

ANTIFREEZE

MSDS No. MI205

Date of Preparation: 5/07

Revision: 3

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: ANTIFREEZE**Product Brand Name:** PAR, Coolant Plus, PAR 50/50, Coolant Plus 50/50, Coolant Plus 70/30**Chemical Formula:** C₂H₆O₂**CAS Number:** 107-21-1**Synonyms:** MEG, EG, ethylene glycol, 1,2-ethanediol, glycol, glycol alcohol**General Use:** Freezing point depressant**Manufacturer:** KMCO, LP., 16503 Ramsey Road, Crosby, Texas 77532, Phone (281)328-3501, FAX (281)328-9528**24 HOUR EMERGENCY NUMBER:** CHEMTREC 1-800-424-9300

Section 2 - Composition / Information on Hazardous Ingredients

Ingredient Name	CAS Number		% wt or % vol	
Ethylene Glycol	107-21-1		94	
Proprietary Ingredients			6	

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Ethylene Glycol	none estab.	none estab.	100 mg/m ³	none estab.	none estab.	none estab.	none estab.

Section 3 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

WARNING! HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

H 1
F 1
R 0

Potential Health Effects

Acute Effects

Inhalation: Vapor inhalation is generally not a problem unless heated or misted. Exposure to vapors over an extended time period has caused throat irritation and headache. May cause nausea, vomiting, dizziness and drowsiness. Pulmonary edema and central nervous system depression may also develop. When heated or misted, has produced rapid, involuntary eye movement and coma.

Eye: Splashes may cause irritation, pain, and eye damage.

Skin: Minor skin irritation and penetration may occur.

Ingestion: Initial symptoms in massive dosage parallel alcohol intoxication, progressing to CNS depression, vomiting, headache, rapid respiratory and heart rate, lowered blood pressure, stupor, collapse, and unconsciousness with convulsions. Death from respiratory arrest or cardiovascular collapse may follow. Lethal dose in humans: 100 ml (3-4 ounces).

Carcinogenicity: Not Classifiable as a Human Carcinogen

Medical Conditions Aggravated by Long-Term Exposure: Persons with pre-existing skin disorders, eye problems, or impaired liver, kidney, or respiratory function may be more susceptible to the effects of this substance.

Chronic Effects: Repeated small exposures by any route can cause severe kidney problems, brain damage may also occur. Skin allergy can develop. May damage the developing fetus.

Section 4 - First Aid Measures

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

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Skin Contact: Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes. Get medical attention.

Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Note to Physicians: Give sodium bicarbonate intravenously to treat acidosis. Urinalysis may show low specific gravity, proteinuria, pyuria, cylindruia, hematuria, calcium oxide, and hippuric acid crystals. Ethanol can be used in antidotal treatment but monitor blood glucose when administering ethanol because it can cause hypoglycemia. Consider infusion of a diuretic such as mannitol to help prevent or control brain edema and hemodialysis to remove ethylene glycol from circulation.

Section 5 - Fire-Fighting Measures

Flash Point: 232 °F (111 °C)

Flash Point Method: CC

Burning Rate: not available

Autoignition Temperature: 748 °F (398 °C)

LEL: 3.2% v/v

UEL: 15.3% v/v

Flammability Classification: Slight to moderate fire hazard when exposed to heat or flame.

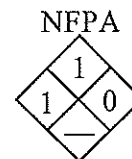
Extinguishing Media: Dry chemical, foam or carbon dioxide. Water or foam may cause frothing. Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.

Unusual Fire or Explosion Hazards: Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Containers may explode when involved in a fire.

Hazardous Combustion Products: Carbon dioxide and carbon monoxide may form when heated to decomposition. May produce acrid smoke and irritating fumes when heated to decomposition.

Fire-Fighting Instructions: Do not release runoff from fire control methods to sewers or waterways.

Fire-Fighting Equipment: Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.



Section 6 - Accidental Release Measures

Spill /Leak Procedures: Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Use non-sparking tools and equipment. Do not flush to sewer.

Small Spills: Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, dry sand), and place in a chemical waste container. Do not use combustible materials, such as saw dust.

Large Spills

Containment: Wear respirator and protective clothing as appropriate. Shut off source of leak if safe to do so. For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Contain and recover liquid when possible. Collect liquid in appropriate container. Absorb residue with an inert material. Consult with your environmental department for detailed clean up instructions.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120). CERCLA requires reporting spills and release to soil, water and air in excess of reportable quantities.

Section 7 - Handling and Storage

Handling Precautions: May be harmful or fatal if swallowed.

Storage Requirements: Store in a cool, dry, ventilated area. Separate from acids and oxidizing materials.

Regulatory Requirements: This product contains the following chemical(s) subject to the reporting requirements of SARA Title III Section 311,312, and 313: Ethylene Glycol (Reportable Quantity = 5000 lb.).

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Controls should be such that adequate ventilation is provided.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA.

Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance and Odor: Clear, blue-green, odorless

Odor Threshold: not available

Vapor Pressure: 0.06 mm Hg @ 20 C

Vapor Density (Air=1): 2.1

Formula Weight: 62.07

Density: 9.28 lbs/gal @ 20°C

Specific Gravity (H₂O=1, at 4 °C): 1.115

pH: 7 – 11.5

Water Solubility: soluble

Other Solubilities: alcohols, methyl isosbutyl carbitol

Boiling Point: 197.6C (388F)

Freezing/Melting Point: -13C(9F)

Viscosity: 21cP @ 20C

Refractive Index: 1.4316 @ 20C

Surface Tension: 48.4 dyne/cm @ 20C

% Volatile: 100 @ 21C

Evaporation Rate: not available

Section 10 - Stability and Reactivity

Stability: Antifreeze is stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization will not occur.

Chemical Incompatibilities: Strong oxidizing agents, strong bases

Conditions to Avoid: Heat, flames, ignition sources, and incompatibles.

Hazardous Decomposition Products: Carbon dioxide and carbon monoxide may form when heated to decomposition.

Section 11- Toxicological Information

Eye and Skin Effects: Negligible degree of irritation upon eye or skin contact. A slight macerating action comparable to that caused by glycerin may result from very severe prolonged exposures to ethylene glycol. There is no evidence to indicate that ethylene glycol is absorbed through the skin in quantities sufficient to produce systemic injury in normal industrial handling.

Toxicity Data:*

Acute Inhalation Effects:

Human, inhalation, LD_{Lo}: 786 mg/kg

Acute Oral Effects:

Rat, oral, LD₅₀: 4700 mg/kg

Chronic Effects: Repeated small exposures by any route can cause severe kidney problems. Brain damage may also occur. Skin allergy can develop.

Carcinogenicity: Not Classifiable as a Human Carcinogen

Teratogenicity: Has shown teratogenic effects in laboratory animals

* See NIOSH, *RTECS* for additional toxicity data.

Section 12 - Ecological Information

Ecotoxicity: LC50/96-hour values for fish are over 100mg/l

Environmental Fate: When released into the soil, this material is expected to readily biodegrade, is expected to leach into groundwater and is not expected to evaporate significantly. When released into the water, this material is expected to readily biodegrade, and is expected to have a half-life between 1 and 10 days. When released into the air, this material is expected to be readily degraded, and is expected to have a half-life between 1 and 10 days.

Environmental Degradation: This material is not expected to bioaccumulate.

Section 13 - Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Disposal Regulatory Requirements: Consult current Federal, state and local regulations.

Container Cleaning and Disposal: Dispose of container and unused contents in accordance with federal, state, and local requirements.

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101):

Shipping Name (>5,250 lbs):
Other Regulated Substances,
liquid, N.O.S., 9, NA3082, PG III,
RQ (Ethylene Glycol)

Shipping Name (<5,250 lbs):
Antifreeze

Hazard Class (>5,250 lbs): 9

Hazard Class (<5,250 lbs):

Non-hazardous Liquid

ID No.: NA3082

Packing Group: III

Label: Class 9, NA3082

Special Provisions (172.102):
none

Packaging Authorizations

a) Exceptions: 173.155

b) Non-bulk Packaging: 173.203

c) Bulk Packaging: 173.241

Quantity Limitations

a) Passenger, Aircraft, or Railcar: none

b) Cargo Aircraft Only: none

Vessel Stowage Requirements

a) Vessel Stowage: Category A

b) Other: none

Section 15 - Regulatory Information

EPA SARA 311/312 HAZARD CLASSIFICATION: Acute Health, chronic health

EPA SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements under SARA Title III, Section 313 (40 CFR 372); Ethylene Glycol 107-22-1 80 - 96%

PROTECTION OF STRATOSPHERIC OZONE: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, appendix A to Subpart A.

CERCLA SECTION 103: Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for this product, based on the RQ for Ethylene Glycol (96% maximum) of 5,000 pounds, is 5,208 pounds. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulation.

CALIFORNIA PROPOSITION 65: This product may contain the following substances known to the State of California to cause cancer and/or reproductive harm: 1,4-Dioxane (trace amount).

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the ingredients are listed on the Canadian Domestic Substances list.

CANADIAN WHMIS CLASSIFICATION: Class D - Division 2 - Subdivision B - (a toxic material causing other chronic effects).

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS): All of the ingredients are listed on the EINECS inventory.

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

AUSTRALIA: All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances.

Section 16 - Other Information

Prepared By: KMCO, LP.

Revision Notes: All sections revised as part of conversion to 16 Section format.

Additional Hazard Rating Systems: none

Disclaimer: This product is FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

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