

MATERIAL SAFETY DATA SHEET

SECTION 01 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:

Chemical Name: **UltraSeal® PF-100 GUN FOAM, LOW EXPANSION, 10 or 16 LB. TANKS**

Manufacturer: **NUCO INC.**
150 Curtis Drive
Guelph, Ontario N1K 1N5
Tel: (519)-823-4994
Fax: (519)-823-1099
Infotrac 24 Hour Emergency Tel: (800)-535-5053

Date: **May 1, 2011**

Prepared by: **Technical Services Department**

WHMIS Classification: **A, D2A**

Product Use: **Polyurethane Foam**

SECTION 02 – COMPOSITION / INFORMATION ON INGREDIENTS:

<u>Ingredients</u>	<u>CAS No.</u>	<u>%</u>	<u>LD50 (Oral-Rat)</u>	<u>LC50 (Inhalation-Rat)</u>
Urethane Pre-Polymer Blend (Non-Hazardous Proprietary Blend)	Not available	60.0 – 100.0	Not available	Not available
4,4'-Diphenylmethane Diisocyanate (MDI)	101-68-8	5.0 – 10.0	>5,000 mg/kg	Not available
Higher Oligomers of MDI (Polymeric MDI)	9016-87-9	5.0 – 10.0	Not available	Not available
1,1,1,2-Tetrafluoroethane (Non-Flammable Compressed Gas, HFC Fluorocarbon, 134a)	811-97-2	10.0 – 30.0	Not available	>500,000 ppm (4h)

The ingredients listed above are controlled products as defined in CPR, am. SOR/88-555 or 29 CFR 1910.1200

SECTION 03 – HAZARDS IDENTIFICATION:

ROUTES OF ENTRY INTO THE BODY (ACUTE EFFECTS):

Eyes: May be irritating to eyes. Foam contact can cause physical damage due to its adhesive character.

Skin: May cause localized irritation, reddening or swelling. Prolonged or repeated exposure may lead to sensitization and / or contact dermatitis.

Inhalation: May irritate mucous membranes with tightness in chest, coughing or allergic asthma-like sensitivity. Prolonged overexposure can lead to respiratory symptoms like bronchitis and pulmonary edema. These effects are usually reversible. Prolonged overexposure to 1,1,1,2-Tetrafluoroethane may cause lightheadedness, headaches or lethargy. Individuals with cardiac arrhythmia may be at increased risk in severe exposure.

Ingestion: May cause irritation of mucous membranes in the mouth and digestive tract.

WHMIS HAZARD SYMBOL(S):



DANGER: TANK CONTENTS UNDER PRESSURE. DO NOT HEAT ABOVE 120°F (49°C), PUNCTURE OR INCINERATE.

SECTION 04 - FIRST AID MEASURES:

Eyes: Flush with copious quantities of lukewarm water. Seek medical attention immediately.

Skin: Use a rag to remove excess foam from skin and remove contaminated clothing. 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. Drink 1 or 2 glasses of water or milk. Consult physician. Do not give anything orally to an unconscious person.

SECTION 05 - FIRE FIGHTING MEASURES:

Flammable Conditions: Cured polyurethane foam is organic and can burn in the presence of sufficient heat, oxygen and an ignition source.

Extinguishing Media: Carbon dioxide, dry chemical, Halon 1211 or chemical foam. Water can be used to cool fire exposed containers to prevent pressure build-up and possible explosion.

Fire Fighting Measures: 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.

Flash Point: 800°F (426.6°C)

Flammability Limits: Lower Explosion Limit - Not available
Upper Explosion Limit - Not available

Autoignition Temperature: Not available

Hazardous Decomposition Products: Carbon oxides, nitrogen oxides and traces of incompletely burned carbon products, hydrogen cyanide and hydrochloric acid.

Sensitivity - Impact: Contents are not known to be sensitive to mechanical impact.
Static: Contents are not known to be sensitive to static discharge.

SECTION 06 – ACCIDENTAL RELEASE MEASURES:

Containment / Clean Up: Restrict access to the area of the spill. Provide ventilation, NIOSH / MSHA approved respirator and protective clothing. Uncured foam is very sticky and the bulk of the spilled material should be scraped up and placed in container for disposal. Cleaning of the residual foam may require the use of rags and a solvent such as acetone (nail polish remover), mineral spirits, or paint thinners. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Once the foam has cured, it can only be removed physically by scraping, buffing, etc. Before disposing of containers, relieve the container of any remaining foam and pressure. Allow foam to fully cure before disposing (never discard in a liquid state). 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 07 – HANDLING AND STORAGE:

Handling and Storage: Store under dry conditions, between 60°F (15.5°C) and 80°F (26.6°C). Storage above 90°F (32.2°C) will shorten the shelf life. Storage below 55°F (12.7°C) may affect foam quality if the chemicals are not warmed prior to use. Protect unused product from FREEZING. Use only in well ventilated area.

SECTION 08 – EXPOSURE CONTROL / PERSONAL PROTECTION:

Component Exposure Limits: 4,4'-Diphenyl Diisocyanate (MDI) (CAS# 101-68-8): Provide adequate ventilation to control exposures within the following exposure guidelines: ACGIH TLV: 0.005 ppm (TWA) and OSHA: 0.020 ppm (Ceiling). Higher Oligomers of MDI (CAS# 9016-87-9): Provide adequate ventilation to control exposures within the following exposure guidelines: Not established.

1,1,1,2-Tetrafluoroethane (Non-Flammable Compressed Gas, HFC Fluorocarbon, 134a) (CAS#811-97-2): Provide adequate ventilation to control exposures within the following exposure guidelines: AIHA WEEL: 1000 ppm.

Respiratory:	If vapor levels are expected to exceed exposure guidelines, wear a NIOSH / MSHA approved, positive pressure, supplied air respirator.
Ventilation:	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 09 - PHYSICAL AND CHEMICAL PROPERTIES:

Physical State:	Viscous liquid which foams upon release from container
Odor and Appearance:	Slight fluorocarbon odor during curing stage, off-white to yellowish color.
Odor Threshold:	Not available
Specific Gravity:	1.1
Vapor Pressure:	Contents under pressure have a vapor pressure greater than 50 psig (345 kPa). After release from container, vapor pressure is very low (not available).
Vapor Density:	Not available
Evaporation Rate:	Not available
Boiling Point:	1,1,1,2-Tetrafluoroethane (CAS# 811-97-2) (Non-Flammable Compressed Gas, HFC Fluorocarbon, 134a) boils at less than -15°F (-26.2°C). Other components boil at temperatures greater than 200°F (93.3°C).
Freezing Point:	Not available
pH:	Not available
Coeff. Oil/Water Distribution:	Not available

SECTION 10 – STABILITY AND REACTIVITY:

Chemical Stability:	Stable under normal conditions of use.
Incompatible Materials:	Strong oxidizing agents, bases, amines, alcohols and small particle metal catalysts.
Reactive Conditions:	Heat, sparks and open flame.
Hazardous Polymerization:	Should not occur unless container is heated above 120°F (49°C).

SECTION 11 - TOXICOLOGICAL INFORMATION:

Effects of overexposure:	Exposure to individuals with asthma, eczema or allergies may aggravate existing conditions. Symptoms may include: coughing, wheezing and shortness of breath. Overexposure to fluorocarbon may cause lightheadedness, headaches or lethargy. Persons with cardiac arrhythmia may be at increased risk in severe exposure. Prolonged overexposure can lead to respiratory symptoms like bronchitis and pulmonary edema.
Sensitization:	May cause sensitization by skin contact and inhalation.
Carcinogenicity:	4,4'-Diphenyl Diisocyanate (MDI) (CAS# 101-68-8): Rat, 6.3 mg/m ³ (high level of exposure, 2 years, 6 hrs/day, 5 days/week). Lung tumors observed.
Reproductive Toxicity:	4,4'-Diphenyl Diisocyanate (MDI) (CAS# 101-68-8): Rat, female, 6 hrs/day, 12 mg/m ³ , days 6 - 15 (gestation period); 4 mg/m ³ (maternal/fetotoxicity).
Teratogenicity:	No known applicable information.
Mutagenicity:	No known applicable information.
Synergistic Products:	No known applicable information.

SECTION 12 – ECOLOGICAL INFORMATION:

Air:	Complete information is not yet available.
Water:	<u>4,4'-Diphenyl Diisocyanate (MDI) (CAS# 101-68-8):</u> Acute Toxicity to Fish: LC50: >500 mg/l brachydanio rerio (zebra fish), 24 hour exposure. Acute Toxicity to Aquatic Invertebrates: EC50: >500 mg/l Daphnia magna (water flea), 24 hr. <u>Higher Oligomers of MDI (Polymeric MDI) (CAS# 9016-87-9):</u> Biodegradation: Expected to have a short half-life. Bioaccumulation: Oncorhynchus mykiss (rainbow trout), 112 day exposure, <1 BCF. Does not bioaccumulate. Acute Toxicity to Fish: LC50: >1,000 mg/l brachydanio rerio (zebra fish), 96 hour exposure. Acute Toxicity to

Aquatic Invertebrates: EC50: >1,000 mg/l Daphnia magna (water flea), 24 hr. Toxicity to Microorganisms: EC50: >100 mg/l, activated sludge, 3 hr.

1,1,1,2-Tetrafluoroethane (CAS# 811-97-2): Accumulation in aquatic organisms is unlikely.

Soil: Complete information is not yet available.

SECTION 13 – DISPOSAL CONSIDERATIONS:

Waste Disposal: Relieve all pressure prior to disposal. Dispose in accordance with Federal, State / Provincial and local regulations.

SECTION 14 - TRANSPORT INFORMATION:

Shipping Information: For containers greater than 1 liter:
GROUND TRANSPORT: UN1956 Compressed Gas N.O.S. (Fluorocarbon) 2.2 (Non-Flammable Gas Label).
AIR TRANSPORT: UN1956 Compressed Gas N.O.S. (Fluorocarbon) 2.2 (Non-Flammable Gas Label). Packing Instruction (Cargo & Passenger) 200.
MARITIME TRANSPORT: UN1956 Compressed Gas N.O.S. (Fluorocarbon) 2.2 (Non-Flammable Gas Label).

SECTION 15 - REGULATORY INFORMATION:

TSCA Inventory Status: Chemical components listed on TSCA inventory except as exempted.
NFPA Profile: Health 2, Flammability 1, Reactivity 1
SARA TITLE III Chemical Listings: Section 302 Extremely Hazardous Substances (40 CFR 355): Not known
Section 304 CERCLA Hazardous Substances (40 CFR 302): Not known
Section 311/312 Hazard Class (40 CFR 370): Acute: Yes; Chronic: Yes; Fire: No; Pressure: Yes; Reactive: Yes
Section 313 Toxic Chemicals (40 CFR 372): This product contains the following toxic chemicals which are subject to reporting under Section 313 (40 CFR Part 372): 4,4'-Diphenylmethane Diisocyanate (CAS# 101-68-8).
State Substance List: This product contains a listed substance(s) that appears on one or more of the Substance Lists for Pennsylvania, Massachusetts and New Jersey: 4,4'-Diphenylmethane Diisocyanate (CAS# 101-68-8).
California Proposition 65 List: No known applicable information.
Volatile Organic Content: None based on current EPA definition of a volatile organic compound.
Domestic Substance List: Chemical components listed on DSL except as exempted.

SECTION 16 - OTHER INFORMATION:

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: MSDSULTRASEALPF-100GUNFOAMLOWEXPANSION-10or16lb.TANKS Rev.: 6 Date: 05/11