1. Identification

Product: LIQ-702xx Coolant Fluid ("xx" signifies liquid color)
Manufacturer: Koolance Korea
Address: Koolance Bld, 40, Deokcheon-ro 34, Manan-gu,
        Anyang-si, Gyeonggi-do, Korea 14088
Telephone: (U.S.) +01 253-249-7669, Fax: (U.S.) +01 253-249-7453

Appearance: Liquid for cooling systems. Available in various colors and shipped in plastic bottles or containers.
Usage: For use in cooling systems only. Do not use in foodstuffs, beverages, or in other applications.

2. Hazard Identification

Globally Harmonized System of Classification and Labeling of Chemicals (GHS)
- Physical Hazard: Not applicable
- Health Hazard: Skin Irritation – Category 2
  Eye Irritation – Category 2
- Environmental Hazard: Not applicable

Label elements including precautionary statements.
Symbol:  
Signal word: Warning

Hazard statement: H315 – May cause irritation to the skin.
H319 – May cause serious irritation to the eyes.
Prevention: P264 - Wash thoroughly after handling
P280 - Wear protective gloves, clothing, and eye protection.

Responses:
- P302+P352  If on skin: Wash exposure area with plenty of water and soap.
- P305+P351+P338  If in eyes: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
- P337+P313:  If skin or eye irritation persists, seek medical attention immediately.
- P362: Remove contaminated clothing and wash before reuse.

Storage / Disposal: P501: Refer to all federal, provincial, state, and local regulation prior to disposition of container and unused contents by reuse, recycle, or disposal.

NFPA Rating (estimated)
Health: 1
Flammability: 1
Reactivity: 0
Water Reactivity: 0

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No.</th>
<th>EINECS No.</th>
<th>Conc. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distilled Water</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>70 – 75</td>
</tr>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td>200-338-0</td>
<td>25 – 30</td>
</tr>
<tr>
<td>Others (Proprietary)</td>
<td>-</td>
<td>-</td>
<td>0.2 – 2.0</td>
</tr>
</tbody>
</table>
4. First Aid Measures

- In case of eye contact: Rinse thoroughly with plenty of water for at least 20 minutes. If irritation remains, consult a medical doctor immediately.
- In case of skin contact: Remove contaminated clothing. Wash with soap and plenty of water for at least 20 minutes. If irritation remains, consult a medical doctor immediately.
- If inhaled: Move person to fresh air. If not breathing, give artificial respiration and immediately contact emergency medical assistance.
- If ingested: Never give anything by mouth to an unconscious person. Rinse mouth with water and consult a medical doctor immediately.

Other medical attention: Medical persons should be aware of protective measures for handling.
Potential health effects: May be harmful or fatal if swallowed.

5. Fire-Fighting Measures

- Flash Point: 118°C (Cleveland open cup)
- Suitable extinguishing media: Water spray, alcohol-resistant foam, dry chemical, carbon dioxide
- Specific hazards arising from the chemical: No data available
- Special protective equipment for fire fighters:
  - Use water spray to cool unopened containers.
  - Fire fighters should enter area wearing respiratory protection and protective equipment.

6. Accidental Release Measures

Personal Precautions:
- Ensure adequate ventilation.
- Remove all sources of ignition.
- Avoid contact with skin and eyes.
- Avoid inhalation of vapor, mist, or gas.

Environmental Precautions:
- Follow local regulations.

Methods and materials for containment and clean-up:
- Collect with non-combustible absorbent materials (sand and soil).

7. Handling and Storage

Precautions for safe handling:
- Wear protective gloves, clothing, and eye/face protection.
- Do not spray on an open flame or other ignition source.
- Provide forced air ventilation in tanks and confined spaces.
- Avoid contact with skin and eyes.
- Avoid inhalation of vapor, mist, or gas.
- Keep away from sources of ignition. No smoking.

Conditions for safe storage:
- Keep container tightly closed.
- Keep in a dry and well-ventilated place.
- Keep cool.
- Avoid direct sunlight, heat sources, and strong oxidizing agents.

8. Exposure Control / Personal Protection

Conditions for safe storage:
Koolance SDS – LIQ-702 Coolant Fluid

- KOSHA: No data available
- US ACGIH: No data available

Appropriate engineering controls:
- Respiratory protection: Approved respirator equipped with cartridge for organic vapors
- Eye protection: Protective goggles
- Hand protection: Chemical resistant gloves

Exposure limitation: No data available

9. Physical and Chemical Properties

- State: Liquid at 20°C
- Flash Point: 118°C (Cleveland open cup). No flash occurred under 93°C (Tag closed cup)
- pH: 7.0 – 8.0 at 20°C; Sample H2O = 1:5 (V/V)
- Viscosity: 2.3 mPa x s (cP) at 20°C
- Density: 1.03 at 20°C
- Water solubility: Soluble at 20°C
- Explosive properties: No self-reaction hazard; UN TDG test & criteria – Test E3
- Autoignition temperature: No spontaneous combustion under 300°C
- Boiling point (initial): >98°C
- Melting range: No data available
- Vapor pressure: No data available
- Oxidizing properties: No data available
- Partition coefficient (n-octanol/water): No data available
- Evaporation rate: No data available
- Decomposition temperature: No data available
- Lower explosion limit / Upper explosion limit: No data available

10. Stability and Reactivity

Chemical stability:
Stable under recommended storage conditions.

Conditions to avoid:
Direct sunlight, heat, flames, and sparks.

Materials to avoid:
Strong oxidizing agents.

Hazardous decomposition products:
Carbon oxides

11. Toxicological Information

- Acute toxicity (Calculated):
  Oral rat LD50 : 23,779 mg/kg
  Skin rabbit LD50 : 38,021 mg/kg
  Inhalation rat LC50 : 145 mg/kg
- Skin irritation: Irritating (Calculated, Category 2)
- Eye irritation: Irritating (Calculated, Category 2)
- Respiratory sensitization: No data available
- Skin sensitization: No data available
- Germ cell mutagenicity: No data available
- Carcinogenicity: Not classifiable; from IARC / EC ESIS
- Reproductive Toxicity: No data available
- Specific target organ toxicity – single exposure (GHS): No data available
• Specific target organ toxicity – repeated exposure (GHS): No data available
• Aspiration hazard: No data available

12. Ecological Information

• Acute toxicity (Calculated):
  Fish     LC50 : 8,700mg/l 96hr Pimephales promelas
  Crustacean LC50: 7,921mg/l 48hr Daphnia magna
  Bird     EC50: 1,634mg/l 72hr Selenastrum capricornutum
• Persistence and degradability: No data available
• Bioaccumulative potential: No data available
• Mobility in soil: No data available
• Other adverse effects: No data available

13. Disposal Considerations

Disposal consideration:
  Observe all environmental regulations.

Disposal precaution:
  Avoid disposing in the environment.

14. Transport Information

• TSCA: All ingredients are listed on the TSCA inventory
• DOT Classification: Not a DOT controlled material (U.S.)
• UN TDG: Not dangerous goods
• IMDG: Not dangerous goods
• IATA: Not dangerous goods
• Marine pollution: Not applicable
• Special precaution:
  ◦ Fire EmS Guide: F-E (Recommendation)
  ◦ Spillage EmS Guide: Not dangerous goods

15. Regulatory Information

• Korea Industrial Safety and Health Act (GHS): Eye irritation – Category 2
• Korea Industrial Safety and Health Act (GHS): Skin irritation – Category 2
• Korea Hazardous Materials Safety Control Act: Not hazardous material
• Korea Toxic Chemicals Control Act: Not a toxic chemical
• Korea Persistent Organic Pollutants Control Act: Not applicable
• US OSHA Hazards (GHS): Eye irritation
• US OSHA Hazards (GHS): Skin irritation

16. Other Information

Last Updated: March, 2015

References:
• GHS Classification: EC ESIS, US NLM
• Physical and chemical properties: EC ESIS, US NLM
• Transport information: EC ESIS, US NLM
• Toxic and ecological information: OECD SIDS, IUCLID, US NLM, IARC, EC ESIS, CCRIS

Acronyms and Websites:

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