

Material Safety Data Sheet

Propionic acid

ACC# 19750

Section 1 - Chemical Product and Company Identification

MSDS Name: Propionic acid

Catalog Numbers: AC149300000, AC149300010, AC149300025, AC149300050, AC220130000, AC220130010, S80149, S801491, A258-500, A258500LC, A258N119, NC9278797

Synonyms: Carboxyethane; Ethane-carboxylic acid; Ethylformic acid; Methylacetic acid; Metacetonic 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	99	201-176-3

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

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

Danger! Causes eye and skin burns. Causes digestive and respiratory tract burns. **Flammable liquid and vapor.**

Target Organs: Respiratory system, gastrointestinal system, eyes, skin.

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, Na₂CO₃), or lime (calcium oxide, 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 in 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 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 ³ TWA	none listed

OSHA Vacated PELs: Propionic acid: 10 ppm TWA; 30 mg/m³ 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 respirator 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 (air=1)

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: CH₃CH₂COOH

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: Strong oxidizing agents, strong bases, steel.

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
Shipping Name:	PROPIONIC ACID	PROPIONIC ACID
Hazard Class:	8	8
UN Number:	UN1848	UN1848
Packing Group:	III	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: immediate, fire.

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 depleters.

This material does not contain any Class 2 Ozone depleters.

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

Risk Phrases:

R 34 Causes burns.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

S 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).

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.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

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

Section 16 - Additional Information
--

MSDS Creation Date: 5/05/1999

Revision #4 Date: 6/08/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.