

Material Safety Data Sheet

May be used to comply with OSHA Hazard Communication Standard, 29 CFR 1910 1200. Standard must be consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY <i>(as Used on Label and List)</i> DICE FLASH 190 , FUEL SYSTEM ICING INHIBITOR PRODUCT NUMBER: D-F190-20	<i>Meets Military Specifications MIL-1-85470A, MIL-DTL-85470B and ASTM STANDARD D4171. Contents per 20 oz. can treats 105-155 Gallons of Fuel</i>
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Manufacturer's name AVIATION LABORATORIES, INC.	Emergency Telephone Number 1-800-424-9300
Address 5401 Mitchelldale #B6	Telephone Number for Information 713-864-6677
Houston, Texas 77092	Date Prepared 05/14/01
	Signature of Prepared by <i>(optional)</i>

Section II—Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s) Diethylene Glycol Monomethyl Ether, DIEGME, Methyl Carbitol

Chemical Family: DM Glycol Ethers

CAS Number: 111-77-3

OSHA PEL: Manufacturer recommends a work place exposure limit of 30 ppm

ACGIH TLV: 99%WW

TRANSPORTATION INFORMATION:

Department of Transportation (D.O.T.): ACGIH TLV: 99% W W Combustible Liquid

Shipping description for Aerosol products: Dice Flash 190, Product Number: D-F190-20

1) Domestic: Consumer Commodity, ORM-D

2) Export Ocean (IMO):

DANGEROUS GOODS IN LIMITED QUANTITIES,

CLASS 2 AEROSOL, UN1950,

CONSUMER COMMODITY

Subsidiary Risk: N/A

I.D. Number Group: UN1950

Packing Group: III

Reportable Quantity: N/A

Effects of Acute Overexposure: NFPA rating (scale 0-4)

Health = 2

Fire = 2

Reactivity = 0

NFPA rating (scale 0-4)

Section III—Physical/Chemical Characteristics

Boiling Point (degrees Fahrenheit)	381 F (194 C)	Specific Gravity (H ₂ O = 1)	1.021 @ 25C
Vapor Pressure (mm Hg)	.25 MMHG @ 25C	Boiling Point:	381F (194 C)
Vapor Density (AIR = 1)	4.16	Volatile Organic Compounds (VOC) Content	1021 G/L OR 8.47 LB/GAL as per Rule 443.1 of California SCAQMD

Solubility in Water: Completely miscible

Appearance and Odor: Clear, colorless liquid, mild odor

Section IV—Fire and Explosion Hazard Data

Permissible Exposure Level: Manufacturer recommends a workplace exposure limit of 30 ppm.	Flammable Limit: Flash Point (TTC) 197 F (91.7 C)	LEL: 1.38%	UEL: 22.7%
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Extinguishing Media: Water fog or fine spray, Carbon Dioxide, Dry chemical, foams. Alcohol resistant foams (ATC Type) are preferred if available. General-purpose synthetic foams. Media to avoid (Do Not use direct water stream) this could spread flames.

Special Fire Fighting Procedures: Never use welding or cutting torch on or near drums (even empty) because (residue product) can ignite explosively. Vapors are heavier than air and may travel along the ground and or move by ventilation and ignited by heat, pilot lights, or other flame and ignition sources at locations distant from material handling point.

Protection for Fire Fighters: Wear POSITIVE-PRESSURE SELF CONTAINED BREATHING APPARATUS (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Eye Protection: Wear chemical splash goggles in compliance with OSHA regulations are advised; OSHA regulations also permit other type safety glasses. Consult your safety representative.

Other Protective Equipment: To prevent repeated or prolonged skin contacts, wear impervious clothing and boots.

Section V—Reactivity Data

Chemical Stability:	Stable under recommended storage conditions.	See storage section	

Incompatibility (Materials to Avoid): Avoid contact with Alkali and oxidizing materials at elevated temperatures.

Hazardous Decomposition or By products: Does not normally decompose. Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Burning can produce Carbon Monoxide or Carbon Dioxide.

Hazardous Polymerization:	Will Not Occur		Conditions to Avoid: See handling and storage precautions Section: 6

Section VI—Health Hazard Data

Engineering controls: Provide general or local exhaust ventilation to control airborne levels below exposure guidelines.

Personal Protective Equipment: Eye protection use safety glasses. Skin protection: No precautions other than clean body clothing should be worn. Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator.

Exposure Guidelines, PEL: Dow recommends a workplace exposure limit of 30 ppm.

Physical and Chemical Properties: See section III

First AID: Signs and Symptoms of Exposure wash with soap and water immediately.

Acute: Diethylene Glycol Monomethyl Ether is an eye and mucous membrane irritant, a Nephrotoxin and central nervous system depressant. Can be toxic by skin absorption.

Eye: May cause pain and irritation and or transient injury. Flush eyes with water.

Skin: Material can be absorbed through skin in toxic amounts when contact is extensive or prolonged. Avoid contact by use of appropriate protective equipment (See section 8).

Ingestion: This product is low in oral toxicity. The acute oral LD-50 in rats is 5.5 gms/kg.

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.

Chronic: Fetal development abnormalities and effects on fertility have been reported to occur from prolonged ingestion by rabbits.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation: Remove to fresh air. If not breathing, give mouth-to-mouth resuscitation. If breathing is difficult give oxygen and immediately call a physician. If irritation occurs, consult a physician. Clean contaminated clothing before reuse or discard.

Eye or Skin contact: Flush with water for 15 minutes, while removing contaminated clothing and shoes. Do not induce vomiting.

Note to Physician: Treat symptomatically (including antidotes).

Section VII—Control Measures

Respiratory Protection (Specify Type): Use a half or full-face piece organic vapor chemical cartridge or canister respirator to minimize exposure. Use self-contained breathing

Ventilation	Local Exhaust: Suggested	Special N/A
	Mechanical (General): Not required but strongly suggested	Other
Protective Gloves: Impervious, chemical resistant, butyl rubber	Protective Eye Wear: Splash proof goggles if potential for splash exists.	

Other Protective Clothing or Equipment: Boots, aprons, or chemical suit should be used when necessary to prevent skin contact. Note personal protective clothing use of equipment must be in accordance with 29 CFR 1910.132 and 29 CFR 1910.133.

Work/Hygienic Practices: Wash hands after handling

Section VIII - Precautions for Safe Handling and Use

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Packing Group: III

Reportable Quantity: N/A

Handling: Containers, even those that have been emptied, can contain vapors. DO NOT cut, drill, grind, weld or perform similar operations on or near empty containers. NO SMOKING, open flames or sources of ignition in handling and storage area. Never use air pressure for transferring product. Electrically ground all equipment.

Storage: Use of non-sparking or explosion proof equipment may be necessary, depending up on the type of operation. Minimize sources of ignition, such as static build-up, heat, spark or flame. Keep containers boxed and stored in cool dry location.

Steps to be taken in case material is released or spilled: Evacuate the area and provide maximum ventilation. Unprotected personnel should move upwind of spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on an absorbent, such as sawdust or vermiculite, and sweep into a closed container 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 as necessary and place in closed container for disposal.

Clean up: Pump with explosion-proof equipment. Absorb with material such as dirt or sand. If available, use foam to smother or suppress.

Waste disposal method: Care must be taken when using or disposing of chemical materials and or their container to prevent environmental contamination. It is your duty to dispose of the chemical materials and their containers in accordance with the clean air act, the clean water act, the resource conservation and recover act, as well as any other relevant federal, state, or local laws/regulations regarding disposal.

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Revisions made to 10/13/94, include revisions to section II, V, VI, VII, VIII