

Section 1. Product and Company Identification

**Product Name** Propionic Anhydride  
**CAS Number** 123-62-6

**Parchem - fine & specialty chemicals**  
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**New Rochelle, NY 10801**  
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Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**

**Hazards Category**

Flammable liquid - Category 4  
Skin corrosion/irritation - Category 1B  
Serious eye damage/eye irritation - Category 1

**GHS Label Elements**

**Pictograms:**



**Signal word:** DANGER

**Hazard and precautionary statements**

**Hazard Statements**

Combustible liquid  
Causes severe skin burns and eye damage  
Causes serious eye damage

**Precautionary Statements**

Keep away from flames and hot surfaces - No smoking  
In case of fire:  
Use foam, dry chemical, carbon dioxide (CO<sub>2</sub>), water spray to extinguish.  
Do not breathe dusts or mists  
Wear protective gloves/protective clothing/eye protection/face protection.  
Wash face, hands and any exposed skin thoroughly after handling.  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.



Wash contaminated clothing before reuse.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Immediately call a POISON CENTER or doctor.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER or doctor.  
Store locked up.  
Store in a well-ventilated place. Keep cool.  
Dispose of contents/container to an approved waste disposal plant.

Section 3. Composition / Information on Ingredients

**Common Name** Propionic Anhydride  
**CAS Number** 123-62-6

COMPONENT	CAS NUMBER	CONCENTRATION
Propionic Anhydride	123-62-6	≥ 98%
Propionic Acid	79-09-4	< 2%

Section 4. First Aid Measures

**General Information:** Remove contaminated, soaked clothing immediately and dispose of safely. Pay attention to own protection. In any case show the physician the Safety Data Sheet.  
**Skin:** Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.  
**Eyes:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.  
**Inhalation:** Keep at rest. Move to fresh air. Call a physician immediately.  
**Ingestion:** If conscious, drink plenty of water. If swallowed, do not induce vomiting - seek medical advice.

Section 5. Firefighting Measures

**NFPA Rating**  
**Health:** 3  
**Flammability:** 2  
**Reactivity:** 0

**Suitable Extinguishing Media:** Foam, Dry chemical, Carbon dioxide (CO<sub>2</sub>), Water spray  
**Extinguishing media which must not be used for safety reasons:** Do not use a solid water stream as it may scatter and spread fire.



**Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases:** Under conditions giving incomplete combustion,

hazardous gases produced may consist of:

Carbon monoxide

Carbon dioxide (CO<sub>2</sub>)

Combustion gases of organic materials must in principle be graded as inhalation poisons

**Special Protective Equipment for Firefighters:** self-contained breathing apparatus (EN 133).

**Environmental Precautions:** Water used to fight fire runoff can cause environmental damage.

Dike and collect water used to fight fire.

**Other Information:** Cool containers/tanks with water spray.

#### Section 6. Accidental Release Measures

**Personal precautions:** Avoid contact with the skin and the eyes. Keep away from heat and sources of ignition. Provide adequate ventilation.

**Environmental precautions:** Prevent further leakage or spillage. Do not discharge into the drains/surface waters/groundwater. Dike and collect water used to fight fire.

**Methods for cleaning up:** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Dispose of in accordance with local regulations.

#### Section 7. Handling and Storage

**Advice on safe handling:** Provide sufficient air exchange and/or exhaust in work rooms.

**Protection - fire and explosion:** Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge. Ground and bond containers when transferring material. In case of fire, emergency cooling with water spray should be available.

**Technical measures/Storage conditions:** Keep tightly closed in a dry, cool and well-ventilated place. Never allow product to get in contact with water during storage.

**Material storage:** Store locked up. Keep in a dry, cool and well-ventilated place.

**Incompatible products:** Keep away from: bases, amines, alcohols, water

#### Section 8. Exposure Controls / Personal Protection

**OSHA Exposure Limits:** No exposure limits established.

#### ACGIH Exposure Limits

**Components TWA:** Propionic acid 10 ppm

**Mexico National Exposure Limits:** No exposure limits established

#### Exposure controls

**Engineering measures:** General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.



**Protective equipment:** A safety shower and eyebath should be readily available.

**General advice:** Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Use only in an area equipped with a safety shower. Hold eye wash fountain available.

**Respiratory protection**

Based on workplace contaminant level and working limits of the respirator, use a respirator approved by NIOSH. The following is the minimum recommended equipment for an occupational exposure level. To estimate an occupational exposure level see Section 8 and Section 11.

For concentrations > 1 and < 10 times the occupational exposure level: Use air-purifying respirator with full face piece and organic vapor cartridge(s) or air-purifying full face piece respirator with an organic vapor canister or a full face piece powered air-purifying respirator fitted with organic vapor cartridge(s). The air purifying element must have an end of service life indicator, or a documented change out schedule must be established. Otherwise, use supplied air.

For concentrations more than 10 times the occupational exposure level and less than the lower of either 100 times the occupational exposure level or the IDLH: Use Type C full face piece supplied-air respirator operated in positive-pressure or continuous-flow mode.

For concentrations > 100 times the occupational exposure level or greater than the IDLH level or unknown concentrations (such as in emergencies): Use self-contained breathing apparatus with full face piece in positive-pressure mode or Type C positive-pressure full face piece supplied-air respirator with an auxiliary positive-pressure self-contained breathing apparatus escape system.

For escape: Use self-contained breathing apparatus with full face piece or any respirator specifically approved for escape.

**Skin protection:** Wear impervious clothing and gloves to prevent contact. Butyl rubber is recommended. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

**Eye/Face protection:** Wear chemical goggles when there is a reasonable chance of eye contact. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.

Section 9. Physical and Chemical Properties

**Appearance**

**Form:** Liquid

**Color:** Colorless

**Odor:** Pungent

**Molecular Weight:** 130.14

**Flash point:** 63°C (145.4°F)

**Auto-ignition Temperature:** 282°C

**Melting point/range:** -43°C

**Boiling point/range:** 168.4°C

**Density (20°C):** 1.0103 g/ml

**Viscosity (25°C):** 1.039 mPa\*s

**Vapor pressure (20°C):** 168 Pa

**Water solubility:** Hydrolyses

**Partition coefficient (n-octanol/water):** 0.33 (data based on propionic acid)

Section 10. Stability and Reactivity

**Chemical stability:** Stable under normal conditions of handling, use and transportation.

**Conditions to avoid:** Avoid any source of ignition. Avoid contact with heat, sparks, open flame, and static discharge.

**Incompatible Materials**

Keep away from: amines; bases; alcohols; water

**Hazardous Combustion or Decomposition Products:** Thermal decomposition products may include oxides of carbon.

**Possibility of hazardous reactions:** Reacts violently with water.

Section 11. Toxicological Information

**Potential Health Effects**

**Routes of exposure** Skin, eyes, inhalation, ingestion.

**Immediate effects**

**Skin** Harmful if absorbed through skin. Causes skin burns.

**Eyes** Causes eye burns.

**Inhalation** May be harmful if inhaled. Causes respiratory tract burns.

**Ingestion** May be harmful if swallowed. Causes digestive tract burns.

**Propionic anhydride**

**Product name**

**Acute oral toxicity** LD50: 3455 mg/kg

(Reference substance: Propionic acid)

**Revision Number** 6

**Acute inhalation toxicity** LC50 (4h): > 20 mg/l

**Propionic Anhydride**

**Method:** Similar to OECD 403

**Skin corrosion/irritation:** Corrosive (Reference substance: Propionic acid)

Species: Rabbit

**Serious eye damage/eye irritation:** Corrosive (Reference substance: Propionic acid)

Species: Rabbit eye

**Carcinogenic effects:** No evidence of carcinogenicity

Species: Rat - Male

Study: Oral gavage lifetime study

**In vitro Mutagenicity**

Ames Test: negative- with and without metabolic activation

Method: OECD 471 (Reference substance: Propionic acid)

Cell gene-mutation in Chinese Hamster Cells: negative with and without metabolic activation

Method: OECD 476 (Reference substance: Formic acid)

### **In vivo Mutagenicity**

In vitro mammalian chromosome aberration test in Chinese hamster cells: negative - with and without metabolic activation - OECD 473 (Reference substance: Propionic acid)

### **Developmental Effects** (Reference substance: Calcium propionate)

Routes of exposure: oral gavage

Species: Rat

NOAEL: 300 mg/kg bw/day (Maternal toxicity/teratogenicity)

### **Propionic Acid**

**Acute oral toxicity:** LD50: 960 - 2270 mg/kg, rat- not toxic to harmful

**Acute dermal toxicity:** LD50: 500 - 794 mg/kg, rabbit- Harmful to toxic

**Acute inhalation toxicity:** LC50 (4h): > 5.4 mg/l

**Skin corrosion/irritation:** Corrosive

Species: Rabbit

Method: Exposure time: 1h occluded treatment

**Skin Sensitization:** Nonsensitizer

Species: Guinea Pig

Method: Maximization

**Serious eye damage/eye irritation:** Considered to be corrosive

**Carcinogenic effects:** 5 Papillomas of the forestomach mucosa were observed in 20 animals.

Significant hyperplasia and dysplasia of the forestomach mucosa were also observed

Species: Rat

Study: Oral dose-feed lifetime study

LOAEL: 2640 mg/kg/d

### **in vitro Mutagenicity**

Negative for sister-Chromatid-exchange (SCE) Ames Test:

negative- with and without metabolic activation- Method:

OECD 471

### **in vivo Mutagenicity**

Mouse micronucleus test for chromosome damage: Negative

### **Propionic Anhydride**

**Developmental effects:** No adverse developmental effects at a dose level of 300 - 400 mg/kg/day

Routes of exposure: Oral gavage

Species: rat; rabbit; mouse; hamster

LOAEL: 300 mg/kg/d

**Repeated exposure:** 90-day Skin ulceration at 233 mg/kg/day (14% solution). No clinical signs of toxicity and no impact on body weight

Routes of exposure: Dermal

Species: Mice



**Repeated Exposure:** 90-day Increased esophageal epithelial hyperplasia was observed at -2000 mg/kg/day. No other adverse effects were observed

Routes of exposure: oral dose-feed

Species: dogs

NOAEL: -700 mg/kg bw/day

#### Section 12. Ecological Information

##### **Propionic Anhydride**

**Acute fish toxicity:** LC50: > 10,000 mg/l (96h)

(Reference substance: Calcium propionate)

Species: Leuciscus idus (Golden orfe)

Method: DIN 38412 T.15

**Acute daphnia toxicity:** EC50: > 500 mg/l (48h)

Species: Daphnia magna

Method: EU C.2

**Toxicity to aquatic plants:** EC50: > 500 mg/l (72h)

(Reference substance: Calcium propionate)

Species: Desmodium subspicatus

Method: OECD 201

**Toxicity to bacteria:** EC50: 60 mg/l (17h)

(Reference substance: Calcium propionate)

Species: Pseudomonas putida

**Biodegradation:** Readily biodegradable

(Reference substance: Propionic acid)

Method: according to OECD criteria

**Other potential hazards:** The substance does not meet the criteria for PBT/vPvB according to REACH, Annex XIII

#### 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

##### **US Department of Transportation**

**UN/NA Number:** UN 2496

**Proper Shipping Name:** Propionic anhydride

**Hazard class:** 8

**Packing Group:** III

**Emergency Resp. Guide:** 156

##### **ICAO/IATA**

**UN-No:** UN 2496



**Proper Shipping Name:** Propionic anhydride

**Hazard Class:** 8

**Packing group:** III

**IMDG**

**UN/ID No:** UN 2496

**Proper Shipping Name:** Propionic anhydride

**Hazard Class:** 8

**Packing group:** III

**Marine pollutant:** No

**EmS Code:** F-A, S-B

Section 15. Regulatory Information

**US State Regulations:** Chemicals associated with the product which are subject to the state right-to-know regulations are listed along with the applicable state(s):

**Propionic Anhydride (CAS# 123-62-6)**

Pennsylvania: Listed

New York: Listed

New Jersey: Listed

Massachusetts: Listed

Rhode Island: Listed

**Propionic acid (CAS# 79-09-4)**

Pennsylvania: Listed

New York: Listed

New Jersey: Listed

Illinois: Listed

Massachusetts: Listed

Rhode Island: Listed

**US Federal Regulations**

**TSCA Inventory:** We certify that all components are either on the TSCA inventory or qualify for an exemption.

**Environmental Regulations:** N/A

**Propionic anhydride (CAS# 123-62-6)**

**CERCLA Hazardous Substance:** Listed

**Propionic acid (CAS# 79-09-4)**

**CERCLA Hazardous Substance:** Listed

**SARA 311**

**Acute health:** Yes

**Chronic health:** No

**Fire:** Yes





**Sudden release of pressure:** No

**Reactive:** No

**International Regulations**

**International Inventories**

Listed on the chemical inventories of the following countries or qualifies for an exemption:

Australia (AICS)

Canada (DSL)

China (IECSC)

Europe (EINECS)

Japan (ENCS)

Japan (ISHL)

Korea (KECI)

New Zealand (NZioC)

Philippines (PICCS)

United States (TSCA)

**DEA Listing:** This product is a DEA List 1 Chemical.

**DEA Chemical Code:** 8328

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.

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