



SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: SAFETY-KLEEN KHAMELEON ANTIFREEZE

SYNONYMS: Ethylene Glycol Based Antifreeze, Precharged, Fully-formulated Extended Life Coolant (50/50) with Dye ("G-05" type coolant)

PRODUCT CODE: 6538, 1914

PRODUCT USE: If this product is used in combination with other products, refer to the Material Safety Data Sheet for those products.

This number is for emergency use only. If you desire non-emergency product information, please call a phone number listed below.

**24-HOUR EMERGENCY PHONE NUMBER
MEDICAL AND TRANSPORTATION (SPILL):**

1-800-468-1760

SUPPLIER: Safety-Kleen Systems, Inc.
5400 Legacy Drive
Cluster II, Building 3
Plano, Texas 75024
USA
1-800-669-5740
www.Safety-Kleen.com

TECHNICAL INFORMATION: 1-800-669-5740 Press 1 then 1, then Extension 7500

MSDS FORM NUMBER: 82967

ISSUE: December 15, 2008

ORIGINAL ISSUE: June 3, 2004

SUPERSEDES: October 19, 2007

PREPARED BY: Product MSDS Coordinator

APPROVED BY: MSDS Task Force

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SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE

Clear liquid with a mild odor (may contain dye in one of several colors)

WARNING!

HEALTH HAZARDS

May be harmful if inhaled.

Harmful or fatal if swallowed.

May irritate the respiratory tract (nose, throat, and lungs), eyes, and skin.

May cause skin sensitization.

Contains material which may cause birth defects.

Contains material which may cause kidney, liver and central nervous system damage.

ENVIRONMENTAL HAZARDS

May be harmful to aquatic life.

POTENTIAL HEALTH EFFECTS

INHALATION (BREATHING): This product is not likely to present an inhalation hazard at normal temperatures and pressures. However, when aerosolizing, misting, or heating this product, high concentrations of generated vapor or mist may irritate the respiratory tract (nose, throat, and lungs). High concentrations of vapor or mist may be harmful if inhaled. High concentrations of vapor or mist may cause liver, lung, and kidney damage. High concentrations of vapor or mist may cause nausea, vomiting, headaches, dizziness, loss of coordination, numbness, and other central nervous system effects.

EYES: May cause irritation with redness, tearing, swelling and/or blurred vision.

SKIN: May cause irritation. May cause skin sensitization. Not likely to be absorbed through the skin in harmful amounts.

INGESTION (SWALLOWING): May be fatal if swallowed. The estimated lethal dose for an adult human is 100 ml (3.4 ounces). May damage lung, liver, and kidneys. May cause throat irritation, nausea, vomiting, central nervous system effects as noted under **INHALATION (BREATHING)**, unconsciousness, coma, and death. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

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MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing liver, kidney, respiratory tract (nose, throat, and lungs), central nervous system, eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

CHRONIC: Prolonged or repeated inhalation may cause toxic effects as noted under **INHALATION (BREATHING)**. Prolonged or repeated eye contact may cause inflammation of the membrane lining the eyelids and covering the eyeball (conjunctivitis). Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis). Prolonged or repeated exposure may have reproductive toxicity, teratogenic, or mutagenic effects.

CANCER INFORMATION: No known carcinogenicity. For more information, see **SECTION 11: CARCINOGENICITY**.

POTENTIAL ENVIRONMENTAL EFFECTS

Product may be toxic to aquatic life. Also see **SECTION 12: ECOLOGICAL INFORMATION**.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Component	Synonyms	Percent
107-21-1	Ethylene glycol	1,2-ethandiol	50-70, 70-100
Trade Secret	Proprietary Additives and Inhibitors	Not Available	1-3
111-46-6	Diethylene glycol	Bis(2-hydroxyethyl) ether	0.1-1, 1-3

SECTION 4: FIRST AID MEASURES

INHALATION (BREATHING): Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.

EYES: If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.

SKIN: Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists.

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INGESTION (SWALLOWING): Do NOT induce vomiting. Immediately get medical attention. Call 1-800-468-1760 for additional information. If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIANS: Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information.

Ethylene glycol is metabolized by alcohol dehydrogenase to various metabolites including glycoaldehyde, glycolic acid, and oxalic acid. The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, central nervous system depression, and kidney damage. The currently recommended medical management of ethylene glycol poisoning includes elimination of ethylene glycol and metabolites, correction of metabolic acidosis, and prevention of kidney injury. As a competitive substrate for alcohol dehydrogenase, ethanol is antidotal when given in the early stages of intoxication because it blocks the formation of nephrotoxic metabolites. A more effective intravenous antidote is 4-methylpyrazole, a potent inhibitor of alcohol dehydrogenase, which effectively blocks the formation of toxic metabolites. Pulmonary edema with hypoxia has been described in a number of patients following ethylene glycol poisoning. Respiratory support with mechanical ventilation and positive end expiratory pressure may be required. There may be cranial nerve involvement in the later stages of toxicity from swallowing ethylene glycol. Effects have been reported presenting bilateral facial paralysis, diminished hearing, and dysphagia.

SECTION 5: FIRE FIGHTING MEASURES

HAZARDOUS COMBUSTION PRODUCTS: Decomposition and combustion materials may be toxic. Burning may produce carbon monoxide and unidentified organic compounds.

CONDITIONS OF FLAMMABILITY: Sparks or flame. Product may burn, but does not ignite readily.

PROTECTIVE EQUIPMENT FOR FIREFIGHTERS: A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

EXTINGUISHING MEDIA: Carbon dioxide, alcohol-resistant foam, dry chemical, water spray or water fog. Water or foam may cause frothing.

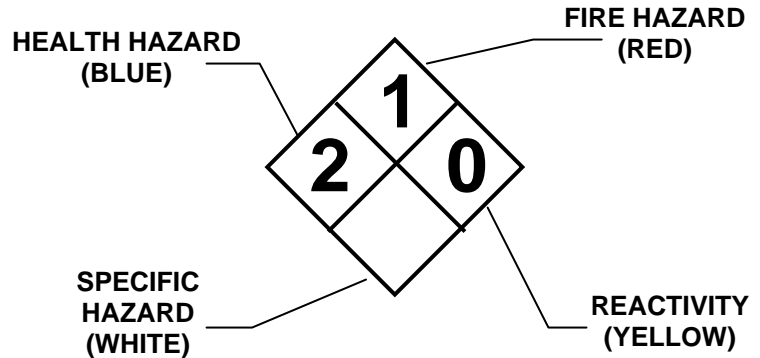
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NFPA 704

HAZARD IDENTIFICATION:

This information is intended solely for the use by individuals trained in this system.



FIRE FIGHTING INSTRUCTIONS: FIRE AND EXPLOSION HAZARDS:

Keep storage containers cool with water spray.

Heated containers may rupture. "Empty" containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact or static discharge.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean tool into a sealable container for disposal.

Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal.

There may be specific federal regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see **SECTION 15: REGULATORY INFORMATION**.

SECTION 7: HANDLING AND STORAGE

HANDLING:

Use clean tools. When transferring product, metal containers, including trucks and tank cars, should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, and shoes.

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SHIPPING AND STORING: Keep container tightly closed when not in use and during transport. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain product residue and can be dangerous.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Component Exposure Limits

Ethylene glycol (107-21-1)

ACGIH: 100 mg/m³ Ceiling (aerosol only)

OSHA: 50 ppm Ceiling; 125 mg/m³ Ceiling

ENGINEERING CONTROLS: Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION: Use NIOSH-certified, full-face, air-purifying respirators with P- or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Protection provided by air purifying respirators is limited. Do not use N-rated respirators. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

EYE PROTECTION: Where eye contact is likely, wear chemical goggles; contact lens use is not recommended.

SKIN PROTECTION: Where skin contact is likely, wear chemical impervious protective gloves; use of polyvinyl alcohol (PVA) or equivalent gloves is not recommended.

To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

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PERSONAL HYGIENE: Use good personal hygiene. Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse. Discard affected clothing, shoes, and/or protective equipment if they cannot be thoroughly cleaned. Discard leather articles, such as shoes, saturated with this product.

OTHER PROTECTIVE EQUIPMENT: Where spills and splashes are likely, facilities storing or using this product should be equipped with an emergency eyewash and shower, both equipped with clean water, in the immediate work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE, APPEARANCE, AND ODOR: Clear liquid with a mild odor (may contain dye in one of several colors)

ODOR THRESHOLD: Not available

MOLECULAR WEIGHT: Not available

SPECIFIC GRAVITY: 1.075 (water = 1)

DENSITY: 9.2 LB/US gal (1102 g/l) (approximately)

VAPOR DENSITY: 1.8 (air = 1)

VAPOR PRESSURE: 18 mm Hg at 68°F (20°C)

BOILING POINT: 226°F (107°C)

FREEZING/MELTING POINT: -34°F (-37°C)

pH: 9.5-10.5

EVAPORATION RATE: Not determined (butyl acetate = 1)

SOLUBILITY IN WATER: Complete

FLASH POINT: Not determined

FLAMMABLE LIMITS IN AIR: **LOWER:** Not determined **UPPER:** Not determined

AUTOIGNITION TEMPERATURE: Not determined

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% VOLATILE: 46-51 WT%; 4.1-4.6 LB/US gal (495-548g/l)
As per 40 CFR Part 51.100(s).

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under normal temperatures and pressures.

CONDITIONS TO AVOID: Keep away from ignition sources and incompatible materials.

INCOMPATIBILITY: Avoid acids, alkalies, oxidizing agents, reducing agents or reactive metals.

REACTIVITY: Polymerization is not known to occur under normal temperature and pressures. Not reactive with water.

HAZARDOUS DECOMPOSITION PRODUCTS: None under normal temperatures and pressures. See also **SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.**

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICITY DATA:

Component Analysis - LD50/LC50

Ethylene glycol (107-21-1)

Oral LD50 Rat: 4000 mg/kg

Dermal LD50 Rabbit: 9530 µL/kg

Diethylene glycol (111-46-6)

Oral LD50 Rat: 12565 mg/kg

Dermal LD50 Rabbit: 11890 mg/kg

ACUTE EFFECTS: May cause skin and eye irritation. May be fatal if swallowed. This product may cause blindness if it is swallowed. May cause throat irritation, nausea, vomiting, central nervous system effects. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

REPEATED DOSE EFFECTS: Ethylene glycol and diethylene glycol have demonstrated human effects of mutagenicity.

Ethylene glycol and diethylene glycol have demonstrated animal effects of reproductive toxicity.

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Ethylene glycol and diethylene glycol have demonstrated animal effects of teratogenicity.

Ethylene glycol may cause skin sensitization. The other component listed in **SECTION 2** is not a sensitizer.

CARCINOGENICITY:

Based on best current information for the components in **Section 2**, there is no known carcinogenicity as categorized by ACGIH A1 or A2 substances; as categorized by IARC Group 1, Group 2A, or Group 2B agents; or as listed by NTP as either known carcinogens or substances for which there is limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals.

TARGET ORGAN EFFECTS:

May damage lung, liver, and kidneys.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY:

Component Analysis - Ecotoxicity - Aquatic Toxicity

Ethylene glycol (107-21-1)

Test & Species

		Conditions
96 Hr LC50 Oncorhynchus mykiss	41000 mg/L	
96 Hr LC50 Lepomis macrochirus	27500 mg/L	
96 Hr LC50 Oncorhynchus mykiss	40761 mg/L	static
96 Hr LC50 Pimephales promelas	49000 mg/L	static
96 Hr LC50 Poecilia reticulata	16000 mg/L	static
96 Hr EC50 Selenastrum capricornutum	6500-1300 mg/L	

Diethylene glycol (111-46-6)

Test & Species

		Conditions
96 Hr LC50 Pimephales promelas	75200 mg/L	flow-through

PERSISTENCE/DEGRADABILITY:

No information available for the product.

BIOACCUMULATION/ACCUMULATION:

No information available for the product.

MOBILITY IN ENVIRONMENTAL MEDIA:

No information available for the product.

OTHER ADVERSE EFFECTS:

Product may be toxic to aquatic life. Also see **SECTION 12: ECOLOGICAL INFORMATION.**

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OCTANOL/WATER Not available.
PARTITION COEFFICIENT:
VOLATILE ORGANIC COMPOUNDS: 46-51 WT%; 4.1-4.6 LB/US gal (495-548g/l)
As per 40 CFR Part 51.100(s).

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL: Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

USEPA WASTE CODE(S): This product, if discarded, is not expected to be a characteristic or listed hazardous waste. Processing, use, or contamination by the user may change the waste code(s) applicable to the disposal of this product.

SECTION 14: TRANSPORT INFORMATION

DOT: **Shipping Name:** Not regulated as a hazardous material.
Additional Info.: Bulk Shipments: Where ethylene glycol is present at 544 gallons in a single package:
Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol)
UN 3082
Class 9

TDG: **Shipping Name:** Not regulated as a dangerous good.

EMERGENCY RESPONSE Not applicable.
GUIDE NUMBER: Reference *North American Emergency Response Guidebook*

SECTION 15: REGULATORY INFORMATION

USA REGULATIONS

SARA SECTIONS 302 AND 304: Based on the ingredients listed in **SECTION 2**, this product does not contain any "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

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SARA SECTIONS 311 AND 312: This product poses the following health hazards as defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA):
Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard

SARA SECTION 313: The following components are subject to the requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.

Component	CAS
Ethylene glycol	107-21-1

CERCLA: Based on the ingredients listed in SECTION 2, this product contains the following "hazardous substance" listed under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4 with the following reportable quantities (RQ):

Component	CAS	RQ
Ethylene glycol	107-21-1	5000 LBS (2270 kg)

TSCA: All the components of this product are listed on, or are automatically included as "naturally occurring chemical substances" on, or are exempted from the requirement to be listed on, the TSCA Inventory.

CALIFORNIA: This product does not contain detectable amounts of chemical known to the State of California to cause cancer.

This product does not contain detectable amounts of any chemical known to the State of California to cause birth defects or other reproductive harm.

CANADIAN REGULATIONS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): All the components of this product are listed on, or are automatically included as "substance occurring in nature" on, or are exempted from the requirements to be listed on, the Canadian Domestic Substances List (DSL).

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SECTION 16. OTHER INFORMATION

REVISION INFORMATION: Section 9, Density and VOC corrections.

LABEL/OTHER INFORMATION: Not available.

User assumes all risks incident to the use of this (these) product(s). To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the product(s) as supplied to the user.



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