

Flammable **7** C

# Material Safety Data Sheet

## Propionic acid

ACC# 19750

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Propionic acid**Catalog Numbers:** S80149, A258-500, A258500LC, S801491**Synonyms:** Carboxyethane; Ethanecarboxylic acid; Ethylformic acid; Methylacetic acid; Metacetic acid; Propanoic acid; Propanoic acid grain preserver; Psuedoacetic acid.**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
79-09-4	Propionic acid	100	201-176-3

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: colorless, oily clear liquid. Flash Point: 51 deg C.

**Danger! Flammable liquid and vapor.** Harmful if absorbed through the skin. Causes severe eye and skin irritation and burns. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. May cause central nervous system depression. Corrosive to carbon steel. Possible sensitizer.

**Target Organs:** Central nervous system, respiratory system, eyes, skin, mucous membranes.

#### Potential Health Effects

**Eye:** May result in corneal injury. Causes severe eye irritation and burns.

**Skin:** Harmful if absorbed through the skin. Causes severe skin irritation and burns. Skin absorption in rabbits was found to cause focal hemorrhage of the lungs, discoloration of the liver and kidney, enlarged gall bladder, and gastrointestinal inflammation.

**Ingestion:** May cause severe and permanent damage to the digestive tract. Causes digestive tract burns with immediate pain, swelling of the throat, convulsions, and possible coma. May cause central nervous system depression.

**Inhalation:** May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. May cause asthmatic attacks due to allergic sensitization of the respiratory tract. Causes chemical burns to the respiratory tract. Vapors may cause dizziness or suffocation.

**Chronic:** Prolonged or repeated skin contact may cause defatting and dermatitis. Laboratory experiments have resulted in mutagenic effects.

## Section 4 - First Aid Measures

**Eyes:** Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

**Extinguishing Media:** Water may be ineffective. Do NOT use straight streams of water. Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam.

**Flash Point:** 51 deg C ( 123.80 deg F)

**Autoignition Temperature:** 513 deg C ( 955.40 deg F)

**Explosion Limits, Lower:** 2.9 vol %

**Upper:** 12.1 vol %

**NFPA Rating:** (estimated) Health: 3; Flammability: 2; Instability: 0

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Use water spray to dilute spill to a non-flammable mixture. Large spills may be neutralized with dilute alkaline solutions of soda ash (sodium carbonate,  $\text{Na}_2\text{CO}_3$ ), or lime (calcium oxide,  $\text{CaO}$ ). Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Cover with sand, dry lime or soda ash and place in a closed container for disposal. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Do not get ... eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Discard contaminated shoes.

Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Do not breathe vapor or mist.

**Storage:** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Do not store in steel container.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Propionic acid	10 ppm TWA	10 ppm TWA; 30 mg/m <sup>3</sup> TWA	none listed

**OSHA Vacated PELs:** Propionic acid: 10 ppm TWA; 30 mg/m<sup>3</sup> TWA

### Personal Protective Equipment

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Clear liquid

**Appearance:** colorless, oily

**Odor:** rancid odor - pungent odor

**pH:** Acidic.

**Vapor Pressure:** 2 mm Hg @ 20 deg C

**Vapor Density:** 2.56

**Evaporation Rate:** Not available.

**Viscosity:** 1.175 cps @ 15 deg C

**Boiling Point:** 141 deg C

**Freezing/Melting Point:** -21 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Soluble.

**Specific Gravity/Density:** 0.9942 @ 20/4°C

**Molecular Formula:** CH<sub>3</sub>CH<sub>2</sub>COOH

**Molecular Weight:** 74.08

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Ignition sources, excess heat.

**Incompatibilities with Other Materials:** Steel, strong oxidizing agents, strong bases.

**Hazardous Decomposition Products:** Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 79-09-4: UE5950000

**LD50/LC50:**

CAS# 79-09-4:

Draize test, rabbit, eye: 990 ug Severe;

Oral, rat: LD50 = 2600 mg/kg;

Skin, rabbit: LD50 = 500 uL/kg;

**Carcinogenicity:**

CAS# 79-09-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** Medical reports of acute exposures of workers to propionic acid show mild to moderate skin burns, mild eye redness, and one case of mild cough and asthmatic response.

**Teratogenicity:** No information found.

**Reproductive Effects:** No information found.

**Mutagenicity:** Sister Chromatid Exchange: Human, Lymphocyte = 2500 umol/L.

**Neurotoxicity:** No information found.

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** Water flea Daphnia: TLm = 130 mg/L; 24 Hr; unspecified Fish: Fathead Minnow: LC50 = 4740 mg/L; 96 Hr; Flow-through bioassay at 24.7 °C (pH 7.60) Volatilization of propionic acid from environmental waters and moist soil should be extremely slow. Evaporation from dry surfaces is expected, especially when present in high concentrations such as in spill situation. The hydrolysis, photolysis and bioconcentration of propionic acid are not expected to be important fate processes.

**Environmental:** Estimate Koc value = 36. This value suggests that propionic acid should not partition from the water column to organic matter contained in sediments and suspended solids and should be highly mobile in soil. Leaching into ground water may occur. Estimated BCF value = 0.02. This value indicates that propionic acid should not bioconcentrate among aquatic organisms. Biodegradation is the expected to be the most important removal mechanisms of propionic acid from aerobic soil and water.

**Physical:** No information available.

**Other:** In the atmosphere this product exist primarily in the vapor phase and degrades by the reaction with photochemically produced hydroxyl radicals with a half-life of approximately 13 days.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	PROPIONIC ACID	No information available.
<b>Hazard Class:</b>	8	
<b>UN Number:</b>	UN1848	
<b>Packing Group:</b>	III	

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 79-09-4 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

CAS# 79-09-4: 5000 lb final RQ; 2270 kg final RQ

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 79-09-4: acute, flammable.

**Section 313** No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

#### Clean Water Act:

CAS# 79-09-4 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 79-09-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

#### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

C

#### P+ Phrases:

P34 Causes burns.

#### Safety Phrases:

- S 16 Keep away from sources of ignition - No smoking.
- S 23 Do not inhale gas/fumes/vapour/spray.
- S 33 Take precautionary measures against static discharges.
- ; 36 Wear suitable protective clothing.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 9 Keep container in a well-ventilated place.

**WGK (Water Danger/Protection)**

CAS# 79-09-4: 1

**Canada - DSL/NDSL**

CAS# 79-09-4 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of B3, D1B, E.

**Canadian Ingredient Disclosure List**

CAS# 79-09-4 is listed on the Canadian Ingredient Disclosure List.

<b>Section 16 - Additional Information</b>
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**MSDS Creation Date:** 5/05/1999

**Revision #3 Date:** 6/04/2002

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