



SIGMA-ALDRICH

## Material Safety Data Sheet

Date Printed: 10/11/2008  
Date Updated: 02/05/2006  
Version: 1.40

### Section 1 - Product and Company Information

**Product Name** Propylene carbonate, ReagentPlus&#174;, 99%  
**Product Number** P52652  
**Brand** Sigma-Aldrich

**Company** Sigma-Aldrich  
**Street Address** 3050 Spruce Street  
**City, State, Zip, Country** SAINT LOUIS, MO 63103 US  
**Technical Phone:** 800-325-5832  
**Fax:** 800-325-5052  
**Emergency Phone:** 314-776-6555

### Section 2 - Composition/Information on Ingredient

| Substance Name      | CAS #    | SARA 313 | EC no     | Annex I Index Number |
|---------------------|----------|----------|-----------|----------------------|
| PROPYLENE CARBONATE | 108-32-7 | No       | 203-572-1 | 607-194-00-1         |

**Formula** C<sub>4</sub>H<sub>6</sub>O<sub>3</sub>  
**Synonyms** Arconate 5000, Carbonic acid cyclic methylethylene ester, Carbonic acid, propylene ester, Cyclic methylethylene carbonate, Cyclic propylene carbonate, Cyclic 1,2-propylene carbonate, 1,3-Dioxolan-2-one, 4-methyl-, Dipropylene carbonate, 4-Methyldioxalane2, 4-Methyl-1,3-dioxolan-2-one, 1-Methylethylene carbonate, 4-Methyl-2-oxo-1,3-dioxolane, 1,2-Propanediol carbonate, 1,2-Propanediol cyclic carbonate, 1,2-Propanediyl carbonate, Propylene carbonate, 1,2-Propylene carbonate, Propylene glycol cyclic carbonate, Propylenester kyseliny uhlicite (Czech), Texazar PC

### Section 3 - Hazards Identification

#### Emergency Overview

Irritant  
Irritating to eyes, respiratory system and skin.

#### HMIS Rating

Health: 2 Flammability: 1 Reactivity: 1

#### NFPA Rating

Health: 2 Flammability: 1 Reactivity: 1

For additional information on toxicity, please refer to Section 11.

### Section 4 - First Aid Measures

#### Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

#### Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

#### Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

#### Eye Exposure

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

### Section 5 - Fire-Fighting Measures

**Flash Point:** 270 °F 132 °C  
**Explosion Limits:** Lower: 1.8 % Upper: 14.3 %  
**Autoignition Temp:** 455 °C

#### Extinguishing Media

##### Suitable

Carbon dioxide, dry chemical powder, or appropriate foam.

#### Firefighting

##### Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

##### Specific Hazard(s)

Emits toxic fumes under fire conditions.

### Section 6 - Accidental Release Measures

#### Procedure(s) of Personal Precaution(s)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

#### Methods for Cleaning Up

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

### Section 7 - Handling and Storage

#### Handling

##### User Exposure

Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### Storage

##### Suitable

Keep tightly closed. Store in a cool dry place. Handle and store under nitrogen.

#### Special Requirements

Moisture sensitive.

### Section 8 - Exposure Controls / PPE

#### Engineering Controls

Mechanical exhaust required. Safety shower and eye bath.

#### Personal Protective Equipment

##### Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate, use a fullface respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a fullface supplied air respirator.

##### Hand

Compatible chemical-resistant gloves.

##### Eye

Chemical safety goggles.

OCT 20 2008

**General Hygiene Measures**  
Wash thoroughly after handling.

## Section 9 - Physical/Chemical Properties

|                          |                               |                                   |                        |
|--------------------------|-------------------------------|-----------------------------------|------------------------|
| <b>Appearance</b>        | <b>Color</b><br>Colorless     | <b>Form</b><br>Clear liquid       |                        |
| <b>Molecular Weight</b>  | 102.09 AMU                    |                                   |                        |
| <b>Property</b>          | <b>Value</b>                  | <b>At Temperature or Pressure</b> | <b>Other</b>           |
| pH                       | 7                             | 20 °C                             | Concentration: 200 g/l |
| BP/BP Range              | 240 °C                        | 760 mmHg                          |                        |
| MP/MP Range              | -55 °C                        |                                   |                        |
| Freezing Point           | N/A                           |                                   |                        |
| Vapor Pressure           | 0.13 mmHg                     | 20 °C                             |                        |
| Vapor Density            | N/A                           |                                   |                        |
| Saturated Vapor Conc.    | N/A                           |                                   |                        |
| SG/Density               | 1.189 g/cm3                   |                                   |                        |
| Bulk Density             | N/A                           |                                   |                        |
| Odor Threshold           | N/A                           |                                   |                        |
| Volatile%                | N/A                           |                                   |                        |
| VOC Content              | N/A                           |                                   |                        |
| Water Content            | N/A                           |                                   |                        |
| Solvent Content          | N/A                           |                                   |                        |
| Evaporation Rate         | N/A                           |                                   |                        |
| Viscosity                | N/A                           |                                   |                        |
| Partition Coefficient    | Log Kow: -0.48                |                                   |                        |
| Decomposition Temp.      | N/A                           |                                   |                        |
| Flash Point °F           | 270 °F                        |                                   | Method: closed cup     |
| Flash Point °C           | 132 °C                        |                                   | Method: closed cup     |
| <b>Explosion Limits</b>  | Lower: 1.8 %<br>Upper: 14.3 % |                                   |                        |
| <b>Flammability</b>      | N/A                           |                                   |                        |
| <b>Autoignition Temp</b> | 455 °C                        |                                   |                        |
| <b>Refractive Index</b>  | 1.421                         |                                   |                        |
| <b>Solubility</b>        |                               |                                   |                        |
| Solubility in Water:     | Soluble.                      |                                   |                        |

N/A = not available

## Section 10 - Stability and Reactivity

**Stability**  
**Stable**  
Stable.  
**Materials to Avoid**  
Strong oxidizing agents.

**Hazardous Decomposition Products**  
**Hazardous Decomposition Products**  
Carbon monoxide, Carbon dioxide

**Hazardous Polymerization**  
**Hazardous Polymerization**  
Will not occur.

## Section 11 - Toxicological Information

**Route of Exposure**  
**Skin Contact**  
Causes skin irritation.  
**Skin Absorption**  
May be harmful if absorbed through the skin.  
**Eye Contact**  
Causes eye irritation.  
**Inhalation**  
May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.  
**Ingestion**  
May be harmful if swallowed.

**Signs and Symptoms of Exposure**  
Exposure can cause: Nausea, headache, and vomiting. CNS depression. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**RTECS Number:** FF9650000

### Toxicity Data

Oral - Rat: 29100 UL/KG (LD50)  
Inhalation - Rat: > 5,000 mg/m3 (LC50)  
Subcutaneous - Rat: 11100 MG/KG (LD50)  
**Remarks:** Behavioral: Altered sleep time (including change in righting reflex).  
Behavioral: Somnolence (general depressed activity).  
Oral - Mouse: 20700 mg/kg (LD50)  
Subcutaneous - Mouse: 15800 MG/KG (LD50)  
**Remarks:** Behavioral: Altered sleep time (including change in righting reflex).  
Behavioral: Somnolence (general depressed activity).  
Skin - Rabbit: >20 ML/KG (LD50)

### Irritation Data

Skin - Human: 100 mg 3D I  
**Remarks:** Moderate irritation effect  
Skin - Rabbit: 500 mg  
**Remarks:** Moderate irritation effect  
Eyes - Rabbit: 60 mg  
**Remarks:** Moderate irritation effect

## Section 12 - Ecological Information

### Acute Ecotoxicity Tests

|                  |               |
|------------------|---------------|
| <b>Test Type</b> |               |
| LC50 Fish        |               |
| <b>Species</b>   |               |
| Leuciscus idus   |               |
| <b>Time:</b>     | <b>Value:</b> |
| 96.0 h           | 5,300 mg/l    |
| <b>Test Type</b> |               |
| EC50 Daphnia     |               |
| <b>Species</b>   |               |
| Daphnia magna    |               |

**Time:** 48.0 h  
**Value:** > 500 mg/l  
**Test Type** EC50 Algae  
**Species** Scenedesmus subspicatus  
**Time:** 72.0 h  
**Value:** > 500 mg/l  
**Test Type** LC50 Bacteria  
**Time:** 72.0 h  
**Value:** > 10,000 mg/l

#### Elimination

### Section 13 - Disposal Considerations

#### Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.  
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.  
Observe all federal, state, and local environmental regulations.

### Section 14 - Transport Information

#### DOT

**Proper Shipping Name:** None

**Non-Hazardous for Transport** This substance is considered to be nonhazardous for transport.

#### IATA

**Non-Hazardous for Air Transport** Non-hazardous for air transport.

### Section 15 - Regulatory Information

#### EU Directives Classification

**Symbol of Danger:** Xi

**Indication of Danger**

Irritant.

**Risk Statements** R: 36

Irritating to eyes.

#### US Classification and Label Text

**Indication of Danger**

Irritant.

**Risk Statements**

Irritating to eyes, respiratory system and skin.

**Safety Statements**

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice/Wear suitable protective clothing.

#### United States Regulatory Information

**SARA Listed:** No

**TSCA Inventory Item:** Yes

#### Canada Regulatory Information

##### WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

### Section 16 - Other Information

#### Disclaimer

For R&D use only. Not for drug, household or other uses.

#### Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

RECEIVED

OCT 20 2008

RECEIVED