

DefendAL Heavy Duty Extended Life Coolant / Antifreeze 50/50

MSDS Number: 9036

Revision Date: 3/9/2012

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| 1 | PRODUCT AND COMPANY IDENTIFICATION |
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Manufacturer

KOST USA, Inc
1000 Tennessee Ave.
Cincinnati, OH 45229

Contact: Customer Service
Phone: (800) 661-9391
Fax: (513) 492-5555
Email: sales@kostusa.com
Web: www.kostusa.com

Product Name: DefendAL Heavy Duty Extended Life Coolant / Antifreeze 50/50
Revision Date: 3/9/2012
Version: 2
MSDS Number: 9036
Common Name: Mixture
CAS Number: Mixture
Product Code: 9036
Chemical Family: Mixture
Synonyms: Engine Coolant, Antifreeze
Product Use: Engine Coolant, Antifreeze

Emergency Telephone Number: 800-424-9300 (Chemtrec)

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| 2 | HAZARDS IDENTIFICATION |
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Route of Entry: Eyes; Skin; Inhalation; Ingestion;
Target Organs: Kidneys; Eyes; Central nervous system; Liver; Respiratory system; Skin;
Inhalation: Vapours may be irritating to respiratory system.
Skin Contact: Brief contact is essentially nonirritating. Prolonged contact may cause irritation.
Eye Contact: May cause irritating. Vapour or mist may cause irritation
Ingestion: Harmful if swallowed. Large amounts may be harmful or fatal if swallowed. May casue drowsiness and dizziness.

WHMIS classification:

Class D1B (Materials Causing Immediate and Serious Toxic Effects, Toxic Material)
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material)

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| 3 | COMPOSITION/INFORMATION ON INGREDIENTS |
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Ingredients:

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| Cas # | Perc. | Chemical Name |
|-------------|--------|--------------------------------------|
| 107211 | 40-55% | Ethylene glycol |
| 7732185 | 45-55% | Water |
| 111466 | 0-5% | Diethylene glycol |
| 19766893 | 1-5% | Hexanoic acid, 2-ethyl-, sodium salt |
| Proprietary | 1-5% | Corrosion Inhibitors and Dye |

4 FIRST AID MEASURES

- Inhalation:** If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.
- Skin Contact:** Remove contaminated clothing and wash before reuse. Promptly flush skin with water until all chemical is removed. Wash with soap and water.
- Eye Contact:** Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation. Remove contact lenses after initial 1-2 minutes of flushing and continue flushing. Get immediate medical attention.
- Ingestion:** DO NOT DELAY. Do not induce vomiting. For spontaneous vomiting, keep head below hips. Dilute with 1 glass of water. Do NOT give liquids to a drowsy, convulsing or unconscious person. Seek immediate medical attention.

Notes to Physician: May cause significant renal, respiratory and CNS toxicity. May cause significant acidosis. Consider: Gastric lavage with protective airway, administration of ethanol or alcohol dehydrogenase inhibitors, such as fomepizole, as antidotal treatments. Call a doctor or poison control center for guidance.

5 FIRE FIGHTING MEASURES

- Flammability:** OSHA/NFPA Class IIIB combustible liquid
- Flash Point:** Not Available
- Autoignition Temp:** 427°C (801°F)
- LEL:** 3.2% volume
- UEL:** Not Determined

Extinguishing Media: Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do not use direct water stream.

Specific Hazards: Material will not burn unless preheated. Containers exposed to intense heat from fires should be cooled with large quantities of water.

Protective Equipment: Wear full protective clothing and self-contained breathing apparatus (SCBA).

Hazardous Combustion Products: Smoke may contain the original material in addition but not limited to: Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides.

6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Isolate area. Avoid contact with spilled material. Watch out for slippery conditions when spillage. Refer to Section 8 of this Material Safety Data Sheet for personal protective equipment.

Clean Up Methods: Contain spilled material if possible. Collect in suitable and properly labeled containers. Small spills: Pick

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up excess with inert absorbant material and place into separate waste container. Large Spills: Dike material. Keep away from drains and ground water. Pump into suitable and properly containers or salvage truck for recovery or safe disposal. See Section 13 for disposal considerations.

Additional Advice: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

7 HANDLING AND STORAGE

- Handling Precautions:** Do not swallow. Avoid contact with eyes, skin, or clothing. Consider normal working hygiene. Wash thoroughly after handling. Wash clothing before reuse and decontaminate or discard contaminated shoes. Do not expose containers to open flame, excessive heat, or direct sunlight. Do not puncture or drop containers. Handle with care and avoid spillage on the floor (slippage). Keep material out of reach of children. Use local exhaust over processing area.
- Storage Requirements:** Keep away from heat, sparks, and flames. Protect container and its fittings from physical damage. Store in cool/dry area. Suitable packing materials. Do not store near food, foodstuffs, drugs or potable water supplies.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering Controls:** Use mechanical (general) ventilation to control airborne levels below exposure guidelines.
- Personal Protective Equip:** HMIS PP, C | Goggles, Gloves, Apron
- Eyes/Face Protection: Usage of safety glasses/ goggles is recommended.
- Skin Protection: Chemical resistant gloves; Apron; Boots; Face shield or Full suit selection will depend on task. Launder contaminated clothing before use.
- Hand Protection: Use of gloves approved to relevant standards made from the following materials may provide suitable protection: PVC, Neoprene rubber or nitrile rubber. Personal hygiene is a key element of effective hand care.
- Respiratory Protection: If ventilation does not control airborne concentrations, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
- Ingestion: Use good personal hygiene. do not consume food in the work area. wash hands before eating, drinking or smoking.

Exposure Limits:

| Component | List | Type | Value |
|-------------------|-----------|-----------------|--------------------|
| Ethylene Glycol | ACGIH | Ceiling | 100 mg/m3 |
| | OSHA PEL | Aerosol Ceiling | 50 ppm (125 mg/m3) |
| Diethylene Glycol | AIHA WEEL | | 10 mg/m3 |

9 PHYSICAL AND CHEMICAL PROPERTIES

- Appearance:** Red
- Physical State:** Liquid
- Spec Grav./Density:** 1.072 @ 20°C
- Odor:** Characteristic
- Solubility:** Completely

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Boiling Point: >107°C (225°F)
Vapor Pressure: <0.1 mmHg @ 20°C
pH: 8.5

Freezing/Melting Pt.: -38°C (-37°F)
Vapor Density: >1.0

10 STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions.
Conditions to Avoid: High Temperature.
Materials to Avoid: Strong Oxidizing Agents. Strong Acids; Strong Bases.
Hazardous Decomposition: Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon monoxide. Aldehydes; Alcohols; Ethers; Ammonia
Hazardous Polymerization: Will not occur.

11 TOXICOLOGICAL INFORMATION

Acute Toxicity: Based on Ethylene Glycol

Oral (LD 50): Rat >2000 mg/kg. Human adult 3 Ounces

Inhalation (LC 50): 7h, Aersol, Rat >3.95 mg/l. inhalation of vapours may cause irritation to the respiratory system

Skin irritation: May cause moderate skin irritation.

Dermal Toxicity (LD 50): Rabbit >2000 mg/kg (Low)

Eye irritation: Moderately irritating to eyes.

Sensitation: Not a skin sensitiser

Chronic Toxicity and Carcinogenicity: Did not cause cancer in long term animal studies

Repeated Dose Toxicity: Shown effects on: Kidney, Liver, Central Nervous System

Mutagenicity: Not known

Reproductive and Developmental Toxicity: Ingestion of large amounts have shown to interfere with reproduction and product birth effects in animals.

12 ECOLOGICAL INFORMATION

Acute Toxicity: No data on the product itself

Mobility: Dissolves in water. If product enters soil, it will be highly mobile and may contaminate ground water.

Persistence/degradability: No data on the product itself.

Bioaccumulation: Does not bioaccumulate significantly.

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13 DISPOSAL CONSIDERATIONS

This material, if discarded as produced, is not a RCRA "listed" hazardous waste. However, it should be fully characterized for toxicity and possible reactivity prior to disposal (40 CFR 261). Use which results in chemical or physical change or contamination may subject it to regulation as a hazardous waste. Along with properly characterizing all waste materials, consult state and local regulations regarding the proper disposal of this material.

Container contents should be completely used and containers should be emptied prior to discard. Container rinsate could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum reconditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities.

14 TRANSPORT INFORMATION

US DOT Classification (49CFR)

Identification Number: NA 3082
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
Technical Name: (contains Ethylene Glycol)
Class/Division: 9
Packing Group: III
Reportable Quantity: 5,000 lbs
ERG page number: 171

Canadian Road and Rail Shipping Classification

NOT REGULATED

IMDG

NOT REGULATED

IATA/ICAO

NOT REGULATED

15 REGULATORY INFORMATION

OSHA Hazard Communication Standard:

This product is a "Hazardous Chemical" as defined by the OSHA 29CFR 1910.1200

SARA Hazardous Categories Section 311/312 (EPCRA):

Immediate (Acute): yes

Delayed (Chronic): yes

Fire: no

Reactive: no

Sudden Release: no

SARA Toxic Release Inventory Section 313 (TRI):

| Component | Cas | Percentage |
|-----------------|----------|------------|
| Ethylene Glycol | 107-21-1 | >45% |

CERCLA

| Component | Cas | Reportable Quantity |
|-----------------|----------|---------------------|
| Ethylene Glycol | 107-21-1 | 5,000 lbs |



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California Safe Water Drinking and Toxic Enforcement Act (Proposition 65)

This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Component Notification Status

DSL (CA) Listed
TSCA (US) Listed

COMPONENT / (CAS/PERC) / CODES

*Ethylene glycol (107211 40-55%) CERCLA, HAP, MASS, NJHS, OSHAWAC, PA, SARA313, TSCA, TXAIR

*Water (7732185 45-55%) TSCA

*Diethylene glycol (111466 0-5%) HAP, PA, TSCA

*Hexanoic acid, 2-ethyl-, sodium salt (19766893 1-5%) TSCA

REGULATORY KEY DESCRIPTIONS

CERCLA = Superfund clean up substance
HAP = Hazardous Air Pollutants
MASS = MA Massachusetts Hazardous Substances List
NJHS = NJ Right-to-Know Hazardous Substances
OSHA = OSHA workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
SARA313 = SARA 313 Title III Toxic Chemicals
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level

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| 16 | OTHER INFORMATION |
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Disclaimer:

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