



MATERIAL SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION AND COMPANY

Issue Date 25 February, 2010

Validity Period 3 years

Product Name **UNITED GLYCOL ANTIFREEZE**

Product Type Antifreeze

Company United Oil Company Pte Ltd
No. 14 Tuas Drive 2
Singapore 638647
Tel : (65) 68611157 Fax : (65) 68613101

Emergency Contact No. 65-68611157 (Singapore), or Local Supplier

2. COMPOSITION

Description	CAS No.	EINECS No.	EU No.	Conc.
De-ionized Water				30 - 50 % wt
Ethanediol	107-21-1	203-473-3	603-027-00-1	50 - 70 % wt

3. HAZARDS IDENTIFICATION

Human Health Product is not hazardous.

Eye Contact Slightly irritant

Skin Contact Prolonged or repeated contact may irritate skin.

Inhalation Repeated and prolonged over-exposure to oil mists may cause irritation or discomfort.

Ingestion Minimal toxicity.

Safety Hazards Not classified as flammable but will burn.

Environmental Hazards Not readily biodegradable.

4. FIRST AID

Eye Contact Flush eyes with large amount of water until irritation subsides. If irritation persists, get medical attention.

Skin Contact Flush with large amount of water; use soap if available. Remove contaminated clothing. If irritation persists, get medical attention.

Inhalation Remove to fresh air. If rapid recovery does not occur, get medical attention.

Ingestion Do not induce vomiting. If rapid recovery does not occur, get medical attention.

5. FIRE SAFETY

Flash Point No flash Point

Flammable Limit	Not classified as flammable but will burn. Hazardous combustion products may include carbon monoxide, oxides of sulphur, and unidentified organic and inorganic compounds.
Autoignition Temp	No autoignition Temp
Specific Hazards	Not classified as flammable but will burn. Hazardous combustion products may include carbon monoxide, oxides of sulphur, and unidentified organic and inorganic compounds.
Fire Fighting	Use dry chemical, foam or carbon dioxide to extinguish fire. Water may cause splattering or frothing. Use water to cool and protect fire-exposed material. Wear protective equipment during fire fighting.

6. **ACCIDENTAL RELEASE MEASURES**

Clean-up Procedure	Stop the source of leak or release and contain spill if possible. Cover spill with generous amount of inert absorbent material such as sand or earth. Sweep up and remove to suitable, clearly marked containers for disposal in accordance with local regulations. Scrub contaminated area with detergent and water. Pick up liquid with additional absorbent material and dispose as above. Wear proper protective equipment during clean-up.
--------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

7. **HANDLING AND STORAGE**

Handling	Handling temperatures should not exceed 70 °C. Wear proper safety protective equipment. Wash hands thoroughly after handling. Water contamination and spillage should be avoided
Storage	Storage temperatures should be maintained between 0 to 50°C. Odorous and toxic fumes may be evolved from decomposition of product if stored above the safe temperature

8. **EXPOSURE CONTROL/PERSONAL PROTECTION**

Exposure Limits	Threshold Limit Values for oil mist is recommended to be controlled at 5 mg/m ³ or lower for exposure of 8 hours daily.
Ventilation	exhaust ventilation to keep below exposure limits.
Eye Protection	Wear safety glasses or face shields if splashing is likely to occur.
Skin Protection	Avoid repeated and prolonged contact with product. Use oil resistant gloves.
Respiratory Protection	Not normally required unless in confined space.
Body Protection	Use proper protective equipment to avoid contact. Wear PVC apron if splashes are likely to occur.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not be construed as guaranteeing any specific property of the product.

<u>TEST DESCRIPTION</u>	<u>METHOD</u>	<u>TYPICAL RESULTS</u>
Density @ 15°C g/ml	ASTM D4052	1.1000
Density @ 30°C g/ml	ASTM D4052	1.0904
ASTM Color	ASTM D1500	Green
Freezing Point, 0C	ASTM D1177	-45
Boiling Point, 0C	Reflux	108

10. STABILITY AND REACTIVITY

Stability	Product is stable under normal use conditions
Thermal Decomposition	Carbon monoxide, carbon dioxide, oxides of sulphur and nitrogen and organic and inorganic compound may evolve when subject to heat or combustion.
Hazardous Polymerisation	Will not occur under normal conditions
Incompatible Materials	Strong oxidizing agents. Strong acids

11. TOXICOLOGICAL INFORMATION

Basis	No toxicological data is available for this product. Information is provided based on the additives, other components and base stock used.
Acute Exposure Oral	LD 50 expected to be above 2000 mg/kg
Acute Exposure Skin	LD 50 expected to be above 2000 mg/kg
Inhalation	Repeated or prolonged exposure to oil mists may cause irritation
Eye Irritation	Slightly irritant
Skin Irritation	Not a skin irritant unless repeated or prolonged contact
Respiratory Irritation	Slight irritant
Carcinogenicity	No data to suggest that product is carcinogenic
Mutagenicity	No data to suggest that product is mutagenic
Other Information	Brief contact with used oil is not expected to have serious effect in humans if the oil is removed thoroughly by washing with soap and water. Used engine oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they present risks to health and the environment on disposal. All used oils should be handled with caution and skin contact should be avoided.

12. ECOLOGICAL INFORMATION

Basis	No ecological data is available for this product. Information is provided based on the additives, other components and base stock used.
Mobility	Liquid under most environmental conditions. Floats on water. It is absorbed by soil and will not be mobile.
Persistence/ Degradability	Not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.
Bioaccumulation	Has the potential to bioaccumulate
Ecotoxicity	Poor soluble mixture. Practically non-toxic to aquatic organisms. May cause physical fouling of aquatic organisms.

13. DISPOSAL CONSIDERATION

Product Disposal	Used or waste oil should be recycled or disposed off in conformity to local disposal regulations. Contact local authorities for approved disposal contractor.
------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------

Container Disposal Empty drums should be completely drained and sent to a drum reconditioner or properly disposed of. Non-reusable small containers should be recycled or disposed of. Ensure conformity to local disposal regulations.

14. **TRANSPORT INFORMATION**

General Information Not dangerous for conveyance under UN, IMO, ADR/RID and IATA/ICAO codes.

15. **REGULATORY INFORMATION**

Not Applicable.

16. **OTHER INFORMATION**

The above information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose. Therefore, no warranty either express or implied of merchantability or fitness for particular purpose is made with respect to the product or the information contained herein.