

KCDA # 22810

Pg. 1

MATERIAL SAFETY DATA SHEET

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For Health Hazard Information, Call: (800) 999-9645

Date of Preparation: 05/20/87

SECTION I. IDENTIFICATION

-- Name:

Duplicating Fluid Type I (95PM, 95%)

-- Synonym: PM 2859

-- Formula: Mixture

SECTION II. COMPONENT AND PRECAUTIONARY DATA

A. COMPONENTS:	Approx Percentage	CAS Reg No.	Home Oil No.
Ethyl Alcohol (190 Proof)	90.0	64-17-5	113301
Methanol*	5.0	67-56-1	000467
Propylene glycol monomethyl ether*	5.0	107-98-2	061204

See Section VI-A for information on exposure limits.

*Hazardous material as defined by OSHA, 29 CFR 1910.1200.

B. PRECAUTIONARY LABEL STATEMENTS:

DANGER! FLAMMABLE
MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED
- CANNOT BE MADE NONPOISONOUS
VAPOR HARMFUL
HARMFUL IF ABSORBED THROUGH SKIN
CAUSES EYE IRRITATION

Keep away from heat, sparks, and flame.
Avoid breathing vapor.
Avoid contact with eyes, skin, and clothing.
Keep container closed.
Use with adequate ventilation.
Wash thoroughly after handling.
***POISON* CALL A PHYSICIAN IMMEDIATELY**

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FIRST AID: If swallowed, if conscious, induce vomiting immediately by giving 1 or 2 glasses of water and touching back of throat with finger or blunt object or by giving syrup of ipecac. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes and skin with plenty of water for a least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

IN CASE OF FIRE: Use water spray, dry chemical, "alcohol" foam, or CO₂. Water may be ineffective in fighting the fire. Use water spray to keep fire-exposed containers cool.

IN CASE OF SPILL: Eliminate all ignition sources. Use water spray to disperse vapors and to dilute spill to a nonflammable mixture. Use water spray to protect personnel attempting to stop the leak. Prevent runoff from entering drains, sewers, and streams.

Since emptied containers retain product residue, follow label warnings even after package is emptied. Do not cut, drill, grind, or weld on or near this container.

FOR MANUFACTURING USE ONLY

SECTION III. PHYSICAL DATA (1)

- Appearance and Odor: Clear liquid; alcohol odor.
- Boiling Point: Approx 78°C (172°F).
- Specific Gravity (H₂O = 1): Approx 0.79 at 72°F/60°F.
- Vapor Pressure: 40² mm Hg at 19°C (66°F).
- Volatile Fraction by Weight: 100.
- Vapor Density (Air = 1): 1.59.
- Solubility in Water: Appreciable.

SECTION IV. FIRE AND EXPLOSION HAZARD DATA (1)

- Flash Point. 13°C (56°F) Method Used: Tag Closed Cup.
- Autoignition temperature: >404°C (760°F): Method Used:
ASTM D 2155.
- Flammable Limits: LEL 3.53% (at 25°C [77°F])
UEL 21.2% (at 64°C [147°F]).
- Extinguishing Agent: Water spray, dry chemical, "alcohol"
foam, or CO₂.

SECTION IV: FIRE AND EXPLOSION HAZARD DATA (1) CONTINUED:

- Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Water may be ineffective in fighting fire. Use water spray to keep fire-exposed containers cool.
- Unusual Fire and Explosion Hazards: Flammable liquid. (See Section VIII.) Vapors are heavier than air and may travel along the ground or may be moved by ventilation to an ignition source and may flash back.

SECTION V: REACTIVITY DATA

- Stability: Stable.
- Incompatibility: Oxidizing materials can cause a vigorous reaction.
- Hazardous Decomposition Products: As with any other organic material, combustion will produce carbon dioxide and probably carbon monoxide.
- Hazardous Polymerization: Will not occur.

SECTION VI. TOXICITY AND HEALTH

A. EXPOSURE LIMITS

Exposure Limits in ppm for Hazardous Components

Component	ACGIH, 1986-87		Skin Notation	OSHA PEL TWA
	TLV TWA	TLV STEL		
Ethanol	1000	-	No	1000
Methanol	200	250	Yes	200
Propylene glycol monomethyl ether	100	150	No	-

- NIOSH industrial hygiene analytical methods are available for ethanol and methanol. (2)

B. EXPOSURE EFFECTS

General: Methanol is narcotic in effect and its effects are cumulative. Overexposure to methanol can result in acidosis and visual disturbances which may progress to permanent loss of vision. (3)

Ingestion: May be fatal or cause blindness if swallowed. Cannot be made nonpoisonous.

B. EXPOSURE EFFECTS CONTINUED

Inhalation: Harmful if inhaled.

Eyes: Liquid and vapor cause irritation.

Skin: Harmful if absorbed through the skin.

C. FIRST AID

Ingestion: If conscious, induce vomiting immediately by giving 1 or 2 glasses of water and touching back of throat with finger or blunt object or by giving syrup of ipecac. Never give anything by mouth to an unconscious person. Call a physician immediately.

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

Eyes: Immediately flush with plenty of water for at least 15 minutes and get medical attention if any symptoms are present after washing.

Skin: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician immediately. Wash clothing before reuse. Destroy contaminated shoes.

SECTION VII. PERSONAL PROTECTION AND CONTROLS

A. VENTILATION

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Local exhaust ventilation or an enclosed handling system may be needed to control airborne levels below recommended exposure limits (see Section VI-A).

B. RESPIRATORY PROTECTION

An appropriate NIOSH-approved respirator for organic vapor must be worn if exposure is likely to exceed recommended exposure limits (see Section VI-A). If respirators are used, a program should be established to assure compliance with OSHA Standard 29 CFR 1910.134.

C. SKIN AND EYE PROTECTION

Wear safety glasses with side shields (or goggles). Impermeable gloves should be worn. An impermeable apron or smock and boots should be worn to minimize skin contact. A safety shower, an eye bath, and washing facilities should be available. Wash thoroughly after handling.

SECTION VIII. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Material is classified as a flammable liquid. Keep away from heat, sparks, and flame. Keep container closed. Use with adequate ventilation. Vapors are heavier than air and may travel along the ground or may be moved by ventilation to an ignition source and flash back. Keep from contact with oxidizing materials. Comply with all federal, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids. Since emptied containers retain product residue, follow label warnings even after container is emptied. Do not cut, drill, grind, or weld on or near this container.

SECTION IX. SPILL, LEAK, AND DISPOSAL PRACTICES

Steps to be Taken in Case material is Released or Spilled: Eliminate all ignition sources. Small spills may be collected with absorbent materials. Use water spray to disperse vapors and to dilute to a nonflammable mixture. Prevent runoff from entering drains, sewers, or streams.

Waste Disposal Method: Mix with compatible chemical which is less flammable and incinerate. Observe all federal, state, and local laws concerning health and environment.

SECTION X. ENVIRONMENTAL EFFECTS DATA

Data for ethanol and methanol (4-16) have been used to provide the following estimate of environmental impact: this material is expected to have a high biochemical oxygen demand and a significant potential to cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms and secondary waste treatment microorganisms, ready biodegradability, and a low potential to persist in the environment and to bioconcentrate. When diluted with a large amount of water, this material released directly or indirectly into the environment is not expected to have a significant impact.

SECTION XI. TRANSPORTATION

DOT Hazard Classification: Flammable liquid.
Hazardous components: See Section II.
Flashpoint: See Section IV.
Proper DOT Shipping Name: Methyl alcohol.
UN 1230.

SECTION XIII. HAZARD RATINGS

	Health	Flammability	Reactivity
HMIS* Rating:	2	3	0
NFPA** Rating:	1	3	0

NOTICE: These ratings involve data and interpretations that may vary from company to company and are intended only for rapid, general identification of the magnitude of the specific hazard. TO DEAL ADEQUATELY WITH THE SAFE HANDLING OF THIS MATERIAL, ALL THE INFORMATION CONTAINED IN THIS MSDS MUST BE CONSIDERED. The customer is responsible for determining the proper personal protective equipment needed for its particular use of this material.

*Hazardous Materials Identification System's [HMIS] Revised RAW MATERIALS RATING MANUAL, National Paint & Coatings Association, Fall 1984.

**NFPA 704 Standard System for the Identification of the Fire Hazards of Materials, National Fire Protection Association, 1985.

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

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