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## Material Safety Data Sheet (MSDS)

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#### MATERIAL SAFETY DATA SHEET

The Valvoline Company Page 001  
 Date Prepared: 01/14/02  
 Date Printed: 01/02/07  
 MSDS No: 503.0177148-008.005  
 MAC'S WINDSHIELD DE-ICER 7000

#### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity  
 Product Name: MAC'S WINDSHIELD DE-ICER 7000  
 SAP Material No: NM7000  
 General or Generic ID: SOLVENT BLEND  
 Company Telephone Numbers  
 The Valvoline Company Emergency: 1-800-274-5263  
 P.O. Box 14000  
 Lexington, KY 40512 Information: 1-859-357-7206

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s) CAS Number % (by weight)

METHYL ALCOHOL 67-56-1 62.0  
 ETHYLENE GLYCOL 107-21-1 6.0  
 CARBON DIOXIDE 124-38-9 0.0- 8.0

#### 3. HAZARDS IDENTIFICATION

Potential Health Effects  
 Eye  
 Can cause eye irritation.  
 Skin  
 May cause mild skin irritation. Prolonged or repeated contact may dry and crack the skin. Although rare, skin contact with ethylene glycol may cause allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects). Passage through the skin may add to toxic effects from breathing or swallowing.

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Swallowing  
 Swallowing this material may be harmful.  
 Inhalation  
 Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful.

**Symptoms of Exposure**

stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, involuntary eye movement, visual impairment (including blindness), and death.

**Target Organ Effects**

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals, and may aggravate preexisting disorders of these organs in humans: liver abnormalities, spleen damage, nervous system damage, eye damage, lung damage, brain damage, kidney damage, visual impairment, kidney damage, liver damage.

**Developmental Information**

Ethylene glycol has caused birth defects in animal studies at high oral doses.

**Cancer Information**

No data

**Other Health Effects**

No data

**Primary Route(s) of Entry**

Inhalation, Skin absorption, Skin contact.

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**4. FIRST AID MEASURES****Eyes**

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

**Skin**

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

**Swallowing**

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

**Inhalation**

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

**Note to Physicians**

This product contains methanol which can cause intoxication and central nervous system depression. Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 ug/dl. Methanol is effectively removed by hemodialysis. This

product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be delayed several hours, give the

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patient three to four 1-ounce oral "shots" of 86-proof or higher whiskey before or during transport to the hospital. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol poisoning. Hemodialysis effectively removes ethylene glycol and its metabolites from the body. Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death. The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnea, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post-exposure and is characterized by renal failure ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis. Preexisting disorders of the following organs ( or organ systems) may be aggravated by exposure to this material: skin.

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5. FIRE FIGHTING MEASURES

Flash Point  
 Not applicable  
 Explosive Limit  
 (for component) Lower 3.2 Upper 36.5 %  
 Autoignition Temperature  
 No data

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Hazardous Products of Combustion

May form: carbon dioxide and carbon monoxide.

Fire and Explosion Hazards

Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, other flames and ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Extinguishing Media

alcohol foam, water fog.

## Fire Fighting Instructions

Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

NFPA Rating

Health - 1, Flammability - 3, Reactivity - 0

## 6. ACCIDENTAL RELEASE MEASURES

## Small Spill

Absorb liquid on vermiculite, floor absorbent, or other absorbent material and transfer to hood.

## Large Spill

Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal. Prevent run-off to sewers, streams or other bodies of water. If

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run-off occurs, notify proper authorities as required, that a spill has occurred.

## 7. HANDLING AND STORAGE

## Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

## Storage

Not applicable

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## Eye Protection

Not required under normal conditions of use.

## Skin Protection

Not required under normal conditions of use. Other protective equipment: not required under normal conditions of use.

## Respiratory Protections

Not required under normal conditions of use.

## Engineering Controls

Not required under normal conditions of use.

## Exposure Guidelines

## Component

-----  
METHYL ALCOHOL (67-56-1)

OSHA VPEL 200.000 ppm - TWA ((Skin))

OSHA VPEL 250.000 ppm - STEL ((Skin))

ACGIH TLV 200.000 ppm - TWA ((Skin))

ACGIH TLV 250.000 ppm - STEL ((Skin))

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ETHYLENE GLYCOL (107-21-1)  
OSHA VPEL 50.000 ppm - Ceiling  
ACGIH TLV 100.000 mg/m3 - Ceiling as an aerosol  
CARBON DIOXIDE (124-38-9)  
OSHA VPEL 10000.000 ppm - TWA  
OSHA VPEL 30000.000 ppm - STEL  
ACGIH TLV 5000.000 ppm - TWA  
ACGIH TLV 30000.000 ppm - STEL

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9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point  
(for component) 147.0 F (63.8 C) @ 760 mmHg  
Vapor Pressure  
(for component) 97.680 mmHg @ 68.00 F  
Specific Vapor Density  
> 1.000 @ AIR=1  
Specific Gravity  
.875 - .895 @ 77.00 F  
Liquid Density  
7.160 lbs/gal @ 77.00 F  
.885 kg/l @ 25.00 C  
Percent Volatiles (Including Water)  
No data  
Evaporation Rate  
FASTER THAN ETHYL ETHER

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Appearance  
CLEAR  
State  
LIQUID  
Physical Form  
No data  
Color  
COLORLESS  
Odor  
No data  
pH  
Not applicable  
Flame Propagation  
< 18.000 in

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10. STABILITY AND REACTIVITY

Hazardous Polymerization  
Product will not undergo hazardous polymerization.  
Hazardous Decomposition  
May form: carbon dioxide and carbon monoxide.  
Chemical Stability  
Stable.  
Incompatibility  
Avoid contact with: strong oxidizing agents.

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11. TOXICOLOGICAL INFORMATION

No data

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12. ECOLOGICAL INFORMATION

No data

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13. DISPOSAL CONSIDERATION

Waste Management Information  
 Destroy by liquid incineration. Dispose of in accordance with all applicable local, state and federal regulations.

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14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101  
 DOT Description:  
 AEROSOLS, 2.1, UN 1950  
 Container/Mode:  
 CASES/SURFACE - NO EXCEPTIONS  
 NOS Component:  
 None  
 RQ (Reportable Quantity) - 49 CFR 172.101  
 Product Quantity (lbs) Component

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8112 METHANOL

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15. REGULATORY INFORMATION

US Federal Regulations  
 CERCLA RQ - 40 CFR 302.4  
 Component Component

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METHYL ALCOHOL 5000  
 ETHYLENE GLYCOL 5000  
 SARA 302 Components - 40 CFR 355 Appendix A  
 None  
 Section 311/312 Hazard Class - 40 CFR 370.2  
 Immediate(X) Delayed(X) Fire(X) Reactive( ) Sudden  
 Release of Pressure( )  
 SARA 313 Components - 40 CFR 372.65  
 Section 313 Component(s) CAS Number

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METHANOL 67-56-1  
 ETHYLENE GLYCOL 107-21-1  
 International Regulations  
 Inventory Status  
 Not determined  
 State and Local Regulations  
 California Proposition 65  
 None  
 New Jersey RTK Label Information  
 METHYL ALCOHOL 67-56-1  
 ETHYLENE GLYCOL 107-21-1  
 CARBON DIOXIDE 124-38-9

Pennsylvania RTK Label Information  
METHANOL 67-56-1  
1,2-ETHANEDIOL 107-21-1  
CARBON DIOXIDE 124-38-9

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16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

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