

JIANGSU LOPAL TECH. CO.,LTD.

Safety Data Sheet

1. Chemicals and corporate identification

Chinese Name of Chemical Product	Special coolant for new energy storage -35℃
Use	Antifreeze
Manufacturer/Supplier	Jiangsu Lopal Tech. Co., Ltd. China·Jiangsu·Nanjing Economic and Technological Development Zone Zip Code: 210038 Website: www.lopal.com.cn Email: MSDS@lopal.com.cn
Telephone	025-85804818
Fax	025-85804898
Emergency Number	400-676-1858 (24h)

2. Hazard Overview

Chinese Classification	Harmful.
Health Hazard	<p>Warning May be fatal if taken orally. Can cause eye, skin and respiratory irritation. May cause dizziness and drowsiness. More dangerous if swallowed, can enter lungs and cause damage.</p> <p>Eye Contact: Can cause eye irritation manifested as redness, blurred vision, etc.</p> <p>Ingestion: Oral ingestion can cause poisoning. Ingestion followed by vomiting may cause chemical to enter lungs, causing pneumonia and lung injury. It has been reported to cause liver and kidney damage if ingested in excess.</p> <p>Inhalation: Exposure to vapor or mist from heated raw materials, mist generation, poor ventilation, etc. can cause inflammation of the nose, throat and lungs.</p>

	<p>Symptoms include headache, nausea, drowsiness, confusion, and dizziness.</p> <p>Skin Contact: Short-term exposure may cause mild irritation. Long-term exposure can cause more serious inflammation and discomfort, local redness and swelling, etc.</p>
Symptoms and Signs	<p>Increased or decreased blood or flow in the urine is a symptom of nephrotoxicity. Other symptoms include nausea, vomiting, severe abdominal pain, diarrhea, lumbar pain shortly after inhalation, and even coma and death.</p>
Safety Hazard	No specific hazard under normal conditions of use.
Environmental Hazard	Not classified as environmentally harmful.

3. Ingredients/Information on Ingredients

Formula Components

Component Name	CAS NO.	EINECS	Symbol	Hazard Warning	Concentration, %
Ethylene glycol	107-21-1	203-473-3	Xn	R22	50-53
Water	7732-18-5	231-791-2	—	—	42-48
Additive	—	—	—	—	2-5

4. First-aid

General information	Never delay processing.
Inhale	If signs or symptoms as described in MSDS occur due to inhalation of antifreeze due to inadvertent breathing, please move the patient to fresh air. If not breathing, give artificial respiration. Hospital for medical treatment.
Skin Contact	Remove contaminated clothing and wash skin thoroughly with soap and water. In case of skin irritation or rash, seek medical attention.
Eye Contact	Flush eyes with plenty of water for at least 15 minutes. Seek medical attention.
Devour	If swallowed and conscious, give water or milk to drink and seek medical help actively. Do not induce vomiting unless directed by medical personnel. If physician's

	help is not available, take the ill person and product container and label to the nearest medical emergency center or hospital. Do not give any food to an unconscious patient
Notes to Physicians	<p>The symptoms of poisoning are somewhat similar to general drunkenness, initial excitement, followed by coma and convulsions. Symptoms include dancing, lethargy, vomiting, diarrhea, thirst, and convulsions. The final stage of poisoning involves damage to the kidneys due to acidosis. Alcohol given intravenously acts as an antidote to ethylene glycol/diethylene glycol. Timely treatment can reduce kidney damage, and hemodialysis is performed when necessary.</p> <p>If vomiting has occurred naturally after ingestion, monitor patient for dyspnea due to lung aspiration for up to 48 hours</p>

5. Fire-fighting Measures

Specific Danger	Hazardous combustion materials may include: complex mixtures of airborne solid and liquid particles and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.
Suitable Extinguishing Media	Foam, sprinkle or spray. Dry chemical powder, carbon dioxide, sand or earth should only be used on small fires.
Unsuitable Fire Extinguisher	Do not spray with water. Halide fire extinguishers should be avoided for environmental reasons.
Firefighter Protection Equipment	Appropriate protective equipment including breathing apparatus must be worn when approaching fire in confined spaces.

6. Spill Emergency Treatment

Avoid contact with spilled or released material. For guidance on the selection of personal protective equipment, see item 8 of this leaflet. See Chapter 13 for disposal information.

Safeguard	Avoid contact with skin and eyes.
Clearing Method	After spilling, the ground is very smooth. To avoid

	accidents, it should be cleaned immediately. Barrier with sand, earth or other containment material to prevent spread. Recover liquid directly or store in absorbent. Wipe up contaminated area with detergent and water and a stiff broom. Put the collected liquid into a disposable container. Prevention of pollution of surface water and groundwater
Additional Advice	Local authorities should be notified of severe spills that cannot be handled.

7. Handling and Storage

General Precautions	To strengthen ventilation, operators must undergo special training and strictly abide by operating procedures. It is recommended that operators wear masks, chemical safety goggles, and rubber gloves. Prevent steam releases Emergency equipment and suitable containment materials.
Carry	Avoid prolonged or sustained contact with skin. Avoid breathing its vapor and/or mist. When loading and unloading barreled products, protective shoes should be worn and appropriate loading and unloading tools should be used.
Store	Keep in tightly closed container in a cool, well-ventilated place, in properly labeled and sealable containers. Storage temperature: long-term storage (over 3 months) -15-50°C; short-term storage -20-60°C.
Recommended Materials	For containers or container linings, mild steel or high density polyethylene should be used.
Substances Not Applicable	Containers or container linings, avoid polyvinyl chloride.
Extra Information	Polyethylene containers should not be exposed to high temperatures as distortion may result.

8. Exposure Controls and Personal Protection

Exposure Control	The level of protection and type of control measures required will vary depending on the potential exposure
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	<p>conditions. Selection of control measures is based on a risk assessment of local conditions. Appropriate measures include:</p> <p>Adequate ventilation is adequate to control gas concentrations.</p> <p>This product is more likely to accumulate in the air after heating, spraying or fogging.</p>
Personal Protective Equipment	<p>Personal protective equipment (PPE) should meet recommended national standards. Please check with your PPE supplier.</p>
Respiratory Protection	<p>Under normal conditions of use, respiratory protection is generally not required. Good industrial hygiene practice dictates that precautions should be taken to prevent inhalation of this product. If the engineering control facilities do not maintain the air concentration at a level sufficient to protect the health of personnel, select respiratory protective equipment suitable for the conditions of use and in compliance with relevant legal requirements. Check with respiratory protective equipment supplier. If you need to wear a safety filter mask, please choose a suitable mask and filter combination. Select a filter suitable for mixtures of particulates/organic gases and vapors [boiling point >65 °C (149 °F)].</p>
Hand Protection	<p>For proper chemical protection where hand contact with the product is possible, gloves complying with relevant standards (e.g. Europe: EN374, USA: F739) and made of the following materials should be used: Polyvinyl chloride, neoprene or nitrile rubber gloves.</p> <p>The fit and durability of a glove depends on how it will be used, such as frequency and length of contact, chemical resistance of the glove material, glove thickness, and dexterity. Advice should always be sought from the glove supplier. Contaminated gloves should be replaced.</p> <p>Personal hygiene is the primary method for effective hand care. Gloves must be worn only after hands have been washed. After using gloves, hands must be washed and dried thoroughly. A non-scented moisturizer is recommended.</p>
Eye Protection	<p>If splashing is possible, wear safety goggles or full face mask.</p>
Protective Clothing	<p>In general, no special skin protection measures other</p>

	than normal work clothing are required.
Monitoring Method	Monitoring of concentrations of various substances in workers' breathing zones or general workplaces is required to confirm compliance with the OEL and adequacy of exposure controls. For some substances, biological monitoring may also be used.
Environmental Exposure Risk Control Measures	Reduce emissions to the environment. An environmental assessment must be carried out to ensure compliance with local environmental regulations.
Maximum Allowable Concentration	The maximum concentration of ethylene glycol stipulated by ACGIH ILV is 100ppm, and this concentration shall not be exceeded for any working time. Occupational Exposure Limits of Hazardous Factors in the Workplace (GBZ2-2002), stipulates that the allowable concentration of ethylene glycol for short-term exposure is 40mg/AP

9. Physical and Chemical Properties

Appearance and traits	Red, liquid at room temperature
Odor	Characteristic
pH value	7.0-11.0
Melting point/Freezing point	No data
Initial boiling point and boiling range	Estimated value > 107.5°C
Upper and lower limits of combustion	No data
Vapor pressure	No data
Vapor density (air=1)	No data
Density	Typical 1060kg/m ³ (15°C)
Solubility	Easy to mix.
Partition coefficient: n-octanol/water	No data
Auto-ignition temperature	Not determined.

Decomposition temperature	No data.
Water soluble	Fully soluble.

10. Stability and Reactivity

Stability	Stablize.
Conditions To Avoid	Extreme temperatures and direct sunlight.
Substances To Avoid	Strong oxidants .
Decomposition of Hazardous Chemicals	Under normal storage conditions, no hazardous decomposition products will be formed.
Dangerous Polymerization	Not applicable.
Sensitivity To Impact	No data available for reference.

11. Toxicological Information

Evaluation basis	The information presented is based on the composition and toxicity data of similar products.
Acute Toxicity Oral acute toxicity	Listed as hazardous by the European Commission. The acute oral toxicity of rodents and humans is significantly different, humans are more vulnerable, and the lethal dose in humans is 100 ml. This material has also been shown to be ingestively toxic and potentially lethal to cats and dogs. If swallowed, can cause dizziness and drowsiness.
Acute skin toxicity Acute Respiratory Toxicity	Low toxicity expected: LD50 > 2000 mg/kg Not considered to be an aspiration hazard under normal conditions of use.
Skin Irritation or Corrosion	May cause moderate skin irritation (but not severe enough to classify).
Eye Irritation or Corrosion	Moderately irritating to eyes (but not severe enough to classify).
Respiratory or Skin Allergies	Inhalation of vapor or powder mist may cause irritation.
Germ Cell Mutagenicity	Fetotoxicity in animals was considered a side effect of maternal toxicity.
Carcinogenicity	Whether the ingredients are carcinogenic is unknown.
reproductive toxicity	Should not be a hazardous material.

Specific Target Organ Toxicity One-time touch Repeated touch	No data.
Aspiration Hazard	Inhalation of vapor or powder mist may cause irritation.

Extra Information:

Used oil contains harmful impurities that have accumulated during use. The concentration of these harmful impurities will depend on the use and there may be a risk of damage to health and the environment when disposed of. All used antifreeze should be recycled, and skin contact should be avoided as much as possible.

12. Ecological Information

No ecotoxicological data have been specifically established for this product. The above information is provided based on knowledge of the composition and ecotoxicology of similar products.	
Acute Toxicity	Expected to be practically non-toxic: LC/EC/IC50 > 100mg/L (for aquatic organisms).
Mobility/Mobility in Soil	Will dissolve in water. If this product invades the soil, it may contaminate ground water because of its high mobility.
Persistence/Degradability	Readily biodegradable.
Bioaccumulation	No significant bioaccumulation expected.
Other Adverse Reactions	No potential for ozone depletion, photochemical ozone formation, or global warming is expected.

13. Disposal

Chemical Disposal	Product It should be recovered or recycled as much as possible. It is the responsibility of the waste generator to identify the toxicity and physical properties of the materials generated in order to establish appropriate waste classification and waste disposal methods in compliance with relevant regulations. Do not dispose of in the environment, drains or water courses.
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Disposal of Containers	Dispose of in accordance with current regulations and, where possible, by an approved waste collector or contractor.
Local Law	Disposal methods should comply with applicable regional, national and local laws and regulations.

14. Transport Information

Domain (according to ADR classification): Not regulated
Under the ADR regulations, this product is not rated as dangerous goods.
International Maritime Pollutants (IMDG)
Under the IMDG regulations, this product is not classified as dangerous goods.
International Air Transport Association (Specific regulations vary slightly in different countries)
Under the IATA regulations, this product is not classified as dangerous goods.

15. Regulatory Information

Regulatory information is not complete as other regulations apply to this product

Chinese Classification	Harmful.
EC Symbol	Xn is harmful.
EC Hazard Phrases	R22 is harmful if swallowed by mistake
EC Safety Warning	Keep out of reach of children.
Other Information	GB 6944-2012: Classification and Product Name Number of Dangerous Goods GB/T 16483-2008: Chemical Safety Data Sheet Contents and Item Sequence GB 13690-2019: Classification and marking of commonly used hazardous chemicals GB 12268-2012: List of Dangerous Goods GBZ 2.1-2019: Occupational Exposure Limits for Hazardous Factors in the Workplace Chemical Hazardous Factors

16. other information

Restrictions: This product should not be used for applications other than those recommended by Lopal Technology Technology Department without permission.

Other Information: This information is based on our current knowledge and is intended only to describe this product in terms of health, safety and environmental regulations. This information is not a guarantee of the physical properties of this product.

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Lopal