SECTION 1: IDENTIFICATION

MSDS ID: MSDS149

PRODUCT NAME: PRESTONE(R) Antifreeze/Coolant
PRODUCT NUMBER: AF777, 71944, 70192
FORMULA NUMBER: YA721, YA718, YA718B

MANUFACTURER: Honeywell Consumer Products Group
39 Old Ridgebury Road
Danbury, CT 06810-5109

CANADIAN OFFICE: Honeywell Consumer Products Group
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Mississauga, Ontario L5L 3S6

INFORMATION PHONE NUMBER: (800)862-7737 (in the US)
(800)668-9349 (in Canada)

EMERGENCY PHONE NUMBER: CHEMTREC 1-800-424-9300 (in the US)
CANUTEC (613)996-6666 (in Canada)

MSDS DATE OF PREPARATION/REVISION: 08/21/03

PRODUCT USE: Automobile antifreeze - consumer product

NFPA RATING (NFPA 704) - FIRE: 1
HEALTH: 2
REACTIVITY: 0

SECTION 2: PRODUCT COMPONENTS

HAZARDOUS COMPONENTS	CAS#	PERCENT	EXPOSURE LIMITS
Ethylene Glycol (aerosol)	107-21-1	80-96	None Established-OSHA PEL 100 mg/m3 Ceiling ACGIH TLV
Diethylene Glycol	111-46-6	0-8	None Established OSHA PEL, ACGIH TLV

Non-Hazardous Ingredients >1%
Water 7732-18-5

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Eye and upper respiratory irritant. May cause nausea, vomiting, headache, drowsiness, blurred vision, convulsions, coma or death if ingested or inhaled. Prolonged or repeated skin contact may cause dermatitis or skin sensitization.

POTENTIAL HEALTH EFFECTS:

INHALATION: May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations caused, for example, by heating the material in an enclosed and poorly ventilated workplace, may produce nausea, vomiting, headache, dizziness and irregular eye movements.

SKIN CONTACT: No evidence of adverse effects from available information.

EYE CONTACT: Liquid, vapors or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.

INGESTION: Following ingestion, a bitter taste may be noted. May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal may follow the swallowing of ethylene glycol. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.

CHRONIC EFFECTS: Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, particularly dizziness and jerking eye movements. Prolonged or repeated skin contact may cause skin sensitization and an associated dermatitis in some individuals. Ethylene glycol has been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined. See section 11 for additional information.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: The available toxicological information and a knowledge of the physical and chemical properties of the material suggest that overexposure in unlikely to aggravate existing medical conditions.

CARCINOGEN: None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

SECTION 4: FIRST AID MEASURES

INHALATION: Remove the victim to fresh air. If breathing has stopped administer artificial respiration. If breathing is difficult, have medical personnel administer oxygen. Get medical attention.

SKIN CONTACT: Remove contaminated clothing. Immediately wash contacted area thoroughly with soap and water. If irritation persists, get medical attention.

EYE CONTACT: Immediately flush eyes with large amounts of water for 15

minutes. Get medical attention if irritation persists.

INGESTION: Seek immediate medical attention. Immediately call local poison control center or go to an emergency department. Never give anything by mouth to or induce vomiting in an unconscious or drowsy person.

NOTES TO PHYSICIAN: The principal toxic effects of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. The combination of metabolic acidosis, an osmol gap and oxalate crystals in the urine is evidence of ethylene glycol poisoning.

Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required.

There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth, and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia.

Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Ethanol blood levels should be checked frequently. Hemodialysis may be required.

4-Methylpyrazole (Antizole(R) or Fomepizole), a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of ethylene glycol poisoning. Additional therapeutic modalities which may decrease the adverse consequences of ethylene glycol metabolism are the administration of both thiamine and pyridoxine. As there are complicated and serious overdoses, we recommend you consult with the toxicologists at your poison control center. This antidote is now approved by the F.D.A. and in many cases has replaced ethanol in the treatment of ethylene glycol poisoning.

SECTION 5: FIRE AND EXPLOSION DATA

FLASH POINT: 242 F (117 C) TOC
220 F (104 C) PMCC

AUTOIGNITION TEMPERATURE: Not determined

FLAMMABILITY LIMITS: LEL: 3.2% UEL: 15.3%

NFPA CLASSIFICATION: IIIB

EXTINGUISHING MEDIA: For large fires, use alcohol type or all-purpose foams. For small fires, use water spray, carbon dioxide or dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Do not spray pool fires directly. Cool fire exposed containers with water. Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

UNUSUAL FIRE HAZARDS: A solid stream of water or foam directed into hot, burning liquid can cause frothing.

HAZARDOUS COMBUSTION PRODUCTS: Burning may produce carbon monoxide and carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Wear appropriate protective clothing and equipment (See Section 8). Collect with absorbent material and place in appropriate, labeled container for disposal or, if permitted flush spill area with water.

SECTION 7: HANDLING AND STORAGE

DANGER: Harmful or Fatal if Swallowed

Do not drink antifreeze or solution.
Avoid eye and prolonged or repeated skin contact.
Avoid breathing vapors or mists.
Wash exposed skin thoroughly with soap and water after use.
Do not store in opened or unlabeled containers.

Keep container away from open flames and excessive heat.
Do not reuse empty containers unless properly cleaned.

Empty containers retain product residue and may be dangerous. Do not cut, weld, drill, etc. containers, even empty.

Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without any obvious ignition sources. Published "autoignition" or "ignition" temperatures cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Use of this product in elevated temperature applications should be thoroughly evaluated to assure safe operating conditions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: Use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits.

RESPIRATORY PROTECTION: For operations where the TLV is exceeded a NIOSH approved respirator with organic vapor cartridges and dust/mist prefilters or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration. Select and use

in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

GLOVES: Chemical resistant gloves such as neoprene or PVC where contact is possible

EYE PROTECTION: Splash-proof goggles.

OTHER PROTECTIVE EQUIPMENT/CLOTHING: Appropriate protective clothing as needed to minimize skin contact. Suitable washing and eye flushing facilities should be available in the work area. Contaminated clothing should be removed and laundered before re-use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Yellow liquid with a mild odor.

pH: Not determined
BOILING POINT (F): 334 F
FREEZING POINT (F): -8 F
SOLUBILITY IN WATER: 100%
PERCENT VOLATILE: None
SPECIFIC GRAVITY: 1.12
VAPOR PRESSURE: Less than 0.1
VAPOR DENSITY: 2.1
EVAPORATION RATE: Less than 1
VISCOSITY: Not determine
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not determined

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: None known.
INCOMPATIBILITY: Normally unreactive, however, avoid strong bases at high temperatures, strong acids, strong oxidizing agents, and materials reactive with hydroxyl compounds.
DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide.
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: None known.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY VALUES:

Ethylene Glycol: LD50 Oral Rat: 4700 mg/kg
LD50 Skin Rabbit: 9530 mg/kg

Diethylene Glycol: LD50 Oral Rat: 12,565 mg/kg
LD50 Skin Rabbit: 11,890 mg/kg

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH:

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations 150, 1,000 and 2,500 mg/m3 for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentrations, but only in mice. The conditions of these

latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol, percutaneous absorption of ethylene glycol from contaminated skin, or swallowing of ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1,000 and 2,500 mg/m3) and developmental toxicity in with minimal evidence of teratogenicity (2,500 mg/m3). The no-effects concentration (based on maternal toxicity) was 500 mg/m3. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to the skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen; there is currently no available information to suggest that ethylene glycol caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity; exposure to high aerosol concentration is only minimally effective in producing developmental toxicity; the major route for producing developmental toxicity is perorally.

Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of carcinogenic potential for ethylene glycol has been supported by numerous invitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

This products contains less than 0.5% tolytriazole which has demonstrates mutagenic activity in a bacterial test system. A correlation has been established between mutagenic activity and carcinogenic activity for many chemicals. Tolytriazole has not been identified as a carcinogen or probable carcinogen by NTP, IARC or OSHA.

SECTION 12: ECOLOGICAL INFORMATION

Ethylene Glycol: LC50 Goldfish: 5,000 mg/L/24 hr. at 20 C static conditions.

Toxicity threshold (cell multiplication inhibition test):
Bacterial (Pseudomonas putida): 10,000 mg/l
Protozoa (Entosiphon sulcatum and Uronema parduczi Chatton-Lwoff): >10,000 mg/l
Algae (Microcystis aeruginosa): 2,000 mg/l
Green algae (Scenedesmus quandricauda): >10,000 mg/l

SECTION 13: DISPOSAL INFORMATION

Dispose of product in accordance with all local, state/provincial and federal regulations.

SECTION 14: TRANSPORT INFORMATION

U.S. DOT HAZARD CLASSIFICATION: Not Regulated

DOT MARINE POLLUTANTS: This product does not contain Marine Pollutants as defined in 49 CFR 171.8.

IMDG CODE SHIPPING CLASSIFICATION: Not Regulated

CANADIAN TDG CLASSIFICATION: Not Regulated

Note: IF A BULK SHIPMENT IS INVOLVED, THE FOLLOWING INFORMATION APPLIES:

U.S. DOT HAZARD CLASSIFICATION
PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, N.O.S. (Ethylene glycol)
UN NUMBER: UN3082
LABELS REQUIRED: Class 9, UN3082

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	107-21-1	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 lbs, is 5,208 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

CALIFORNIA PROPOSITION 65: The normal consumer use of this product does not result in exposures to chemicals known to the State of California to cause Cancer and/or Reproductive Harm above the significant risk level for carcinogens or the maximum allowable dose levels for reproductive toxins. Therefore, no warnings are required for consumer packages. Industrial or other occupational use of this product at higher frequency and using larger quantities of this product may result in exposures exceeding these levels and are labeled accordingly.

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)

CANADIAN WHIMIS HAZARD SYMBOLS: Toxic - Division 2

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

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

SECTION 16: OTHER INFORMATION

REVISION SUMMARY: Section 1: Product Number, Canadian Address

This MSDS is directed to professional users and bulk handlers of the product. Consumer products are labeled in accordance with Federal Hazardous Substances Act regulations.

While Prestone Products Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of tests conducted, the data are not to be taken as a warranty or representation for which Prestone Products Corporation assumes legal responsibility. They are offered for your consideration, investigation and verification. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

If more information is needed, please contact:

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