



DefendAL Enviro Automotive Antifreeze Concentrate, 50/50

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Date of issue: 10/30/2014
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SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : DefendAL Enviro Automotive Antifreeze 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 - 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

Skin sensitisation, Category 1 H317
Reproductive toxicity, Category 1B H360
Full text of H statements : see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H317 - May cause an allergic skin reaction
H360 - May damage fertility or the unborn child

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing mist, spray, vapours
P272 - Contaminated work clothing must not be allowed out of the workplace
P280 - Wear protective gloves
P302+P352 - If on skin: Wash with plenty of soap, Water
P308+P313 - If exposed or concerned: Get medical advice/attention
P321 - Specific treatment (see First aid measures on this label)
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

0% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
0% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
0% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
disodium tetraborate, anhydrous	(CAS-No.) 1330-43-4	0.01 – 0.3	Repr. 1B, H360 STOT RE 2, H373
sodium mercaptobenzothiazole	(CAS-No.) 2492-26-4	0.01 – 0.3	Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

*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 : Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
- 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 : May damage fertility or the unborn child.
- Symptoms/effects after skin contact : May cause an allergic skin reaction.

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

6.2. Environmental precautions

Avoid release to the environment.

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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.
- 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, vapours. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.
- Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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

disodium tetraborate, anhydrous (1330-43-4)		
ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
ACGIH	ACGIH STEL (mg/m ³)	6 mg/m ³
ACGIH	Remark (ACGIH)	Varies URT irr
OSHA	OSHA PEL (TWA) (mg/m ³)	10 mg/m ³ 8 hours
NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³ 10 hours
sodium mercaptobenzothiazole (2492-26-4)		
Not applicable		

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 : Wear suitable gloves. Nitrile rubber gloves.
- Eye protection : In case of splashing or aerosol production: protective goggles.
- Skin and body protection : Wear suitable protective clothing. Impervious clothing.
- Respiratory protection : In case of inadequate ventilation wear respiratory protection. Use an approved respirator equipped with oil/mist cartridges.
- Consumer exposure controls : Avoid contact during pregnancy/while nursing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Free & clear.
- Colour : Green Fuchsia
- Odour : odourless
- Odour threshold : No data available
- pH : 10.2 - 10.8
- Melting point : No data available
- Freezing point : -50 °C
- Boiling point : 180 °C
- Flash point : No data available

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Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Vapour pressure	: < 0.1 mm Hg @ 20 °C
Relative density	: 1.045 @ 20 °C
Relative vapour 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 : Not classified

disodium tetraborate, anhydrous (1330-43-4)	
LD50 oral rat	3450 mg/kg male
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 2.03 mg/l 5h
ATE US (oral)	3450 mg/kg bodyweight
sodium mercaptobenzothiazole (2492-26-4)	
LD50 oral rat	2100 mg/kg male
LD50 dermal rabbit	> 7940 mg/kg New Zealand White Rabbit
ATE US (oral)	2100 mg/kg bodyweight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: May damage fertility or the unborn child.

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Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

disodium tetraborate, anhydrous (1330-43-4)	
LOAEL (oral, rat, 90 days)	58.5 mg/kg bodyweight/day
NOAEL (oral, rat, 90 days)	17.5 mg/kg bodyweight/day

Aspiration hazard : Not classified

Symptoms/effects after skin contact : May cause an allergic skin reaction.

SECTION 12: Ecological information

12.1. Toxicity

disodium tetraborate, anhydrous (1330-43-4)	
LC50 fish 1	74 mg/l 96h Limanda limanda

sodium mercaptobenzothiazole (2492-26-4)	
LC50 fish 1	1.87 mg/l 96h

12.2. Persistence and degradability

12.3. Bioaccumulative potential

sodium mercaptobenzothiazole (2492-26-4)	
Log Pow	2.42

12.4. Mobility in soil

12.5. Other adverse effects

Effect on the global warming : No known effects from 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

Department of Transportation (DOT)

In accordance with DOT

Not regulated.

Transport by sea

Not regulated.

Air transport

Not regulated.

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

15.2. International regulations

CANADA

disodium tetraborate, anhydrous (1330-43-4)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	

sodium mercaptobenzothiazole (2492-26-4)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	

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EU-Regulations

disodium tetraborate, anhydrous (1330-43-4)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

sodium mercaptobenzothiazole (2492-26-4)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

disodium tetraborate, anhydrous (1330-43-4)

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

sodium mercaptobenzothiazole (2492-26-4)

Listed on Taiwan National Chemical Inventory
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on KECI (Korean Existing Chemicals Inventory)
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15.3. US State regulations

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State or local regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, developmental and/or reproductive harm

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.

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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.

Other information : None.

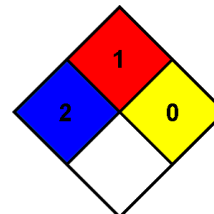
Full text of H-statements:

H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

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

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



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