MATERIAL SAFETY DATA SHEET

EFFECTIVE DATE: 8-4-87

REVISION NUMBER: 1

QUAKER STATE CORPORATION • P.O. Box 989, Oil City, Pennsylvania 16301.

I. IDENTIFICATION

PRODUCT NAME: Quaker State Antifreeze

CHEMICAL NAME: Inhibited Ethylene Glycol

PRODUCT CODE: 69110 (55 gal. dr)
69113 (gal. pl)
69119 (bulk)

FORMULA: CH_2OHCH_2OH + Inhibitors

SYNONYMS: Automotive Coolant, Permanent Antifreeze

CHEMICAL FAMILY: Glycols

DEPARTMENT OF TRANSPORTATION:
HAZARD CLASSIFICATION: Not hazardous under DOT 172.101
SHIPPING NAME: Antifreeze Preparations, Proprietary (Ethylene Glycol Base)
IDENTIFICATION #: None

CAS #: None

CAS NAME: None

II. TYPICAL COMPOSITION

MATERIAL	CAS #	% wt.	TLV (UNITS) (SOURCE)	HAZARD
Ethylene Glycol	107-21-1	≥ 94	50 ppm ACGIH (TWA)	Inhalation, Ingestion, Skin, Eyes (Minor Irritant)
Rust Inhibitor Package (Silicates, Phosphates, Borates, and Nitrates)		≤ 6	N/D	

III. PHYSICAL DATA

BOILING POINT, 760 mm. Hg: 330° F

PHYSICAL STATE: Liquid

SPECIFIC GRAVITY (H_2O = 1): > 1

VAPOR PRESSURE AT 20°C.: < 0.1

VAPOR DENSITY (AIR = 1): > 2

SOLUBILITY IN WATER, % BY WT.: 100%

PER CENT VOLATILES BY VOLUME: Nil

EVAPORATION RATE (Butyl Acetate = 1) < 1

APPEARANCE AND ODOR: Clear, dyed liquid. Slight characteristic odor.

FOR FURTHER INFORMATION CALL: (814) 676-7676

IV. HEALTH HAZARD DATA

TLV AND SOURCE: 50 ppm C* TWA (ACGIH) 1983-1984

ACUTE EFFECTS OF OVEREXPOSURE

SWALLOWING : Ingestion will cause acute poisoning resulting in severe abdominal disturbances, Central Nervous System depression, possible respiratory and/or renal failure. NOTE: Acute ORAL LD_{50} (rat) 13.8 ml/kg. Human lethal dose reported to be 100 cc.

SKIN ABSORPTION: Is absorbed slowly. Should not be a problem unless gross exposure occurs and material is not promptly removed. NOTE: LD_{50} rabbit > 1,000 mg/kg.

INHALATION : Prolonged exposure to high concentrations can cause respiratory irritation and may result in unconsciousness.

SKIN CONTACT : Prolonged skin contact with liquid ethylene glycol has a dehydrating effect which can result in temporary irritation. Vapors have little or no effect on the skin.

EYE CONTACT : Contact with liquid ethylene glycol can result in temporary irritation. No corneal injury likely. Eye contact with vapors may result in temporary irritation.

CHRONIC EFFECTS OF OVEREXPOSURE

None known.

EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING : Toxic by ingestion. Induce vomiting immediately and seek medical attention.

SKIN : Wash affected skin areas with soap and water. If irritation develops, consult a physician. Wash clothing before reuse.

INHALATION : Remove to fresh air. If breathing has stopped, start artificial respiration. Seek medical attention.

EYES : Irrigate eyes immediately with large amounts of water (15 mins.). If irritation occurs, consult a physician.

NOTES TO PHYSICIAN

Overexposure may cause liver and kidney damage and metabolic acidosis. Anesthetic or narcotic affect may occur. Early administration of ethanol may counter the toxic affects of ethylene glycol. Consult standard literature. Treatment should be based on sound judgment of physician and individual reactions of the patient.

Eyes: Although permanent injury is unlikely, stain for evidence of corneal injury.

Skin: In cases of irritation, treat as any contact dermatosis. Material may be absorbed (although slowly) in acutely toxic amounts upon gross contact.

*C denotes ceiling value as well as TWA.

V. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT [test method(s)]: 240° F COC AUTO IGNITION TEMPERATURE: 740° F

FLAMMABLE LIMITS IN AIR, % BY VOLUME: N/A

EXTINGUISHING MEDIA: Water fog, alcohol resistant foam, CO_2, Dry Chemical.

SPECIAL FIRE FIGHTING PROCEDURES: For fires involving large quantities of antifreeze where self-contained breathing apparatus and full turn-out gear.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Heated vapors are heavier than air and may travel to a source of ignition.

VI. REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: None known

INCOMPATIBILITY (materials to avoid): Strong oxidizing materials.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: None known

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: None known

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
For small spills, soak up with absorbent material.
For large spills, dike and pump into suitable containers. Clean up residual with water.

WASTE DISPOSAL METHOD:
Incinerate according to local, state and federal regulations or salvage.

VIII. PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type): None normally needed for intended use. Approved organic vapor type respiratory protection required in absence of proper environmental controls in case of large spills.

VENTILATION: None normally needed for intended use.

PROTECTIVE GLOVES: Where skin contact may occur it is recommended chemical impervious gloves be worn.

EYE PROTECTION: If splashing may occur, use chemical goggles or full face shield.

OTHER PROTECTIVE EQUIPMENT: None normally needed.

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Practice reasonable care and cleanliness. Avoid breathing spray mists if generated.

NOTES

Approved by D. W. Cralley - Corporate Safety Coordinator