

Issue Date: 07/17/19

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** Freeze Defeat Winterization Fluid**Other Name(s):** Propylene Glycol**Recommended use of the chemical and restrictions on use:**

Intended as a heat transfer fluid for use in irrigation pumps. If your intended use is not consistent with the stated use, please contact your Munro sales or technical service representative.

**Supplier:** Munro, Inc.  
**Street Address:** 820 South 9<sup>th</sup> Street  
Grand Junction, CO 81501  
United States**Telephone Number:** 800-942-4270  
**Emergency Telephone:** **800-942-4270**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

**Hazard Classification:**

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion
Propylene glycol	57-55-6	>95.0%
Dipotassium hydrogen phosphate	7758-11-4	<3.0%
Water	7732-18-5	<3.0%

## 4. FIRST AID MEASURES

General Advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:**

Move person to fresh air; if effects occur, consult a physician.

**Skin Contact:**

Wash off with liberal amount of water.

**Eye Contact:**

Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Ingestion:**

No emergency medical treatment necessary.

## 5. FIRE FIGHTING MEASURES

**Suitable Extinguishing Media:**

Fine water spray or water fog. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Unsuitable Extinguishing Media:**

Do not use direct water stream. May spread fire.

**Special Hazards Arising from the Chemical:**

**Hazardous Combustion Products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

**Advice for Firefighters:**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Firefighters should wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment, and Emergency Procedures:**

Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental Precautions:**

See Section 12, Ecological Information.

**Methods and Materials for Containment and Cleaning Up:**

For small spills, absorb with materials such as cat litter or sawdust. For larger spills, dike area to contain spill. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

## 7. HANDLING AND STORAGE

**Precautions for Safe Handling:**

No special precautions required. Keep container closed. See Section 8, Exposure Controls and Personal Protection.

Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

**Conditions for Safe Storages:** Do not store in galvanized steel, opened or unlabeled containers. Store in original unopened container. See Section 10 for more specific information.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Exposure limits are listed below, if they exist.

Components	Regulation	Type of listing	Value/Notation
Propylene glycol	US WEEL	TWA	10 mg/m3

### Engineering Controls:

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Eye/Face Protection:

Use safety glasses.

### Skin Protection:

Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur to prevent skin exposure.

### Respiratory Protection:

Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there is no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Blue
Odor:	Mild
pH:	10.0
Freezing Point:	Supercools
Boiling Point (760 mmHg):	152°C (306°F)
Evaporate Rate (Butyl Acetate=1):	<0.5 Estimated
Lower Explosion Limit:	2.6% vol
Upper Explosion Limit:	12.5% vol
Vapor Pressure:	2.2 mmHg
Relative Vapor Density (air=1):	>1.0
Relative Density (water=1):	1.05 at 20°C (68°F) / 20°C
Water Solubility:	100%
Auto-Ignition Temperature:	371°C (700°F)
Kinematic Viscosity:	43.4 cSt at 20°C (68°F)
Molecular Weight:	76.9 g/mol

NOTE: The physical data presented above are typical values and should not be construed as a specification.

## 10. STABILITY AND REACTIVITY

**Reactivity:** No Data Available

**Chemical Stability:** Stable under recommended storage conditions. See Storage, Section 7.

<b>Possibility of Hazardous Reactions:</b>	Polymerization will not occur
<b>Conditions to Avoid:</b>	Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.
<b>Incompatible Materials:</b>	Avoid contact with strong oxidizers, strong acids, strong bases.
<b>Hazardous Decomposition Products:</b>	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes, alcohols, ethers, and organic acids.

## 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Toxicological information on this product or its components appear in this section when such data is available:

### **Acute Oral Toxicity:**

Very low toxicity if swallowed.

For the major component(s): Propylene glycol. LD50, Rat, > 20,000 mg/kg

### **Acute Dermal Toxicity:**

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

For the major component(s): Propylene glycol. LD50, Rabbit, > 20,000 mg/kg

### **Acute Inhalation Toxicity:**

At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation of upper respiratory tract (nose and throat).

For the major components(s): LC50, Rat, 4 Hour, vapour, 6.15 mg. No deaths occurred following exposure to a saturated atmosphere.

### **Skin Corrosion/Irritation:**

Prolonged contact is essentially nonirritating to skin. Repeated contact may cause flaking and softening of skin.

### **Serious Eye Damage/Eye Irritation:**

May cause slight temporary eye irritation. Corneal injury is unlikely.

### **Sensitization:**

Did not cause allergic skin reactions when tested in humans.

### **Specific Target Organ Systemic Toxicity (Single Exposure):**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

### **Specific Target Organ Systemic Toxicity (Repeated Exposure):**

In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

### **Carcinogenicity:**

Similar formulations did not cause cancer in laboratory animals.

### **Teratogenicity:**

Similar formulations did not cause birth defects or any other fetal effects in laboratory animals.

**Reproductive Toxicity:**

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

**Mutagenicity:**

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

**Aspiration Hazard:**

Not likely to be an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

**Toxicity****Propylene Glycol****Acute Toxicity to Fish:**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50>100 mg/L is the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 40,613 mg/l, OECD Test Guideline 203.

**Acute Toxicity to Aquatic Invertebrates:**

LC50, Ceriodaphnia dubia (water flea), static test, 48 Hour, 18,340 mg/l, OECD Test Guideline 202.

**Acute Toxicity to Algae/Aquatic Plants:**

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 19,000 mg/l, OECD Test Guideline 201.

**Toxicity to Bacteria:**

NOEC, Pseudomonas putida, 18 Hour, >20,000 mg/l

**Chronic Toxicity to Aquatic Invertebrates:**

NOEC, Ceriodaphnia dubia (water flea), semi-static test, 7 d, number of offspring, 13,020 mg/l

**Dipotassium Hydrogen Phosphate****Acute Toxicity to Fish:**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50>100 mg/l in the most sensitive species tested).

LC50, Leuciscus idus (Golden orfe), static test, 48 Hour, >900 mg/l, Method Not Specified.

**Persistence and Degradability****Propylene Glycol****Biodegradability:**

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen). 10-Day Window: Pass

**Biodegradation:** 81%

**Exposure Time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent. 10-Day Window: Not applicable

**Biodegradation:** 96%

**Exposure Time:** 64 d

**Method:** OECD Test Guideline 306 or Equivalent.

**Theoretical Oxygen Demand:** 1.68 mg/mg

**Chemical Oxygen Demand:** 1.53 mg/mg

**Biological Oxygen Demand (BOD)**

Incubation time	BOD
5 d	69.000%
10 d	70.000%
20 d	86.000%

#### Photodegradation

**Atmospheric Half-Life:** 10 Hour

**Method:** Estimated

#### Dipotassium Hydrogen Phosphate

**Biodegradability:** Biodegradation is not applicable.

#### Bioaccumulative Potential

##### Propylene Glycol

**Bioaccumulation:** Bioconcentration potential is low (BFC < 100 or Low Pow < 3).

**Partition Coefficient:** n-octanol/water (Log Pow): -1.07 Measured

**Bioconcentration Factor (BCF):** 0.09 Estimated

##### Dipotassium Hydrogen Phosphate

**Bioaccumulation:** No bioconcentration is expected because of the relatively high water solubility.

#### Mobility in Soil

##### Propylene Glycol

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process. Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition Coefficient (Koc):** < 1 Estimated

##### Dipotassium Hydrogen Phosphate

No relevant data found.

### 13. DISPOSAL CONSIDERATIONS

**Disposal Methods:** DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and Local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted recycler, reclaimer, incinerator, or other thermal destruction device.

### 14. TRANSPORT INFORMATION

DOT

**Classification for SEA Transport (IMO-IMDG):** Not regulated for transport.

**Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code.** Not regulated for transport. Consult IMO regulations before transporting ocean bulk.

**Classification for AIR Transport (IATA/ICAO):** Not regulated for transport.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

### 15. REGULATORY INFORMATION

**OSHA Hazard Communication Standard:**

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-To-Know Act of 1986) Sections 311 and 312:**

This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA.

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-To-Know Act of 1986) Section 313:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Pennsylvania Worker and Community Right-To-Know Act:**

The following chemicals are listed because of the additional requirements of Pennsylvania law.

Components	CASRN
Propylene Glycol	57-550-6

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):**

This product contains no listed substances known to the State of California to cause cancer, birth defects, or other reproductive harm, at levels which would require a warning under the statute.

**United States TSCA Inventory (TSCA):**

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

**16. OTHER INFORMATION**

**Hazard Rating System**

**NFPA:**

Health	Fire	Reactivity
0	1	0

**Revision:**

Identification Number: Issue Date: 07/17/2019 / Version: 1.0

**Legend:**

<b>TWA</b>	8-hr TWA
<b>US WEEL</b>	USA. Workplace Environmental Exposure Laws (WEEL)

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