



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 69 Eagle Rd. Danbury, CT 06810	CANADIAN OFFICE: Prestone Canada 33 MacIntosh Blvd. Concord, ON L4K 4L5	MEXICO OFFICE: ASG Operations Mexico S. de R.L. de C.V. Carretera Mexico Cuautitlan, Kilometro 31.5, Nave Industrial 5, Loma Bonita, Cuautitlan, Mexico, 54800
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MEDICAL EMERGENCIES AND ALL OTHER INFORMATION PHONE NUMBER:

(888)269-0750 (in the US and Canada)
 01-800-715-4135 (in Mexico)

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

CHEMTREC 1-800-424-9300 (in the US and Canada) +1 703 741-5970 (outside the US and Canada)

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

2. Hazards Identification

GHS Classification:

Health	Physical
Acute Toxicity Category 3 (Oral, Inhalation, Dermal) 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, hot surfaces, sparks, open flames and other ignition sources. 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 action to prevent 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 + P310 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 + P235 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.

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: 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.

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:

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.

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	25 ppm TWA, 50 ppm STEL ACGIH TLV (as vapor) 10 mg/m ³ TWA ACGIH TLV (as inhalable fraction of the aerosol) 50 ppm STEL ACGIH TLV
Propylene Glycol	10 mg/ m ³ AIHA WEEL
Diethylene Glycol	10 mg/ m ³ 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 exposure limit 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 and 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

12. Ecological Information

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
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

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
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)

PROPER SHIPPING NAME: UN1230, Methanol Solution, 3(6.1), PG II
TECHNICAL NAME: N/A
UN NUMBER: UN1230
HAZARD CLASS/PACKING GROUP: 3(6.1), PG II
LABELS REQUIRED: Flammable Liquid and Toxic
PLACARDS REQUIRED: Flammable Liquid and Toxic

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

15. Regulatory Information

EPA SARA 311/312 HAZARD CLASSIFICATION: Refer to Section 2 for OSHA Hazard Classification



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%	developmental
Ethylene Glycol	107-21-1	0-45%	developmental

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.

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).

16. Other Information

NFPA RATING (NFPA 704) - FIRE: 3 HEALTH: 2 INSTABILITY: 0

REVISION SUMMARY: Section 8: Ethylene Glycol OEL, Section 14: Canadian TDG Classification, Section 15: SARA 311/312 Hazard Classification

SDS Date of Preparation/Revision: September 17, 2019

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.