Glory Global
CO.,LTD

Material Safety Data Sheet

Product name	Propylene carbonate

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product name	Propylene carbonate
1.2. CAS-No.	108-32-7
1.3. Synonyms	- 1,2-Propanediol cyclic carbonate; PC; 4-Methyl-1,3-dioxolan-2-one; - Cyclic 1,2-propylene carbonate; Cyclic methylene carbonate; Carbonic acid cyclic propylene ester.
1.4. Details of the supplier of the safety data sheet	
Company	Glory Global CO.,LTD
Address	C-208, 10, Nowon-ro 15-gil, Nowon-gu, Seoul, Korea
Emergency Phone	+82 2 6223 0862

2. Hazards identification

2.1. EMERGENCY OVERVIEW	
Appearance	- clear, colorless liquid. - Warning! - May cause respiratory tract irritation. - May cause skin irritation. - Causes eye irritation. - Moisture sensitive. - This is expected to be a low hazard for usual industrial handling.
Target Organs	- Eyes
2.2. POTENTIAL HEALTH EFFECTS	
Eye	- Causes eye irritation.
Skin	- May cause moderate skin irritation.
Ingestion	- May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Low hazard for usual industrial handling.
Inhalation	- May cause respiratory tract irritation. Low hazard for usual industrial handling. - Material has a low vapor pressure, so exposure to vapor is not likely.
Chronic	- No information found.

3. Composition/information on ingredients

3.1. Substances

CAS #	Chemical Name	%	EINECS #
108-32-7	Propylene carbonate	99.9	203-572-1

Hazard Symbols	- XI
Risk Phrases	- 36

4. First aid measures

4.1. Description of first aid measures

If inhaled	- Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. - If breathing is difficult, give oxygen. - Get medical aid if cough or other symptoms appear
In case of skin contact	- Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. - Wash clothing before reuse.
In case of eye contact	- Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. - If irritation develops, get medical aid.
If swallowed	- Do NOT induce vomiting. - If victim is conscious and alert, give 2-4 cupfuls of milk or water. - Get medical aid if irritation or symptoms occur.
4.2. Notes to Physician	- Treat symptomatically and

5. Firefighting measures

5.1. General Information	- As in any fire, wear a self-contained breathing apparatus in pressuredemand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. - Use water spray to keep fire-exposed containers cool. Vapors may be heavier than air. - They can spread along the ground and collect in low or confined areas. - Containers may explode when heated.
5.2. Extinguishing Media	- In case of fire, use water, dry chemical, chemical foam, or alcoholresistant foam. - Use water spray to cool fire-exposed containers. - Do NOT get water inside containers.
5.3. Autoignition Temperature	950 deg F (510.00 deg C)
5.4. Flash Point	266 deg F (130.00 deg C)
5.5. Explosion Limits, lower	1.8
5.6. Explosion Limits, upper	14.3
5.7. NFPA Rating	(estimated) Health: 1; Flammability: 1; Instability: 0

6. Accidental release measures

6.1. General Information	- Use proper personal protective equipment as indicated in Section 8.
6.2. Spills/Leaks	- Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. - Avoid runoff into storm sewers and ditches which lead to waterways. - Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. - Do not get water inside containers.

7. Handling and storage

7.1. Precautions for safe handling	- Wash thoroughly after handling. - Wash hands before eating. - Remove contaminated clothing and wash before reuse. Use with adequate ventilation. - Do not allow contact with water. - Keep from contact with moist air and steam.
7.2. Conditions for safe storage, including any incompatibilities	- Store in a cool, dry place. - Store in a tightly closed container. - Store protected from moisture.

8. Exposure controls/personal protection

8.1. Control parameters

Engineering Controls

- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Use adequate ventilation to keep airborne concentrations low.

8.2. EXPOSURE LIMITS

Chemical Name	ACGIH	NIOSH	NIOSH
Propylene carbonate	none listed	none listed	none listed

OSHA Vacated PELs

- No OSHA Vacated PELs are listed for this chemical.

8.2. PERSONAL PROTECTIVE EQUIPMENT

Eyes	- Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin	- Wear appropriate protective gloves to prevent skin exposure.
Clothing	- Wear appropriate protective clothing to minimize contact with skin.
Respirators	- Follow the OSHA respirator regulations found in 29 CFR 1910. - 134 or European Standard EN 149. - Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid, clear, colorless
Odour	weak odor
pH	7
Freezing/Melting Point	-49 deg C
Boiling Point	240 - 243 deg C
Vapour Pressure	.03 mm Hg @ 20
Vapour Density	>3.5 (Air=1)
Evaporation Rate	Not available.
Viscosity	2.8 mPa s
Decomposition Temperature	200 deg C

Solubility in water	Moderately soluble in water.
Specific Gravity/Density	1.204
Molecular Formula	C4H6O3
Molecular Weight	102.09

10. Stability and reactivity

10.1. Chemical stability	- Stable under normal temperatures and pressures.
10.3. Conditions to avoid	- Moisture, excess heat.
10.4. Incompatible materials	- Moisture
10.5. Hazardous decomposition products	- Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
10.6. Hazardous Polymerization	- Will not occur.

11. Toxicological information

11.1. Information on toxicological effects

RTECS#	CAS# 108-32-7: FF9650000
LD50/LC50	Methanol is moderately irritating to the skin. Methanol can be absorbed through the skin and harmful effects have been reported by this route of entry. Effects are similar to those described in “Inhalation”.
Serious eye damage/eye irritation	Draize test, rabbit, eye: 60 mg Moderate;
Inhalation	mouse: LD50 = 20700 mg/kg; rat: LD50 = 29100 uL/kg;
Respiratory or skin sensitisation	Draize test, rabbit, skin: 500 mg Moderate; rabbit: LD50 = >20 mL/kg.
Germ cell mutagenicity	There is insufficient information available to conclude that methanol is mutagenic
Inhalation	Inhalation, rat: LC50 = >5 gm/m3;
Carcinogenicity	Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

12. Ecological information

13. Disposal considerations

13.1 Container disposal	- Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series	None listed.
RCRA U-Series	None listed.

14. Transport information

14.1. IMDG:	Shipping Name: Not regulated as a hazardous material
14.2. US DOT	Shipping Name: Not regulated as a hazardous material
14.3. Canada TDG	Shipping Name: Not regulated as a hazardous material

15. Regulatory information

15.1. Notification status	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
United States TSCA Inventory	- CAS# 108-32-7 is listed on the TSCA inventory
Health & Safety Reporting List	- None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules	- None of the chemicals in this product are under a Chemical Test Rule.
Section 12b	- None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule	- None of the chemicals in this material have a SNUR under TSCA.

15.2. SARA

CERCLA Hazardous Substances and corresponding RQs	- None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances	- None of the chemicals in this product have a TPQ.
SARA Codes	- CAS # 108-32-7: acute.
Section 313	- No chemicals are reportable under Section 313.
Clean Air Act	- This material does not contain any hazardous air pollutants. - This material does not contain any Class 1 Ozone depletors. - This material does not contain any Class 2 Ozone depletors.
Clean Water Act	- None of the chemicals in this product are listed as Hazardous Substances under the CWA. - None of the chemicals in this product are listed as Priority Pollutants under the CWA. - None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA	- None of the chemicals in this product are considered highly hazardous by OSHA.

15.3. State Regulations	- Propylene carbonate is not present on state lists from CA, PA, MN, MA, FL, or NJ. - California No Significant Risk Level: None of the chemicals in this product are listed.
15.3. European/International Regulations	No components are subject to the Massachusetts Right to Know Act.
European Labeling in Accordance with EC Directives	- Hazard Symbols: XI - Risk Phrases: - R 36 Irritating to eyes. - Safety Phrases:
WGK (Water Danger/Protection)	- CAS# 108-32-7: 0
United Kingdom Occupational Exposure Limits	
United Kingdom Maximum Exposure Limits	
Canada	- CAS# 108-32-7 is listed on Canada's DSL List. - This product has a WHMIS classification of D2B. - CAS# 108-32-7 is listed on Canada's Ingredient Disclosure List.
Exposure Limits	

16. Other information

16.1. Further information	- Always work safely around open hatches on bulk tanks. The low density makes flotation difficult for immersed person.