Material Safety Data Sheet

Antifreeze Liquid (RXSOL-27-4020-011)

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 / informationon 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	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	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	
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	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 1310-58-3	Toxic Corrosive

Chemical Name	**California Hazardous Waste Status**
Potassium hydroxide 1310-58-3	Toxic 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 UN/ID No	UN3082
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 107-21-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Potassium hydroxide 1310-58-3	1000 lb		RQ 1000 lb final RQ 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.

DISCLAIMER OF LIABILITY :The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.