MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name	**Pump Protector 4299-T8**
CAS #	Mixture
Product use	Protectant
Manufacturer	Nu-Calgon 2008 Altom Court St. Louis, MO 63146 US Phone: 314-469-7000 / 800-554-5499 Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. Hazards Identification

Emergency overview	DANGER Flammable aerosol. Contents under pressure. Containers may explode when heated. EYE AND SKIN IRRITANT.
Potential short term health effects	
Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Eyes	May cause irritation.
Skin	May cause irritation.
Inhalation	Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).
Ingestion	May cause stomach distress, nausea or vomiting.
Target organs	Eyes. Skin.
Chronic effects	Prolonged or repeated exposure can cause drying, defatting and dermatitis.
Signs and symptoms	Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
OSHA Regulatory Status	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Potential environmental effects	Components of this product have been identified as having potential environmental concerns.

3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
1,2-Propylene glycol	57-55-6	3 - 7
Distillates (petroleum), solvent-dewaxed heavy paraffin	64742-65-0	10 - 30
Isobutane	75-28-5	10 - 30
Polyethylene glycol octylphenyl ether	9036-19-5	1 - 5
Propane	74-98-6	1 - 5
Triethanolamine	102-71-6	1 - 5

4. First Aid Measures

First aid procedures	
Eye contact	Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.
Skin contact	Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.
Inhalation	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.
Ingestion	Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.
Notes to physician	Symptoms may be delayed.

General advice	Do not puncture or incinerate container. Keep away from sources of ignition. No smoking. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties	Flammable by WHMIS/OSHA criteria. Containers may explode when heated.
Extinguishing media	
Suitable extinguishing media	Carbon dioxide. Dry chemical. Foam.
Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. Cool containers with flooding quantities of water until well after fire is out.
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Oxides of sulphur.
Explosion data	
Sensitivity to mechanical impact	Not available
Sensitivity to static discharge	Not available

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Remove sources of ignition. Although the chance of a significant spill or leak is unlikely in aerosol containers, in the event of such an occurrence, absorb spilled material with a non-flammable absorbent such as sand or vermiculite.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.
Storage	Keep out of reach of children. Do not store at temperatures above 49 °C (120.2°F). Keep away from heat, open flames or other sources of ignition.

8. Exposure Controls / Personal Protection

Exposure limits

Ingredient(s)	Exposure Limits
1,2-Propylene glycol	**ACGIH-TLV** Not established **OSHA-PEL** Not established
Distillates (petroleum), solvent-dewaxed heavy paraffin	**ACGIH-TLV** Not established **OSHA-PEL** Not established
Isobutane	**ACGIH-TLV** TWA: 1000 ppm **OSHA-PEL** Not established
Polyethylene glycol octylphenyl ether	**ACGIH-TLV** Not established **OSHA-PEL** Not established
Propane	**ACGIH-TLV** TWA: 1000 ppm **OSHA-PEL** TWA: 1000 ppm
Triethanolamine	**ACGIH-TLV** TWA: 5 mg/m3 **OSHA-PEL** Not established

Engineering controls General ventilation normally adequate.

Personal protective equipment

Eye / face protection Wear safety glasses with side shields.

Hand protection Rubber gloves. Confirm with a reputable supplier first.

Skin and body protection As required by employer code.

Respiratory protection Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.
When using do not eat or drink.
Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.

9. Physical and Chemical Properties

Appearance Clear.

Color Colorless

Form Aerosol.

Odor Characteristic

Odor threshold Not available

Physical state Gas

pH 8.5 - 9.5

Melting point Not available

Freezing point Not available

Boiling point	212.00 °F (100 °C)
Pour point	Not available
Evaporation rate	< 1 (BuAc=1)
Flash point	Not available
Auto-ignition temperature	699.80 °F (371 °C)
Flammability limits in air, lower, % by volume	2.6
Flammability limits in air, upper, % by volume	12.5
Vapor pressure	30 - 40 psig @ 20°C
Vapor density	Not available
Specific gravity	0.92 - 0.96
Octanol/water coefficient	Not available
Solubility (H2O)	Complete
Percent volatile	95

10. Stability and Reactivity

Reactivity	This product may react with strong oxidizing agents.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Aerosol containers are unstable at temperatures above 49°C (120.2°F). Do not mix with other chemicals.
Incompatible materials	Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Oxides of sulphur.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
1,2-Propylene glycol	Not available
Distillates (petroleum), solvent-dewaxed heavy paraffin	2.18 mg/l/4h rat
Isobutane	658 mg/l/4h rat
Polyethylene glycol octylphenyl ether	21500 mg/l/4h rat
Propane	Not available
Triethanolamine	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
1,2-Propylene glycol	14800 mg/kg rabbit; 20000 mg/kg rat
Distillates (petroleum), solvent-dewaxed heavy paraffin	5000 mg/kg rat
Isobutane	Not available
Polyethylene glycol octylphenyl ether	4190 mg/kg rat; 3500 Mg/L mouse
Propane	Not available
Triethanolamine	4190 mg/kg rat; 5300 mg/kg guinea pig; 5200 mg/kg mouse

Effects of acute exposure

Eye	May cause irritation.
Skin	May cause irritation.
Inhalation	Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).
Ingestion	May cause stomach distress, nausea or vomiting.
Sensitization	Non-hazardous by WHMIS/OSHA criteria.
Chronic effects	Non-hazardous by WHMIS/OSHA criteria.

Carcinogenicity See below.

IARC - Group 3 (Not Classifiable)

Triethanolamine	102-71-6	Monograph 77 [2000]

Mutagenicity Non-hazardous by WHMIS/OSHA criteria.

Reproductive effects Non-hazardous by WHMIS/OSHA criteria.

Teratogenicity Non-hazardous by WHMIS/OSHA criteria.

Name of Toxicologically Synergistic Products Not available

12. Ecological Information

Ecotoxicity Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Algae - Acute Toxicity Data

1,2-Propylene glycol	57-55-6	96 Hr EC50 Pseudokirchneriella subcapitata: 19000 mg/L
Triethanolamine	102-71-6	72 Hr EC50 Desmodesmus subspicatus: 216 mg/L; 96 Hr EC50 Desmodesmus subspicatus: 169 mg/L

Ecotoxicity - Freshwater Fish - Acute Toxicity Data

1,2-Propylene glycol	57-55-6	96 Hr LC50 Oncorhynchus mykiss: 51600 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 41 - 47 mL/L [static]; 96 Hr LC50 Pimephales promelas: 51400 mg/L [static]; 96 Hr LC50 Pimephales promelas: 710 mg/L
Distillates (petroleum), solvent-dewaxed heavy paraffin	64742-65-0	96 Hr LC50 Oncorhynchus mykiss: >5000 mg/L
Triethanolamine	102-71-6	96 Hr LC50 Pimephales promelas: 10600-13000 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: >1000 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 450-1000 mg/L [static]

Ecotoxicity - Water Flea - Acute Toxicity Data

1,2-Propylene glycol	57-55-6	24 Hr EC50 Daphnia magna: >10000 mg/L; 48 Hr EC50 Daphnia magna: >1000 mg/L [Static]
Distillates (petroleum), solvent-dewaxed heavy paraffin	64742-65-0	48 Hr EC50 Daphnia magna: >1000 mg/L
Triethanolamine	102-71-6	24 Hr EC50 Daphnia magna: 1386 mg/L

Persistence / degradability Not available

Bioaccumulation / accumulation Not available

Mobility in environmental media Not available

Environmental effects Not available

Aquatic toxicity Not available

Partition coefficient Not available

Chemical fate information Not available

Other adverse effects Not available

13. Disposal Considerations

Disposal instructions Dispose in accordance with all applicable regulations.

Waste from residues / unused products Not available

Contaminated packaging Not available

14. Transport Information

U.S. Department of Transportation (DOT)

Consumer Commodity ORM-D

Transportation of Dangerous Goods (TDG - Canada)

Consumer Commodity

15. Regulatory Information

Canadian federal regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada - CEPA - High Priority Chemicals as Identified by DSL Categorization

Isobutane	75-28-5	Batch 4, published November 17, 2007

Canada - WHMIS - Ingredient Disclosure List

1,2-Propylene glycol	57-55-6	1 %
Polyethylene glycol octylphenyl ether	9036-19-5	1 %
Triethanolamine	102-71-6	1 %

WHMIS status

Controlled

WHMIS classification

Class A - Compressed Gas, Class B - Division 5 - Flammable Aerosol, Class D - Division 2B

WHMIS labeling

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical

Yes

US Federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	Yes
Clean Air Act (CAA)	Not available
Clean Water Act (CWA)	Not available
State regulations	This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. - Massachusetts - Right To Know List

Isobutane	75-28-5	Present
Propane	74-98-6	Present
Triethanolamine	102-71-6	Present

U.S. - Minnesota - Hazardous Substance List

1,2-Propylene glycol	57-55-6	Present
Propane	74-98-6	Simple asphyxiant
Triethanolamine	102-71-6	Present

U.S. - New Jersey - Right to Know Hazardous Substance List

1,2-Propylene glycol	57-55-6	sn 3595
Isobutane	75-28-5	sn 1040
Propane	74-98-6	sn 1594
Triethanolamine	102-71-6	sn 4094

U.S. - Pennsylvania - RTK (Right to Know) List

1,2-Propylene glycol	57-55-6	Present
Isobutane	75-28-5	Present
Propane	74-98-6	Present
Triethanolamine	102-71-6	Present

U.S. - Rhode Island - Hazardous Substance List

1,2-Propylene glycol	57-55-6	Flammable
Propane	74-98-6	Toxic; Flammable
Triethanolamine	102-71-6	Flammable

Inventory name

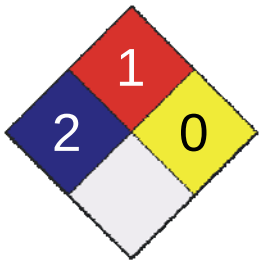
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 2
Flammability	1
Physical Hazard	0
Personal Protection	B



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Issue date	18-Feb-2011
Effective date	15-Feb-2011
Expiry date	15-Feb-2014
Prepared by	Dell Tech Laboratories Ltd. (519) 858-5021
Other information	For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.