Nu-Calgon

Safety Data Sheet

Issue Date: 20-Jan-2013 **Revision Date:** 06-Mar-2014 **Version** 1

1. IDENTIFICATION

Product Identifier

Product Name Freez-Kontr'l®

Other means of identification

Product Number 4188-01, 4188-02, 4188-05, 4188-07, 4188-33

Recommended use of the chemical and restrictions on use

Recommended Use Closed system anti-freeze agent.

Details of the supplier of the safety data sheet

Supplier Address
Nu-Calgon
2008 Altom Court
St. Louis, MO 63146
www.nucalgon.com

Emergency Telephone Number

Company Phone Number 314-469-7000
800-554-5499

Emergency Telephone (24 hr) Chemtrec 1-800-424-9300 (North America) 1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Appearance Light blue liquid **Physical State** Liquid **Odor** Nearly odorless

Classification

This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

Unknown Acute Toxicity

0.9455% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Propylene Glycol	57-55-6	70-80

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

Skin Contact In case of contact, immediately wash skin with soap and water or water for at least 15 minutes. Take off contaminated clothing. If skin irritation persists, call a physician.

Inhalation Remove to fresh air. Not expected to be a problem.

Ingestion Dilute by giving a large amount of water.

Most important symptoms and effects

Symptoms May cause skin and eye irritation. Large doses may cause central nervous system (CNS) depression.

Indication of any immediate medical attention and special treatment needed

Notes to Physician In case of ingestion, monitor for acidosis and central nervous system changes. Exposed persons with previous kidney dysfunction may require special treatment.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Carbon dioxide (CO2). Foam. Dry chemical. Any "ABC" class.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical
Containers may explode when heated.

Hazardous Combustion Products Carbon oxides. Aldehydes.

Sensitivity to Mechanical Impact Not sensitive.
Sensitivity to Static Discharge Not sensitive.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep unnecessary people away; isolate hazard area and deny entry. Use water spray to keep fire-exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment as required.

Environmental Precautions Do not release into sewers or waterways.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Absorb spillage with non-combustible, absorbent material. Place in appropriate containers for disposal. Wash area with soap and water.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Do not eat, drink, smoke, or apply cosmetics while handling this product. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials. Protect from light. Store between 15°C to 30°C.

Incompatible Materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines No exposure limits noted for ingredient(s)

Appropriate engineering controls

Engineering Controls Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Goggles.

Skin and Body Protection Wear suitable gloves.

Respiratory Protection Not normally required for routine use of this product. A NOISH certified air-purifying respirator may be used under conditions where airborne concentrations are expected to be excessive. Protection provided by air-purifying respirators is limited. Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory program that meets OSHA 29CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid		
Appearance	Light blue liquid	**Odor**	Nearly odorless
Color	Light blue	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	Not determined	
Melting Point/Freezing Point	-60 °C / -76 °F	
Boiling Point/Boiling Range	182 °C / 360 °F	
Flash Point	99 °C / 211 °F	
Evaporation Rate	Not available	
Flammability (Solid, Gas)	n/a-liquid	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	0.1 mm Hg	
Vapor Density	2.6	(Air=1)
Specific Gravity	1.04	

Property	**Values**	**Remarks • Method**

Water Solubility	Completely soluble
Solubility in other solvents	Not determined
Partition Coefficient	Not determined
Auto-ignition Temperature	371 °C / 700 °F
Decomposition Temperature	Not determined
Kinematic Viscosity	Not determined
Dynamic Viscosity	Not determined
Explosive Properties	Not determined
Oxidizing Properties	Not determined

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid
Heat, Flame, Ignition sources. Contact with incompatible materials.

Incompatible Materials
Strong oxidizing agents.

Hazardous Decomposition Products
Carbon oxides. Aldehydes.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Avoid contact with skin.

Inhalation Avoid breathing vapors or mists.

Ingestion Do not taste or swallow.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Propylene Glycol 57-55-6	= 20000 mg/kg (Rat)	= 20800 mg/kg (Rabbit)	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity
Not determined

Unknown Acute Toxicity 0.9455% of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Propylene Glycol 57-55-6	19000: 96 h Pseudokirchneriella subcapitata mg/L EC50	51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41 - 47: 96 h Oncorhynchus mykiss mL/L LC50 static 51400: 96 h Pimephales promelas mg/L LC50 static 710: 96 h Pimephales promelas mg/L LC50		10000: 24 h Daphnia magna mg/L EC50 1000: 48 h Daphnia magna mg/L EC50 Static

Persistence/Degradability
Readily biodegradable.

Bioaccumulation
Not determined.

Mobility
Not determined

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

Not determined

US Federal Regulations

CERCLA

Does not apply

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

US State Regulations

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Propylene Glycol 57-55-6	X		X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	0	1	1	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	0	1	1	Not determined

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Revision Note: New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Name	Phone Number			CHEMTREC
Nu-Calgon Wholesaler, Inc.	(314) 469-7000 / (800) 554-5499			(800) 424-9300
Street Address	**City**	**State**	**Postal Code**	**Last Update**
2008 Altom Court	St. Louis	MO	63146-4151	2/9/07
Product Name	**Product Number**	**Product Use**		**EPA Registration #**
Freez-Kontr'l	4188	Closed system anti-freezing agent.		N/A

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	% By Wt.	CAS Number	TLV	PEL
Propylene Glycol	70 - 80	57-55-6	NE	NE

SECTION 3 – HAZARD IDENTIFICATION

Emergency Overview: Material is a clear, colorless solution.

Potential Health Effects

Eyes: May cause transitory stinging and tearing.

Skin: Mild irritant and defatting agent, especially on prolonged contact.

Ingestion: Relatively non-toxic. Ingestion of sizable amount (over 100 mL) may cause some gastrointestinal upset and temporary central nervous system depression. Effects appear more severe in individuals with kidney problems.

Inhalation: No adverse effects via Inhalation.

Chronic Exposure: Lactic acidosis, stupor, and seizures have been reported following chronic ingestion.

Carcinogenicity: This product has NOT been identified as a carcinogen by NTP, IARC, ACGIH, OSHA, or CA Prop 65.

Medical Conditions Aggravated be Exposure: Kidney disorders.

SECTION 4 – FIRST AID MEASURES

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

Skin: Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.

Ingestion: Not expected to require first aid measures. Give several glasses of water to drink and dilute. If large amounts are swallowed, seek medical advice. Note to physician: In case of ingestion, monitor for acidosis and central nervous system changes. Exposed persons with previous kidney dysfunction may require special treatment.

Inhalation: Remove to fresh air. Not expected to require first aid measures.

SECTION 5 – FIREFIGHTING MEASURES

Flash Point: 99°C/211°F

Autoignition Temp: 371°C/700°F

Hazardous Products of Combustion: No Data.

Flammable Limits in Air: (% vol. in air) -17.4

Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire. Water Spray: OK Carbon Dioxide: OK Foam: OK Dry Chemical: OK Other: Any "ABC" Class

Fire and Explosion Hazards: Containers may explode in the heat of the fire. Explosion Sensitivity to Mechanical Impact: Not sensitive. Explosion Sensitivity to Static Discharge: Not sensitive.

Special Firefighting Procedures: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by the DOT Emergency Response Guidebook, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area and keep unauthorized personnel out. Contain spill if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Cool equipment exposed to fire with water, if it can be done with minimal risk.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spill or Leak: For small releases of this product, wear latex or nitrile gloves and safety glasses. Absorb spilled liquid and rinse area thoroughly with soap and water. For large or uncontrolled releases, ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal equipment and specified in section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Collect liquid in an appropriate container or absorb with an inert material (e.g. vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer.

SECTION 7 – HANDLING AND STORAGE

Handling Procedures and Equipment: Work and Hygiene Practices: As with all chemicals, avoid getting this product ON YOU or IN YOU. Do not eat, drink, smoke or apply cosmetics while handling the product. Wash hands thoroughly after handling. Protective Practices During Maintenance of Contaminated Equipment: When cleaning non-disposable equipment, wear latex or nitrile gloves (double gloving is recommended), goggles, and lab coat. Wash equipment with soap and water. All needles, syringes, vials and other disposable items contaminated with this product should be disposed of properly.

Storage Requirements: Store only in approved containers. Keep away from any incompatible materials or conditions (see Section 10). Store in a dry ventilated area at a temperature of 15°C to 30°C (59°F to 86°F). Protect from light.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: Not normally required for routine, administration of this product. A NIOSH certified air-purifying respirator may be used under conditions where airborne concentrations are expected to be excessive. Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHAs 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Eye Protection: The use of chemical goggles to safeguard against potential eye contact, irritation, or injury is recommended.

Protective Clothing: Use protective gloves. Wash hands before and after using gloves. Use clean body covering.

Exposure Guidelines: No Data.

Specific Engineering Controls (such as ventilation, enclosed process): Use with adequate ventilation. Follow standard medical product handling procedures.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid	**Freezing Point:** -60°C/-76°F	**% Volatile by Weight:** No Data.%
Color: Light blue	**Vapor Density [air =1]:** 60-90° F: 2.6	**Evaporation Rate:** (ether=1): N/A
Odor: near odorless	**Vapor Pressure:** mm Hg: 0.1	**Specific Gravity:** 1.04
Boiling Point: 182°C/360°F	**Solubility in Water:** Complete	**pH (concentrate):**

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability: Stable under labeled storage conditions.

Hazardous Polymerization: Will not occur.

Incompatibilities: Strong oxidizing agents.

Reactive Conditions to avoid: Heat, ignition sources, and incompatibles

Decomposition Products: CO2, CO, aldehydes

SECTION 11 – TOXICOLOGICAL INFORMATION

Hazardous Ingredients	CAS #	EINECS #	LD 50 of Ingredient (Specify Species)	LC50 of Ingredient (Specify Species)
Propylene Glycol	No Data.	No Data.	Oral LD50 (rat) = 20 g/kg Skin LD50 (rabbit) = 20.8 g/kg	Irritation eye (rabbit) = 500 mg/24H mild
			Mutagenicity: DNA inhibition: Subcutaneous mouse = 8000mg/kg,	When propylene glycol was given at 30% in the diet, it affected reproduction rates in rats.
			Cytogenic Analysis: Subcutaneous mouse = 8000 mg/kg, Cytogenic analysis: Hamster, Fibroblast = 32 gm/L.	It has generally not affected fertility or reproduction, except at very high dosed where effects could be attributed to nutritional deficiency.

SECTION 12 – ECOLOGICAL INFORMATION

Hazardous Ingredients	Aquatic Toxicity Data
	When released into the soil, this material is expected to readily biodegrade. When released into the soil, the material is expected to leach into ground water. When released into water this material is expected to readily
	degrade. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal: Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of unused contents according to federal, state, and local regulations.

SECTION 14 – TRANSPORTATION INFORMATION

Special Shipping Information: No Hazardous

Purview	Proper Shipping Name	UN Number	Packing Group	Hazard Class
DOT (Land)	Not Regulated.			
IMO (Water)	No Data.			
ICAO (Air)	No Data.			

SECTION 15 – REGULATORY INFORMATION

WHMIS Classification: (Workplace Hazardous Material Information System)	No Data.
SARA Title III: (Superfund Amendments & Reauthorization Act)	The components of this product are not subject to the reporting requirements of Sections 302, 304 and 313 of Title II of the Superfund Amendments and Reauthorization Act.
OSHA: (Occupational Safety & Health Administration)	No Data.
TSCA: (Toxic Substance Control Act)	Propylene glycol is a “drug” as defined by the Federal Food, Drug and Cosmetic Act and is therefore not a chemical substance under TSCA.
VOC: (volatile Organic Compounds)	slightly volatile
CPR: (Canadian Controlled Products Regulations)	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations.
EINECS: (European Inventory of Existing Commercial Chemical Substances)	No Data.
DSL / NDSL: (Canadian Domestic Substance List)(Non-Domestic Substance List)	No Data.
CERCLA: (Comprehensive Response Compensation & Liability Act)	Not applicable
IDL: (Canadian Ingredient Disclosure List)	No Data.
NFPA (HMIS) Rating: (Hazardous Materials Identification System)	Health: 0 Flammability: 1 Reactivity: 1

SECTION 16 – OTHER INFORMATION

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does NOT contain a chemical known to the State of California to cause developmental and reproductive effects.
Other U.S. Federal Regulations: Based on this product’s use, the requirements of the OSHA Bloodborne pathogen Standard (29 CFR 1910.1030) are not applicable.
ANSI Labeling (Based on 129.1. Provided to Summarize Occupational Exposure Hazards):