



**SDS 530**  
**PRESTONE® DE-ICER WINDSHIELD WASHER**  
**ADDITIVE WITH DIRT BLOCKER**  
**Date Prepared: 06/11/2014**

**SAFETY DATA SHEET**

**1. Product And Company Identification**

SDS ID: SDS530  
PRODUCT NAME: Prestone® De-Icer Windshield Washer Additive with Dirt Blocker  
PRODUCT NUMBER: AS240, AS240B, 70904  
FORMULA NUMBER: 2275-31, 2309-131

MANUFACTURER:  
Prestone Products Corporation  
Danbury, CT 06810-5109

CANADIAN OFFICE:  
FRAM Group (Canada), Inc.  
Mississauga, Ontario L5L 3S6

MEDICAL EMERGENCIES AND ALL OTHER INFORMATION PHONE NUMBER:

(800)890-2075 (in the US)

(800)668-9349 (in Canada)

TRANSPORTATION EMERGENCY PHONE NUMBER (Chemical Spills and Transport Accidents only):

CHEMTREC 1-800-424-9300 (in the US)

CANUTEC (613)996-6666 (in Canada)

SDS DATE OF PREPARATION/REVISION: 06/11/14

PRODUCT USE: Automobile windshield cleaner/deicer - consumer product

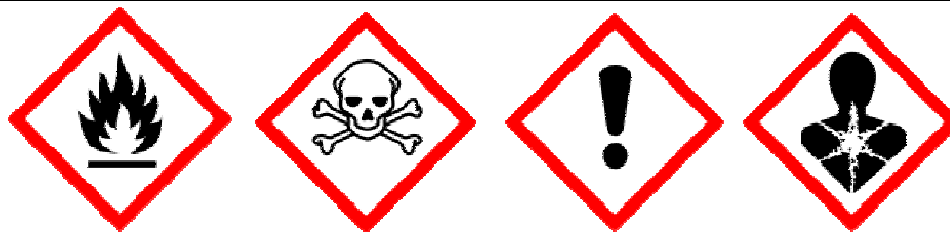
RESTRICTIONS ON USE: None identified

**2. Hazards Identification**

**GHS/HAZCOM 2012 Classification:**

Health	Physical
Acute Toxicity Category 3 (inhalation, oral, dermal) Specific Target Organ Toxicity – single exposure Category 1 Specific Target Organ Toxicity – repeat exposure Category 2 Eye Irritant Category 2A	Flammable liquid Category 2

**Label Elements**



**DANGER!**

H225 Highly Flammable liquid and vapor.

H301+H 311+H331 Toxic if swallowed, in contact with skin and if inhaled.

H319 Causes serious eye irritation

H370 Causes damage to eyes.

H373 May cause damage to kidneys through prolonged or repeated exposure.

**Prevention:**

P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground, or bond container and receiving equipment



P241 Use explosion-proof electrical, ventilating, and lighting equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P260 Do not breathe vapors, or spray.  
P264 Wash exposed skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves, protective clothing, and eye protection.

**Response:**

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water, or shower.  
P312 Call a POISON CENTER or doctor if you feel unwell.  
P301+ P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
P330 Rinse mouth.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical attention.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P308 + P311 IF exposed or concerned: Call a POISON CENTER, or doctor.  
P370 + P378 In case of fire: Use water fog, carbon dioxide, alcohol foam or dry chemical to extinguish.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents and container in accordance with local and national regulations.

### 3. Composition/Information On Ingredients

Component	CAS No.	Amount
Methyl Alcohol (Methanol)	67-56-1	40 – 70%
Ethylene Glycol	107-21-1	15 – 40%
Isopropyl Alcohol (Isopropanol)	67-63-0	5 - <20%
Non-hazardous Ingredients	Mixture	7 – 14%
Silicone Copolymer	Proprietary	<2%

**The exact concentrations are a trade secret.**

### 4. First Aid Measures

**INHALATION:** Remove the victim to fresh air. If breathing has stopped administer artificial respiration. If breathing is difficult, have medical personnel administer oxygen. Get immediate medical attention.

**SKIN CONTACT:** Remove contaminated clothing. Immediately wash contacted area thoroughly with soap and water. If irritation persists, get medical attention.

**EYE CONTACT:** Immediately flush eyes with large amounts of water for 15 minutes. Get medical attention if irritation persists.

**INGESTION:** Seek immediate medical attention. Immediately call local poison control center or go to an emergency department. Never give anything by mouth to or induce vomiting in an unconscious or drowsy person.



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**MOST IMPORTANT SYMPTOMS:** Inhalation may cause headache, dizziness, drowsiness, nausea, visual impairment, narcosis and unconsciousness. Methyl Alcohol may be absorbed through the skin in harmful amounts. Poisonous if swallowed.

**INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT, IF NEEDED:** Seek immediate medical attention for ingestion; or prolonged or excessive dermal exposures.

**NOTES TO PHYSICIAN:** The combination of visual disturbances, metabolic acidosis and an osmol gap is evidence of methanol poisoning. Ethanol is antidotal and its early administration may block the formation of toxic metabolites of methanol. The principal toxic effects of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. The combination of metabolic acidosis, an osmol gap and oxalate crystals in the urine is evidence of ethylene glycol poisoning. Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. . The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Ethanol blood levels should be checked frequently. Hemodialysis may be required.

4-Methyl pyrazole (Fomepizole(R)), a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of methanol and ethylene glycol poisoning. Fomepizole is easier to use clinically than ethanol, does not cause CNS depression or hypoglycemia and requires less monitoring than ethanol. Folic acid may also be administered to enhance the metabolism of formic acid, the toxic metabolite of methanol. Additional therapeutic modalities which may decrease the adverse consequences of ethylene glycol metabolism are the administration of both thiamine and pyridoxine.

Pulmonary edema with hypoxia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required.

There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia.

As there are complicated and serious overdoses, we recommend you consult with the toxicologists at your poison control center.

<b>5. Firefighting Measures</b>
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**SUITABLE EXTINGUISHING MEDIA:** Use water fog, carbon dioxide, alcohol foam or dry chemical. Cool fire exposed containers with water.

**SPECIFIC HAZARDS ARISING FROM THE CHEMICAL:** Flammable liquid. Methanol-water mixtures will burn unless very dilute. Flame is invisible in daylight. Vapors are heavier than air and may flow along surfaces to distant ignition sources and flashback. : Burning may produce carbon monoxide and carbon dioxide.

**SPECIAL FIRE FIGHTING PROCEDURES:** Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

<b>6: Accidental Release Measures</b>
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**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:** Eliminate all ignition sources. Ventilate area. Wear appropriate protective clothing and equipment (See Section 8).

**METHODS AND MATERIALS FOR CONTAINMENT/CLEANUP:** Collect with absorbent material and place in a container suitable for flammable waste.



## 7. Handling and Storage

### PRECAUTIONS FOR SAFE HANDLING:

May be fatal or cause blindness if swallowed! Do not swallow. Avoid eye and skin contact. Avoid breathing vapors or mists. Use only with adequate ventilation. Wash exposed skin thoroughly with soap and water after use. Flammable liquid! Keep away from heat, sparks, open flames and all other sources of ignition. Do not smoke during use.

Empty containers retain product residue and may be dangerous. Do not cut, weld, drill, etc. containers, even empty. Do not reuse empty containers unless properly cleaned.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Keep away from heat, sparks, open flames and all other sources of ignition. Store in a cool, well-ventilated area.

NFPA CLASSIFICATION: IB

## 8. Exposure Controls / Personal Protection

### EXPOSURE GUIDELINES

CHEMICAL	EXPOSURE LIMIT
Methyl Alcohol (Methanol)	200 ppm TWA OSHA PEL 200 ppm TWA ACGIH TLV skin 250 ppm STEL ACGIH TLV
Ethylene Glycol	None Established-OSHA PEL 100 mg/m <sup>3</sup> Ceiling ACGIH TLV
Isopropyl Alcohol (Isopropanol)	400 ppm TWA OSHA PEL 200 ppm TWA ACGIH TLV skin 400 ppm STEL ACGIH TLV
Non-hazardous Ingredients	None Established
Silicone Copolymer	None Established

APPROPRIATE ENGINEERING CONTROLS: Use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits.

RESPIRATORY PROTECTION: For operations where the TLV is exceeded a NIOSH approved supplied air respirator or positive pressure self-contained breathing apparatus is recommended. Organic vapor cartridge respirators are not recommended for methanol vapor exposures. Equipment selection depends on contaminant type and concentration. Select and use in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

GLOVES: Chemical resistant gloves such as butyl rubber or Viton where contact is possible.

EYE PROTECTION: Splash proof goggles are recommended to prevent eye contact.

OTHER PROTECTIVE EQUIPMENT/CLOTHING: Appropriate protective clothing as needed to minimize skin contact.



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**9. Physical and Chemical Properties**

APPEARANCE:	Clear liquid	ODOR:	Alcohol
ODOR THRESHOLD:	160 - 690 ppm (Methanol)	pH:	9.0
MELTING/FREEZING POINT:	<-58°F (<-50°C)	BOILING POINT/RANGE:	166°F (74.4°C)
FLASH POINT:	62°F (16°C) Setaflash	EVAPORATION RATE: (Butyl Acetate = 1)	>1
FLAMMABILITY (SOLID, GAS)	Highly Flammable liquid	FLAMMABILITY LIMITS:	LEL: 2.0% (Isopropanol) UEL: 36% (Methanol)
VAPOR PRESSURE:	Not determined	VAPOR DENSITY:	>1
RELATIVE DENSITY:	0.87	SOLUBILITIES	Water: 100%
PARTITION COEFFICIENT (n-octanol/water)	Not determined	AUTOIGNITION TEMPERATURE:	Not determined
DECOMPOSITION TEMPERATURE:	Not determined	VISCOSITY:	Not determined

**10. Stability and Reactivity**

REACTIVITY: Normally unreactive

CHEMICAL STABILITY: Stable

POSSIBILITY OF HAZARDOUS REACTIONS: Reaction with strong oxidizers will generate heat.

CONDITIONS TO AVOID: Heat, sparks, flames and all other sources of ignition.

INCOMPATIBLE MATERIALS: Strong bases, strong acids, strong oxidizing agents and materials reactive with hydroxyl compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion will produce carbon monoxide, carbon dioxide.

**11. Toxicological Information**

**POTENTIAL HEALTH EFFECTS:**

**ACUTE HAZARDS:**

INHALATION: May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations may produce nausea, vomiting, headache, dizziness, drowsiness, tingling, numbness and shooting pains in the hands and forearms, and visual disturbances.

SKIN CONTACT: Prolonged contact with the skin may cause redness and defatting of the skin and absorption of harmful amounts of methanol.

EYE CONTACT: Liquid, vapors or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.



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**INGESTION:** Contains methanol and ethylene glycol. May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, headache, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Visual effects from methanol include blurred vision, double vision, changes in color perception, restriction of visual fields and complete blindness. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal follows the swallowing of large volumes of ethylene glycol. Signs of renal insufficiency may be delayed 36 to 48 hours post ingestion. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning. Cardiogenic pulmonary edema can also occur from ethylene glycol poisoning.

With massive overdoses of methanol, liver, kidney and heart muscle injury have been described. There may be a delay of 6-12 hours between swallowing methanol and the onset of signs and symptoms. Ingestion of moderate quantities of methanol also produces metabolic acidosis. 60-200 ml of methanol is a fatal dose for most adults. Ingestion of as little as 10 ml may cause blindness.

**CHRONIC EFFECTS:** Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, including nausea, vomiting, headache, ringing in the ears, dizziness, vertigo, cloudy and double vision. Prolonged overexposure at levels of 800-1000 ppm may result in severe eye damage. Prolonged or repeated skin contact may cause skin sensitization and an associated dermatitis in some individuals. Ethylene glycol has been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined.

**CARCINOGENICITY LISTING:** None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH or OSHA.

**ACUTE TOXICITY VALUES:**

Calculated ATE for product:	ATE Oral: 142 mg/kg ATE Dermal: 428 mg/kg ATE Inhalation: 4.3 mg/L
Methanol:	LD50 Oral rat 5,628 mg/kg LC50 Inhalation rat 64,000 ppm/4 hr. LD50 Dermal rabbit 15,800 mg/kg
Ethylene Glycol:	LD50 Oral Rat: 4,700 mg/kg LD50 Skin Rabbit: 9,530 mg/kg
Isopropyl Alcohol:	LD50 Oral Rat: 5045 mg/kg LD50 Skin Rabbit: 12,800 mg/kg LC50 Inhalation Rat: 72.6 mg/L/4h
Silicone copolymer:	LD50 Oral Rat: >5000 mg/kg LD50 Skin Rabbit: >2000 mg/kg

<b>12. Ecological Information</b>
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**ECOTOXICITY:**

Methanol:	LC50 Fathead minnows 29,400 mg/L/96 hr. EC50 Daphnia magna >10,000 mg/L/24 hr.
Ethylene Glycol:	LC50 Fathead Minnow <10,000 mg/L/96 hr. EC50 Daphnia Magna 100,000 mg/L/48 hr. Bacterial (Pseudomonas putida): 10,000 mg/l



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Protozoa (Entosiphon sulcatum and Uronema parduczi; Chatton-Lwoff): >10,000 mg/l  
Algae (Microcystis aeruginosa): 2,000 mg/l  
Green algae (Scenedesmus quadricauda): >10,000 mg/l

Isopropyl Alcohol: LC50 Fathead Minnow 6550 mg/L/96 hr

**PERSISTENCE AND DEGRADABILITY:**

Methanol: Readily biodegradable.  
Ethylene Glycol is readily biodegradable (97-100% in 2-12 days).  
Isopropyl alcohol is readily biodegradable .

**BIOACCUMULATIVE POTENTIAL:**

Methanol: Estimated BCF of 3 - Potential for bioconcentration in aquatic organisms is low.  
Ethylene glycol: A BCF of 10, reported for ethylene glycol in fish, Golden ide (Leuciscus idus melanotus), after 3 days of exposure suggests the potential for bioconcentration in aquatic organisms is low.  
Isopropyl Alcohol: In adults, the elimination half life ranges from 2.9 to 16.2 hours.

**MOBILITY IN SOIL:**

Methanol: Very high  
Ethylene glycol is highly mobile in soil.  
Isopropyl alcohol is highly mobile in soil.

**OTHER ADVERSE EFFECTS:** None

<b>13. Disposal Considerations</b>
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Recycle, incinerate, treat or landfill in accordance with all local, state/provincial and federal regulations.

<b>14. Transport Information</b>
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U. S. DOT HAZARD CLASSIFICATION (For Ground Shipments Only)

Containers Not Over 1 Liter (0.3 gal.):

PROPER SHIPPING NAME: UN1993, Flammable Liquid, n.o.s., (Methanol, Isopropanol), 3, PG II Limited Quantities  
TECHNICAL NAME: Flammable Liquid, n.o.s., (Methanol, Isopropanol)  
UN NUMBER: UN1993  
HAZARD CLASS/PACKING GROUP: 3,II  
LABELS REQUIRED: Limited Quantity Mark

Containers Over 1 Liter: UN1993, Flammable Liquid, n.o.s., (Methanol, Isopropanol), 3, PG II

DOT MARINE POLLUTANTS: This product does not contain Marine Pollutants as defined in 49 CFR 171.8.

IMDG CODE SHIPPING CLASSIFICATION:

Only containers not over 1 Liter can be shipped as Limited Quantities

DESCRIPTION: UN1992, Flammable Liquid, Toxic, N.O.S. (Methanol, Isopropanol) 3 (6.1), PG II, FP 16 C, LTD QTY  
ID NUMBER: UN1992  
HAZARD CLASS: 3 (6.1)  
PACKING GROUP: II





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LABELS REQUIRED: Limited Quantity Mark

PLACARDS REQUIRED: LIMITED QUANTITIES Mark on Cargo Transport Containers

Note: This product is exempted from marking the UN number (see IMDG Code 3.4.7)

CANADIAN TDG CLASSIFICATION (For Ground Shipments Only)

Containers Not Over 1 Liter (0.3 gal.):

PROPER SHIPPING NAME: Consumer Commodity (Limited Quantity)

TECHNICAL NAME: NONE

UN NUMBER: NONE

HAZARD CLASS: NONE

PACKING GROUP: NONE

Containers Over 1 Liter: UN1992, Flammable Liquid, toxic, n.o.s., (Methanol, Isopropanol), 3 (6.1), PG II

IATA/ICAO SHIPPING CLASSIFICATION:

These products are not suitable for shipment by air.

<b>15. Regulatory Information</b>
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EPA SARA 311/312 HAZARD CLASSIFICATION: Acute health, chronic health, fire hazard

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Methanol 67-56-1 40-70%

Ethylene Glycol 107-21-1 15-40%

PROTECTION OF STRATOSPHERIC OZONE: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA SECTION 103: Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Methanol (70% maximum) of 5,000 lbs, is 7,140 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

CALIFORNIA PROPOSITION 65: This product contains the following chemicals regulated under California Proposition 65:  
Methanol (CAS # 67-56-1) 40-70% (developmental toxicity)

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the ingredients are listed on the Canadian Domestic Substances List or exempt from notification.

CANADIAN WHMIS CLASSIFICATION: Class D - Division 2 - Subdivision A - (A very toxic material causing other toxic effects), Class B - Division 2 (Flammable Liquid)

CANADIAN WHMIS HAZARD SYMBOLS:



This SDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the SDS contains all of the information required by the CPR.





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EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS): All of the ingredients are listed on the EINECS inventory.

<b>16. Other Information</b>
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NFPA Rating: Fire: 3                      Health: 2                      Instability: 0

REVISION SUMMARY: Section 2: Correction to P phrases.

SDS Date of Preparation/Revision: June 11, 2014

This SDS is directed to professional users and bulk handlers of the product. Consumer products are labeled in accordance with Federal Hazardous Substances Act regulations.

While Prestone Products Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of tests conducted, the data are not to be taken as a warranty or representation for which Prestone Products Corporation assumes legal responsibility. They are offered for your consideration, investigation and verification. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

If more information is needed, please contact:

Prestone Products Corporation  
69 Eagle Road  
Danbury CT 06810  
(800)-890-2075



## SAFETY DATA SHEET

### 1. Product And Company Identification

SDS ID: SDS526  
PRODUCT NAME: Prestone Ice and Frost Shield  
PRODUCT NUMBER: AS246, 70912  
FORMULA NUMBER: 2265-38-A, 2287-02B, 2296-157A, 2446-61

MANUFACTURER:  
Prestone Products Corporation  
Danbury, CT 06810-5109

CANADIAN OFFICE:  
FRAM Group (Canada), Inc.  
Mississauga, Ontario L5L 3S6

#### MEDICAL EMERGENCIES AND ALL OTHER INFORMATION PHONE NUMBER:

(800)890-2075 (in the US)  
(800)668-9349 (in Canada)

#### TRANSPORTATION EMERGENCY PHONE NUMBER (Chemical Spills and Transport Accidents only):

CHEMTREC 1-800-424-9300 (in the US)  
CANUTEC (613)996-6666 (in Canada)

SDS DATE OF PREPARATION/REVISION: 02/18/15

PRODUCT USE: Automobile windshield deicer – consumer product  
RESTRICTIONS ON USE: None identified

### 2. Hazards Identification

#### GHS Classification:

Health	Physical
Acute Toxicity (Oral) Category 3 Acute Toxicity (Dermal) Category 3 Acute Toxicity (Inhalation) Category 3 Specific Target Organ Toxicity – Single exposure Category 1 Specific Target Organ Toxicity – Repeated exposure Category 2	Flammable Liquid Category 2

#### Label Elements



**DANGER!** Contains Methyl Alcohol (Methanol)  
H225 Highly flammable liquid and vapour.  
H301 Toxic if swallowed  
H311 Toxic in contact with skin.  
H331 Toxic if inhaled  
H370 Causes damage to eyes and central nervous system.  
H373 May cause damage to kidneys through prolonged or repeated exposure.

**Prevention:**

P210 Keep away from heat, sparks, open flames, and hot surfaces. - No smoking.  
P233 Keep container tightly closed.  
P240 Ground or Bond container and receiving equipment  
P241 Use explosion-proof electrical, ventilating, lighting, and equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Do not breathe mist or vapors.  
P264 Wash exposed skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves, protective clothing, and eye protection.

**Response:**

P301 + 310 IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
P330 Rinse mouth.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P312 Call a POISON CENTER or doctor if you feel unwell.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P311 Call a POISON CENTER or doctor.  
P363 Wash contaminated clothing before reuse.  
P370 + P378 In case of fire: Use water fog, carbon dioxide, alcohol foam or dry chemical to extinguish.

**Storage:**

P403 + P325 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents and container in accordance with local and national regulations.

### 3. Composition/Information On Ingredients

Component	CAS No.	Amount
Methyl Alcohol (Methanol)	67-56-1	40-70%
Ethylene Glycol	107-21-1	0-40%
Propylene Glycol	57-55-6	0-40%
Diethylene Glycol	111-46-6	0-5%
Silane	Proprietary Mixture	0-1.5%

**The exact concentrations are a trade secret.**

### 4. First Aid Measures

**INHALATION:** Remove the victim to fresh air. If breathing has stopped administer artificial respiration. If breathing is difficult, have medical personnel administer oxygen. Get immediate medical attention.

**SKIN CONTACT:** Remove contaminated clothing. Immediately wash contacted area thoroughly with soap and water. If irritation persists, get medical attention.

**EYE CONTACT:** Immediately flush eyes with large amounts of water for 15 minutes. Get medical attention if irritation persists.



**INGESTION:** Seek immediate medical attention. Immediately call local poison control center or go to an emergency department. Never give anything by mouth to or induce vomiting in an unconscious or drowsy person.

**MOST IMPORTANT SYMPTOMS:** Flammable liquid! Poisonous if swallowed. Ingestion may cause blindness, abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects. Methyl Alcohol may be absorbed through the skin in harmful amounts. Inhalation may cause headache, dizziness, drowsiness, nausea, visual impairment, narcosis and unconsciousness.

**INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT, IF NEEDED:** Seek immediate medical attention if swallowed. Immediate medical attention may be required for prolonged inhalation and skin exposures.

**NOTES TO PHYSICIAN:**

The combination of visual disturbances, metabolic acidosis and an osmol gap is evidence of methanol poisoning. Ethanol is antidotal and its early administration may block the formation of toxic metabolites of methanol. The principal toxic effect of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. The combination of metabolic acidosis, an osmol gap and oxalate crystals in the urine is evidence of ethylene glycol poisoning. Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Ethanol blood levels should be checked frequently. Hemodialysis may be required.

4-Methyl pyrazole (Fomepizole(R)), a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of methanol and ethylene glycol poisoning. This antidote is now approved by the F.D.A. and in many cases has replaced ethanol in the treatment of ethylene glycol poisoning. Pulmonary edema with hypoxia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required.

There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia.

As there are complicated and serious overdoses, we recommend you consult with the toxicologists at your poison control center.

<b>5. Firefighting Measures</b>
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**SUITABLE EXTINGUISHING MEDIA:** Use water fog, carbon dioxide, alcohol foam or dry chemical. Cool fire exposed containers with water.

**SPECIFIC HAZARDS ARISING FROM THE CHEMICAL:** Highly Flammable liquid. Methanol-water mixtures will burn unless very dilute. Flame is invisible in daylight. Vapors are heavier than air and may flow along surfaces to distant ignition sources and flashback. Burning may produce carbon monoxide and carbon dioxide, aldehydes, ketones, organic acids and hydrocarbon fragments.

**SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHERS:** Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

<b>6: Accidental Release Measures</b>
---------------------------------------

**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:** Eliminate all ignition sources. Ventilate area. Wear appropriate protective clothing and equipment (See Section 8).



**METHODS AND MATERIALS FOR CONTAINMENT/CLEANUP:** Collect with absorbent material and place in a container suitable for flammable waste.

<b>7. Handling and Storage</b>
--------------------------------

**PRECAUTIONS FOR SAFE HANDLING:**

Flammable liquid! May be fatal or cause blindness if swallowed! Do not swallow. Do not eat, drink or smoke when using this product. Do not breathe mists or vapors. Use only outdoors or in a well-ventilated area. Avoid eye and skin contact. Wash exposed skin thoroughly after handling. Wear appropriate protective clothing and equipment (See Section 8). Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

**CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:**

Keep away from heat, sparks, open flames and all other sources of ignition. Keep container tightly closed. Store locked up in a cool, well ventilated area away from oxidizers.

NFPA Classification IB.

<b>8. Exposure Controls / Personal Protection</b>
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**EXPOSURE GUIDELINES**

CHEMICAL	EXPOSURE LIMIT
Methyl Alcohol (Methanol)	200 ppm TWA OSHA PEL 200 ppm TWA ACGIH TLV skin 250 ppm STEL ACGIH TLV
Ethylene Glycol	100 mg/m <sup>3</sup> Ceiling ACGIH TLV
Propylene Glycol	10 mg/ m <sup>3</sup> AIHA WEEL
Diethylene Glycol	10 mg/ m <sup>3</sup> AIHA WEEL
Silane	None Established

**APPROPRIATE ENGINEERING CONTROLS:** Use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT**

**RESPIRATORY PROTECTION:** For operations where the TLV is exceeded a NIOSH approved supplied air respirator or positive pressure self-contained breathing apparatus is recommended. Organic vapor cartridge respirators are not recommended for methanol vapor exposures. Equipment selection depends on contaminant type and concentration. Select and use in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

**GLOVES:** Chemical resistant gloves such as butyl rubber or Viton where contact is possible.

**EYE PROTECTION:** Splash proof goggles are recommended to prevent eye contact.

**OTHER PROTECTIVE EQUIPMENT/CLOTHING:** Appropriate protective clothing as needed to minimize skin contact.



### 9. Physical and Chemical Properties

APPEARANCE:	Clear, colorless liquid	ODOR:	Slight
ODOR THRESHOLD:	Mean for methanol is 160-690 ppm.	pH:	Not determined
MELTING/FREEZING POINT:	<-94°F (<-70°C) – <-50°F (<-45.5°C)	BOILING POINT/RANGE:	159°F (70.6°C)
FLASH POINT:	55°F (13°C) - 80°F (26.6°C)	EVAPORATION RATE:	<1
FLAMMABILITY (SOLID, GAS)	Not Applicable	FLAMMABILITY LIMITS:	LEL: 2.6 % (propylene glycol) UEL: 36% (Methanol)
VAPOR PRESSURE:	Not determined	VAPOR DENSITY:	>1
RELATIVE DENSITY:	0.87 – 0.97	SOLUBILITIES	Water: 99-100%
PARTITION COEFFICIENT (n-octanol/water)	Not determined	AUTOIGNITION TEMPERATURE:	Not determined
DECOMPOSITION TEMPERATURE:	Not determined	VISCOSITY:	Not determined

### 10. Stability and Reactivity

REACTIVITY: Normally unreactive

CHEMICAL STABILITY: Stable

POSSIBILITY OF HAZARDOUS REACTIONS: Reaction with strong oxidizers will generate heat.

CONDITIONS TO AVOID: Heat, sparks, flames and all other sources of ignition.

INCOMPATIBLE MATERIALS: Strong bases, strong acids, strong oxidizing agents and materials reactive with hydroxyl compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide.

### 11. Toxicological Information

#### POTENTIAL HEALTH EFFECTS:

##### ACUTE HAZARDS:

INHALATION: May cause irritation of the nose and throat. High vapor concentrations may produce nausea, vomiting, headache, dizziness, drowsiness, tingling, numbness and shooting pains in the hands and forearms, and visual disturbances.

SKIN CONTACT: Prolonged contact with the skin may cause redness and defatting of the skin and absorption of harmful amounts of methanol.

EYE CONTACT: Liquid, vapors or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.

INGESTION: Contains methanol and ethylene glycol. May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, headache, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Visual effects from methanol include blurred vision, double vision, changes in color perception, restriction of visual fields and complete blindness. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal follows the swallowing of large volumes of



ethylene glycol. Signs of renal insufficiency may be delayed 36 to 48 hours post ingestion. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.

With massive overdoses of methanol, liver, kidney and heart muscle injury have been described. There may be a delay of 6-12 hours between swallowing methanol and the onset of signs and symptoms. Ingestion of moderate quantities of methanol also produces metabolic acidosis. 60-200 ml of methanol is a fatal dose for most adults. Ingestion of as little as 10 ml may cause blindness.

**CHRONIC EFFECTS:** Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, including nausea, vomiting, headache, ringing in the ears, dizziness, vertigo, cloudy and double vision. Prolonged overexposure at levels of 800-1000 ppm may result in severe eye damage. Prolonged or repeated skin contact may cause skin sensitization and an associated dermatitis in some individuals. Ethylene glycol has been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined.

**CARCINOGENICITY LISTING:** None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH or OSHA.

**ACUTE TOXICITY VALUES:**

Product:	LD50 Oral: 137.5 mg/ kg Calculated ATE LD50 Skin: 428.6 mg/ kg Calculated ATE LC50 Inhalation: 4.28 mg/ L Calculated ATE
Methanol:	LD50 Oral Rat: 9100 mg/kg LD50 Skin Rabbit: 15,940 mg/kg; LC50 Inhalation Rat: 145,000 ppm/1hr
Propylene Glycol:	LD50 Oral Rat: >2000 mg/kg; LD50 Skin Rabbit: >2000 mg/kg
Ethylene Glycol:	LD50 Oral Rat: 4700 mg/kg LD50 Skin Rabbit: 9530 mg/kg
Diethylene Glycol:	LD50 Oral Rat: 12,565 mg/kg LD50 Skin Rabbit: 11,890 mg/kg

<b>12. Ecological Information</b>
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**ECOTOXICITY:**

Methanol:	LC50 Fathead minnows, 29,400 mg/L/96 hr; EC50 Daphnia magna, >10,000 mg/L/24 hr.
Ethylene Glycol:	LC50 Fathead Minnow <10,000 mg/L/96 hr. EC50 Daphnia Magna 100,000 mg/L/48 hr. Bacterial ( <i>Pseudomonas putida</i> ): 10,000 mg/l Protozoa ( <i>Entosiphon sulcatum</i> and <i>Uronema parduczi</i> ; Chatton-Lwoff): >10,000 mg/l Algae ( <i>Microcystis aeruginosa</i> ): 2,000 mg/l Green algae ( <i>Scenedesmus quadricauda</i> ): >10,000 mg/l
Diethylene Glycol:	LC50 western mosquitofish >32,000 mg/L/96 hr.
Propylene Glycol:	EC50: Daphnia magna, 43,500 mg/L/48 hr; LC50: Pimephales promelas, 46,500 mg/L/96 hr





**PERSISTENCE AND DEGRADABILITY:**

Methanol: Readily biodegradable

Ethylene Glycol is readily biodegradable (97-100% in 2-12 days).

Diethylene glycol is readily biodegradable (>70% in 19days).

Propylene glycol: Achieved 64% of its theoretical BOD using a sewage inoculum and a 5 day incubation period

**BIOACCUMULATIVE POTENTIAL:**

Methanol: BCF of <10 suggesting that the potential for bioaccumulation is low.

Ethylene glycol: A BCF of 10, reported for ethylene glycol in fish, Golden ide (*Leuciscus idus melanotus*), after 3 days of exposure suggests the potential for bio concentration in aquatic organisms is low.

Diethylene glycol: An estimated BCF of 3 suggests the potential for bio concentration in aquatic organisms is low.

Propylene Glycol: Has an estimated BCF of 3 suggests the potential for bio-concentration in aquatic organisms is low.

**MOBILITY IN SOIL:**

Methanol: Expected to have very high mobility in soil.

OTHER ADVERSE EFFECTS: None known

<b>13. Disposal Considerations</b>
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Dispose of product as hazardous waste (ignitable) in accordance with all local, state/provincial and federal regulations.

<b>14. Transport Information</b>
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**U.S. DOT HAZARD CLASSIFICATION (For Ground Shipments Only)**

Containers Not Over 1 Liter (0.3 gal.):

PROPER SHIPPING NAME: UN1230, Methanol Solution, 3, PG II

TECHNICAL NAME: N/A

UN NUMBER: UN1230

HAZARD CLASS/PACKING GROUP: 3, PG II

LABELS REQUIRED: Limited Quantity Mark

Note: Consumer Commodity ORMD marking valid until 2020.

Containers Over 1 Liter: UN1230, Methanol Solution, 3, PG II

DOT MARINE POLLUTANTS: This product does not contain Marine Pollutants as defined in 49 CFR 171.8.

**IMDG CODE SHIPPING CLASSIFICATION**

Only containers not over 1 Liter can be shipped as Limited Quantities

DESCRIPTION: UN1230, Methanol Solution, 3 (6.1), PG II, FP 13 C, LTD QTY

ID NUMBER: UN1230

HAZARD CLASS: 3 (6.1)

PACKING GROUP: II

LABELS REQUIRED: None

PLACARDS REQUIRED: LIMITED QUANTITIES Mark on Cargo Transport Containers

Note: This product is exempted from marking the UN number (see IMDG Code 3.4.7)



**CANADIAN TDG CLASSIFICATION (For Ground Shipments Only)**

Containers Not Over 1 Liter:  
PROPER SHIPPING NAME: UN1230, Methanol Solution, 3, PG II  
TECHNICAL NAME: N/A  
UN NUMBER: UN1230  
HAZARD CLASS/PACKING GROUP: 3, PG II  
LABELS REQUIRED: Limited Quantity Mark

Containers Over 1 Liter: UN1230, Methanol Solution, 3 (6.1), PG II

IATA/ICAO SHIPPING CLASSIFICATION:  
These products are not suitable for shipment by air.

<b>15. Regulatory Information</b>
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EPA SARA 311/312 HAZARD CLASSIFICATION: Acute health, chronic health, fire hazard

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Methanol	67-56-1	40-70%
Ethylene Glycol	107-21-1	0-45%

PROTECTION OF STRATOSPHERIC OZONE: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA SECTION 103: Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Methanol (70% maximum) of 5,000 lbs, is 7,142 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

CALIFORNIA PROPOSITION 65: This product contains the following chemicals regulated under California Proposition 65:  
Methanol            67-56-1    40-70%

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the ingredients are listed on the Canadian Domestic Substances List.

CANADIAN WHMIS CLASSIFICATION: Class D - Division 1 - Subdivision B - (Toxic material causing immediate and serious toxic effects), Class B - Division 2 (Flammable Liquid)

CANDAIA WHMIS SYMBOL:



This SDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the SDS contains all of the information required by the CPR.

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS): All of the ingredients are listed on the EINECS inventory.



AUSTRALIA: All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances.

KOREA: All of the ingredients of this product are listed on the Korean Existing Chemicals List (KECL).

CHINA: All of the ingredients of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

PHILIPPINES: All of the ingredients of this product are listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS).

<b>16. Other Information</b>
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NFPA RATING (NFPA 704) - FIRE: 3      HEALTH: 2      INSTABILITY: 0

REVISION SUMMARY: Section 11 Acute Toxicity Values, Section 12 Mobility in Soil.

SDS Date of Preparation/Revision: February 18, 2015

This SDS is directed to professional users and bulk handlers of the product. Consumer products are labeled in accordance with Federal Hazardous Substances Act regulations.

While Prestone Products Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of the tests conducted, the data are not to be taken as a warranty or representation for which Prestone Products Corporation assumes legal responsibility. They are offered solely for your consideration, investigation and verification. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

If more information is needed, please contact:

Prestone Products Corporation  
69 Eagle Road  
Danbury CT 06810  
(800) 890-2075



## SAFETY DATA SHEET

### 1. Product And Company Identification

SDS ID: SDS 489  
PRODUCT NAME: Prestone® Trigger De-Icer  
PRODUCT NUMBER: AS247A, AS-247  
FORMULA NUMBER: 2191-163-1, 2482-82, 2488-55

MANUFACTURER:  
Prestone Products Corporation  
Danbury, CT 06810-5109

CANADIAN OFFICE:  
FRAM Group (Canada), Inc.  
Mississauga, Ontario L5L 3S6

#### MEDICAL EMERGENCIES AND ALL OTHER INFORMATION PHONE NUMBER:

(800)890-2075 (in the US)  
(800)668-9349 (in Canada)

#### TRANSPORTATION EMERGENCY PHONE NUMBER (Chemical Spills and Transport Accidents only):

CHEMTREC 1-800-424-9300 (in the US)  
CANUTEC (613)996-6666 (in Canada)

SDS DATE OF PREPARATION/REVISION: 06/11/14

PRODUCT USE: Automobile windshield cleaning fluid- consumer product  
RESTRICTIONS ON USE: None identified

### 2. Hazards Identification

#### **GHS/HAZCOM 2012 Classification:**

Health	Physical
Acute Toxicity Category 3 (inhalation, oral, dermal) Specific Target Organ Toxicity – single exposure Category 1 Specific Target Organ Toxicity – repeat exposure Category 2	Flammable liquid Category 2

#### Label Elements



#### **DANGER!**

H225 Highly Flammable liquid and vapor.  
H301+H 311+H331 Toxic if swallowed, in contact with skin and if inhaled.  
H370 Causes damage to eyes.  
H373 May cause damage to kidneys through prolonged or repeated exposure.

#### **Prevention:**

P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking.  
P233 Keep container tightly closed.  
P240 Ground, or bond container and receiving equipment  
P241 Use explosion-proof electrical, ventilating, and lighting equipment.

P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P260 Do not breathe vapors, or spray.  
P264 Wash exposed skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves, protective clothing, and eye protection.

**Response:**

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water, or shower.  
P312 Call a POISON CENTER or doctor if you feel unwell.  
P301+ P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
P330 Rinse mouth.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P311 Call a POISON CENTER, or doctor.  
P370 + P378 In case of fire: Use water fog, carbon dioxide, alcohol foam or dry chemical to extinguish.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents and container in accordance with local and national regulations.

### 3. Composition/Information On Ingredients

Component	CAS No.	Amount
Methyl Alcohol (Methanol)	67-56-1	50-100%
Non-hazardous Ingredients	Mixture	10-50%
Ethylene Glycol	107-21-1	2-10%

The exact concentrations are a trade secret.

### 4. First Aid Measures

**INHALATION:** Remove the victim to fresh air. If breathing has stopped administer artificial respiration. If breathing is difficult, have medical personnel administer oxygen. Get immediate medical attention.

**SKIN CONTACT:** Remove contaminated clothing. Immediately wash contacted area thoroughly with soap and water. If irritation persists, get medical attention.

**EYE CONTACT:** Immediately flush eyes with large amounts of water for 15 minutes. Get medical attention if irritation persists.

**INGESTION:** Seek immediate medical attention. Immediately call local poison control center or go to an emergency department. Never give anything by mouth to or induce vomiting in an unconscious or drowsy person.

**MOST IMPORTANT SYMPTOMS:** Inhalation may cause headache, dizziness, drowsiness, nausea, visual impairment, narcosis and unconsciousness. Methyl Alcohol may be absorbed through the skin in harmful amounts. Poisonous if swallowed.

**INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT, IF NEEDED:** Seek immediate medical attention for ingestion; or prolonged or excessive dermal exposures.

#### NOTES TO PHYSICIAN:

The combination of visual disturbances, metabolic acidosis and an osmol gap is evidence of methanol poisoning. Ethanol is antidotal and its early administration may block the formation of toxic metabolites of methanol. The principal toxic effect of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. The combination of metabolic acidosis, an osmol gap and oxalate crystals in the urine is evidence of ethylene glycol poisoning. Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. . The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Ethanol blood levels should be checked frequently. Hemodialysis may be required.

4-Methylpyrazole (Antizole® or Fomepizole), a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of both methanol and ethylene glycol poisoning. Fomepizole is easier to use clinically than ethanol, does not cause CNS depression or hypoglycemia and requires less monitoring than ethanol. Folic acid may also be administered to enhance the metabolism of formic acid, the toxic metabolite of methanol. Additional therapeutic modalities which may decrease the adverse consequences of ethylene glycol metabolism are the administration of both thiamine and pyridoxine.

Pulmonary edema with hypoxia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required.

There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia.

Seek immediate consultation with a physician, toxicologist, or poison control center.

### 5. Firefighting Measures

SUITABLE EXTINGUISHING MEDIA: Use water fog, carbon dioxide, alcohol foam or dry chemical. Cool fire exposed containers with water.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: Flammable liquid. Methanol-water mixtures will burn unless very dilute. Flame is invisible in daylight. Vapors are heavier than air and may flow along surfaces to distant ignition sources and flashback. Burning may produce carbon monoxide and carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

### 6: Accidental Release Measures

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Eliminate all ignition sources. Ventilate area. Wear appropriate protective clothing and equipment (See Section 8).

METHODS AND MATERIALS FOR CONTAINMENT/CLEANUP: Collect with absorbent material and place in a container suitable for flammable waste.

### 7. Handling and Storage

PRECAUTIONS FOR SAFE HANDLING:

May be fatal or cause blindness if swallowed! Do not swallow. Avoid eye and skin contact. Avoid breathing vapors or mists. Use only with adequate ventilation. Wash exposed skin thoroughly with soap and water after use. Flammable liquid! Keep away from heat, sparks, open flames and all other sources of ignition. Do not smoke during use.

Empty containers retain product residue and may be dangerous. Do not cut, weld, drill, etc. containers, even empty. Do not reuse empty containers unless properly cleaned.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Keep away from heat, sparks, open flames and all other sources of ignition. Store in a cool, well-ventilated area.

NFPA CLASSIFICATION: IB

## 8. Exposure Controls / Personal Protection

### EXPOSURE GUIDELINES

CHEMICAL	EXPOSURE LIMIT
Methyl Alcohol (Methanol)	200 ppm TWA OSHA PEL 200 ppm TWA ACGIH TLV skin 250 ppm STEL ACGIH TLV
Non-hazardous Ingredients	None Established
Ethylene Glycol	100 mg/m <sup>3</sup> Ceiling ACGIH TLV

APPROPRIATE ENGINEERING CONTROLS: Use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits.

RESPIRATORY PROTECTION: For operations where the TLV is exceeded a NIOSH approved supplied air respirator or positive pressure self-contained breathing apparatus is recommended. Organic vapor cartridge respirators are not recommended for methanol vapor exposures. Equipment selection depends on contaminant type and concentration. Select and use in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

GLOVES: Chemical resistant gloves such as butyl rubber or Viton where contact is possible.

EYE PROTECTION: Splash-proof goggles.

OTHER PROTECTIVE EQUIPMENT/CLOTHING: Appropriate protective clothing as needed to minimize skin contact.

## 9. Physical and Chemical Properties

APPEARANCE:	Clear liquid	ODOR:	None
ODOR THRESHOLD:	160 - 690 ppm (Methanol)	pH:	5.0 - 7.1
MELTING/FREEZING POINT:	< -58°F (<-50°C)	BOILING POINT/RANGE:	160-168°F (71.1-75.5°C)
FLASH POINT:	53-73°F (12-22.9°C)	EVAPORATION RATE:	Not determined (Butyl Acetate = 1)
FLAMMABILITY (SOLID, GAS)	Highly Flammable liquid	FLAMMABILITY LIMITS:	LEL: 3.2% (Ethylene glycol) UEL: 36% (Methanol)
VAPOR PRESSURE:	Not determined	VAPOR DENSITY:	>1





RELATIVE DENSITY:	0.86- 0.90	SOLUBILITIES	Water: 100%
PARTITION COEFFICIENT (n-octanol/water)	Not determined	AUTOIGNITION TEMPERATURE:	Not determined
DECOMPOSITION TEMPERATURE:	Not determined	VISCOSITY:	Not determined

## 10. Stability and Reactivity

REACTIVITY: Normally unreactive

CHEMICAL STABILITY: Stable

POSSIBILITY OF HAZARDOUS REACTIONS: Reaction with strong oxidizers will generate heat.

CONDITIONS TO AVOID: Heat, sparks, flames and all other sources of ignition.

INCOMPATIBLE MATERIALS: Strong bases, strong acids, strong oxidizing agents and materials reactive with hydroxyl compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion will produce carbon monoxide, carbon dioxide.

## 11. Toxicological Information

### POTENTIAL HEALTH EFFECTS:

#### ACUTE HAZARDS:

INHALATION: May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations may produce nausea, vomiting, headache, dizziness, drowsiness, tingling, numbness and shooting pains in the hands and forearms, and visual disturbances.

SKIN CONTACT: Prolonged contact with the skin may cause redness and defatting of the skin and absorption of harmful amounts of methanol.

EYE CONTACT: Liquid, vapors or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.

INGESTION: Contains methanol and ethylene glycol. May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, headache, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Visual effects from methanol include blurred vision, double vision, changes in color perception, restriction of visual fields and complete blindness. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal follows the swallowing of large volumes of ethylene glycol. Signs of renal insufficiency may be delayed 36 to 48 hours post ingestion. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.

With massive overdoses of methanol, liver, kidney and heart muscle injury have been described. There may be a delay of several hours between swallowing methanol and the onset of signs and symptoms. Ingestion of moderate quantities of methanol also produces metabolic acidosis. 60-200 ml of methanol is a fatal dose for most adults. Ingestion of as little as 10 ml may cause blindness.

**CHRONIC EFFECTS:** Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, including nausea, vomiting, headache, ringing in the ears, dizziness, vertigo, cloudy and double vision. Prolonged overexposure at levels of 800-1000 ppm may result in severe eye damage. Prolonged or repeated skin contact may cause skin sensitization and an associated dermatitis in some individuals. Ethylene glycol and methanol have been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined.

**CARCINOGENICITY LISTING:** None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, or OSHA.

**ACUTE TOXICITY VALUES:**

Calculated ATE for product:	ATE Oral: 100 mg/kg ATE Dermal: 300 mg/kg ATE Inhalation: 3.0 mg/L
Methanol:	LD50 Oral rat 5,628 mg/kg LC50 Inhalation rat 64,000 ppm/4 hr. LD50 Dermal rabbit 15,800 mg/kg
Ethylene Glycol:	LD50 Oral Rat: 4,700 mg/kg LD50 Skin Rabbit: 9,530 mg/kg

<b>12. Ecological Information</b>
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**ECOTOXICITY:**

Methanol:	LC50 Fathead minnows 29,400 mg/L/96 hr. EC50 Daphnia magna >10,000 mg/L/24 hr.
Ethylene Glycol:	LC50 Fathead Minnow <10,000 mg/L/96 hr. EC50 Daphnia Magna 100,000 mg/L/48 hr. Bacterial ( <i>Pseudomonas putida</i> ): 10,000 mg/l Protozoa ( <i>Entosiphon sulcatum</i> and <i>Uronema parduczi</i> ; Chatton-Lwoff): >10,000 mg/l Algae ( <i>Microcystis aeruginosa</i> ): 2,000 mg/l Green algae ( <i>Scenedesmus quadricauda</i> ): >10,000 mg/l

**PERSISTENCE AND DEGRADABILITY:**

Methanol: Readily biodegradable.  
Ethylene Glycol is readily biodegradable (97-100% in 2-12 days).

**BIOACCUMULATIVE POTENTIAL:**

Methanol: Estimated BCF of 3 - Potential for bioconcentration in aquatic organisms is low.  
Ethylene glycol: A BCF of 10, reported for ethylene glycol in fish, Golden ide (*Leuciscus idus melanotus*), after 3 days of exposure suggests the potential for bioconcentration in aquatic organisms is low.

**MOBILITY IN SOIL:**

Methanol: Very high  
Ethylene glycol is highly mobile in soil.

**OTHER ADVERSE EFFECTS:** None



### 13. Disposal Considerations

Dispose of product as hazardous waste (ignitable) in accordance with all local, state/provincial and federal regulations.

### 14. Transport Information

U.S. DOT HAZARD CLASSIFICATION (For Ground Shipments Only)

Containers Not Over 1 Liter (0.3 gal.):

PROPER SHIPPING NAME: UN1230, Methanol Solution, 3, PG II Limited Quantities

TECHNICAL NAME: Methanol

UN NUMBER: UN1230

HAZARD CLASS/PACKING GROUP: 3, II

LABELS REQUIRED: Limited Quantity Mark

Containers Over 1 Liter: UN1230, Methanol Solution, 3, PG II

DOT MARINE POLLUTANTS: This product does not contain Marine Pollutants as defined in 49 CFR 171.8.

IMDG CODE SHIPPING CLASSIFICATION

Only containers not over 1 Liter can be shipped as Limited Quantities

DESCRIPTION: UN1230, Methanol Solution, 3 (6.1), PG II, FP 12 C, LTD QTY

ID NUMBER: UN1230

HAZARD CLASS: 3 (6.1)

PACKING GROUP: II

LABELS REQUIRED: Limited Quantity Mark

PLACARDS REQUIRED: LIMITED QUANTITIES Mark on Cargo Transport Containers

CANADIAN TDG CLASSIFICATION (For Ground Shipments Only)

Containers Not Over 1 Liter:

PROPER SHIPPING NAME: Consumer Commodity (Limited Quantity)

TECHNICAL NAME: None

CLASS: None

UN NUMBER: None

PACKING GROUP: None

Containers Over 1 Liter: UN1230, Methanol Solution, 3 (6.1), PG II

IATA/ICAO SHIPPING CLASSIFICATION:

These products are not suitable for shipment by air.

### 15. Regulatory Information

EPA SARA 311/312 HAZARD CLASSIFICATION: Acute health, chronic health, fire hazard

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Methanol	67-56-1	50-100%
Ethylene Glycol	107-21-1	2-10%



**PROTECTION OF STRATOSPHERIC OZONE:** This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

**CERCLA SECTION 103:** Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Methanol (100% maximum) of 5,000 lbs, is 5,000 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

**CALIFORNIA PROPOSITION 65:** This product contains the following chemicals regulated under California Proposition 65:  
Methanol (CAS # 67-56-1) 50-100% (developmental toxicity)

**EPA TSCA INVENTORY:** All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

**CANADIAN ENVIRONMENTAL PROTECTION ACT:** All of the ingredients are listed on the Canadian Domestic Substances List.

**CANADIAN WHMIS CLASSIFICATION:** Class D - Division 2 - Subdivision A - (A very toxic material causing other toxic effects), Class B - Division 2 (Flammable Liquid)



**CANADIAN WHMIS SYMBOL:**

This SDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the SDS contains all of the information required by the CPR.

**EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS):** All of the ingredients are listed on the EINECS inventory.

**AUSTRALIA:** All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances.

**KOREA:** All of the ingredients of this product are listed on the Korean Existing Chemicals List (KECL).

**CHINA:** All of the ingredients of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

**JAPAN:** All of the ingredients of this product are listed on the Japanese Existing and New Chemical Substances (MITI) List.

**PHILIPPINES:** All of the components of this material are listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS).

<b>16. Other Information</b>
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NFPA Rating: Fire: 3                      Health: 2                      Instability: 0

**REVISION SUMMARY:** Section 2: Correction to P phrases.

**SDS Date of Preparation/Revision:** June 11, 2014

This SDS is directed to professional users and bulk handlers of the product. Consumer products are labeled in accordance with Federal Hazardous Substances Act regulations.



While Prestone Products Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of tests conducted, the data are not to be taken as a warranty or representation for which Prestone Products Corporation assumes legal responsibility. They are offered for your consideration, investigation and verification. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

If more information is needed, please contact:      Prestone Products Corporation  
69 Eagle Road  
Danbury, CT 06810  
(800) 890-2075



## SAFETY DATA SHEET

### 1. Product And Company Identification

SDS ID: SDS002  
PRODUCT NAME: Prestone® De-Icer For Windows and Wipers  
PRODUCT NUMBER: AS242, AS244  
FORMULA NUMBER: 2396-90, 2191-38D, 2488-51, 2482-82, 2488-55

MANUFACTURER:  
Prestone Products Corporation  
Danbury, CT 06810-5109

CANADIAN OFFICE:  
FRAM Group (Canada), Inc.  
Mississauga, Ontario L5L 3S6

MEDICAL EMERGENCIES AND ALL OTHER INFORMATION PHONE NUMBER:

(800)890-2075 (in the US)

(800)668-9349 (in Canada)

TRANSPORTATION EMERGENCY PHONE NUMBER (Chemical Spills and Transport Accidents only):

CHEMTREC 1-800-424-9300 (in the US)

CANUTEC (613)996-6666 (in Canada)

SDS DATE OF PREPARATION/REVISION: 09/18/14

PRODUCT USE: Automobile windshield cleaner/deicer - consumer product

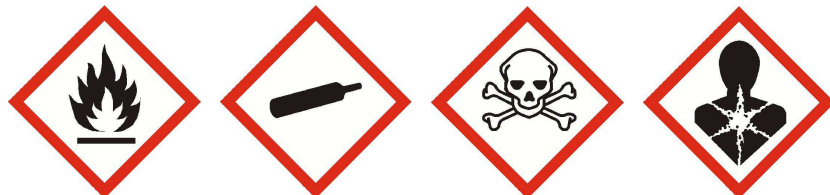
RESTRICTIONS ON USE: None identified

### 2. Hazards Identification

**GHS/HAZCOM 2012 Classification:**

Health	Physical
Acute Toxicity Category 3 (inhalation, oral, dermal) Specific Target Organ Toxicity – Single Exposure Category 1 Specific Target Organ Toxicity – Repeat Exposure Category 2	Flammable Aerosol Category 1 Gases Under Pressure: Compressed Gas

**Label Elements**



**DANGER!**

Extremely Flammable Aerosol.

Contains gas under pressure; may explode if heated

Toxic if swallowed, in contact with skin and if inhaled.

Causes damage to eyes and central nervous system.

May cause damage to kidneys through prolonged or repeated exposure.

**Prevention:**

Keep away from heat, sparks, open flames or hot surfaces. No smoking.

Do not spray on an open flame or other ignition source.

Pressurized container: Do not pierce or burn, even after use.



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Do not breathe mist or spray.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves and protective clothing.

**Response:**

IF ON SKIN: Wash with plenty of soap and water.  
Call a POISON CENTER or doctor if you feel unwell.  
Take off immediately all contaminated clothing and wash it before reuse.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER or doctor.  
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.  
Rinse mouth.  
IF exposed or concerned: Call a POISON CENTER or doctor.

**Storage:**

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.  
Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.

**Disposal:**

Dispose of contents and container in accordance with local and national regulations.

**3. Composition/Information On Ingredients**

Component	CAS No.	Amount
Methyl Alcohol (Methanol)	67-56-1	50-100%
Ethylene Glycol	107-21-1	1-10%
Carbon Dioxide	124-38-9	1-5%

**The exact concentrations are a trade secret.**

**4. First Aid Measures**

**INHALATION:** Remove the victim to fresh air. If breathing has stopped administer artificial respiration. If breathing is difficult, have medical personnel administer oxygen. Get medical attention.

**SKIN CONTACT:** Remove contaminated clothing. Immediately wash contacted area thoroughly with soap and water. If irritation or symptoms develop, get medical attention.

**EYE CONTACT:** Immediately flush eyes with large amounts of water for several minutes. Get medical attention if irritation persists.

**INGESTION:** Seek immediate medical attention. Immediately call local poison control center or go to an emergency department. Never give anything by mouth to or induce vomiting in an unconscious or drowsy person.

**MOST IMPORTANT SYMPTOMS:** Inhalation may cause headache, dizziness, drowsiness, nausea, visual impairment, narcosis and unconsciousness. Methyl Alcohol may be absorbed through the skin in harmful amounts. Poisonous if swallowed.

**INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT, IF NEEDED:** Seek immediate medical attention for ingestion; or prolonged or excessive dermal exposures.





NOTES TO PHYSICIAN: If clinically indicated, stomach contents should be evacuated carefully in a manner which avoids aspiration. A serious potential effect of evacuation of stomach contents is aspiration pneumonitis, which may lead to non-cardiogenic pulmonary edema. The patient should be observed for signs of lung injury if aspiration is suspected.

The combination of visual disturbances, metabolic acidosis and an osmol gap is evidence of methanol poisoning. Ethanol is antidotal and its early administration may block the formation of toxic metabolites of methanol. The principal toxic effect of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. The combination of metabolic acidosis, an osmol gap and oxalate crystals in the urine is evidence of ethylene glycol poisoning. Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Ethanol blood levels should be checked frequently. Hemodialysis may be required.

4-Methyl pyrazole (Fomepizole(R)), a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of methanol and ethylene glycol poisoning. This antidote is now approved by the F.D.A. and in many cases has replaced ethanol in the treatment of ethylene glycol poisoning. Pulmonary edema with hypoxia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required.

There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia.

As there are complicated and serious overdoses, we recommend you consult with the toxicologists at your poison control center.

### **5. Firefighting Measures**

SUITABLE EXTINGUISHING MEDIA: Use water fog, carbon dioxide, alcohol foam, or dry chemical. Cool fire exposed containers with water.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: Do not incinerate aerosol containers or store in an area above 120 F (49 C). Cans may rupture if exposed to temperatures above 120 F (49 C). Flame is invisible in daylight. Vapors are heavier than air and may flow along surfaces to distant ignition sources and flashback.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored. Use shielding to protect from bursting cans.

### **6: Accidental Release Measures**

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Eliminate all ignition sources. Ventilate area. Wear appropriate protective clothing and equipment (See Section 8).

METHODS AND MATERIALS FOR CONTAINMENT/CLEANUP: Collect with absorbent material and place in a container suitable for flammable waste.

### **7. Handling and Storage**

PRECAUTIONS FOR SAFE HANDLING:

May be fatal or cause blindness if swallowed! Do not swallow. Avoid eye and skin contact. Avoid breathing vapors or mists. Use only with adequate ventilation. Wash exposed skin thoroughly with soap and water after use. Flammable! Keep away from



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heat, sparks, open flames and all other sources of ignition. Do not smoke during use. Do not expose to temperatures above 120 F. Do not puncture or incinerate containers.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Keep away from heat, sparks, open flames and all other sources of ignition. Store in a cool, well-ventilated area.

AEROSOL FIRE PROTECTION LEVEL: Level 1 aerosol (NFPA 30B)

<b>8. Exposure Controls / Personal Protection</b>
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**EXPOSURE GUIDELINES**

CHEMICAL	EXPOSURE LIMIT
Methyl Alcohol (Methanol)	200 ppm TWA OSHA PEL 200 ppm TWA ACGIH TLV skin 250 ppm STEL ACGIH TLV
Ethylene Glycol	None Established-OSHA PEL 100 mg/m <sup>3</sup> Ceiling ACGIH TLV
Carbon Dioxide	5,000 ppm TWA OSHA PEL 5,000 ppm TWA ACGIH TLV 30,000 ppm STEL ACGIH TLV

APPROPRIATE ENGINEERING CONTROLS: Use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT**

RESPIRATORY PROTECTION: For operations where the TLV is exceeded a NIOSH approved supplied air respirator or positive pressure self-contained breathing apparatus is recommended. Organic vapor cartridge respirators are not recommended for methanol vapor exposures. Equipment selection depends on contaminant type and concentration. Select and use in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

GLOVES: Chemical resistant gloves such as butyl rubber or Viton where contact is possible.

EYE PROTECTION: Splash proof goggles are recommended to prevent eye contact.

OTHER PROTECTIVE EQUIPMENT/CLOTHING: Appropriate protective clothing as needed to minimize skin contact.

<b>9. Physical and Chemical Properties</b>
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APPEARANCE:	Clear liquid in aerosol container	ODOR:	Alcohol
ODOR THRESHOLD:	160 - 690 ppm (Methanol)	pH:	5.0-8.2
MELTING/FREEZING POINT:	< -58°F (<-50°C)	BOILING POINT/RANGE:	162-168°F (72.2-75.5°C)
FLASH POINT:	61.5- 73°F (16.4-22.9°C)	EVAPORATION RATE:	<1
FLAMMABILITY (SOLID, GAS)	Not applicable	FLAMMABILITY LIMITS:	LEL: 3.2% (Ethylene glycol) UEL: 36% (Methanol)
VAPOR PRESSURE:	47 mmHg @ 68°F	VAPOR DENSITY:	>1
RELATIVE DENSITY:	0.86-0.90	SOLUBILITIES	Water: 100%



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PARTITION COEFFICIENT (n-octanol/water)	Not determined	AUTOIGNITION TEMPERATURE:	Not determined
DECOMPOSITION TEMPERATURE:	Not determined	VISCOSITY:	Not determined

#### 10. Stability and Reactivity

REACTIVITY: Normally unreactive

CHEMICAL STABILITY: Stable

POSSIBILITY OF HAZARDOUS REACTIONS: Reaction with strong oxidizers will generate heat.

CONDITIONS TO AVOID: Heat, sparks, flames and all other sources of ignition.

INCOMPATIBLE MATERIALS: Strong bases, strong acids, strong oxidizing agents and materials reactive with hydroxyl compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion will produce carbon monoxide, carbon dioxide.

#### 11. Toxicological Information

##### POTENTIAL HEALTH EFFECTS:

##### ACUTE HAZARDS:

**INHALATION:** May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations may produce nausea, vomiting, headache, dizziness, drowsiness, tingling, numbness and shooting pains in the hands and forearms, and visual disturbances.

**SKIN CONTACT:** Prolonged contact with the skin may cause redness and defatting of the skin and absorption of harmful amounts of methanol.

**EYE CONTACT:** Liquid, vapors or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.

**INGESTION:** Contains methanol and ethylene glycol. May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, headache, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Visual effects from methanol include blurred vision, double vision, changes in color perception, restriction of visual fields and complete blindness. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal follows the swallowing of large volumes of ethylene glycol. Signs of renal insufficiency may be delayed 36 to 48 hours post ingestion. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.

With massive overdoses of methanol, liver, kidney and heart muscle injury have been described. There may be a delay of 6-12 hours between swallowing methanol and the onset of signs and symptoms. Ingestion of moderate quantities of methanol also produces metabolic acidosis. 60-200 ml of methanol is a fatal dose for most adults. Ingestion of as little as 10 ml may cause blindness.

**CHRONIC EFFECTS:** Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, including nausea, vomiting, headache, ringing in the ears, dizziness, vertigo, cloudy and double vision. Prolonged overexposure at levels of 800-1000 ppm may result in severe eye damage. Prolonged or repeated skin contact may cause skin



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sensitization and an associated dermatitis in some individuals. Ethylene glycol and methanol have been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined.

CARCINOGEN: None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, or OSHA.

**Acute Toxicity Values:**

Product: LD50 Oral: 137 mg/ kg Calculated ATE  
LD50 Skin: 417.7 mg/ kg Calculated ATE  
LD50 Inhalation: 4.17 mg/ L Calculated ATE

Methanol: LD50 Oral Rat: 9100 mg/kg  
LD50 Skin Rabbit: 15,940 mg/kg  
LC50 Inhalation Rat: 145,000 ppm/1hr

Ethylene Glycol: LD50 Oral Rat: 4700 mg/kg  
LD50 Skin Rabbit: 9530 mg/kg

Carbon Dioxide: No data available

<b>12. Ecological Information</b>
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**ECOTOXICITY:**

Methanol: LC50 Fathead minnows 29,400 mg/L/96 hr.  
EC50 Daphnia magna >10,000 mg/L/24 hr.

Ethylene Glycol: LC50 Fathead Minnow <10,000 mg/L/96 hr.  
EC50 Daphnia Magna 100,000 mg/L/48 hr.  
Bacterial (*Pseudomonas putida*): 10,000 mg/l  
Protozoa (*Entosiphon sulcatum* and *Uronema parduczi*; Chatton-Lwoff): >10,000 mg/l  
Algae (*Microcystis aeruginosa*): 2,000 mg/l  
Green algae (*Scenedesmus quadricauda*): >10,000 mg/l

Carbon Dioxide: LC50 Rainbow Trout: 35 mg/L/96 hr.

**PERSISTENCE AND DEGRADABILITY:**

Methanol: Readily biodegradable.  
Ethylene Glycol is readily biodegradable (97-100% in 2-12 days).

**BIOACCUMULATIVE POTENTIAL:**

Methanol: Estimated BCF of 3 - Potential for bio concentration in aquatic organisms is low.

**MOBILITY IN SOIL:**

Methanol: Very high  
Ethylene glycol is highly mobile in soil.

OTHER ADVERSE EFFECTS: None known

<b>13. Disposal Considerations</b>
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Dispose of product as hazardous waste (ignitable) in accordance with all local, state/provincial and federal regulations



Do not incinerate container.

<b>14. Transport Information</b>
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**U.S. DOT HAZARD CLASSIFICATION**

PROPER SHIPPING NAME: UN1950, AEROSOLS, CLASS 2.1 LTD QTY

TECHNICAL NAME: N/A

UN NUMBER: UN1950

HAZARD CLASS/PACKING GROUP: 2.1

LABELS REQUIRED: Limited Quantity Mark

Note: Until: 12/31/2020 Consumer commodity, ORM-D is also acceptable.

Note: Limited Quantities do not require a shipping paper when shipped via road and rail in the United States.

EMERGENCY RESPONSE GUIDE (2012): 126

DOT MARINE POLLUTANTS: This product does not contain Marine Pollutants as defined in 49 CFR 171.8.

**CANADIAN TDG CLASSIFICATION (For Ground Shipments Only)**

PROPER SHIPPING NAME: Consumer Commodity (Limited Quantity)

TECHNICAL NAME: None

CLASS: None

UN NUMBER: None

PACKING GROUP: None

**IMDG CODE SHIPPING CLASSIFICATION**

DESCRIPTION: UN1950, AEROSOLS, 2.1 (6.1), (FP 26.7°C)

ID NUMBER: UN1950

HAZARD CLASS: 2.1 (6.1)

PACKING GROUP: None

LABELS REQUIRED: Flammable Gas, Toxic

PLACARDS REQUIRED: Flammable Gas, Toxic

**IATA/ICAO SHIPPING CLASSIFICATION:**

These products are not suitable for shipment by air.

<b>15. Regulatory Information</b>
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EPA SARA 311/312 HAZARD CLASSIFICATION: Acute health, chronic health, fire hazard, sudden release of pressure

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Methanol	67-56-1	50-100%
Ethylene Glycol	107-21-1	1-10%

PROTECTION OF STRATOSPHERIC OZONE: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.



CALIFORNIA PROPOSITION 65: This product contains the following chemicals regulated under California Proposition 65:





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