

LIQ-705 Coolant Fluid**1. Identification**

Product: LIQ-705xx Coolant Fluid (“xx” signifies liquid color)

Manufacturer: Koolance Korea

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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.

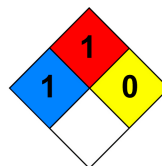
NFPA Rating (estimated)

Health: 1

Flammability: 1

Reactivity: 0

Water Reactivity: 0

**3. Composition / Information on Ingredients**

Ingredients	CAS No.	EINECS No.	Conc. %
Propylene glycol	57-55-6	200-338-0	50 – 55
Distilled Water	7732-18-5	231-791-2	40 – 50
Methyl-1H-Benzotriazole	29385-43-1	249-596-6	0.05 – 5.0
Chemical “A” (Proprietary)	-	-	0.01 – 3.0
Others (Proprietary)	-	-	0.01 – 2.0

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: 117°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:

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

Appropriate engineering controls: Ventilation, Emergency shower

- Respiratory protection: Approved respirator equipped with cartridge for organic vapors
- Eye protection: Protective goggles
- Hand protection: Chemical resistant gloves
- Skin protection: Working clothes

Exposure limitation: No data available

9. Physical and Chemical Properties

- State: Liquid at 20°C
- Flash Point: 117°C (Cleveland open cup). No flash occurred under 93°C (Tag closed cup)
- pH: 5.5 – 6.5 at 20°C; Sample H₂O = 1:5 (V/V)
- Viscosity: 4.3 mPa x s (cP) at 20°C
- Density: 1.029 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, sparks, and strong acids. Vapors may form explosive mixture with air.

Materials to avoid:

Strong oxidizing agents, flammable materials

Hazardous decomposition products:

Carbon oxides

11. Toxicological Information

- Acute toxicity (Calculated):

Oral	rat	LD50 : 32,805 mg/kg
Skin	rabbit	LD50 : 39,746 mg/kg
Inhalation	rat	LC50 : no data available
- Skin irritation: Slightly Irritating (Chemical "A"); from IUCLID/US NLM
- Eye irritation: Slightly Irritating (Propylene Glycol, Chemical "A"); from IUCLID/US NLM
- 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 : 27,756mg/l 96hr *Oncorhynchus mykiss*
 - Crustacean LC50: 55,397mg/l 48hr *Daphnia magna*
 - Bird EC50: 10,361mg/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: Korea MSDS Testing Lab Certificate
- Transport information: Korea MSDS Testing Lab Certificate
- Toxic and ecological information: OECD SIDS, IUCLID, US NLM, IARC, EC ESIS, CCRIS

Acronyms and Websites:

- EC ESIS : European chemical Substances Information System, <http://esis.jrc.ec.europa.eu/>
- IUCLID : International Uniform Chemical Information Database, <http://esis.jrc.ec.europa.eu/>
- US NLM : U.S. National Library of Medicine, <http://chem.sis.nlm.nih.gov/chemidplus/>
- HSDB : US Hazardous Substances Data Bank, <http://toxnet.nlm.nih.gov/>
- CCRIS : US Chemical Carcinogenesis Research Information System, <http://toxnet.nlm.nih.gov/>
- IARC : International Agency for Research on Cancer, <http://monographs.iarc.fr>

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