



# DefendAL Glycerin Free Bio Marine & RV Antifreeze -50 °F, -100 °F, -200 °F

## Safety Data Sheet

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

Date of issue: 10/29/2014 Version: 1.0

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name. : DefendAL Bio Marine & RV Antifreeze -50 °F, -100 °F, -200 °F  
Synonyms : DefendAL Bio Marine & RV Antifreeze -50 °F - 2-9031  
DefendAL Bio Marine & RV Antifreeze -100 °F - 2-9030  
DefendAL Bio Marine & RV Antifreeze -200 °F - 2-9032

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

Use of the substance/mixture : Antifreeze.

#### 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: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Not classified

#### 2.2. Label elements

##### GHS-US labelling

No labelling applicable

#### 2.3. Other hazards

No additional information available

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

Not applicable

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixture

There are no hazardous components present. Main ingredients of composition are shown for informational purposes. Exact concentrations withheld as trade secret.

Name	Product identifier	%	GHS-US classification
propylene glycol	(CAS No) 57-55-6	25 – 98	Not classified
Water	(CAS No) 7732-18-5	1 – 75	Not classified
Glycerol	(CAS No) 56-81-5	0 - 35	Not classified

Full text of H-phrases: 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 : Gently wash with plenty of soap and water.  
First-aid measures after eye contact : If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
First-aid measures after ingestion : Do NOT induce vomiting. Rinse mouth. Get medical advice/attention if you feel unwell.

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

Symptoms/injuries after inhalation	: In high concentrations : Inhalation may cause: irritation, coughing, shortness of breath.
Symptoms/injuries after skin contact	: None under normal use.
Symptoms/injuries after eye contact	: Direct contact with the eyes is likely irritating.
Symptoms/injuries after ingestion	: None under normal use. Like any product not designed to be ingested, this product may cause stomach distress if ingested in large quantities.

### 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. No special procedures required.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Carbon dioxide. Dry powder. Foam. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 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	: Cool adjacent structures and containers with water spray to protect and prevent ignition. 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 a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Protective equipment	: In case of inadequate ventilation wear respiratory protection.
Emergency procedures	: Evacuate area.

#### 6.1.2. For emergency responders

Protective equipment	: Where excessive vapour, mist, or dust may result, use approved respiratory protection equipment.
Emergency procedures	: Ventilate area.

### 6.2. Environmental precautions

Contains no substances known to be hazardous to the environment. Do not discharge into drains or 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. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	: Large Spills: Dike far ahead of spill for later disposal. Use a non-combustible material like cerniculite, sand, or earth to soak up the product and place into a container for later 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 all eyes and skin contact and do not breathe vapour and mist. Do not eat, drink or smoke when using this product.
Hygiene measures	: 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 only in the original container in a cool well ventilated place. Protect from moisture.
Incompatible products	: Strong oxidizers. Strong acids. Strong bases.
Incompatible materials	: Heat sources.

### 7.3. Specific end use(s)

Antifreeze.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

propylene glycol (57-55-6)		
ACGIH	Not applicable	
OSHA	Not applicable	
Water (7732-18-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
Glycerol (56-81-5)		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
ACGIH	Remark (ACGIH)	URT irr

#### 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. neoprene gloves. nitrile rubber gloves.
Eye protection	: In case of splashing or aerosol production: protective goggles.
Respiratory protection	: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. 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
Colour	: Pink to red, blue, clear
Odour	: Odourless
Odour threshold	: No data available
pH	: 8.1-8.8
Relative evaporation rate (butylacetate=1)	: No data available
Melting / Freezing point	: -59.4 - -10.5 °C
Boiling point	: 102 -180 °C
Flash point	: None
Self ignition temperature	: 371 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: < 0.1 mm Hg @ 20 °C
Relative vapour density at 20 °C	: > 1
Relative density	: 1.042 - 1.11 Specific Gravity
Solubility	: Material highly soluble in water. Water: Solubility in water of component(s) of the mixture : • Triethanolamine: > 1000 g/l • Dipotassium Phosphate: 63 - 65 %
Log Pow	: No data available
Log Kow	: No data available
Viscosity	: No data available
Explosive limits	: No data available

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No dangerous reactions known.

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### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Exposure to extremely high temperatures.

### 10.5. Incompatible materials

Strong oxidizing agents. Strong bases. Strong acids.

### 10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Aldehydes. Alcohols.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

propylene glycol (57-55-6)	
LD50 oral rat	22000 mg/kg bodyweight
LD50 dermal rat	20800 mg/kg bodyweight
ATE US (oral)	22000.000 mg/kg bodyweight
ATE US (dermal)	20800.000 mg/kg bodyweight
Glycerol (56-81-5)	
LD50 oral rat	5570 mg/kg
ATE US (oral)	5570.000 mg/kg
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: 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)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: In high concentrations : Inhalation may cause: irritation, coughing, shortness of breath.
Symptoms/injuries after skin contact	: None under normal use.
Symptoms/injuries after eye contact	: Direct contact with the eyes is likely irritating.
Symptoms/injuries after ingestion	: None under normal use. Like any product not designed to be ingested, this product may cause stomach distress if ingested in large quantities.
Likely routes of exposure	: Skin and eyes contact, inhalation

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : No ecotoxicological data about this product are known.

propylene glycol (57-55-6)	
LC50 fishes 1	51400 mg/l 96h fathead minnow
EC50 Daphnia 1	43500 mg/l 48h
EC50 other aquatic organisms 1	27300 mg/l 48h

### 12.2. Persistence and degradability

DefendAL Bio Marine & RV Antifreeze -50 °F, -100 °F, -200 °F	
Persistence and degradability	inherently biodegradable.
Glycerol (56-81-5)	
Persistence and degradability	Readily biodegradable.

### 12.3. Bioaccumulative potential

DefendAL Bio Marine & RV Antifreeze -50 °F, -100 °F, -200 °F	
Bioaccumulative potential	This product is not bioaccumulating.

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<b>propylene glycol (57-55-6)</b>	
Log Kow	-0.78

### 12.4. Mobility in soil

<b>DefendAL Bio Marine &amp; RV Antifreeze -50 °F, -100 °F, -200 °F</b>	
Ecology - soil	Dissolves in water. If products enter soil, will be highly mobile and may contaminate ground water.

### 12.5. Other adverse effects

Effect on ozone layer : No known ecological damage caused by this product.  
Effect on the global warming : No known ecological damage caused by this product.

## 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

In accordance with DOT  
Not considered a dangerous good for transport regulations

### Additional information

Other information : No supplementary information available.

### ADR

No additional information available

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

<b>propylene glycol (57-55-6)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Glycerol (56-81-5)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### 15.2. International regulations

#### CANADA

<b>DefendAL Bio Marine &amp; RV Antifreeze -50 °F, -100 °F, -200 °F</b>	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>propylene glycol (57-55-6)</b>	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
<b>Glycerol (56-81-5)</b>	
Listed on the Canadian DSL (Domestic Substances List) inventory.	

#### EU-Regulations

<b>propylene glycol (57-55-6)</b>	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.	
<b>Glycerol (56-81-5)</b>	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.	

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

#### Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

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### 15.2.2. National regulations

#### propylene glycol (57-55-6)

Listed on Inventory of Chemicals and Chemical Substances (PICCS)  
Listed on Inventory of Existing Chemical Substances (IECSC)  
Listed on KECI (Chemical Inventory of Korea)  
Listed on New Zealand - Inventory of Chemicals (NZIoC)  
Listed on Taiwan National Chemical Inventory  
Listed on the AICS (the Australian Inventory of Chemical Substances).  
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.

#### Glycerol (56-81-5)

Listed on Inventory of Existing Chemical Substances (IECSC)  
Listed on KECI (Chemical Inventory of Korea)  
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.  
Listed on Taiwan National Chemical Inventory  
Listed on Inventory of Chemicals and Chemical Substances (PICCS)  
Listed on the AICS (the Australian Inventory of Chemical Substances).  
Listed on New Zealand - Inventory of Chemicals (NZIoC)

### 15.3. US State regulations

#### Glycerol (56-81-5)

U.S. - New Jersey - Right to Know Hazardous Substance List

## SECTION 16: Other information

### Disclaimer:

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 monopropylene 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 the manufacture of munitions.
- The use in aircraft deicers.
- KOST USA propylene containing products can not be upgraded to or substituted for USP monopropylene glycol, nor used in any pharmaceutical or other application such as cosmetics and personal or animal health care.
- 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).

For more information contact your Kost USA, Inc. representative.

Indication of changes

: Original Document.

Data sources

: European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>.

Kristen 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.

NIOSH Occupational Health Guide for chemical Substances - Vol. II, September, 1978.

TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>.

OSHA 29CFR 1910.1200 Hazard Communication Standard.

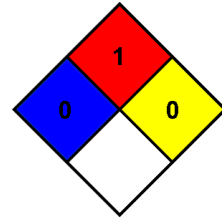
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Abbreviations and acronyms : ACGIH (American Conference of Government Industrial Hygienists).  
ATE: Acute Toxicity Estimate.  
CAS (Chemical Abstracts Service) number.  
CLP: Classification, Labelling, Packaging.  
EC50: Environmental Concentration associated with a response by 50% of the test population.  
LD50: Lethal Dose for 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 Weight Average.

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.  
NFPA fire hazard : 1 - Must be preheated before ignition can occur.  
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



SDS US (GHS HazCom 2012)

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