Unifleet HD 50/50 Antifreeze

Safety Data Sheet

Date of issue: 05-14-15 Version A Universal Oil SDS No: 16 42 02 A

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

1.1. Product identifier

Product form : Mixture

Product name. : Unifleet HD 50/50 Antifreeze

Synonyms

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

Use of the substance/mixture : Antifreeze.

Uses adviced against : See Section 16.

1.3. Details of the supplier of the safety data sheet

Universal Oil
265 Jefferson Ave
Cleveland, OH 44113
T 1-216-771-4300 - F 1-216-771-1845
sales@universaloil.com - www.universaloil.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

Acute Tox. 4 (Oral)	H302
Repr. 1B	H360
STOT RE 2	H373

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS07 GHS08

Signal word (GHS-US) : Danger.

Hazard statements (GHS-US) : H302 - Harmful if swallowed
H360 - May damage fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe mist/vapours/spray
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P312 - If swallowed, call a doctor if you feel unwell
P308+P313 - IF exposed or concerned: Get medical advice/attention
P314 - Get medical advice and attention if you feel unwell
P330 - If swallowed, rinse mouth
P405 - Store locked up
P501 - Dispose of contents/container in accordance with local and national regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixture

Components with health hazards above the applicable thresholds are shown. Exact concentrations withheld as trade secret.

Full text of H-phrases: see section 16

Name	Product identifier	%	GHS-US classification
Ethylene glycol	(CAS No) 107-21-1	40 – 65	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Diethylene glycol	(CAS No) 111-46-6	0 – 5	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
disodium tetraborate, anhydrous	(CAS No) 1330-43-4	0.01 – 0.5	Repr. 1B, H360

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.

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 : Rinse mouth. Call a POISON CENTER/doctor/physician if you feel unwell.

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

Symptoms/injuries : May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

Symptoms/injuries after inhalation : Inhalation may cause: irritation, coughing, shortness of breath.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely irritating.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

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 : 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.

Explosion hazard : Product is not explosive.

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 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

General measures : Avoid all eyes and skin contact and do not breathe vapour and mist.

6.1.1. For non-emergency personnel

Protective equipment : Chemical goggles or safety glasses. Clothing impervious to chemical penetration. Wear suitable gloves resistant to chemical penetration.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Chemical goggles or safety glasses. Wear suitable protective clothing and 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.

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 : Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Avoid breathing mist/vapours/spray.

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 only in the original container in a cool well ventilated place. Keep container closed when not in use.

Incompatible products : Strong acids. Strong oxidizers. Strong bases.

Incompatible materials : Sources of ignition.

Prohibitions on mixed storage : Keep away from incompatible materials.

7.3. Specific end use(s)

Antifreeze. Coolant.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

All applicable Exposure Limits that have been determined for this product are shown.

Ethylene glycol (107-21-1)		
USA ACGIH	ACGIH Ceiling (mg/m³)	100 mg/m³
USA ACGIH	ACGIH Ceiling (ppm)	39.4 ppm
USA ACGIH	Remark (ACGIH)	URT & eye irr

disodium tetraborate, anhydrous (1330-43-4)		
USA ACGIH	ACGIH TWA (mg/m³)	2 mg/m³
USA ACGIH	ACGIH STEL (mg/m³)	6 mg/m³
USA ACGIH	Remark (ACGIH)	Varies URT irr
USA OSHA	OSHA PEL (TWA) (mg/m3)	10 mg/m³ 8 hours

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 resistant to chemical penetration. 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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Free & clear.

Colour	:	Blue. Fuchsia. Green.
Odour	:	No data available
Odour threshold	:	No data available
pH	:	10.2 - 10.8
Relative evaporation rate (butylacetate=1)	:	No data available
Melting / freezing point	:	-36.9 - -36.4 °C
Boiling point	:	No data available
Flash point	:	116 °C
Self ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Specific gravity @ 20 °C	:	1.052 - 1.084
Solubility	:	No data available
Log Pow	:	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.

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 oxidizing agents. Strong bases. Strong acids.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

Unifleet HD 50/50 Antifreeze	
ATE (oral)	500.000 mg/kg bodyweight

Ethylene glycol (107-21-1)	
LD50 oral rat	7712 mg/kg
LD50 dermal rat	> 3500 mg/kg mouse
LC50 inhalation rat (mg/l)	> 2.5 mg/l/4h
ATE (oral)	500.000 mg/kg bodyweight

Diethylene glycol (111-46-6)	
LD50 oral rat	19600 mg/kg
LD50 dermal rat	13300 mg/kg
LC50 inhalation rat (mg/l)	> 4.6 mg/l/4h
ATE (oral)	500.000 mg/kg bodyweight
ATE (dermal)	13300.000 mg/kg bodyweight

disodium tetraborate, anhydrous (1330-43-4)	
LD50 oral rat	3450 mg/kg male
LD50 dermal rabbit	> 2000 mg/kg no deaths occurred
LC50 inhalation rat (mg/l)	> 2.03 mg/l 5h - no deaths occurred
ATE (oral)	3450.000 mg/kg bodyweight

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

Ethylene glycol (107-21-1)	
IARC group	Not listed in carcinogenicity class

Reproductive toxicity : May damage fertility or the unborn child.
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)	
NOAEL (oral,rat,90 days)	150 mg/kg bodyweight/day kidney

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/injuries after inhalation : Inhalation may cause: irritation, coughing, shortness of breath.
Symptoms/injuries after eye contact : Direct contact with the eyes is likely irritating.
Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.
Likely routes of exposure : Inhalation. Skin and eyes contact.

SECTION 12: Ecological information

12.1. Toxicity

Ethylene glycol (107-21-1)	
LC50 fishes 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.

Diethylene glycol (111-46-6)	
LC50 fishes 1	75200 mg/l
EC50 Daphnia 1	> 10000 mg/l

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

12.2. Persistence and degradability

Ethylene glycol (107-21-1)	
Persistence and degradability	Readily biodegradable.

Diethylene glycol (111-46-6)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

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

Diethylene glycol (111-46-6)	
Bioconcentration factor (BCF REACH)	100
Log Pow	-1.98
Bioaccumulative potential	Not expected to bioaccumulate.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

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

Transport document description : Not applicable

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Ethylene glycol (107-21-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	5000 lb
SARA Section 313 - Emission Reporting	>95%

Diethylene glycol (111-46-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

disodium tetraborate, anhydrous (1330-43-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Unifleet HD 50/50 Antifreeze	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Ethylene glycol (107-21-1)
Listed on the Canadian DSL (Domestic Substances List) inventory.

Diethylene glycol (111-46-6)
Listed on the Canadian DSL (Domestic Substances List) inventory.

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

EU-Regulations

Ethylene glycol (107-21-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

Diethylene glycol (111-46-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

disodium tetraborate, anhydrous (1330-43-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

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

Acute Tox. 4 (Oral) H302
STOT RE 2 H373

Full text of H-phrases: see section 16

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

Xn; R22

15.2.2. National regulations

Ethylene glycol (107-21-1)
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory. Listed on the AICS (the Australian Inventory of Chemical Substances). Listed on Taiwan National Chemical Inventory Listed on New Zealand - Inventory of Chemicals (NZIoC) Listed on KECI (Chemical Inventory of Korea) Listed on Inventory of Existing Chemical Substances (IECSC) Listed on Inventory of Chemicals and Chemical Substances (PICCS)

Diethylene glycol (111-46-6)
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory. Listed on the AICS (the Australian Inventory of Chemical Substances). Listed on Taiwan National Chemical Inventory Listed on New Zealand - Inventory of Chemicals (NZIoC) Listed on KECI (Chemical Inventory of Korea) Listed on Inventory of Existing Chemical Substances (IECSC) Listed on Inventory of Chemicals and Chemical Substances (PICCS)

disodium tetraborate, anhydrous (1330-43-4)
Listed on Inventory of Existing Chemical Substances (IECSC) Listed on Taiwan National Chemical Inventory Listed on KECI (Chemical Inventory of Korea) Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory. Listed on Inventory of Chemicals and Chemical Substances (PICCS) Listed on New Zealand - Inventory of Chemicals (NZIoC) Listed on the AICS (the Australian Inventory of Chemical Substances).

15.3. US State regulations

No additional information available

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 Universal Oil 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 Universal Oil has decided not to, including minimizing unnecessary risk and liabilities to the company. Universal Oil does not knowingly market these products into these non-supported applications. This list is not all-inclusive, and Universal Oil 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 Universal Oil representative.

Indication of changes : Original Document.

Data sources : ESIS (European chemincal Substances Information System; accessed at: http://esis.jrc.ec.europa.eu/index.php?PGM=cla. ACGIH 2000.

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.

Abbreviations and acronyms : ACGIH (American Conference of Governement 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 Weight Average.

Other information : None.

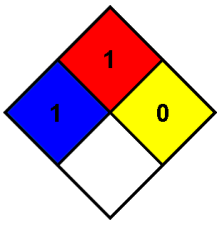
Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Repr. 1B	Reproductive toxicity Category 1B
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H302	Harmful if swallowed
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

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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