



MATERIAL SAFETY DATA SHEET

MFA Oil Full Strength Antifreeze & Coolant Low Silicate

Revision Date: 11/2024

Section 1 Product & Company Information

MANUFACTURER	J.D. STRETT & COMPANY, INC. 144 WELDON PARKWAY MARYLAND HEIGHTS, MO 63043
PHONE NUMBERS	General Information (314) 432-6600 Emergency (Chemtrec) (800) 424-9300
CHEMICAL FAMILY	Glycol
CHEMICAL NAME	Ethylene Glycol
PRODUCT CODE	AJD7502 & AJD7500
PRODUCT FAMILY	Anti-Freeze
CHEMICAL FORMULA	Mixture
CAS NUMBER	Mixture (Refer to Section 2)
SYNONYMS	Ethylene Glycol, Glycol

Section 2 Composition / Information on ingredients

CAS#	CONCENTRATION	INGREDIENTS
107-21-1	90-95 % Weight	Ethylene Glycol
111-46-6	0-10 % Weight	Diethylene Glycol
7732-18-5	2-4 % Weight	Water
	2-4 % Weight	Inorganic/Organic Salts

Section 3 Hazards Identification

EMERGENCY OVERVIEW

Appearance & Odor: Green colored, slightly viscous liquid. Mild odor.

Health Hazards: May be harmful or fatal if swallowed. May cause acidosis, cardiopulmonary and kidney effects. May cause central nervous system (CNS) depression. The following organs and/or organ systems may be damaged by overexposure to this material and/or its components.

MAY CAUSE DAMAGE TO: Cardiovascular System, Kidney, Liver, Lungs
Refer to Section 11.

NFPA Rating (Health, Fire, Reactivity): 2, 1, 0

Hazard Rating: Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

Inhalation:

In applications where vapors (caused by high temperature) or mists (caused by mixing or spraying) are created, breathing may cause a mild burning sensation in the nose, throat and lungs.

Eye Irritation:

If irritation occurs, a temporary burning sensation, minor redness, swelling, and/or blurred vision may result.

Skin Contact:

May cause slight irritation of the skin. If irritation occurs, a temporary burning sensation and minor redness and/or swelling may result. Other adverse effects not expected from brief skin contact.

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Ingestion:

May be harmful or fatal if swallowed. Contains ethylene glycol and/or diethylene glycol which are toxic when swallowed. A lethal dose for an adult is 1 ml per kilogram or about 4 ounces (1/2 cup). Severe kidney damage can occur as a result of ingestion. Ingestion may result in nausea, vomiting and abdominal cramps. Metabolic acidosis and cardiopulmonary effects can occur following ingestion. May cause Central Nervous System (CNS) depression.

Other Health Effects:

Refer to Section 11, Toxicological Information, for specific information on the following effects:

Developmental Toxicity

Primary Target Organs:

The following organs and/or organ systems may be damaged by overexposure to this material and/or its components:

Cardiovascular System, Kidney, Liver, Lungs

Signs and Symptoms:

May cause cardiopulmonary effects including rapid respiration and heartbeat, cyanosis and in severe cases, pulmonary edema and pneumonia. Early to moderate CNS depression may be evidenced by giddiness, headache, dizziness and nausea. In extreme cases, unconsciousness and death may occur. Kidney damage may be indicated by changes in urine output or appearance, pain upon urination or in the lower back or general edema (swelling from fluid retention). Liver damage may be indicated by loss of appetite, jaundice (yellowish skin and eye color), fatigue and sometimes pain and swelling in the upper right abdomen.

Aggravated Medical Conditions:

Pre-existing eye, skin, respiratory, liver and kidney disorders and may be aggravated by exposure to this product.

For additional health information, refer to section 11.

Section 4 First-Aid Measures

Inhalation:

Move victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

Skin:

Flush exposed area with water and follow by washing with soap if available.

If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

If skin irritation persists after washing, get medical advice.

Eye:

Flush eyes with plenty of water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision or swelling occurs, transport to nearest medical facility for additional treatment. If eye irritation persists, seek medical advice.

Ingestion:

DO NOT take internally. If swallowed IMMEDIATELY contact poisons control center, emergency treatment center, or physician. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Note to Physician:

IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT! Ethylene Glycol (EG) and

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Diethylene Glycol (DEG) intoxication may initially produce behavioral changes, drowsiness, vomiting, diarrhea, thirst, and convulsions. EG and DEG are nephrotoxic. End stages of poisoning may include renal damage or failure with acidosis. Supportive measures, supplemented with hemodialysis if indicated, may limit the progression and severity of toxic effects. May cause cardiopulmonary effects. For ETHYLENE GLYCOL POISONING, intravenous ethanol is a recognized antidotal treatment; other antidotal treatments also exist for ethylene glycol poisoning.

Section 5 Fire Fighting Measures

Flash Point [Method]: >246°F/118°C [Setaflash]

Extinguishing Media:

Prevent run off from fire control or dilution from entering streams, sewers or drinking water supply. Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO₂) to extinguish flames. Do not use a direct stream of water.

Fire Fighting Instructions:

Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure, NIOSH approved, self-contained breathing apparatus. This material is non-flammable.

Unusual Fire Hazards:

Material may ignite when preheated.

Section 6 Accidental Release Measures

Protective Measures:

May burn although not readily ignitable.

Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

Spill Management:

Flush area with water to remove trace residue; place flush solution in proper container for recycle or disposal.

Shut off source of leak if safe to do so.

Dike and contain spill.

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

Reporting:

U.S. regulations require reporting releases of this material to the environment, which exceed the reportable quantity to the National Response

Center at (800)424-8802.

Section 7 Handling & Storage

Precautionary Measures:

Do not ingest. Avoid prolonged or repeated contact with eyes, skin or clothing. Avoid breathing of vapors, fumes or mists. Use with adequate ventilation. Wash thoroughly after handling. Avoid heat, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. Ground all handling equipment to prevent sparking. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

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Storage:

Do not store in open or unlabeled containers. Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

Container Warnings:

Keep containers closed when not in use. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers.

Section 8 Exposure Controls and Personal Protection

Ethylene Glycol ACGIH TLV Ceiling: 100 mg/m³

Ethylene Glycol OSHA PEL - 1989(revoked) Ceiling: 50 ppmv

EXPOSURE CONTROLS

Provide adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

PERSONAL PROTECTION

Personal protective equipment (PPE) selections vary based on potential exposure conditions such as handling practices, concentration and ventilation.

Information on the selection of eye, skin and respiratory protection for use with this material is provided below.

Eye Protection:

Chemical Goggles - If liquid contact is likely. Or Safety glasses with side Shields.

Skin Protection:

Use protective clothing which is chemically resistant to this material.

Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other items. The selection(s) should take into account such factors as job task, type of exposure and durability requirements.

Published literature, test data and/or glove and clothing manufacturers indicate the best protection is provided by: Neoprene, or Nitrile Rubber

Respiratory Protection:

If engineering controls do not maintain airborne concentrations to a level, which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Types of respirator(s) to be considered in the selection process include:

For Mist: Air Purifying, R or P style NIOSH approved respirator.

For Vapors: Air Purifying, R or P style prefilter & organic cartridge,

NIOSH approved respirator. Self-contained breathing apparatus for use in environments with unknown concentrations or emergency situations.

Section 9 Physical and Chemical Properties

Appearance & Odor: Green liquid. Mild odor.

Substance Chemical Family: Ethylene Glycols

Boiling Point: 330-340°F (50%/50% solution in water at atmospheric pressure)

Flash Point: >246°F [Setaflash]

Freezing Point: -40°F (50%/50% solution in water at atmospheric pressure)

pH: 7.6 (50%/50% solution in water at atmospheric pressure)

Physical State: Liquid

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Solubility (in Water): Completely Soluble

Specific Gravity: 1.10 - 1.145

Stability: Stable

Section 10 Stability and Reactivity

Stability:

Material is stable under normal conditions.

Hazardous Decomposition Products:

Thermal decomposition products are highly dependent on combustion conditions.

A complex mixture of airborne solids, liquids, and gases will evolve. Carbon Monoxide, Carbon Dioxide, and other unidentified organic compounds may be formed upon combustion.

Section 11 Toxicological Information

Acute Toxicity

Dermal LD50 > 2 g/kg(Rabbit) OSHA: Non-Toxic Based on components(s)

Carcinogenicity Classification

Extended-Life Anti-freeze Coolant

NTP: No IARC: Not Reviewed ACGIH: No OSHA: No

Cardiovascular System

Ingestion of large doses can cause metabolic acidosis that results in cardiopulmonary effects.

Developmental Toxicity

Oral exposure of pregnant rats and mice to ethylene glycol has produced birth defects in the offspring.

Delayed development and birth defects occurred in offspring of pregnant rats exposed to 2-ethylhexanoic acid in drinking water.

Kidney

Ingestion of ethylene glycol can cause bladder stones and kidney damage, which can be fatal.

Liver

Prolonged and repeated ingestion of ethylene glycol has produced liver damage in rats. Repeated dietary exposure to 2-ethylhexanoic acid resulted in increased liver weight in rats.

Lungs

Ingestion of large doses can cause metabolic acidosis that results in cardiopulmonary effects.

Reproductive Toxicity

Female rats exhibited impaired fertility in a reproductive toxicity study following exposure to 2-ethylhexanoic acid salt in drinking water.

Whole Animal

Orally, humans are more sensitive to ethylene glycol than rodents. The reported lethal dose range for an adult human is 1 -2 ml/kg, or 1/4 to 1/2 cup.

Section 12 Ecological Information

Environmental Impact Summary:

There is no ecological data available for this product.

Environmental Fate:

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The toxicity of this material to aquatic organisms has not been fully evaluated. This material must not be discharged or allowed to come into contact with sewage and drainage systems and any surface water body.

Section 13 Disposal Considerations

RCRA Information:

Under RCRA, it is the responsibility of the user of the material to determine, at the time of the disposal, whether the material meets RCRA criteria for hazardous waste. This is because the material uses, transformations, mixtures, processes, etc. may affect the classification. Refer to the latest EPA, state and local regulations regarding proper disposal. Follow all applicable laws and regulations. Used antifreeze recycling is recommended. Do not drain on the ground or into storm drainage systems. Do not dispose in sanitary sewer systems except where permitted by law.

Section 14 Transportation Information

US Department of Transportation Classification

This material is not regulated under 49 CFR if in a container of 119-gallon capacity or less. If shipped in a container of over 119-gallon capacity then the DOT information must be accompanied with RQ notation, or, an otherwise

'Not Regulated' product will be classified as Environmentally Hazardous (solid/liquid) N.O.S., Class 9, Packing group III unless the product qualifies for the petroleum exemption (49 CFR 171.8).

Hazardous Substance/Material RQ: Ethylene glycol / 5440.2726 lbs.

International Air Transport Association

Hazard Class/Division: 9 (Miscellaneous)

Identification Number: UN3082

Packing Group: III

Proper Shipping Name: Environmentally Hazardous Substances, Liquid, N.O.S.

Technical Name(s): Ethylene Glycol

International Maritime Organization Classification

Hazard Class/Division: 9 (Miscellaneous)

Identification Number: UN3082

Packing Group: III

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S.

Technical Name(s): Ethylene Glycol

Section 15 Regulatory Information

FEDERAL REGULATORY STATUS

OSHA Classification:

Product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Comprehensive Environmental Release, Compensation & Liability Act (CERCLA):

Ethylene Glycol RQ 5000 lbs. Reportable Spill => 5440 lbs. or 653 gal.

Ozone Depleting Substances (40 CFR 82 Clean Air Act):

This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

Superfund Amendment & Reauthorization Act (SARA) Title III:

There are no components in this product on the SARA 302 list.

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SARA Hazard Categories (311/312):

Immediate Health: YES Delayed Health: YES Fire: NO Pressure: NO

Reactivity: NO

SARA Toxic Release Inventory (TRI) (313):

Ethylene Glycol

Toxic Substances Control Act (TSCA) Status:

All component(s) of this material is(are) listed on the EPA/TSCA Inventory of Chemical Substances.

Other Chemical Inventories:

Component(s) of this material is (are) listed on the Australian AICS, Canadian DSL, Chinese Inventory, European EINECS, Korean Inventory, Philippines PICCS,

State Regulation

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

New Jersey Right-To-Know Chemical List:

Ethylene Glycol (0878) 90-97 %weight Special Hazard

Pennsylvania Right-To-Know Chemical List:

1,2-Ethanediol (107-21-1) 90-97 %weight Environmental Hazard

Section 16 Other Information

This product is FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN.

This Material Safety Data Sheet (MSDS) has been reviewed to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-2003). We encourage you to take the opportunity to read the MSDS and review the information contained therein.

Read and understand material safety data sheet before handling or disposing of product.

SECTION 17 LABEL INFORMATION

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flames or heat. Keep container closed and drum bungs in place.

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To determine the applicability or effect of any law or regulation with respect to the product, you should consult with your legal advisor or the appropriate government agency. We will not provide advice on such matters, or be responsible for any injury from the use of the product described herein.

For additional product information, please contact J.D. Streett & Company, Inc. Sales office at (314) 432-6600.

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