



ULTRASEAL ® PF-600

SECTION 1. IDENTIFICATION

Product Identifier	ULTRASEAL ® PF-600
Other Means of Identification	"A" Component, Class 1 CCMC # 13520-L*
Recommended Use	A component for two-component polyurethane foam system.
Restrictions on Use	None known.
Manufacturer	NUCO Inc., 150 Curtis Dr., Guelph, Ontario, N1K 1N5, Canada, (519) 823-4994, www.sealantcentre.com
Emergency Phone No.	Infotrac 24 Hour Emergency Tel, (800) 535-5053
Date of Preparation	April 19, 2018

SECTION 2. HAZARD IDENTIFICATION

Classification

Gas under pressure - Compressed gas; Acute toxicity (Inhalation) - Category 4; Skin irritation - Category 2; Eye irritation - Category 2A; Respiratory sensitization - Category 1; Skin sensitization - Category 1; Carcinogenicity - Category 2; Specific target organ toxicity (single exposure) - Category 3; Specific target organ toxicity (repeated exposure) - Category 2

Label Elements



Signal Word:
Danger

Hazard Statement(s):

Contains gas under pressure; may explode if heated.
Harmful if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

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Precautionary Statement(s):

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash hands and skin thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

Wear respiratory protection (NIOSH approved air-purifying respirator with an organic vapour cartridge).

Response:

IF ON SKIN: Wash with plenty of water/

IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Call a POISON CENTRE/doctor/ if you feel unwell.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

If experiencing respiratory symptoms: Call a POISON CENTRE or doctor.

Take off contaminated clothing and wash it before reuse.

Storage:

Store locked up.

Protect from sunlight. Store in a well-ventilated place.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
4,4'-Methylenediphenyl diisocyanate	101-68-8	30.0-60.0		
Polymethylene polyphenyl isocyanate	9016-87-9	30.0-60.0		
1,1,1,2-Tetrafluoroethane	811-97-2	5.0-10.0		

SECTION 4. FIRST-AID MEASURES

First-aid Measures

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Inhalation

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms (e.g. coughing, shortness of breath, wheezing), call a Poison Centre or doctor. Get immediate medical advice or attention.

Skin Contact

Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Immediately wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 15-20 minutes. If skin irritation or a rash occurs, get medical advice or attention.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Remove contact lenses, if present and easy to do.

Ingestion

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Immediately call a Poison Centre or doctor.

First-aid Comments

Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

If inhaled: a single exposure to a high concentration can cause a long-lasting condition like asthma. If this occurs, many things like other chemicals or cold temperatures can easily irritate the airways. Symptoms may include shortness of breath, tightness in the chest and wheezing. Respiratory sensitizer. May cause asthma or an asthma-like reaction in some people.

If on skin: causes moderate to severe irritation. Skin sensitizer. May cause an allergic skin reaction in some people. Can cause effects as described for inhalation.

If swallowed: can irritate the mouth, throat and stomach. Symptoms may include nausea, vomiting, stomach cramps and diarrhea.

If in eyes: may cause moderate to severe irritation.

Immediate Medical Attention and Special Treatment

Target Organs

Lungs, eyes, respiratory system, skin.

Special Instructions

Not applicable.

Medical Conditions Aggravated by Exposure

None known.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire. Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Contains gas under pressure; may explode if heated. Heat from fire can cause a rapid build-up of pressure inside cylinders. Explosive rupture and a sudden release of large amounts of gas may result. Cylinder may rocket. Heating increases the release of toxic vapour.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide; corrosive, flammable ammonia; corrosive, oxidizing nitrogen oxides; very toxic polycyclic aromatic hydrocarbons; isocyanates.

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Special Protective Equipment and Precautions for Fire-fighters

No special precautions are necessary.

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Environmental Precautions

It is good practice to prevent releases into the environment. Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas. Minimize the use of water to prevent environmental contamination.

Methods and Materials for Containment and Cleaning Up

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Stop or reduce leak if safe to do so. Ventilate the area to prevent the gas from accumulating, especially in confined spaces. Contain and soak up spill with absorbent that does not react with spilled product. Contaminated absorbent poses the same hazard as the spilled product. Decontaminate with a mixture of 90% water, 8% ammonia, and 2% detergent. Foam blanket required to prevent isocyanate fumes. Review Section 13 (Disposal Considerations) of this safety data sheet.

Other Information

Contact supplier, local fire and emergency services for help. Report spills to local health, safety and environmental authorities, as required.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Obtain special instructions before use. Do not breathe in this product. Do not get in eyes. Do not get in eyes, on skin or on clothing. Avoid release to the environment. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Do not puncture or incinerate container even when empty. Wash hands thoroughly after handling this material.

Conditions for Safe Storage

Store in an area that is: cool, temperature-controlled, dry, well-ventilated, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity).

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
1,1,1,2-Tetrafluoroethane	Not established	Not established	Not established	Not established	1000 ppm	Not established
4,4'-Methylenediphenyl diisocyanate	0.005 ppm	0.005 ppm	Not established	0.02 ppm	Not established	Not established
Polymethylene polyphenyl isocyanate	Not established	0.005 ppm	Not established	0.02 ppm	Not established	Not established

Appropriate Engineering Controls

Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Use stringent control measures such as process enclosure to prevent product release into the workplace.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

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Suitable materials are: natural rubber, neoprene rubber, Viton®/butyl rubber, Silver Shield®.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an organic vapour cartridge, or, wear a NIOSH approved self-contained breathing apparatus (SCBA) or supplied air respirator.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Dark amber oily liquid. Turns milky yellow on exposure to air.
Odour	Musty
Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	208 °C
Flash Point	199 °C
Evaporation Rate	Not available
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	< 0 kPa at 40 °C
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.2 at 25 °C (77 °F)
Solubility	Insoluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Volatile Organic Content	0 g/L (calculated minus exempt compounds and water)

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

Heat. Prolonged exposure to high temperatures. Incompatible materials. Temperatures below 16 °C and above 32 °C

Incompatible Materials

Reacts violently with: alcohols (e.g. ethanol), strong bases (e.g. sodium hydroxide), amines (e.g. triethylamine), strong oxidizing agents (e.g. perchloric acid), water.

Not corrosive to metals.

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide; corrosive hydrogen chloride; extremely hazardous hydrogen cyanide; corrosive hydrogen fluoride.

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SECTION 11. TOXICOLOGICAL INFORMATION

Information presented below is for the entire product, unless otherwise specified.

Likely Routes of Exposure

Inhalation.
Skin contact.
Skin absorption.
Eye contact.
Ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
1,1,1,2-Tetrafluoroethane	500000 ppm (rat) (4-hour exposure)		
4,4'-Methylenediphenyl diisocyanate	490 mg/m ³ (rat) (4-hour exposure)	> 2000 mg/kg (rat)	
Polymethylene polyphenyl isocyanate	11 mg/L	> 10000 mg/kg (rat)	> 10000 mg/kg (rabbit)

Skin Corrosion/Irritation

Human experience and animal tests show mild irritation.

Serious Eye Damage/Irritation

May cause serious eye irritation based on information for closely related materials.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Harmful based on human experience and animal tests.

Skin Absorption

May be harmful based on information for closely related materials.

Ingestion

May be harmful based on information for closely related materials.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause irritation of the respiratory system. Respiratory tract injury has been observed.

Respiratory and/or Skin Sensitization

Human experience shows severe asthma or asthma-like symptoms (respiratory sensitization) in a substantial proportion of people exposed at work.

Human experience shows allergic skin reactions (skin sensitization) in a substantial proportion of people exposed at work.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
1,1,1,2-Tetrafluoroethane	Not Listed	Not designated	Not Listed	Not Listed
4,4'-Methylenediphenyl diisocyanate	Group 3	Not designated	Not Listed	Not Listed
Polymethylene polyphenyl isocyanate	Group 3	Not designated	Not Listed	Not Listed

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IARC:

Group 3 – Not classifiable as to its carcinogenicity to humans.

Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

Environmental information was not located.

Persistence and Degradability

No information was located.

Bioaccumulative Potential

No information was located.

Mobility in Soil

No information was located.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations. This product and its container must be disposed of as hazardous waste. Do NOT dump into any sewers, on the ground or into any body of water. Empty containers retain product residue. Follow label warnings even if container appears to be empty.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	1950	AEROSOLS (Fluorinated hydrocarbon, nitrogen)	2.1	III
US DOT	1950	AEROSOLS (Fluorinated hydrocarbon, nitrogen)	2.1	III
IATA (Air)	1950	AEROSOLS (Fluorinated hydrocarbon, nitrogen)	2.1	III
IMO (Marine)	1950	AEROSOLS (Fluorinated hydrocarbon, nitrogen)	2.1	III

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

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Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL or are not required to be listed.

CEPA - National Pollutant Release Inventory (NPRI)

4,4'-Diphenylmethane diisocyanate (CAS# 101-68-8)

Polymethylene Polyphenyl Isocyanate (CAS# 9016-87-9).

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.

Additional USA Regulatory Lists

California Proposition 65:

This product contains trace amounts of components known to the State of California to cause cancer, birth defects, or other reproductive harm.

CERCLA:

This product contains the following CERCLA reportable substance: 4,4'-Diphenylmethane diisocyanate (CAS# 101-68-8):

RQ- 2,268 kg (5,000 lbs).

Clean Water Act:

4,4'-Diphenylmethane diisocyanate (CAS# 101-68-8) is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

Clean Air Act (CAA):

4,4'-Diphenylmethane diisocyanate (CAS# 101-68-8) is listed as Hazardous Air Pollutants (HAPs) designated in CAA

Section 112(b). This product does not contain any Class 1 or Class 2 Ozone depletors.

US State Inventories:

4,4'-Diphenylmethane diisocyanate (CAS# 101-68-8) is listed on the following State Hazardous Substance Inventories,

Right-to-Know lists and/or Air Quality/Air Pollutants lists: CA, DE, ID, IL, ME, MA, MN, NJ, PA, WA, WI.

Polymeric MDI (CAS #9016-87-9) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists

and/or Air Quality/Air Pollutants lists: DE, NJ, MN.

1,1,1,2-Tetrafluoroethane (CAS #811-97-2) is listed on the following State Hazardous Substance Inventories, Right-to-Know

lists and/or Air Quality/Air Pollutants lists: ME, WI.

SARA Title III - Section 302: Not applicable.

SARA Title III - Section 311/312:

Acute Health Hazard

Chronic Health Hazard

Sudden Release of Pressure Hazard

SARA Title III - Section 313:

MDI and PMDI are subject to the reporting levels established by Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986.

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SECTION 16. OTHER INFORMATION

NFPA Rating	Health - 2	Flammability - 3	Instability - 1
SDS Prepared By	Technical Services Department		
Phone No.	519-823-4994		
Date of Preparation	April 19, 2018		
Date of Last Revision	April 19, 2018		
Revision Indicators	Revision 1		
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and Safety (CCOHS).		
Additional Information	* CAN/ULC-S711.2, Standard for Thermal Insulation - Bead Applied Two- Component Polyurethane Air Sealant Foam		
Disclaimer	The information herein is given in good faith, but no warranty, express or implied, is made. Product users should make independent judgements of the suitability of this information to ensure proper use and to protect the health and safety of employees.		

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