Arconate PROPYLENE CARBONATE

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Arconate PROPYLENE CARBONATE

Number: 000000000000011474

Chemical characterization: Organic carbonates

CAS-No.: 108-32-7

Synonyms: 1,2-Propanediolcyclic carbonate

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2. HAZARDS IDENTIFICATION

Emergency Overview

Signal Word
CAUTION.

Hazards
Slightly combustible liquid. Moderate eye irritant. Slight skin irritant. Decomposition hazard at elevated temperatures.

Physical state
liquid

Color
Colorless.

Odor
Slight odor.

Odor Threshold
No value available.

Potential health effects

Acute effects
See component summary.

- *Propylene carbonate 108-32-7*

Moderate eye irritant. Contact may cause mild skin irritation. Not a skin absorption hazard. No inhalation hazard identified from data available. Not an ingestion hazard.

Skin
May produce skin irritation. Not expected to be a skin absorption hazard.

Inhalation
Although no appropriate human or animal health effects data are known to exist, this material is not expected to be an inhalation hazard.

Eyes
May cause moderate irritation, including burning sensation, tearing, redness or swelling.

Ingestion
No significant signs or symptoms indicative of any health hazard are expected to occur as a result of ingestion.

Chronic effects
See component summary.

- *Propylene carbonate 108-32-7*

Repeated exposures to this material is not expected to result in systemic toxicity.

Aggravated Medical Condition
Any pre-existing disorders or diseases of the eye.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	EC-No.	Weight %
Propylene carbonate	108-32-7	203-572-1	> 99.7

Typical composition

4. FIRST AID MEASURES

General advice
Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information refer to the Emergency Overview in Section 2 of this MSDS.

Skin
Remove contaminated clothing as needed. Wash thoroughly with soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Seek medical attention if ill effect or irritation develops.

Inhalation
If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention.

Eyes
Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

Ingestion
If large quantity swallowed, give lukewarm water (pint/ 1/2 litre) if victim completely conscious/alert. Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

Notes to physician
Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition

Notes to physician
of the patient.

5. FIRE-FIGHTING MEASURES

Flammable properties

Classification
Combustible.

Flash point
~ 108 °C (226.4 °F) (SETA)

Autoignition temperature
~ 455 °C (851 °F)

Lower explosion limit
1.7 vol%

Upper explosion limit
32.5 vol%

Extinguishing Media

Suitable extinguishing media
SMALL FIRE: Use dry chemical, CO2, water spray or regular foam. LARGE FIRE: Use water spray, water fog or regular foam. Do not use straight streams.

Unsuitable extinguishing media
No additional information available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters
Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection.

Precautions for fire-fighting
On exposure to high temperature, may decompose, releasing toxic/flammable vapors. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air. May travel long distances along the ground before igniting and flashing back to vapor source. The presence of acids, bases, or salts may lower decomposition temperatures. Although this product is not explosive under anticipated conditions of normal use, over pressurization of unvented containers may occur if exposed to excessive heat. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire.

Hazardous combustion products
Incomplete combustion can result in production of carbon monoxide, carbon dioxide, nitrogen oxides, bromide gases, and other toxic gases. Decomposition will result in the production of propylene oxide and carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

Spills and leaks
Eliminate all sources of ignition. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Chemical removal by air and water pollution control devices must meet the minimum efficiency requirements needed to reduce exposures to an acceptable level. If necessary, all contaminated waste water must be treated in a municipal or industrial wastewater treatment plant before release to surface water.

7. HANDLING AND STORAGE

Handling
For industrial use only. Follow standard plant procedures or supervisor's instructions for decontamination operations. Carefully vent any internal pressure before removing closure.

Storage
Store only in tightly closed, properly vented containers away from heat, sparks, open flame and strong oxidizing agents. Store closed drums with bung in up position.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls
Both local exhaust and general room ventilation are usually required.

Personal protective equipment

Inhalation
No occupational exposure limits have been developed for this material. No special respiratory protection equipment is recommended under anticipated conditions of normal use.

Skin
Wear chemical resistant gloves such as: Neoprene. Wear suitable protective clothing. The equipment must be cleaned thoroughly after each use.

Eyes
Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapor.

Remarks
Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Take off contaminated clothing and wash before reuse. Wash hands before eating, drinking, smoking, or using toilet facilities. Shower after work using plenty of soap and water.

Occupational Exposure Limits

Consult local authorities for acceptable exposure limits.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: liquid Colorless.

Odor: Slight odor.

Odor Threshold: No value available.

pH: 6.0 - 8.0 (10% in water).

Boiling point/boiling range: ~ 242 °C (467.6 °F) @ 760 mm Hg

Melting point/freezing point: No Data Available.

Flash point: ~ 108 °C (226.4 °F) (SETA)

Autoignition temperature: ~ 455 °C (851 °F)

Flammability: Combustible.

Lower explosion limit: 1.7 vol%

Upper explosion limit: 32.5 vol%

Explosive properties: No Data Available.

Oxidizing properties: No Data Available.

Vapor pressure: ~ 0.03 mm Hg @ 20 °C (68 °F)

Evaporation rate: < 0.005 (butyl acetate = 1)

Relative density: ~ 1.2 - 1.21 @ 20 °C (68 °F)

Relative vapor density: No Data Available.

Viscosity: ~ 2.4 mPa.s @ 25 °C (77 °F) (Brookfield).

Water solubility: Appreciable (10 Percent or more).

Partition coefficient: n-octanol/water: Log Kow = - 0.41

Other physico-chemical properties: Volatile Characteristics: Slight: 0.1 to 1.0% Additional properties may be listed in Sections 2 and 5.

10. STABILITY AND REACTIVITY

Chemical stability
Stable.

Conditions to avoid
Heat, sparks, open flame, other ignition sources, and oxidizing conditions. Propylene carbonate can decompose at high temperatures to propylene oxide and carbon dioxide causing high pressure rises if not properly vented.

Materials to avoid
Peroxides. Strong acids. Strong bases. Strong oxidizing agents. Water.

Hazardous decomposition products
Incomplete combustion can result in production of carbon monoxide, carbon dioxide, and other toxic gases. Decomposition will result in the production of propylene oxide and carbon dioxide. May decompose slowly in the presence of water to propylene glycol and gaseous carbon dioxide. Acids or bases can accelerate decomposition process.

Hazardous polymerization
Not expected to occur.

Reactions with Air and Water
Not expected to occur.

11. TOXICOLOGICAL INFORMATION

Product information

Product Summary
Propylene carbonate is practically non-toxic following acute exposure by oral, dermal or inhalation routes. Propylene carbonate is minimally irritating to skin and moderately irritating to the eye. Repeated exposure by oral, dermal or inhalation at the normal limits of testing did not result in toxicity. Propylene carbonate was not genotoxic in an in vitro (Ames) and an in vivo (micronucleus) assay, and did not cause skin tumors when applied dermally to mice for 2 years. Propylene carbonate did not cause developmental effects when administered to pregnant rats. No reproduction studies were found, but no effects on reproductive organs were seen in subchronic studies.

COMPONENT INFORMATION

- *Propylene carbonate 108-32-7*

Acute toxicity

LC50 (Inhl), Aerosol	rat	> 1000 MG/M3	6 HOUR
LD50 (Oral)	rat	> 5000 MG/KG BWT	
LD50 (Skin)	Rabbit.	> 3000 MG/KG BWT	

Sensitization
Not sensitizing

Target Organs
Eye irritant.

Repeated dose toxicity
Repeated exposures to this material is not expected to result in systemic toxicity.

Reproductive effects
This material has not been tested for effects on fertility, however, no effects on reproductive organs in animals were found in repeated exposure studies.

Developmental Toxicity
Results from animal studies demonstrate that this material is not a teratogen or toxic to the developing embryo or fetus.

Genetic Toxicity
Was not mutagenic in bacteria and did not cause chromosome damage in the mouse bone marrow cells in vivo.

Carcinogenicity
This material did not induce skin tumors following lifetime dermal exposure in mice. Not listed by IARC, NTP, OSHA or EPA.

12. ECOLOGICAL INFORMATION

Product information

Ecotoxicity

This material is expected to be non-hazardous to aquatic species. See component summary.

Environmental fate and pathways

This material is expected to exist solely as a vapor in the ambient atmosphere. Expected to have high mobility in soils. Vapor-phase is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals. This material is expected to be readily biodegradable. This material is not expected to bioaccumulate.

COMPONENT INFORMATION

- *Propylene carbonate 108-32-7*

Ecotoxicity

This material is expected to be non-hazardous to aquatic species.

Acute Fish toxicity
LC50 / 96 HOURS sheepshead minnow. > 1,000 mg/l

Acute toxicity to aquatic invertebrates
LC50 / 48 HOURS Marine copepod. > 1,000 mg/l

Environmental fate and pathways

This material is expected to exist solely as a vapor in the ambient atmosphere. Expected to have high mobility in soils. Vapor-phase is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals.

Persistence and degradability
Stability in soil: The Koc value suggests that this compound would be highly mobile if released onto soil and would not adsorb to suspended solids or sediments.

Biodegradation: This material is expected to be readily biodegradable. Abiotic degradation is expected.

Bioaccumulation: Bioconcentration factor (BCF) 3.0 This material is not expected to bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Contaminated product, soil, water, container residues and spill cleanup materials may be hazardous wastes. Comply with applicable local, state or international regulations concerning solid or hazardous waste disposal and/or container disposal. Landfill solids at permitted sites. Use registered transporters. Burn concentrated liquids. Avoid flame-outs. Assure emissions comply with applicable regulations. Dilute aqueous waste may biodegrade. Avoid overloading/poisoning plant biomass. Assure effluent complies with applicable regulations.

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14. TRANSPORT INFORMATION

Special Provisions
If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in the composition section of this sheet, based on final composition of your product.

Proper shipping name PROPYLENE CARBONATE, not regulated

15. REGULATORY INFORMATION

Notification status

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
Philippines	PICCS
United States of America	TSCA
New Zealand	NZIoC

Contact product.safety@lyondellbasell.com for additional global inventory information.

16. OTHER INFORMATION

Material safety datasheet sections which have been updated:
Revised Section(s): 1 16 March 19 2012

Disclaimer

This document is generated for the purpose of distributing health, safety, and environmental data.
Information is correct to the best of our knowledge at the date of the MSDS publication.
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Numerical Data Presentation
The presentation of numerical data, such as that used for physical and chemical properties and toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example, 1,234.56 mg/kg = 1 234,56 mg/kg.

Language Translations
This document may be available in languages other than English.

End of Material Safety Data Sheet