

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

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

Manufacturer: Koolance Korea

Address: Koolance Bld, 40, Deokcheon-ro 34, Manan-gu,
Anyang-si, Gyeonggi-do, South 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.

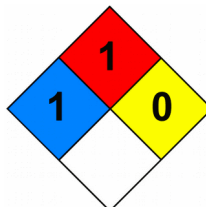
NFPA Rating (estimated)

Health: 1

Flammability: 1

Reactivity: 0

Water Reactivity: 0

**3. Composition / Information on Ingredients**

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
Sodium benzoate	532-32-1	208-534-8	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

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 (Sodium benzoate); from IUCLID/US NLM

- Eye irritation: Slightly Irritating (Propylene Glycol, Sodium benzoate); 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 <i>Oncorhynchus mykiss</i>
Crustacean	LC50: 55,397mg/l 48hr <i>Daphnia magna</i>
Bird	EC50: 10,361mg/l 72hr <i>Selenastrum capricornutum</i>
- 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

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>

This MSDS is composed with reference to documents and criteria provided by KOSHA. 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 we assume 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 Koolance 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 Koolance has been advised of the possibility of such damages.