

**MATERIAL SAFETY DATA SHEET**

**1. Product And Company Identification**

MSDS ID: MSDS546  
PRODUCT NAME: Prestone® De-Icer Windshield Washer Fluid with Dirt Blocker  
PRODUCT NUMBER: AS-250D, AS-250DF  
FORMULA NUMBER: 2285-188A, 2285-191

MANUFACTURER:  
Honeywell Consumer Products Group  
39 Old Ridgebury Road  
Danbury, CT 06810-5109

CANADIAN OFFICE:  
Honeywell Consumer Products Group  
3333 Unity Drive  
Mississauga, Ontario L5L 3S6

INFORMATION PHONE NUMBER: (800)862-7737 (in the US) (800)668-9349 (in Canada)  
EMERGENCY PHONE NUMBER: CHEMTREC (800)424-9300 (in the US) CANUTEC (613)996-6666 (in Canada)  
MSDS DATE OF PREPARATION/REVISION: 10/19/06  
PRODUCT USE: Automobile windshield cleaner/deicer - consumer product

**2. Composition/Information On Ingredients**

Component	CAS No.	Amount
Methyl Alcohol (Methanol)	67-56-1	15-40
Ethylene Glycol	107-21-1	1-5
Water	7732-18-5	60-100
Silicone Copolymer	Proprietary	<1

(See Section 8 for Exposure Limits)

**3. Hazards Identification**

Clear yellow, liquid with an alcohol odor.

**EMERGENCY OVERVIEW**

Flammable liquid and Vapor! Eye irritant. 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.

**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.



NOTES TO PHYSICIAN: If clinically indicated, stomach contents should be evacuated carefully in a manner which avoids aspiration. A serious potential effect of evaluation 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. 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.

### 5. Firefighting Measures

FLASH POINT: 90°F Setaflash

AUTOIGNITION TEMPERATURE: Not Determined

FLAMMABILITY LIMITS: LEL: 3.2% (Ethylene Glycol)  
UEL: 36% (Methanol)

NFPA CLASSIFICATION: IC

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

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.

UNUSUAL FIRE HAZARDS: 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.

HAZARDOUS COMBUSTION PRODUCTS: Burning may produce carbon monoxide and carbon dioxide.



**6: Accidental Release Measures**

Eliminate all ignition sources. Ventilate area. Wear appropriate protective clothing and equipment (See Section 8). Collect with absorbent material and place in a container suitable for flammable waste.

**7. Handling and Storage**

DANGER: 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.
- Store in a cool, well ventilated area.

**8. Exposure Controls / Personal Protection**

**EXPOSURE LIMITS**

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/m3 Ceiling ACGIH TLV
Water	None Established PEL/TLV
Silicone Copolymer	None Established PEL/TLV

VENTILATION: 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.



**9. Physical and Chemical Properties**

APPEARANCE AND ODOR: Clear, yellow liquid with alcohol odor. The reported mean odor threshold for methanol is 160 - 690 ppm.

pH: ~5

BOILING POINT (F): 179°F

FREEZING POINT (F): -34.4°F

SOLUBILITY IN WATER: >99%

VISCOSITY: Not determined

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not determined

SPECIFIC GRAVITY: 0.95

VAPOR PRESSURE: 96 mmHg @ 20°C

VAPOR DENSITY: Greater than 1

PERCENT VOLATILE: ~99%

EVAPORATION RATE: Not determined

**10. Stability and Reactivity**

STABILITY: Stable

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

INCOMPATIBILITY: Strong bases, strong acids, strong oxidizing agents, materials reactive with hydroxyl compounds.

DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide.

HAZARDOUS POLYMERIZATION: Will not occur.

**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. 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 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.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Due to its defatting properties, methanol may aggravate an existing skin condition, e.g., eczema. Due to its liver and kidney injuring potential, the product may exacerbate existing liver and/or kidney diseases.

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

**Acute Toxicity Values:**

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  
Silicone copolymer: LD50 Oral Rat: >5000 mg/kg; LD50 Skin Rabbit: >2000 mg/kg

**12. Ecological Information**

Methanol: TLM 96: >1000 ppm  
Ethylene Glycol: LC50 Goldfish: 5,000 mg/L/24 hr. at 20 C static conditions.  
Toxicity threshold (cell multiplication inhibition test):  
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

**13. Disposal Considerations**

Recycle, incinerate, treat or landfill 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 5 Liters (1.3 gal.):  
PROPER SHIPPING NAME: Consumer Commodity  
TECHNICAL NAME: None  
UN NUMBER: None  
HAZARD CLASS/PACKING GROUP: ORM-D  
LABELS REQUIRED: None

Containers Over 5 Liters:  
Flammable Liquid, n.o.s., (Methanol), 3, UN1993, PG III

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 5 Liters can be shipped as Limited Quantities

DESCRIPTION: Flammable Liquid, Toxic, N.O.S. (Methanol) 3, UN1992, P.G. III, FP 32 C, LTD QTY

ID NUMBER: UN1992

HAZARD CLASS: 3 (6.1)

PACKING GROUP: III

LABELS REQUIRED: None

PLACARDS REQUIRED: LIMITED QUANTITIES Mark on Cargo Transport Containers

CANADIAN TDG CLASSIFICATION (For Ground Shipments Only)

Containers Not Over 5 Liters (1.3 gal.):

PROPER SHIPPING NAME: Consumer Commodity (Limited Quantity)

TECHNICAL NAME: NONE

UN NUMBER: NONE

HAZARD CLASS: NONE

PACKING GROUP: NONE

Containers Over 5 Liters:

Flammable Liquid, toxic, n.o.s., (Methanol), 3 (6.1), UN1992, PG III

**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	15-40%
Ethylene Glycol	107-21-1	1-5%

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 (40% maximum) of 12,500 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 does not contain chemicals regulated under California Proposition 65.

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:





**MSDS0546**  
**PRESTONE DE-ICER WINDSHIELD WASHER**  
**FLUID WITH DIRT BLOCKER**

**Date Prepared: 10/19/06**

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS 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.

<b>16. Other Information</b>
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NFPA Rating: Fire: 3

Health: 2

Reactivity: 0

REVISION SUMMARY: Corrected pagination  
Section 16: Updated contact address

This MSDS 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:

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THE UNIVERSITY OF CHICAGO  
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RECEIVED  
JAN 15 1964

TO: DR. J. H. GOLDSTEIN  
FROM: DR. R. F. SCHWENKER  
SUBJECT: [Illegible]

Enclosed are two copies of a report on the work done during the past few weeks. The first copy is for your information and the second copy is for the files.

The work has been done in the laboratory of Dr. J. H. Goldstein and Dr. R. F. Schwenger.

The work was supported by the National Science Foundation under Grant No. [Illegible].

The work was done during the tenure of a National Science Foundation Postdoctoral Fellowship awarded to Dr. R. F. Schwenger.

Very truly yours,  
R. F. Schwenger  
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The University of Chicago  
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