

PROPYLENE CARBONATE

Gen. Variant: SDS_US_GHS

Version 1.0

Revision Date 09/05/2014

Print Date 11/20/2014

SDS No.: BE175

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : PROPYLENE CARBONATE
CAS Number: 108-32-7
Chemical characterization : Organic carbonates
Chemical Name : 4-Methyl, 1-3 Dioxolan-2-one
Synonyms : 1,2-Propanediolcyclic carbonate

Use of the Substance/Mixture : Solvent extraction., Uses in Coatings, Use in Cleaning Agents, Use in laboratories

Company : Lyondell Chemical Company
LyondellBasell Tower, Suite 300
1221 McKinney St.
P.O. Box 2583
Houston Texas 77252-2583

Telephone : Customer Service 888 777-0232
Product Safety 800 700-0946

Emergency telephone : CHEMTREC USA 800-424-9300
LYONDELL 800-245-4532

E-mail address : product.safety@lyondellbasell.com

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Eye irritation

Category 2A

GHS Classification Scale (1= severe hazard; 4= slight hazard)

Label elements**Hazard symbols** :**Signal Word** : Warning**Hazard Statements** : H319 Causes serious eye irritation.**Precautionary Statements** : **Prevention**
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.**Response**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with

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water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.

Other hazards

No additional information available.

3. Composition/information on ingredients**Substances**

Chemical nature : Substance

Ingredients

Chemical Name	CAS-No. EC-No.	Weight %	Component Type
1,2-Propanediol Carbonate	108-32-7	<=100.0 %	A

Key:
(A) Substance

SECTION 4. FIRST AID MEASURES**First aid procedures**

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 SDS.

Consult a physician/doctor if necessary.
Show this material safety data sheet to the doctor in attendance.

If inhaled : If overcome by exposure, remove victim to fresh air immediately.

Give oxygen or artificial respiration as needed.
Obtain emergency medical attention.

In case of skin contact : 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.

In case of eye contact : Thoroughly flush the eyes with large amounts of clean low-

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pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

If swallowed : 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

Hazards : Moderate to severe eye irritant.

Treatment : Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5. FIRE-FIGHTING MEASURES**Flammable properties**

Flash point : 241 °F (116 °C)
at 1,013 hPa (760 mm Hg)
Method: closed cup

Autoignition temperature : 851 °F (455 °C)
at 1,013 hPa (760 mm Hg)

Lower explosion limit : 1.7 vol%

Upper explosion limit : 32.5 vol%

Flammability (solid, gas) : Not applicable

Fire fighting

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

Specific hazards during 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. The presence of acids, bases, or salts may lower decomposition temperatures. Although this product is not explosive under anticipated

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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 it can be done 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.

Special protective equipment for fire-fighters : Wear positive pressure self-contained breathing apparatus (SCBA).
Structural firefighter's protective clothing will only provide limited protection.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.
Eliminate all sources of ignition.
Evacuate personnel to safe areas.

Environmental precautions : 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.

Methods for containment /
Methods for cleaning up : 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.

SECTION 7. HANDLING AND STORAGE**Handling**

Advice on safe 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

Requirements for storage areas and containers : Store only in tightly closed, properly vented containers away from heat, sparks, open flame and strong oxidizing agents.

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Store closed drums with bung in up position.

8. Exposure controls/personal protection**Control parameters****Ingredients with workplace control parameters**

Consult local authorities for acceptable exposure limits.

Exposure controls**Engineering measures**

Both local exhaust and general room ventilation are usually required.

Personal protective equipment

- Respiratory protection : No occupational exposure limits have been developed for this material.
- Hand protection : Wear chemical resistant gloves such as:
Neoprene.
- Eye and face protection : 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.
- Skin and body protection : Wear suitable protective clothing.
The equipment must be cleaned thoroughly after each use.
- Hygiene measures : 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

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Physical state : liquid
Color : Clear, colorless.
Odor : Slight odor.

Safety data

Flash point : 241 °F (116 °C)
at 1,013 hPa (760 mm Hg)
Method: closed cup

Lower explosion limit : 1.7 vol%
Upper explosion limit : 32.5 vol%

Flammability (solid, gas) : Not applicable

Oxidizing properties : Not considered an oxidizing agent.

Autoignition temperature : 851 °F (455 °C)
at 1,013 hPa (760 mm Hg)

Molecular weight : 102.09 g/mol

Decomposition temperature : not determined

pH : 5.5 - 7.5
Melting point/freezing point : -56 °F (-49 °C)
at 1,013 hPa (760 mm Hg)

Boiling point/boiling range : 468 - 469 °F (242 - 243 °C)
at 1,013 hPa (760 mm Hg)

Vapor pressure : 0.04 hPa (0.03 mm Hg)
at 68 °F (20 °C)

Density : 1.2 g/cm³
at 68 °F (20 °C)

Water solubility : 200 g/l
at 77 °F (25 °C)
completely soluble

Partition coefficient: n-octanol/water : log Pow: -0.48
at 68 °F (20 °C)

Viscosity, dynamic : 2.76 mPa.s
at 68 °F (20 °C)
(Brookfield).

Viscosity, kinematic : 2.8 mm²/s

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	at 68 °F (20 °C)
	1.9 mm ² /s at 104 °F (40 °C)
Relative vapor density	: 1.2 at 68 °F (20 °C)
Evaporation rate	: <0.01 (butyl acetate = 1)
Explosive properties	: Not explosive

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Will not occur.
Chemical stability	: Stable under normal conditions.
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.
Thermal decomposition	: 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.
Hazardous reactions	: Not expected to occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Summary	: The below given information is based on the assessment of the product including impurities.
Acute toxicity	
Acute oral toxicity	: Based on acute toxicity values, not classified. : LD50: > 5,000 mg/kg

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Species: Rat

- Acute inhalation toxicity** : Not classified
No study available.
- Acute dermal toxicity** : Based on acute toxicity values, not classified.
: LD50: > 2,000 mg/kg
Species: Rabbit
- Skin corrosion/irritation** : Based on skin irritation values, not classified.
- Serious eye damage/eye irritation** : Classified
Causes serious eye irritation.
- Respiratory or skin sensitization** : Respiratory sensitization
Not classified
No study available.
: Skin sensitization
Not classified
No adverse effect observed.
- Chronic toxicity**
- Carcinogenicity : Not classified
No adverse effect observed.
- Germ cell mutagenicity : Not classified
No adverse effect observed.
- Reproductive toxicity**
- Effects on fertility /
Effects on or via lactation : Not classified
No study available.
- Effects on Development : Not classified
No adverse effect observed.
- Target Organ Systemic Toxicant - Single exposure** : Based on single exposure toxicity values, not classified.
- Target Organ Systemic Toxicant - Repeated exposure** : Based on repeated exposure toxicity values, not classified.

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Aspiration hazard : Based on physico-chemical values or lack of human evidence, not classified.

12. ECOLOGICAL INFORMATION**Ecotoxicology Assessment**

Acute aquatic toxicity : Based on acute aquatic toxicity values, not classified.

Chronic aquatic toxicity : Not classified, based on readily biodegradability and low acute toxicity.

Toxicity to fish :
Acute toxicity to fish is very low.

Toxicity to daphnia and other aquatic invertebrates : Acute toxicity to freshwater and marine invertebrates is very low.

Toxicity to algae : Acute toxicity to aquatic plants very low.

Toxicity to bacteria : Low toxicity to microorganisms.

Toxicity to fish (Chronic toxicity) : no data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : no data available

Persistence and degradability

Biodegradability : > 83 %
Rapidly degradable.
(After 29 days in a ready biodegradability test)

Bioaccumulative potential

Bioaccumulation : Bioconcentration factor (BCF): 3.16
This material is not expected to bioaccumulate.

Mobility in soil

Distribution among environmental : Stability in water
Expected to hydrolyse under environmental conditions

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compartments

: Stability in soil
no data available
Low absorption to soil particulates predicted

Additional advice : No additional information available.
Environmental fate and pathways

Results of PBT and vPvB assessment

Not applicable.

Other adverse effects

Additional ecological information : No additional information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Further information : 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.

SECTION 14. TRANSPORT INFORMATION

Not regulated for transport

SECTION 15. REGULATORY INFORMATION

If identified components of this product are listed under the TSCA 12(b) Export Notification rule, they will be listed below.

SARA 302/304

This product contains no known chemicals regulated under SARA 302/304.

SARA 311/312

Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312:

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SARA 311/312

Immediate (Acute) Health Hazard.

SARA 313

This product contains no known chemicals regulated under SARA 313.

State Reporting

This material is not known to contain a chemical substance known to the State of California to cause cancer, reproductive, or developmental toxicity under California Proposition 65. However, LyondellBasell has not tested for the presence of listed chemical substances.

This product contains no known chemicals regulated by New Jersey's Worker and Community Right to Know Act.

No components are subject to the Massachusetts Right to Know Act.

This product contains no known chemicals regulated by Pennsylvania's Right to Know Act.

Other international regulations**Global Inventory Status**

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

*Additional Explanatory Status Statements follow the table, as necessary.

Country/Region	Inventory	Status Description
Australia	AICS	Compliant
Canada	DSL	Compliant
China	IECSC	Compliant
Europe	REACH	See REACH Compliance Statement
Japan	ENCS	Compliant
Korea	KECI	Compliant
New Zealand	NZIoC	Compliant
Philippines	PICCS	Compliant
United States of America	TSCA	Compliant

REACH status

If the product has been purchased from any company of the LyondellBasell group of companies registered in the European Union, we confirm that the chemical substance in this product has been pre-registered or, where required under REACH, registered, and that we have the intention to proceed with any required registration in accordance with the deadlines set forth in REACH. (Regulation (EU) No. 1907/2006)

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

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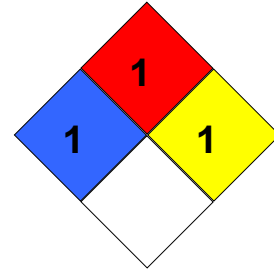
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SECTION 16. OTHER INFORMATION**Further information****HMIS Classification**

: Health Hazard: 1
Flammability: 1
Physical hazards: 0

**NFPA Classification**

: Health Hazard: 1
Fire Hazard: 1
Instability: 1

**Other Information**

HMIS rating scale (0 = minimal hazard; 4 = severe hazard)

NFPA rating scale (0 = minimal hazard; 4 = severe hazard)

Material safety datasheet sections which have been updated:

Revised Section(s): 1 2 3 8 11 12 15 Revision Date August 31 2014

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 SDS publication.

It is not a specification sheet nor should any displayed data be construed as a specification.

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This product(s) may not be used in:

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regulatory classification.

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