

Section 1. Product and Company Identification

**Product Name** Ethylene Carbonate  
**CAS Number** 96-49-1

**Parchem - fine & specialty chemicals**  
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Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**  
**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

Acute Tox. 4 (oral) Acute toxicity  
Eye Dam./Irrit. 2A Serious eye damage/eye irritation  
STOT RE 2 Specific target organ toxicity - repeated exposure

**GHS Label Elements**

**Pictograms:**



**Signal word:** WARNING

**Hazard and precautionary statements**

**Hazard Statements**

H319 Causes serious eye irritation.  
H302 Harmful if swallowed.  
H373 May cause damage to organs (Kidney) through prolonged or repeated exposure.

**Precautionary Statements**

**Prevention**

P280 Wear eye/face protection.  
P260 Do not breathe dust/gas/mist/vapors.  
P270 Do not eat, drink, or smoke when using this product.  
P264 Wash with plenty of water and soap thoroughly after handling.

**Response**

P337 + P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.



P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301 + P330 IF SWALLOWED: rinse mouth.

#### Disposal

P501 Dispose of contents/container to hazardous or special waste collection point.

#### Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

#### According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

##### Emergency overview

WARNING:

Causes eye irritation.

RISK OF SERIOUS DAMAGE TO EYES.

INGESTION MAY CAUSE GASTRIC DISTURBANCES.

Avoid contact with the skin, eyes and clothing.

Avoid inhalation of dusts.

Use with local exhaust ventilation.

Wear a NIOSH-certified (or equivalent) particulate respirator.

Wear NIOSH-certified chemical goggles.

Wear chemical resistant protective gloves.

Wear protective clothing.

Eye wash fountains and safety showers must be easily accessible.

#### Section 3. Composition / Information on Ingredients

<b>Common Name</b>	Ethylene Carbonate
<b>Synonym(s)</b>	1,3-Dioxolan-2-one
<b>Formula</b>	C <sub>3</sub> H <sub>4</sub> O <sub>3</sub>
<b>CAS Number</b>	96-49-1

COMPONENT	CAS NUMBER	CONCENTRATION
Ethylene Carbonate	96-49-1	≥ 99.0%

#### Section 4. First Aid Measures

##### Description of first-aid measures

**General advice:** Remove contaminated clothing.

**Inhalation:** Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

**Skin Contact:** Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

**Eye Contact:** Immediately wash affected eyes for at least 15 minutes under running water with



eyelids held open, consult an eye specialist.

**Ingestion:** Rinse mouth and then drink plenty of water. Induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

**Most important symptoms and effects, both acute and delayed**

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11. Further symptoms are possible

**Indication of any immediate medical attention and special treatment needed**

**Note to physician**

**Treatment:** Treat according to symptoms (decontamination, vital functions), no known specific antidote.

Section 5. Firefighting Measures

**Extinguishing media**

**Suitable extinguishing media:** Water spray, foam, dry powder

**Special hazards arising from the substance or mixture**

**Hazards during Firefighting:** Nitrogen oxides, carbon oxides

The substances/groups of substances mentioned can be released in case of fire. Under certain conditions in case of fire other hazardous combustion products may be generated.

**Advice for firefighters**

**Protective equipment for firefighting:** Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

**Further information:** Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

Section 6. Accidental Release Measures

**Personal precautions, protective equipment, and emergency procedures:** Avoid contact with the skin, eyes and clothing.

**Environmental precautions:** Do not empty into drains.

**Methods and material for containment and cleaning up:** Avoid raising dust. Sweep/shovel up. Place into suitable container for disposal.

Section 7. Handling and Storage

**Precautions for safe handling**

Ensure thorough ventilation of stores and work areas. Handle in accordance with good industrial hygiene and safety practice. Remove contaminated clothing and protective equipment before entering eating areas. Hands and/or face should be washed before breaks and at the end of the



shift. When using, do not eat, drink, or smoke.

Protection against fire and explosion: See MSDS section 5 - Firefighting measures. Avoid whirling up the material/product because of the danger of dust explosion. Avoid all sources of ignition: heat, sparks, open flame. Electrostatic discharge may cause ignition.

### Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Avoid deposition of dust. Keep container tightly closed and dry; store in a cool place.

### Storage stability

Storage duration: 24 Months

From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.

## Section 8. Exposure Controls / Personal Protection

**Advice on system design:** Provide local exhaust ventilation to control dust.

### Personal protective equipment

**Respiratory protection:** Wear a NIOSH-certified (or equivalent) particulate respirator.

**Hand protection:** Chemical resistant protective gloves

**Eye protection:** Tightly fitting safety goggles (chemical goggles).

**Body protection:** Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

**General safety and hygiene measures:** Eye wash fountains and safety showers must be easily accessible. Wear protective clothing as necessary to minimize contact. Avoid inhalation of dust. Employees should shower at the end of the shift. Wash soiled clothing immediately.

## Section 9. Physical and Chemical Properties

**Form:** Solid

**Odor:** Fruity

**Odor threshold:** Not determined

**Color:** Colorless

**pH Value:** 7 ( 200 g/l, 20°C)

**Melting point:** 36°C

**Boiling point:** 246°C

**Flash point:** 160°C (ASTM D93, closed cup) Literature data.

**Flammability:** not highly flammable (Directive 84/449/EEC, A.10)

**Lower explosion limit:** 3.6% (V)

For solids not relevant for classification and labelling.

**Upper explosion limit:** 16.1% (V)

For solids not relevant for classification and labelling.

**Vapor pressure:** < 1 mbar (20°C)

**Density:** 1.32 g/cm<sup>3</sup> (39°C) (other) Literature data.

**Bulk density:** 1.32 g/cm<sup>3</sup>

**Vapor density:** not applicable

**Partitioning coefficient n-octanol/water (log Pow):** 0.11 (20°C) (Directive 84/449/EEC, A.8)

**Self-ignition temperature:** 447 - 450°C (Directive 92/69/EEC, A.13) not self-igniting Literature data.

#### Thermal decomposition

205°C, 10 kJ/kg (DSC (DIN 51007))

320°C, > 310 kJ/kg (DSC (DIN 51007)) Thermal decomposition above the indicated temperature is possible. It is not a self-decomposing substance.

**Viscosity, dynamic:** (20°C) not applicable, the product is a solid

**Particle size:** The substance /product is marketed or used in a non-solid or granular form.

**Solubility in water:** 778 g/l (20°C)

**Molar mass:** 88.06 g/mol

**Evaporation rate:** Value can be approximated from Henry's Law Constant or vapor pressure.

#### Section 10. Stability and Reactivity

##### Reactivity

**Corrosion to metals:** Corrosive effects to metal are not anticipated.

**Oxidizing properties:** not fire-propagating (other)

##### Formation of flammable gases:

**Remarks:** Forms no flammable gases in the presence of water.

**Method:** Flammability (contact with water)

##### Chemical stability

**Possibility of hazardous reactions:** Hazardous reactions in presence of mentioned substances to avoid. The product is chemically stable.

**Conditions to avoid:** Avoid dust formation. Avoid heat. Avoid sources of ignition.

**Incompatible materials:** Acids, alkalines, substances with an acid reaction

##### Hazardous decomposition products

**Decomposition products:** Hazardous decomposition products: carbon dioxide

##### Thermal decomposition

205°C (DSC (DIN 51007))

320°C (DSC (DIN 51007))

Thermal decomposition above the indicated temperature is possible. It is not a self-decomposing substance.

## Section 11. Toxicological Information

**Primary routes of exposure:** Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

### Acute Toxicity/Effects

#### Acute Toxicity

**Assessment of Acute Toxicity:** Virtually nontoxic after a single skin contact. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard. Of moderate toxicity after single ingestion. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

#### Oral

Type of value: LD (Human)

Value: approx. 1,600 mg/kg

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Type of value: LD50

Species: Rat (male)

Value: 10,400 mg/kg (similar to OECD guideline 401)

#### Inhalation

Type of value: LC0

Species: rat (male/female)

Value: 0.730 mg/l (IRT)

Exposure time: 8 h

The vapor was tested.

No mortality within the stated exposition time as shown in animal studies.

#### Dermal

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg (OECD Guideline 402)

Limit concentration test only (LIMIT test). No mortality was observed.

#### Assessment other acute effects

Assessment of STOT single: Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

#### Irritation / corrosion

Assessment of irritating effects: Not irritating to the skin. Eye contact causes irritation.

#### Skin

Species: rabbit

Result: non-irritant

Method: OECD Guideline 404

#### Eye

Species: rabbit

Result: Irritant.

Method: OECD Guideline 405



### **Sensitization**

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Buehler test

Species: guinea pig

Result: Non-sensitizing.

Method: OECD Guideline 406

**Aspiration Hazard:** not applicable

### **Chronic Toxicity/Effects**

#### **Repeated dose toxicity**

**Assessment of repeated dose toxicity:** The substance may cause damage to the kidney after repeated ingestion of high doses, as shown in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

#### **Genetic toxicity**

Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture.

#### **Carcinogenicity**

Assessment of carcinogenicity: The whole of the information assessable provides no indication of a carcinogenic effect.

#### **Reproductive toxicity**

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

#### **Teratogenicity**

Assessment of teratogenicity: The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses which impaired body weight gain in parental animals.

### **Symptoms of Exposure**

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11. Further symptoms are possible

**Medical conditions aggravated by overexposure:** Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See MSDS section 11 - Toxicological information.

## Section 12. Ecological Information

### **Toxicity**

Aquatic toxicity

Assessment of aquatic toxicity: There is a high probability that the product is not acutely harmful to aquatic organisms.

#### **Toxicity to fish**

LC50 (96 h) 49,000 mg/l, Pimephales promelas (static)



The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

**Aquatic invertebrates**

EC50 (48 h) 5,900 mg/l, Ceriodaphnia dubia (static)

Nominal concentration.

**Aquatic plants**

Toxic limit concentration (8 d) 2,000 mg/l (growth rate), Microcystis sp.

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

**Chronic toxicity to fish**

Study does not need to be conducted.

**Chronic toxicity to aquatic invertebrates**

Study does not need to be conducted.

**Assessment of terrestrial toxicity**

Study not necessary due to exposure considerations.

**Microorganisms/Effect on activated sludge**

**Toxicity to microorganisms**

Study scientifically not justified.

**Persistence and degradability**

**Assessment biodegradation and elimination (H2O)**

Readily biodegradable (according to OECD criteria).

**Elimination information**

86.9 % CO<sub>2</sub> formation relative to the theoretical value (29 d) (OECD 301B; ISO 9439;

92/69/EEC, C.4-C) (aerobic, activated sludge, domestic)

**Assessment of stability in water**

Study scientifically not justified.

**Bioaccumulative potential**

**Assessment bioaccumulation potential:** No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

**Mobility in soil**

**Assessment transport between environmental compartments:** The substance will not evaporate into the atmosphere from the water surface.

**Additional information**

**Other ecotoxicological advice:** Do not release untreated into natural waters.

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.





Section 14. Transport Information

**Land transport**

**US DOT:** Not classified as a dangerous good under transport regulations

**Sea transport**

**IMDG:** Not classified as a dangerous good under transport regulations

**Air transport**

**IATA/ICAO:** Not classified as a dangerous good under transport regulations

Section 15. Regulatory Information

**Federal Regulations**

**Registration status:** Chemical TSCA, US released / listed

**EPCRA 311/312 (Hazard categories):** Acute;

CERCLA RQ	CAS Number	Chemical Name
10 lbs	75-21-8	Ethylene Oxide
5000 lbs	107-21-1	Ethylene Glycol

Reportable Quantity for release: 5,000 lb

**State regulations**

State RTK	CAS Number	Chemical name
MA, PA	96-49-1	Ethylene carbonate

**CA Prop. 65**

**WARNING:** This product contains a chemical(s) known to the state of California to cause cancer and birth defects or other reproductive harm.

**NFPA Rating**

**Health:** 2

**Flammability:** 1

**Reactivity:** 0

**HMIS III Rating**

**Health:** 2

**Flammability:** 1

**Reactivity:** 0



**Assessment of the hazard classes according to UN GHS criteria (most recent version):**

Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Acute Tox.	4 (oral)	Acute toxicity
STOT RE	2	Specific target organ toxicity - repeated exposure

Section 16. Other Information

**Disclaimer:** 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.

REVISION DATE: 8/22/2016

