

**SAFETY-KLEEN KHAMELEON HD
ANTIFREEZE AND COOLANT
MATERIAL SAFETY DATA SHEET FOR USA AND CANADA**



SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: SAFETY-KLEEN KHAMELEON HD
ANTIFREEZE AND COOLANT

SYNONYMS: Ethylene Glycol Based Antifreeze; Extended Life HOAT formulation for cars, light duty trucks, and heavy duty diesels. Prediluted 50/50 blend. Fully formulated.

PRODUCT CODE: 6538, 650038

PRODUCT USE: Antifreeze. 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.
5360 Legacy Drive
Building 2, Suite 100
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

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PREPARED BY: Product MSDS Coordinator

APPROVED BY: MSDS Task Force

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SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE

Clear light yellow liquid with mild odor.

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 kidney, liver, lung and central nervous system damage.

ENVIRONMENTAL HAZARDS

May be toxic to aquatic life.

OSHA Regulated Chemicals

No information is available.

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):**

Harmful or fatal if swallowed. May damage lung, liver, and kidneys. This product contains 40 ppm (0.004%) denatonium benzoate (BITRIX) bittering agent which has been added to help prevent ingestion by humans and animals. May cause throat irritation, nausea, vomiting, central nervous system effects as noted under **INHALATION (BREATHING)**, unconsciousness, coma, and death. Aspiration hazard: Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

**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.

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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, swelling (dermatitis) and skin sensitization. Contains material which may cause eye, kidney, liver and central nervous system damage. Contains material which may cause birth defects. Prolonged exposure may cause reproductive 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	Synonym	Wt. Percent
107-21-1	Ethylene glycol	1,2-ethandiol	40-60
65-85-0	Benzoic acid	Not Available	0.4-5
Not Available	Other glycols	Not Available	0-2.5

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.

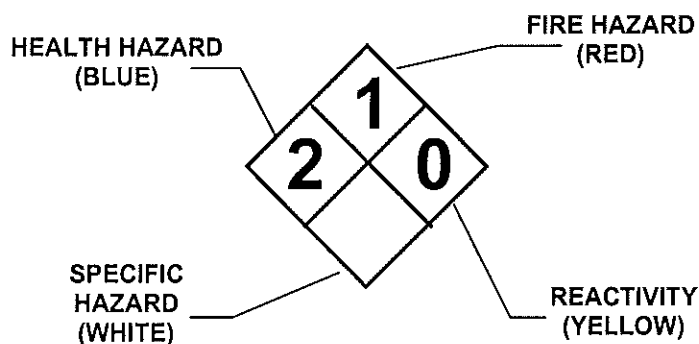
INGESTION (SWALLOWING): Do NOT induce vomiting. Immediately get medical attention. Call 1-800-468-1760 for additional information. If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIANS: Treat symptomatically and supportively. Administration of gastric lavage, if warranted, should be performed by qualified medical personnel. Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information.

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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.
NFPA 704 HAZARD IDENTIFICATION:	This information is intended solely for the use by individuals trained in this system.



FIRE FIGHTING INSTRUCTIONS:	Keep storage containers cool with water spray.
FIRE AND EXPLOSION HAZARDS:	Heated containers may rupture. "Empty" containers may retain residue and can be dangerous. Products are 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 absorb 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.

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There may be specific 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.
- 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 heat, flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain product residue and can be dangerous. See **SECTION 14: TRANSPORTATION INFORMATION** for Packing Group information.

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. 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-resistant 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 greenish yellow liquid with mild odor.

ODOR THRESHOLD: Not available.

MOLECULAR WEIGHT: Mixture

SPECIFIC GRAVITY: 1.060 - 1.090 @ 68°F

DENSITY: Not available

VAPOR DENSITY: Not available

VAPOR PRESSURE: 18 mmHg @ 20°C

BOILING POINT: Not available

FREEZING/MELTING POINT: -34°F (-36.7°C) max

pH: 7.9 - 8.9

EVAPORATION RATE: Less than 1 (butyl acetate = 1)

SOLUBILITY IN WATER: Complete.

FLASH POINT: Not available

FLAMMABLE LIMITS IN AIR: LOWER: Not available
UPPER: Not available

AUTOIGNITION TEMPERATURE: Not available

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under normal temperatures and pressures.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials

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INCOMPATIBILITY: Oxidizing materials, bases, acids, reducing agents, metals. Ethylene glycol reacts violently with chlorosulfonic acid, oleum, sulfuric acid, and perchloric acid. Causes ignition at room temperature with chromium trioxide, potassium permanganate and sodium peroxide.

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

Benzoic acid (65-85-0)

Oral LD50 Rat 1700 mg/kg

ACUTE EFFECTS:

Harmful or fatal if swallowed. The estimated lethal dose of Ethylene Glycol for an adult human is 100 ml (3.4 ounces). Intoxication following ingestion may cause central nervous system stimulation followed by central nervous system depression, cardio-respiratory failure, and renal failure. May damage lung, liver, and kidneys. Ingestion of even small amounts may cause kidney damage. This product contains 40 ppm (0.004%) denatonium benzoate (BITRIX) bittering agent which has been added to help prevent accidental ingestion by humans and animals. Irritating to the eyes and skin. May cause skin sensitization. High concentrations of vapor or mist may be harmful if inhaled.

REPEATED DOSE EFFECTS:

Prolonged or repeated inhalation may cause toxic effects as noted under Acute inhalation. 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, swelling (dermatitis) and/or skin sensitization.

Contains material which may cause birth defects. Prolonged exposure may cause reproductive or mutagenic effects. Ethylene glycol has shown teratogenic effects in laboratory animals. Ethylene glycol has demonstrated animal effects of mutagenicity.

Ethylene glycol has demonstrated human effects of skin sensitization.

CARCINOGENICITY:

Based on best current information for the components in **Section 3**, 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:

Contains material which may cause eye, kidney, liver, lung and central nervous system damage. Ingestion of even small amounts can cause

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kidney damage.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY:

Component Analysis - Ecotoxicity - Aquatic Toxicity

Ethylene glycol (107-21-1)

Test & Species	Results	Conditions
96 Hr LC50 Oncorhynchus mykiss	41000 mg/L	
96 Hr LC50 Oncorhynchus mykiss	14-18 ml/L	static
96 Hr LC50 Lepomis macrochirus	27540 mg/L	static
96 Hr LC50 Oncorhynchus mykiss	40761 mg/L	static
96 Hr LC50 Pimephales promelas	40000-60000 mg/L	static
96 Hr LC50 Poecilia reticulata	16000 mg/L	static
96 Hr EC50 Pseudokirchneriella subcapitata	6500 - 13000 mg/L	

Benzoic acid (65-85-0)

Test & Species	Results	Conditions
96 Hr LC50 Gambusia affinis	180 mg/L	
3 Hr EC50 Anabaena inaequalis	5 mg/L	

**PERSISTENCE/
DEGRADABILITY:**

When released into water, this material is not expected to evaporate significantly. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days.

**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.

**OCTANOL/WATER
PARTITION
COEFFICIENT:**

Not available.

**VOLATILE ORGANIC
COMPOUNDS:**

46-51 WT%; 4.1-4.6 LB/US gal; 495-548 g/l
As per 40 CFR Part 51.100(s)
Non-photochemically Reactive per SCAQMD Rule 102
VOC Vapor Pressure Approx 0.06 mmHG @ 20°C

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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 containing 5000 lbs or greater of ethylene glycol (~1070 gallon blended product)
UN3082, Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol), RQ, 9, PGIII

TDG: **Shipping Name:** Not regulated.

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

SECTION 15: REGULATORY INFORMATION

USA REGULATIONS

OSHA

OSHA Regulated Chemicals
No information is available.

SARA SECTIONS 302 AND 304:

Based on the ingredient(s) listed in **SECTION 3**, 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.

SARA SECTIONS 311 AND 312:

This product poses the following health hazard(s) 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 component is 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.
Ethylene glycol (107-21-1) 1.0 % de minimis concentration

CERCLA:

Based on the ingredient(s) listed in **SECTION 3**, this product contains the following "hazardous substance(s)" 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):

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Ethylene glycol (107-21-1)
5000 lb final RQ; 2270 kg final RQ

Benzoic
Acid (65-
85-0)
5000 lb final RQ; 2270 kg final RQ

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 any 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).

SECTION 16. OTHER INFORMATION

REVISION INFORMATION: Regulatory update; Section 9, added vapor pressure.

LABEL/OTHER INFORMATION: Container – SK817423
Container Top ID Label – SK817427
Dispensing Unit – SK817395

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.