ANTIFREEZE COOLANT 5%

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	BENZOL ANTIFREEZE COOLANT 5% (Diluted) Ready to use
Company Information	Global Lubricant Industry LLC PO BOX 16855 Ajman United Arab Emirates Tel: +971 6 7481308 – Fax: +971 6 7481309 Mail: info@globallubricant.com Web: www.globallubricant.com

2. COMPONENT INFORMATION

Component	CAS No.	Weight Percent Range	Hazardous in Blend
Mono Ethylene Glycol	107-21-1	4	Yes
Di Ethylene Glycol	111-46-6	1	Yes
De ionized Water	7732-18-5	90-85	No
Anti Corrosion Inhibitor Package	MIXTURE	1.50 – 2.00	No

This product meets the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Hazards:
Flammable/Combustible -- Acute Toxin X Chronic Toxin X Carcinogen --
Pressure -- Reactive -- Exposure Limit X Target Organ X Other --
Other: No information available

3. HAZARDS IDENTIFICATION

Emergency and Hazards Overview
WARNING: HARMFUL OR FATAL IF SWALLOWED.
If swallowed, IMMEDIATELY contact a poison control center, emergency treatment center, or physician.
NFPA Ratings: Health 2 **Flammability** 1 **Reactivity** 0
Primary Route of Exposure: Skin X **Inhalation** -- **Eye** --
Health Effect Information

Eye Contact: Avoid eye contact. This product may be slightly irritating to the eyes upon direct contact. This product has a low vapor pressure and is not expected to present a hazard to the eyes at ambient conditions. Exposure to mists and vapors may be irritating to the eyes.

Skin Contact : Avoid skin contact. Prolonged or repeated contact may result in slight skin irritation.

Inhalation: Avoid prolonged inhalation of mist or vapors. This product has a low vapor pressure and is not expected to present an inhalation hazard in ambient conditions. Caution should be taken to prevent aerosolization or misting of this product. This product may be considered a low health hazard unless inhaled in very high concentrations. Acute and chronic overexposures may be irritating to the respiratory tract. Symptoms of overexposure include respiratory tract irritation, headache, drowsiness, and narcosis. See Section 11 - Toxicological Information.

Ingestion: Do not ingest. Harmful or fatal if swallowed. Signs and symptoms include behavioral disorders, drowsiness, vomiting, diarrhea, visual disturbances, thirst, convulsions, cyanosis, and rapid heart rate. Signs and symptoms are central nervous system stimulation followed by depression, cardiopulmonary effects, and later potentially fatal kidney damage. See Section 11 - Toxicological Information.

Medical Conditions Aggravated by Exposure: No information available.

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Other: A hazard due to inhalation may exist in circumstances where ethylene glycol is handled hot or where agitation or other mechanical operations may create an excessive fog or heavy mist. Ethylene glycol is not readily absorbed through skin in acutely toxic amounts. However, animal studies and human case reports suggest that absorption through the skin repeatedly over a prolonged period can present a health hazard.

4. FIRST AID INFORMATION

Eye Contact: Immediately flush eyes with large amounts of water and continue flushing for 15 minutes or until irritation subsides. If irritation persists, seek medical attention.

Skin Contact: Wash contaminated area thoroughly with soap and water.

Inhalation: This material has a low vapor pressure and is not expected to present an inhalation exposure in ambient conditions. If vapor or mist is generated when the material is heated or handled, remove victim from exposure. If discomfort persists, seek medical attention.

Ingestion: If a person is conscious, give large quantities of water immediately. Induce vomiting. Seek immediate medical attention. Do not attempt to give anything by mouth to an unconscious person.

Notes to Physician: Immediate medical treatment is imperative, especially if a large dose has been ingested. Administer alkali to correct acidosis. Hemodialysis is effective in the management of poisoning. Intravenous administration of ethanol has been effective.

Other: No information available

5. FIRE AND EXPLOSION INFORMATION

Flammable Properties
Flash Point: >247 F, >119.4 C Test Method: ASTM D 3828-81-Setaflash
Flammable Limits in Air
Upper Percent: 15.3%
Lower Percent: 3.2%
Autoignition Temperature: 748 F, 397.8 C **Test Method:** No information available
NFPA Classification: Class III-B combustible liquid
Extinguishing Media: Use dry chemical, alcohol foam, or carbon dioxide.

Fire Fighting Measures

Special Fire Fighting Procedures and Equipment: Water may be ineffective but can be used to cool containers exposed to heat or flames to prevent vapor pressure buildup and possible container rupture. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

Unusual Fire and Explosion Conditions: Dense smoke may be generated while burning. Carbon monoxide, carbon dioxide, and other oxides may be generated as products of combustion.

Hazardous Combustion By-Products: No information available

Other: No information available

6. ACCIDENTAL RELEASE MEASURES

Personnel Safeguards: Consult Health Effect Information in Section 3, Personal Protection Information in Section 8, Fire and Explosion Information in Section 5, and Stability and Reactivity Information in Section 10.

Regulatory Notifications: Notify appropriate authorities of spill.

Containment and clean up: Contain spill immediately. Do not allow spills to enter sewers or watercourses. Absorb with appropriate inert material such as sand, clay, etc. Large spills may be picked up using vacuum pumps, shovels, buckets, or other means and placed in drums or other suitable containers.

Other: No information available

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7. HANDLING AND STORAGE INFORMATION

Handling: No special handling procedures are necessary.
Storage: Do not transfer to unmarked containers. Store in closed containers away from heat, sparks, open flame, or oxidizing materials.
Empty Container Warnings
Drums: Empty containers retain product residue and can be dangerous.
Plastic: Do not reuse this container. Empty containers may retain product residues.
Other: No information available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION INFORMATION

Exposure Limits and Guidelines
Component CAS No. Exposure Limit
ETHYLENE GLYCOL 107-21-1 ACGIH - TLV: Ceiling 50 ppm

Personal Protective Equipment

Eye/Face Protection: Eye protection is not required under conditions of normal use. If material is handled such that it could be splashed into eyes, wear plastic face shield or splash-proof safety goggles.

Skin Protection: Skin protection is not required under conditions of normal use. For prolonged or repeated exposures, use impervious clothing (boots, gloves, aprons, etc.) over parts of the body subject to exposure. Impervious clothing should not consist of polyvinyl alcohol. Launder soiled clothes.

Respiratory Protection: Respiratory protection is not required under conditions of normal use. If vapor or mist is generated when the material is heated or handled, use an organic vapor respirator with a dust and mist filter. All respirators must be NIOSH certified.

Personal Hygiene: Consumption of food and beverage should be avoided in work areas where hydrocarbons are present. Always wash hands and face with soap and water before eating, drinking, or smoking.

Engineering Controls / Work Practices

Ventilation: General room ventilation is normally sufficient to prevent buildup of hazardous concentrations. If vapor or mist is generated when the material is heated or handled, adequate ventilation must be provided.

Other: No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Tests	Results
Color	Yellow/Red/Green
Odor:	Mild
Vapor Pressure:	<0.1 mmHg@20^{o}C
Physical state:	Liquid
Vapor Density	(air=1): 2.1
pH:	6.6 – 10
Concentration level, %Wt.	5
Boiling Point:	101^{o}C
Specific Gravity:	1.010 Average
Freezing Point:	-3^{o}C
Corrosion	Pass
Solubility in Water:	Completely soluble in water
Octanol / Water Coefficient: Log K_{ow}	No data available

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10. STABILITY AND REACTIVITY INFORMATION

Chemical Stability: Stable
Conditions to Avoid: None
Incompatible Materials to Avoid: May react with strong oxidizing agents.
Other: No information available

11. TOXICOLOGICAL INFORMATION

Primary Eye Irritation: 15-25/110 (Draize-rabbit); slightly irritating for ethylene glycol.
Primary Skin Irritation: 0.5-3.0/8.0 (Draize-rabbit); slightly irritating for ethylene glycol.
Acute Dermal Toxicity: No information available
Subacute Dermal Toxicity: No information available
Dermal Sensitization: No information available
Inhalation Toxicity: If warning discomfort from excessive concentrations are heeded, no health problems are expected. May lead to kidney, liver, blood, and CNS disorders.
Inhalation Sensitization: No information available
Oral Toxicity: Ingestion of small quantities (100 ml) of ethylene glycol may be fatal.
Mutagenicity: The absence of carcinogenic potential for ethylene glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.
Carcinogenicity: Based on data from long-term animal studies, ethylene glycol does not pose a carcinogenic risk to humans.
Reproductive and Developmental Toxicity: Ethylene glycol has been shown to produce reproductive and developmental effects in experimental animals. The no-effect doses for developmental toxicity for ethylene glycol given by gavage over the period of organogenesis has been shown to be 150 mg/kg/day for the mouse and 500 mg/kg/day for the rat. The relevance of these reproductive and developmental animal studies to human exposures to ethylene glycol is currently unknown.
Teratogenicity: Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses.
Immunotoxicity: No information available
Neurotoxicity: No information available
Other: No information available

12. ECOLOGICAL INFORMATION

Aquatic Toxicity: This product is practically non-toxic to aquatic organisms on an acute basis - LC50 >100 mg/L.
Terrestrial Toxicity: No information available
Chemical Fate and Transport: Bioconcentration potential is low (Log Kow < 3).
Other: No information available

13. DISPOSAL INFORMATION

Regulatory Information: All disposals must comply with federal, state, and local regulations. The material, if spilled or discarded, may be a regulated waste. Refer to state and local regulations. Department of Transportation (DOT) regulations may apply for transporting this material when spilled.
Waste Disposal Methods: Waste material may be landfilled or incinerated at an approved facility. Materials should be recycled if possible.
Other: No information available

14. TRANSPORTATION INFORMATION

Department of Transportation (DOT)
Highway / Rail (Bulk): Not Regulated
Highway / Rail (Non-Bulk): Not Regulated

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15. Regulatory Information

Regulatory Lists Searched: The components listed in Section 2 of this MSDS were compared to substances that appear on the following regulatory lists. Each list is numerically identified. See Regulatory Search Results below.

DIETHYLENE GLYCOL: 23, 33, 35, 50, 65, 66, 69, 80, 81, 82, 83, 84, 85
ETHYLENE GLYCOL: 15, 20, 23, 30, 33, 35, 42, 46, 50, 61, 63, 65, 66, 67, 68, 69, 80, 81, 82, 83, 84, 85
WATER: 80, 81, 83, 84, 85

16. OTHER INFORMATION

Health and Environmental Label Language
WARNING: Contains ethylene glycol. Can cause central nervous system, cardiopulmonary and kidney disorders.
PRECAUTIONARY MEASURES: Do not drink antifreeze or solution. Do not store in open or unlabeled containers.
FIRST AID: If swallowed, IMMEDIATELY contact a poison control center, emergency treatment center, or physician. Ethylene glycol base.
NOTE TO PHYSICIAN: Immediate treatment is extremely important.
DISPOSAL OF USED ANTIFREEZE/COOLANT:
Observe local laws and regulations. Recycling used antifreeze recommended instead of disposal. Dispose in local sewage treatment systems only where permitted. Do not drain on the ground or into storm water drainage systems.
KEEP OUT OF REACH OF CHILDREN AND PETS.

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