
SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION:

Chemical name: UltraSeal® PF-200 / PF-600 “A” Component, Class 1, CCMC # 13520-L*

Recommended use: A-Component for Two-Component Polyurethane Foam System

Restrictions on use: No further information available

Manufacturer: NUCO INC.
150 Curtis Drive
Guelph, Ontario N1K 1N5
Tel: (519)-823-4994
Fax: (519)-823-1099

Emergency telephone: Infotrac 24 Hour Emergency Tel: (800)-535-5053

***CCMC #13520-L:** CAN/ULC-S711.2-05, Standard for Thermal Insulation - Bead-Applied Two-Component Polyurethane Air Sealant Foam

SECTION 2 – HAZARDS IDENTIFICATION:

GHS Classification: Gases Under Pressure – Compressed Gas
Skin Irritation – Category 2
Skin Sensitization – Category 1
Eye Irritation – Category 2A
Acute Toxicity (Inhalation) – Category 4
Respiratory Sensitization – Category 1
Specific Target Organ Toxicity-Single Exposure – Category 3
Specific Target Organ Toxicity- Repeated Exposure – Category 2
Carcinogen – Category 2

GHS Label elements:

Hazard symbols:



Signal word: Warning

Hazard statements: H280 Contains gas under pressure; may explode if heated.
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 May cause 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 Suspected of causing cancer
H373 May cause damage to organs through prolonged or repeated exposure

Precautionary statements:

Prevention: P102 Keep out of reach of children
P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P251 Pressurized container: Do not pierce or burn, even after use
P261 Avoid breathing vapors, mist or spray
P262 Do not get in eyes, on skin or on clothing
P264 Wash hands and other skin areas exposed to material 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, protective clothing and eye protection
P284 Wear respiratory protection

Response: P302+P352+P333+P313 If on skin: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.
 P304+P341 If inhaled: if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308+P313 If exposed or concerned: Get medical advice.
 P314 Get medical advice if you feel unwell.
 P337+P313 If eye irritation persists: Get medical attention
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor
 P362 Take off contaminated clothing and wash before reuse.

Storage: P405 Store locked up.
 P410+P403 Protect from sunlight. Store in a well-ventilated place.

Disposal: P501 Dispose of contents/container in accordance with applicable local, regional, national and international regulations.

Other hazards: None known

Supplemental information: No further information available.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS:

Substance/Mixture : Mixture

Chemical Name	CAS No.	Concentration (%)
1,1,1,2-Tetrafluoroethane	811-97-2	5.0 – 10.0
4,4'-Diphenylmethane Diisocyanate	101-68-8	30.0 – 60.0
Polymethylene Polyphenyl Isocyanate	9016-87-9	30.0 – 60.0

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to the health or the environment and hence require reporting in this section.

SECTION 4 - FIRST AID MEASURES:

Eye contact: Flush with copious quantities of lukewarm water for at least 15 minutes. Remove contact lenses, if present and easy to do so. If irritation persists, get medical attention immediately.

Skin contact: Flush skin with large amount of water while removing contaminated clothing. Use a rag to remove excess foam from skin and continue rinsing for 15 minutes. Use of a mild solvent, such as acetone (nail polish remover) or mineral spirits, may help in removing uncured foam residue from clothing or other surfaces (avoid eye / skin contact). Cured foam may be physically removed by persistent washing with water and a non-abrasive soap. If irritation develops, use mild cream. If it persists, seek medical attention.

Inhalation: Remove to fresh air if breathing difficulty is experienced. If necessary, provide oxygen or artificial respiration by trained personnel and obtain medical attention.

Ingestion: Do not induce vomiting. Consult physician. Do not give anything orally to an unconscious person. Get medical advice/attention.

Most important symptoms/effects, acute and delayed:

Eye: May cause eye irritation. Symptoms may include redness, swelling, stinging and tearing. May cause temporary corneal injury.

Skin: May cause skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. May cause an allergic reaction. May be harmful if absorbed through skin.

Inhalation: Isocyanate vapors at concentrations above the concentration limits or guidelines can irritate the mucous membranes in the respiratory tract with symptoms of burning sensation, runny nose, sore throat, coughing, shortness of breath and

Ingestion:	reduced lung function (difficult breathing). May be harmful if inhaled. Inhalation of the propellant may cause headache and lethargy. May be harmful if swallowed. May cause gastrointestinal irritation: stomach distress, nausea or vomiting.
Chronic:	Pre-existing disorders of the skin and respiratory system may be aggravated by exposure to this product. Prolonged vapor contact may cause conjunctivitis. Prolonged or repeated skin contact can cause redness, swelling, rash and possible skin sensitization.
Indication of immediate medical attention and special treatment needed:	Provide general supportive measures and treat symptomatically. Symptoms may not appear immediately. In case of an accident or if you feel unwell, seek medical advice immediately.

SECTION 5 - FIRE FIGHTING MEASURES:

Suitable extinguishing media:	Carbon dioxide, dry chemical, alcohol resistant foams and water spray. Water can be used to cool fire exposed containers to prevent pressure build-up and possible explosion.
Unsuitable extinguishing media:	None known.
Specific hazards arising from the chemical:	Cans, cylinders or refillable tanks may explode due to build up of pressure when exposed to extreme heat. Cured foam will burn in the presence of heat. During a fire, isocyanate vapors or other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Overexposure to decomposition products may be hazard to health.
Special protective equipment and precautions for fire fighters:	Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan.

SECTION 6 – ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment recommended in Section 8. Isolate the hazard area. Eliminate sources of ignition. Ventilate the area.
Environment precautions:	Discharged into the environment must be avoided. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up:	Restrict access to the area of the spill. Provide ventilation, NIOSH / MSHA approved respirator and protective clothing. Soak up material with absorbent and place in chemical waste container. Loosely cover container and remove from work area to stand for a couple of days. Decontaminate waste and spill area with a solution of 0.2 to 0.5% liquid detergent and 5 to 10% sodium bicarbonate in water. Use 10 parts of solution for each area of the spill and allow to react for at least 15 minutes. Local, state, provincial, federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup.

SECTION 7 – HANDLING AND STORAGE:

Precautions for safe handling:	Do not breath vapors or mist during application. Use adequate ventilation to keep airborne isocyanate levels below exposure limits. Wear respiratory protection when spraying this material. Avoid contact with skin and eyes. Wear appropriate personal protective equipment during use (see Section 8). Do not puncture or incinerate cylinders. Containers are under pressure. Exposure to high temperature can cause containers to rupture or explode. Keep containers closed when not in use.
---------------------------------------	--

**Conditions for safe storage,
including any incompatibilities:**

Store under dry conditions, between 15.5°C (60°F) and 26.6°C (80°F). Keep away from sources of ignition. Do not expose to open flame or temperatures above 50°C (122°F). Storage above 32.2°C (90°F) will shorten the shelf life. Storage below 12.7°C (55°F) may affect foam quality if the chemicals are not warmed prior to use. Protect unused product from FREEZING. Keep containers upright. Keep away from children.

SECTION 8 – EXPOSURE CONTROL / PERSONAL PROTECTION:

Control Parameters:

Ingredient	CAS No.	OSHA-PEL TWA	ACGIH-TLV	NIOSH
4,4'-Diphenylmethane diisocyanate	101-68-8	0.02 ppm; 0.2 mg/m ³ (Ceiling)	0.005 ppm; 0.051 mg/m ³ (8 hrs.) TWA	0.005 ppm; 0.05 mg/m ³ TWA 0.02 ppm; 0.2 mg/m ³ CEIL
1,1,1,2-Tetrafluoroethane	811-97-2	-----	-----	Other: WEEL 1000 ppm

Engineering controls:

If vapor levels are expected to exceed exposure guidelines, wear a NIOSH / MSHA approved, positive pressure, supplied air respirator. In indoor applications, passive ventilation (opening of doors and windows) is recommended. Local exhaust as necessary to keep exposure levels within guidelines.

Personal protective equipment:

Safety glasses with side-protection, impermeable gloves (e.g., neoprene, nitrile, silver shield (R)), coveralls or apron are important in preventing contamination of eyes, skin and clothing. Wash thoroughly after handling. Facilities storing or utilizing this product should be equipped with an eyewash facility and a safety shower.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Amber to dark brown liquid. Forms an off-white to yellowish froth when released from container.
Odor:	Slightly musty odor
Odor threshold:	Not available
pH:	Not available
Melting point/Freezing Point:	Not available
Initial boiling point and boiling range:	MDI boils at 208°C (406°F)
Flash point:	MDI 199°C (390°F)
Evaporation rate:	Not available
Flammability:	Not applicable
Lower flammability/Explosive limit:	Not available
Upper flammability/Explosive limit:	Not available
Vapor pressure in container:	Contents under pressure have a vapor pressure >50 psi (>345 kPa).
Vapor pressure of liquid:	Liquid phase vapor pressure <1 mm Hg @40°C
Vapor density:	Not available
Specific gravity:	1.2 @25°C(77°F)
Solubility:	Insoluble, reacts slowly with water during cure, liberating traces of CO2
Partition coeff.: n-octanol/water:	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	Not available
VOC content:	0 g/L (calculated minus exempt compounds and water)

SECTION 10 – STABILITY AND REACTIVITY:

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical stability:	Stable under normal storage conditions. See Section 7 for storage recommendations.

Possibility of hazardous reactions:	Exposure to elevated temperatures can cause containers to rupture or explode. Avoid moisture, material reacts slowly with water releasing carbon dioxide. Containers are under pressure.
Conditions to avoid:	Heat, incompatible materials and sources of ignition. Avoid temperatures below 16°C (60°F) or temperatures above 32°C (90°F).
Incompatible materials:	Alcohols, strong bases, amines, metal compounds, ammonia and strong oxidizing agents. Avoid contamination with water.
Hazardous decomposition products:	Carbon oxides, nitrogen oxides and traces of incompletely burned carbon products, hydrogen cyanide, hydrogen fluoride and hydrochloric acid.

SECTION 11 - TOXICOLOGICAL INFORMATION:

Information on the likely routes of exposure:

Inhalation:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Ingestion:	May be harmful if swallowed.
Skin contact:	May cause an allergic skin reaction.
Eye contact:	May cause serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics:

No information available.

Acute toxicity:

Expected to have low acute oral toxicity. LD50 (Rat): >5000 mg/kg
 Acute inhalation toxicity: LC50 (Rat): 490 mg/m³ (4 hrs.)
 Expected to have low dermal toxicity. LD50 (Rabbit): >5000 mg/kg

Skin corrosion/irritation:

May cause skin irritation.

Serious eye damage/irritation:

May cause moderate to serious eye irritation.

Aspiration hazard:

No data available.

Specific target organ toxicity - single exposure:

May cause respiratory irritation.

Specific target organ toxicity – repeated exposure:

May cause damage to the lungs, central nervous system and skin.

Respiratory or skin sensitization:

May cause skin and respiratory sensitization.

Carcinogenicity:

4,4'-Diphenyl Diisocyanate (MDI) (CAS# 101-68-8) and Polymethylene Polyphenyl Isocyanate (PMDI) (CAS# 9016-87-9): IARC Group 3 Carcinogen- Not classified as to its carcinogenicity to humans. Not listed as a carcinogen by ACGIH, OSHA or NTP.
 MDI/PMDI did not cause birth defects in laboratory animals. Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/PMDI (6 mg/m³) for their lifetime.

Reproductive toxicity:

4,4'-Diphenyl Diisocyanate (MDI) (CAS# 101-68-8): Rat, female, 6 hrs/day, 12 mg/m³, days 6 - 15 (gestation period); 4 mg/m³ (maternal/fetotoxicity).

Teratogenicity:

No data available.

Germ-cell mutagenicity:

Test data using laboratory animals was predominately negative.

SECTION 12 – ECOLOGICAL INFORMATION:

Ecotoxicity:

This material is not classified as dangerous to aquatic organisms (LD50/EC50 greater than 100 mg/l in the most sensitive species).

Acute and prolonged toxicity to fish:

LC50- Brachydanio rerio (Zebra fish): 96 hrs. >1000 mg/l

Toxicity to aquatic invertebrates:

EC50- Daphnia magna (Water flea): 48 hrs. >1000 mg/l

Toxicity to aquatic plants:

NOEC- Desmodium subspicatus (Green algae) static: 72 hrs.>1640 mg/l, growth rate inhibition.

Toxicity to aquatic microbes:

OECD 209 Test-Activated Sludge: 3 hrs. >100 mg/l, respiration inhibition

Toxicity to soil dwelling organisms:

EC50- Eisenia fetida (Earthworms): 14 d >1000 mg/kg

Persistence and degradability:

Not readily biodegradable. In aquatic and terrestrial environments, this material reacts with water, forming predominantly insoluble and stable polyureas. In the atmospheric environment, this material is expected to have a short tropospheric half-life, based on data from similar diisocyanates.

Bioaccumulative potential:

Bioaccumulation potential is low.

Mobility in soil: Expected to have low mobility based on product's reactivity with water, which forms predominantly insoluble polyureas.

Other adverse effects: Do not allow material to run into surface waters, wastewater or soil. An environmental hazard can not be excluded in the event of unprofessional handling or disposal.

SECTION 13 – DISPOSAL CONSIDERATIONS:

Disposal instructions: Do not incinerate tanks. Relieve all pressure prior to disposal using the precautions provided in Section 8. Remove the hoses and with tank inverted, slowly open tank valve, point tank away from face and allow pressure to completely vent. Allow dispensed product to fully cure before disposing. Never discard in liquid state. Dispose of contents/container in accordance with local, regional, national and international regulations.

Waste from residues: Dispose of in accordance with local regulations.

Contaminated packaging: Do not puncture or incinerate containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14 - TRANSPORT INFORMATION:

Shipping Information:

	Containers Less Than 1 liter	Containers Greater Than 1 liter
Ground	Consumer Commodity ORM-D	UN1956 Compressed Gas N.O.S. (Fluorinated hydrocarbon, nitrogen) 2.2 (Non-Flammable Gas Label)
Air	UN1950 Aerosols, Flammable 2.1 (Flammable Gas Label) LIMITED QUANTITY Packing Instructions (Cargo & Passenger) 203	UN1956 Compressed Gas N.O.S. (Fluorinated hydrocarbon, nitrogen) 2.2 (Non-Flammable Gas Label) Packing Instructions (Cargo & Passenger) 200
Water	UN1950 Aerosols, Flammable 2.1 (Flammable Gas Label) LIMITED QUANTITY	UN1956 Compressed Gas N.O.S. (Fluorinated hydrocarbon, nitrogen) 2.2 (Non-Flammable Gas Label)

SECTION 15 - REGULATORY INFORMATION:

U.S. Federal Regulations:

OSHA Hazard Communication Standard:

This material is classified as hazardous in accordance with OSHA 29 CFR 1910 – 1200.

SARA 302/304 Extremely Hazardous Substances:

No components of this product are subject to the reporting requirements of these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification:

No components of this product are subject to the reporting requirements of these sections of Title III of SARA.

SARA 311/312 Hazards: Acute Health Hazard, Chronic Health Hazard, Sudden Release of Pressure Hazard

SARA 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.

Comprehensive Response Compensation and Liability Act (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 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 depleters.

Clean Water Act (CWA):

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.

U.S. State Regulations:

California Proposition 65: This product contains trace amount of substances known to the State of California to cause cancer or other reproductive harm.

Other U.S. 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.

The ingredients of this product are reported in the following inventories:

TSCA: All components of this product are listed or exempted from listing on the TSCA inventory of Chemical Substances. This product is not subject to TSCA 12(b) Export Notification.

DSL: All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempted from listing on the Canadian Domestic Substances List (DSL).

Canadian National Pollutant Release Inventory (NPRI):

4,4'-Diphenylmethane diisocyanate (CAS# 101-68-8) and Polymeric MDI (CAS #9016-87-9) are listed on the NPRI.

NFPA Profile: Health 2, Flammability 3, Reactivity 1

SECTION 16 - OTHER INFORMATION:

Prepared by: Technical Services Department
Revision date: April 20, 2015

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.

Form: SDSULTRASEALPF-200/PF600"A"COMPONENT **Rev.:** 8 **Date:** 04/15