



# DefendAL Global Heavy Duty Extended Life Antifreeze/Coolant Concentrate, 50/50

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 01/12/2018 Version: 1.0

## SECTION 1: Identification

### 1.1. Identification

Product form : Mixture  
Product name : DefendAL Global Heavy Duty Extended Life Antifreeze/Coolant Concentrate, 50/50

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Antifreeze.  
Coolant.

### 1.3. Details of the supplier of the safety data sheet

KOST@ USA, Inc.  
1000 Tennessee Ave.  
Cincinnati, 45229 - USA  
T 1-800-661-9391 - F 1-513-492-5555  
[sales@kostusa.com](mailto:sales@kostusa.com) - [www.kostusa.com](http://www.kostusa.com)

### 1.4. Emergency telephone number

Emergency number : 1-800-424-9300  
CHEMTREC (24 HOURS)

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

#### GHS-US classification

Acute toxicity (oral) Category 4 H302  
Specific target organ toxicity (repeated exposure) Category 2 H373

Full text of H statements : see section 16

### 2.2. Label elements

#### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Warning  
Hazard statements (GHS-US) : H302 - Harmful if swallowed  
H373 - May cause damage to organs through prolonged or repeated exposure  
Precautionary statements (GHS-US) : P260 - Do not breathe mist, spray, vapors.  
P264 - Wash hands thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product  
P301+P312 - If swallowed: Call a doctor if you feel unwell  
P314 - Get medical advice/attention if you feel unwell.  
P330 - Rinse mouth.  
P501 - Dispose of contents/container to Collection point

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

0.65% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)  
0.65% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)  
0.65% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

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Name	Product identifier	%	GHS-US classification
Ethylene glycol	(CAS-No.) 107-21-1	50 - < 100	Acute Tox. 4 (Oral), H302 STOT RE 2, H373

\*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of hazard classes and H-statements : see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of soap and water.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- First-aid measures after ingestion : Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/effects : Causes damage to organs through prolonged or repeated exposure.
- Symptoms/effects after eye contact : Direct contact with the eyes is likely to be irritating.
- Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed.

#### 4.3. Indication of any immediate medical attention and special treatment needed

All treatments should be based on observed signs and symptoms of distress in the patient.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Sand. Water spray.
- Unsuitable extinguishing media : None known.

#### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : No specific fire or explosion hazard.
- Reactivity : No dangerous reactions known.

#### 5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Do not allow run-off from fire fighting to enter drains or water courses.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear fire/flame resistant/retardant clothing. Wear a self contained breathing apparatus.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid all eye and skin contact and do not breathe vapor and mist.

##### 6.1.1. For non-emergency personnel

- Protective equipment : Wear suitable gloves resistant to chemical penetration.
- Emergency procedures : Ventilate area.

##### 6.1.2. For emergency responders

- Protective equipment : Wear suitable gloves. Where excessive vapor, mist, or dust may result, use approved respiratory protection equipment.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

- For containment : Absorb and/or contain spill with inert material, then place in suitable container.

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Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Take up in non-combustible absorbent material and shove into container for disposal.

### 6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid breathing mist, spray, vapors.  
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Keep only in the original container in a cool well ventilated place.  
Incompatible products : Strong oxidizing agents. Strong acids. Strong bases.  
Incompatible materials : Heat sources. Direct sunlight.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Ethylene glycol (107-21-1)		
ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
ACGIH	ACGIH Ceiling (ppm)	39.4 ppm
ACGIH	Remark (ACGIH)	Kidney dam; URT & eye irr
NIOSH	NIOSH REL (ceiling) (ppm)	50 ppm

### 8.2. Exposure controls

Appropriate engineering controls : Avoid creating mist or spray. Avoid splashing. Either local exhaust or general room ventilation is usually required.  
Personal protective equipment : Avoid all unnecessary exposure.  
Hand protection : It is a good industrial hygiene practice to minimize skin contact. In case of repeated or prolonged contact wear gloves.  
Eye protection : In case of splashing or aerosol production: protective goggles.  
Respiratory protection : In case of inadequate ventilation wear respiratory protection. Use an approved respirator equipped with oil/mist cartridges.  
Other information : Do not eat, drink or smoke when using this product.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Liquid  
Color : Yellow  
Odor : odorless  
Odor threshold : No data available  
pH : 8 - 8.8  
Melting point : No data available  
Freezing point : -38 °C  
Boiling point : > 107 °C  
Flash point : No data available  
Relative evaporation rate (butyl acetate=1) : No data available  
Flammability (solid, gas) : No data available  
Explosive limits : No data available  
Explosive properties : No data available  
Oxidizing properties : No data available  
Vapor pressure : < 0.1 mm Hg @ 20 °C

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Relative density	: 1.077 @ 20 °C
Relative vapor density at 20 °C	: > 1
Solubility	: Soluble in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known.

### 10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Avoid excessive heat or cold. Keep away from sources of ignition.

### 10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers.

### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure : Skin and eye contact; Inhalation

Acute toxicity : Oral: Harmful if swallowed.

DefendAL Global Heavy Duty Extended Life Antifreeze/Coolant Concentrate, 50/50	
ATE US (oral)	510.936 mg/kg body weight

Ethylene glycol (107-21-1)	
LD50 dermal rat	> 3500 mg/kg (mouse)
LC50 inhalation rat (mg/l)	> 2.5 mg/l/4h
ATE US (oral)	500 mg/kg body weight

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Ethylene glycol (107-21-1)	
LOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight/day
NOAEL (oral, rat, 90 days)	150 mg/kg bodyweight/day kidney

Aspiration hazard : Not classified

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Symptoms/effects after eye contact : Direct contact with the eyes is likely to be irritating.  
Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ethylene glycol (107-21-1)	
LC50 fish 1	72860 mg/l Pimephales promelas
EC50 Daphnia 1	> 100 mg/l
NOEC chronic fish	15380 mg/l Pimephales promelas
NOEC chronic crustacea	8590 mg/l Ceriodaphnia sp.

#### 12.2. Persistence and degradability

Ethylene glycol (107-21-1)	
Persistence and degradability	Readily biodegradable.
Biodegradation	> 60 % 28 d

#### 12.3. Bioaccumulative potential

Ethylene glycol (107-21-1)	
Log Pow	- 1.36
Bioaccumulative potential	Not expected to bioaccumulate.

#### 12.4. Mobility in soil

#### 12.5. Other adverse effects

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.  
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description : RQ, UN3082 Environmentally hazardous substances, liquid, n.o.s. (Ethylene Glycol 10,309 lbs), 9, III  
UN-No.(DOT) : UN3082  
Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s.  
Ethylene Glycol 10,309 lbs  
Transport hazard class(es) (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140  
Packing group (DOT) : III - Minor Danger  
Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



Other information : RQ: Conc. >= 5191 lbs, 50/50 >= 9819 lbs

#### Transport by sea

Not applicable

#### Air transport

Not applicable

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### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Ethylene glycol	CAS-No. 107-21-1	50 - < 100%
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Ethylene glycol (107-21-1)	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
CERCLA RQ	5000 lb

#### 15.2. International regulations

##### CANADA

Ethylene glycol (107-21-1)	
Listed on the Canadian DSL (Domestic Substances List)	
Non-Haz Substance, Unknown Acute Tox.	
Listed on the Canadian DSL (Domestic Substances List)	

##### EU-Regulations

Ethylene glycol (107-21-1)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	
Non-Haz Substance, Unknown Acute Tox.	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	

##### National regulations

Ethylene glycol (107-21-1)	
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory	
Listed on the AICS (Australian Inventory of Chemical Substances)	
Listed on Taiwan National Chemical Inventory	
Listed on NZIoC (New Zealand Inventory of Chemicals)	
Listed on KECI (Korean Existing Chemicals Inventory)	
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)	
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)	

#### 15.3. US State regulations

**⚠ WARNING** This product can expose you to Ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ethylene glycol (107-21-1)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	No	No		

Ethylene glycol (107-21-1)	
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities	
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances	
U.S. - Pennsylvania - RTK (Right to Know) List	

### SECTION 16: Other information

#### Disclaimer:

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Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

End-use applications **NOT** supported by KOST® USA, Inc. for monoethylene glycol, diethylene glycol and triethylene glycol. These limitations include products restricted by law, applications in which may raise unacceptable risks, and other applications which KOST® USA, Inc. has decided not to, including minimizing unnecessary risk and liabilities to the company. KOST® USA, Inc. does not knowingly market these products into these non-supported applications. This list is not all-inclusive, and KOST® USA, Inc. reserves the right to modify the same at any time.

- The use of production of tobacco and in the manufacture of tobacco products (including but not limited to additives, humectants, filters, inks, and paper)
- The use for the generation of artificial smoke / theatrical fogs / mist. This includes applications such as artificial / e-cigarettes.
- The use as ingredient in fuel for warming foods (Sterno™-like application) or in fuel for heating an enclosed space where human exposure is possible.
- The use in fire extinguishing sprinkler systems.
- The use in the manufacture of munitions.
- The use in the production of de-icers for use on roadways, sidewalks and in aircraft lavatories.
- The use as a component of heat transfer fluids in systems where the heat transfer fluids could infiltrate (i.e., via an exchanger leak, backflow prevention failure, or other means) a potable water.
- The use as a non-reacted component in a formulation for direct internal or external human / animal contact, including, but not limited to ingestion, inhalation, and skin contact and in medical / veterinary devices and medial / veterinary. Examples of some such applications are uses as a direct component in foods, beverages, pharmaceuticals, cosmetics, personal care products or children's products.
- The use for consumer or hospital usage for deodorizing or air "purifying" purposes by spraying as an aerosol.
- The use as a non-reacted component in adhesives, plasticizers, and softening agents for packaging having direct contact with food or beverage.
- The use as a non-reacted component in the formulation of glues, pastes, ice / heat packs or other items where the potential for significant human contact and/or ingestion exists (including but not limited to children's school glue/paste or arts/craft glue/paste, toys, children products).
- The use as a fluid for pressure testing piping.

For more information contact your KOST® USA, Inc. representative.

Data sources : ESIS (European chemical Substances Information System; accessed at: <http://esis.jrc.ec.europa.eu/index.php?PGM=cla>. European Chemicals Agency (ECHA) Registered Substances list. Accessed at <http://echa.europa.eu/>. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition. OSHA 29CFR 1910.1200 Hazard Communication Standard. TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>. United Nations Economic Commission for Europe: About the GHS. Accessed at [http://www.unece.org/trans/danger/publi/ghs/ghs\\_welcome\\_e.html](http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html).

Other information : None.

Full text of H-phrases:

H302	Harmful if swallowed
H373	May cause damage to organs through prolonged or repeated exposure

Abbreviations and acronyms:

	ACGIH (American Conference of Government Industrial Hygienists)
	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	CLP: Classification, Labelling, Packaging.
	LD50: Lethal Dose for 50% of the test population
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals)
	OSHA: Occupational Safety & Health Administration
	TSCA: Toxic Substances Control Act
	STEL: Short Term Exposure Limits
	TWA: Time Weighted Average

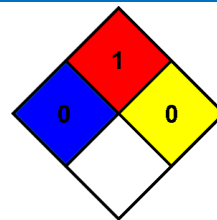
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NFPA health hazard	: 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard	: 1 - Materials that must be preheated before ignition can occur.
NFPA reactivity	: 0 - Material that in themselves are normally stable, even under fire conditions.



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