... | This product is not listed by NTP, IARC or regulated as a carcinogen by OSHA. | |
| Mutagenicity..... | The data does not allow for an adequate assessment of the mutagenic effect. | |
| Reproductive effects..... | No data on reproductive effects were found in the literature sources consulted. | |
| Specific Target Organ Toxicity | Causes damage to organs through prolonged or repeated exposure . May cause respiratory irritation. | |

SECTION 12: ECOLOGICAL INFORMATION

Environmental..... No product data. 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. Industrial incineration is the preferred method. Empty containers retain

PRODUCT: PF 227 FOAM GRIP FLEXIBLE URETHANE PART B**SECTION 13: DISPOSAL CONSIDERATIONS**

Information on safe handling for disposal and methods of disposal, including any contaminated packaging . 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. Empty containers must be handled with care due to product residue.

SECTION 14: TRANSPORT INFORMATION

TDG Classification..... Not regulated.
 DOT Classification (Road)..... NA3082 - Other regulated substances, liquid NOS (4,4'-Diphenylmethane diisocyanate (MDI)), Class 9, PGIII.
 IATA Classification (Air)..... Not regulated.
 IMDG Classification (Marine)..... Not regulated.
 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).
 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.
 Section 313..... Decabromodiphenyl oxide. Methylene diisocyanate (MDI).
 EPA hazardous air pollutants (HAPS) Methylene Diphenyl Diisocyanate (MDI).
 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. Trivalent Data Systems Ltd. www.trivalent.com.
 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.
 Date of the latest revision of the safety .. 2020-03-09
 data sheet