



**Prist Aerospace Products, Div of CSD, Inc.**

Headquarters: P.O. Box 3087 Conroe, TX 77305  
Toll Free: (800) 354-2853 Website: www.pristaerospace.com

**PRIST® HI-FLASH™ HI-FLO™  
Anti-Icing Aviation Fuel Additive  
Material Safety Data Sheet**

DATE: 1/2009  
REVISION: 1/2009  
TRADE NAME: PRIST® HI-FLASH™ HI-FLO™ Anti-Icing Aviation Fuel Additive  
SYNONYMS: Diethylene Glycol Monomethyl Ether, DEGMME; Methyl Carbitol  
MILITARY SPEC MIL-DTL-85470B  
CHEMICAL FAMILY: Glycol Ethers  
FORMULA:  $\text{CH}_3\text{-OCH}_2\text{CH}_2\text{O-CH}_2\text{CH}_2\text{OH}$   
CAS NUMBER: 111-77-3

**U.S. DOT DESCRIPTION:**

**Aerosol (20 oz) Cans:**

Proper Shipping Name: Consumer Commodity  
Hazard Class: ORM-D  
Identification Number: N/A  
Packing Group: N/A

**Drums/Pails(5-gal)/Bulk:**

Proper Shipping Name: 5 gal pails are not regulated  
Bulk Shipments: Combustible liquid, n.o.s. (Diethylene Glycol Monomethyl Ether),  
NA1993, PG III

**EXPORT DESCRIPTION:**

**Aerosol (20 oz) Cans:**

1. Air (ICAO) - Aerosols, Flammable, 2.1, UN1950
2. Water (IMO) - Aerosols, Class 2, UN1950, Limited Quantity

**Drums/Pails(5-gal)/Bulk:**

1. Air (ICAO) – Not regulated
2. Water (IMO) – Not regulated



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### **Section 1 - PHYSICAL DATA**

BOILING POINT @ 760 MM HG:	379°F (193°C)
VAPOR DENSITY (AIR=1):	4.1
SPECIFIC GRAVITY (H2O=1):	1.023 @ 20/20°C
pH OF SOLUTIONS:	7-8
FREEZING/MELTING POINT:	-85°C
SOLUBILITY (weight % in water):	Complete
BULK-DENSITY:	8.5#/gal.
VOLUME % VOLATILE:	100%
VAPOR PRESSURE:	0.2 mm @ 20°C
EVAPORATION RATE:	0.1 (butyl acetate = 1)
HEAT OF SOLUTION:	N/A
APPEARANCE AND ODOR:	Clear, colorless liquid, mild pleasant odor

### **Section 2 - INGREDIENTS**

MATERIAL	PERCENT
Diethylene Glycol Monomethyl Ether	>99
Aerosols	
Carbon dioxide	3

### **Section 3 - FIRE/EXPLOSION HAZARD DATA**

FLASH POINT (METHOD USED): 192°F, 89°C (tag closed cup)

FLAMMABLE LIMITS IN AIR (% BY VOLUME)

LEL: 1.2  
UEL: 22.0

EXTINGUISHING MEDIA: Water, dry chemicals, carbon dioxide, or foam

SPECIAL FIRE FIGHTING PROCEDURES:



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Fire fighters should wear NIOSH approved pressure demand self-contained breathing apparatus.  
Keep personnel removed and upwind.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

### **Section 4 - HEALTH HAZARD DATA**

#### **TOXICITY DATA:**

LC50 INHALATION:	See Section 5
LD50 DERMAL:	(rabbit) 6.5 g/kg
SKIN/EYE IRRITATION:	(rabbit) 500 mg
LD50 INGESTION:	(rat) 5.5 gm/kg (undiluted)
FISH, LC50 (Lethal Concentration):	See Section 5

#### **CLASSIFICATION:**

INHALATION:	Slightly toxic
SKIN:	Moderately toxic
SKIN/EYE:	Mild to moderate irritation
INGESTION:	Slightly toxic
AQUATIC:	Unknown

### **Section 5 - EFFECTS OF OVEREXPOSURE**

IS CHEMICAL LISTED AS A CARCINOGEN OR POTENTIAL CARCINOGEN?

NTP - No IARC - No OSHA - No

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None known

PERMISSIBLE EXPOSURE LIMITS: None established by OSHA, ACGIH or PPG.

ACUTE: Diethylene glycol monomethyl ether is an eye and mucous membrane irritant, a nephrotoxin and central nervous system depressant. It is toxic by skin absorption.



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**INHALATION:** May cause irritation to the mucous membranes. Due to the low volatility of this material at normal room temperature, it is believed to present no unusual hazards from inhalation when handled at room temperature.

**EYE/SKIN:** May cause pain and transient injury. Skin: Material can be absorbed through skin in toxic amounts when contact is extensive and prolonged. Avoid eye & skin contact by use of appropriate protective equipment (see Section 8).

**INGESTION:** This material is low in oral toxicity. The acute oral LD-50 in rats is 5.5 gms/kg.

**CHRONIC:** Fetal development abnormalities and effects on fertility have been reported to occur from prolonged ingestion by rats, mice, and rabbits.

### **EMERGENCY AND FIRST AID PROCEDURES:**

#### **INHALATION:**

Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

#### **EYE OR SKIN CONTACT:**

Flush eyes and skin with plenty of water (soap and water for skin) for at least 15 minutes, while removing contaminated clothing and shoes. If irritation occurs, consult a physician. Thoroughly clean contaminated clothing and shoes before reuse or discard.

#### **INGESTION:**

If conscious: drink large quantities of water. Then induce vomiting by placing a finger far back in the throat. Call a physician. If vomiting cannot be induced, take immediately to a hospital or physician. If unconscious, or in convulsions: take immediately to a hospital. Do not induce vomiting or give anything by mouth to an unconscious person.

**NOTES TO PHYSICIAN (INCLUDING ANTIDOTES):** Treat symptomatically.

<b>Section 6 - REACTIVITY DATA</b>
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**STABILITY:** Stable

**CONDITIONS TO AVOID:** None

**HAZARDOUS POLYMERIZATION:** Will not occur



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CONDITIONS TO AVOID: None

### **INCOMPATIBILITY (MATERIALS TO AVOID):**

Avoid contamination with alkali at elevated temperatures.

### **HAZARDOUS DECOMPOSITION PRODUCTS:**

Burning can produce carbon monoxide or carbon dioxide.

## **Section 7 - SPILL OR LEAK PROCEDURES**

### **STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED:**

Immediately evacuate the area and provide maximum ventilation. Unprotected personnel should move upwind of spill. Only personnel equipped with proper respiratory and skin/eye protection (see Section 8) should be permitted in area. Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbents, such as sawdust or vermiculite, and sweep into closed containers for disposal. After all visible traces, including ignitable vapors, have been removed, thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much earth and gravel, etc. as necessary and place in closed containers for disposal.

### **WASTE DISPOSAL METHOD:**

Care must be taken when using or disposing of chemical materials and/or their containers to prevent environmental contamination. It is your duty to dispose of the chemical materials and/or their containers in accordance with the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, as well as any other relevant federal, state or local laws/regulations regarding disposal.

## **Section 8 - SPECIAL PROTECTION INFORMATION**

**RESPIRATORY PROTECTION:** Use a half or full facepiece organic vapor chemical cartridge or canister respirator to minimize exposure. Use self-contained breathing apparatus (SCBA) or full face-piece airline respirator with auxiliary SCBA operated in the pressure demand mode for emergencies and for all work performed in storage vessels, poorly ventilated rooms, and other



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confined areas. Respirators must be approved by NIOSH. The respirator use limitations made by NIOSH and by the manufacturer must be in accordance with 29 CFR 1910.134.

**VENTILATION (TYPE):** Use local exhaust or dilution ventilation as appropriate to control exposures.

**EYE PROTECTION:** Splash-proof goggles if potential for splash exists.

**GLOVES:** Impervious, chemical resistant, butyl rubber

**OTHER PROTECTIVE EQUIPMENT:** Boots, aprons, or chemical suits should be used when necessary to prevent skin contact. Personal protective clothing and use of equipment must be in accordance with 29 CFR 1910.132 and 29 CFR 1910.133.

### **Section 9 - SPECIAL PRECAUTIONS**

#### **PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORING:**

- For use only as an anti-icing agent in high flash jet fuel only.
- When handling, wear safety glasses or goggles and impervious gloves.
- Store only in closed, properly labeled containers.
- Keep away from heat, sparks, and flames.
- Use proper proportioning equipment to blend into fuel.

#### **OTHER PRECAUTIONS:**

- Keep out of reach of children!
- Avoid contact with eyes and skin.
- Do not swallow.
- Do not inhale.
- Use only with adequate ventilation.
- Do not eat, drink or smoke in work area.

#### **COMMENTS:**

USA TSCA – DEGMME is on the TSCA Inventory under CAS No. 111-77-3.

EUROPE EINECS – DEGMME is listed on EINECS under 203-906-6.

CANADA DSL – DEGMME is listed on the Canadian DSL.



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AUSTRALIA AICS – DEGMME is listed on AICS.

KOREA ECL – DEGMME is listed on ECL.

JAPAN MITI (ENCS) – DEGMME is listed on MITI.

SARA TITLE III - A) 311/312 categories – Acute, B) Not listed in Section 313,  
C) Not listed as an “Extremely Hazardous Substance” in Section 302.

Revisions made to 08/01/97, 005 editions - date, edition, DOT information updated, chemical inventory data added.

Revisions made 1-10-2006 – Bulk US DOT information updated

Revisions made 1-5-2009 – Updated revision date

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