1. Product and Company Identifaction

Porduct Name	Antifreeze Liquid
Part Number	RXSOL-27-4020-011

Company Details:....

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

Phone	+91 22 20871200 - 1400
Fax	+91 22 27612100 :::AOH :0091 9821214367
Email	mail@rxmarine.com
Website	www.rxmraine.com

2. Composition / Information on ingredients

Chemical Name	CAS No	Weight-%
Ethylene glycol	107-21-1	42-98
Proprietary Inhibitors	Proprietary	Proprietary
Potassium hydroxide	1310-58-3	0.2

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

3. Hazards Identification

Appearance	Gold, Red or Green liquid
Physical State	Liquid

Classification

Specific target organ toxicity (repeated exposure)	Category 2

Hazard Statements

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

4. First Aid Measures

First Aid Measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical attention.
Skin contact	Wash with soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately

Ingestion	Call a physician immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Most important symptoms and effects

Symptoms	May cause skin and eye irritation. May cause irritation to the mucous membranes and upper respiratory tract. Ingestion may cause nausea, vomiting, dizziness, and headache.

Indication of any immediate medical attention and special treatment needed

Notes to Physician	Persistent eye, skin, and respiratory disorders may be aggravated by exposure to this product. Persons with pre-existing kidney or liver disease may be at an increased risk from exposure to this material. Give sodium bicarbonate intravenously to treat acidosis. Urinalysis may show low specific gravity, proteinuria, pyuria, cylindruria, hematuria, calcium oxide, and hippuric acid crystals. Ethanol can be used in antidotal treatment but monitor blood glucose when administering ethanol because it can cause hypoglycemia. Consider infusion of a diuretic such as mannitol to help prevent or control brain edema and hemodialysis to remove ethylene glycol from circulation.

5. Fire-fighting Measures

Suitable extinguishing media	Foam. Dry chemical. Carbon dioxide (CO2).
Unsuitable extinguishing media	Water or foam may cause frothing. Do not scatter spilled material with high pressure water streams.
Specific Hazards Arising from the Chemical	Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the

	risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Toxic products of combustion. Collect contaminated fire extinguishing water separately. Do not allow it to enter drains or surface water.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use water spray to keep fire-exposed containers cool. Water spray will also reduce fume and irritant gases.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Ventilate affected area.
Environmental Precautions	Do not allow into any sewer, on the ground or into any body of water.

Methods and material for containment and cleaning up

Methods for Containment	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Prevent further leakage or spillage if safe to do so.
Methods for Clean-Up	Soak up with inert absorbent material. Recover free liquid. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations. US regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800)-424-8802.

7. Handling and Storage

Precautions for safe handling

Advice on Safe Handling	Handle in accordance with good industrial hygiene and safety practice. Protect container from physical damage. Emptied container retains product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials.
Incompatible Materials	Strong oxidizing agents. Reacts violently with chlorosulfonic acid, oleum,

sulfuric acid, and perchloric acid. Causes ignition at room temperature with chromium trioxide, potassium permanganate and sodium peroxide. Also avoid contact with oxidizers such as chlorates, nitrates, peroxides, etc.

8. Exposure controls and personal protection

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethylene glycol 107-21-1	Ceiling: 100 mg/m3 aerosol only	(vacated) Ceiling: 50 ppm (vacated) Ceiling: 125 mg/m3	
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m3	(vacated) Ceiling: 2 mg/m3	Ceiling: 2 mg/m3

Appropriate engineering controls

Engineering Controls	Apply technical measures to comply with the occupational exposure limits. Ventilation systems. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Wear safety glasses with side shields (or goggles)
Skin and Body Protection	Chemical resistant protective gloves. If potential for significant exposure to liquid exists, use full protective clothing and chemical boots.
Respiratory Protection	No respiratory protection is necessary during normal use conditions. In the case of insufficient ventilation or if exposure limits are exceeded, use a suitable NIOSH/MSHA respiratory device.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid.
Appearance	Gold, Red or Green liquid
Colour	Gold, Red or Green
Odor	Mild
Odor Threshold	Not determined

Property	Values	Remarks □ Method
pH	Not determined	
Melting Point/Freezing Point	Not available	
Boiling Point/Boiling Range	163-171 °C / 325-340 °F	
Flash point	121-123 °C / 250-254 °F	TOC
Evaporation rate	Not determined	
Flammability (solid, gas)	n/a-liquid materials.Extremely flammable in the presence of the following materials or conditions: oxidizing materials.	

Upper Flammability Limits	15.3
Lower Flammability Limit	3.2
Vapor pressure	Not available
Vapor density	Not available
Specific Gravity	1.115-1.133
Water Solubility	Completely soluble
Solubility in other solvents	Not determined
Partition Coefficient	Not determined
Auto-ignition Temperature	398 °C / 748 °F
Decomposition Temperature	Not determined
Kinematic Viscosity	Not available
Dynamic Viscosity	Not available
Explosive Properties	Not determined
Oxidizing Properties	Not determined

10. Stability and reactivity

Reactivity	Not reactive under normal conditions.
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous Polymerization	Hazardous polymerization does not occur.
Conditions to Avoid	Heat, flames, ignition sources and incompatibles.
Incompatible Materials	Strong oxidizing agents. Reacts violently with chlorosulfonic acid, oleum, sulfuric acid, and perchloric acid. Causes ignition at room temperature with chromium trioxide, potassium permanganate and sodium peroxide. Also avoid contact with oxidizers such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products	Carbon monoxide. Carbon dioxide (CO2). Acrid smoke and fumes emitted if heated to decomposition.

11. Toxicological information

Information on likely routes of exposure

Product Information

Eye Contact	Avoid contact with eyes.
Skin Contact	Avoid contact with skin.
Inhalation	Avoid breathing vapors or mists.
Ingestion	Do not taste or swallow.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethylene glycol 107-21-1	= 4000 mg/kg (Rat)	= 9530 µL/kg (Rabbit)	-
Potassium hydroxide 1310-58-3	= 214 mg/kg (Rat)	-	-

Information on physical, chemical and toxicological effects

Symptoms	Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Numerical measures of toxicity	Not determined

12. Ecological information

Ecotoxicity

The LC50/96 hour values for fish are over 100 mg/L.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ethylene glycol 107-21-1	6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC506500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50	41000: 96 h Oncorhynchus mykiss mg/L LC50 14 - 18: 96 h Oncorhynchus mykiss mL/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 static 40000 - 60000: 96 h Pimephales promelas mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static	EC50 = 10000 mg/L 16 h EC50 = 620 mg/L 30 min EC50 = 620.0 mg/L 30 min	46300: 48 h Daphnia magna mg/L EC50
Potassium hydroxide 1310-58-3		80: 96 h Gambusia affinis mg/L LC50 static		

Persistence/Degradability	When released into the soil, this material is expected to readily biodegrade. It also has the potential to leach into the groundwater. When released into water this material is expected to readily biodegrade. In water, this material is expected to have a half-life between 1 and 10 days.
Bioaccumulation	This material is not expected to significantly bioaccumulate.

Mobility

Chemical Name	Partition Coefficient
Ethylene glycol 107-21-1	-1.93
Potassium hydroxide 1310-58-3	

Other Adverse Effects	Not determined

13. Disposal considerations

Waste Treatment Methods

Disposal of Wastes	Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical Name	**California Hazardous Waste Status**
Potassium hydroxide	Toxic
1310-58-3	Corrosive

Chemical Name	**California Hazardous Waste Status**
Potassium hydroxide	Toxic
1310-58-3	Corrosive

14. Transport information

Note	Regulated only in packages that contain 5000 lbs or greater of ethylene glycol. DOT information must be accompanied by the "RQ" notation.
DOT	UN3082
UN/ID No	
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol)
Hazard Class	9
Packing Group	III
Reportable Quantity (RQ)	5000 lbs
IATA	Not regulated
IMDG	Not regulated

15. Regulatory information

International Inventories

TSCA	Listed

US Federal Regulations

CERCLA

Chemical Name	**Hazardous Substances RQs**	**CERCLA/SARA RQ**	**Reportable Quantity (RQ)**
Ethylene glycol	5000 lb		RQ 5000 lb final RQ

107-21-1		RQ 2270 kg final RQ
Potassium hydroxide	1000 lb	RQ 1000 lb final RQ
1310-58-3		RQ 454 kg final RQ

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No

SARA 313

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Ethylene glycol - 107-21-1	107-21-1	42-98	1.0

16. Other information

Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and weassume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages.

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