

Material Safety Data Sheet

Propionic acid

ACC# 19750

Section 1 - Chemical Product and Company Identification

MSDS Name: Propionic acid**Catalog Numbers:** AC149300000, AC149300025, AC149300050, AC220130000, AC220130010, 14930-0010, A258-500, A258-500LC, A258N-119, 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	99	201-176-3

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

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

Danger! Causes burns by all exposure routes. **Flammable liquid and vapor.****Target Organs:** Respiratory system, gastrointestinal system, eyes, skin.**Potential Health Effects****Eye:** Causes eye irritation and burns.**Skin:** Causes skin 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:** Causes gastrointestinal tract burns.**Inhalation:** Causes chemical burns to the respiratory tract.**Chronic:** Prolonged or repeated skin contact may cause defatting and dermatitis. Laboratory experiments have resulted in mutagenic effects.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed.

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

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. 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. 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: Use foam, dry chemical, or carbon dioxide. Water may be ineffective. Do NOT use straight streams of water.

Flash Point: 51 deg C (123.80 deg F)

Autoignition Temperature: 485 deg C (905.00 deg F)

Explosion Limits, Lower: 2.1 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: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: 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. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Do not breathe vapor or mist.

Storage: Keep away from sources of ignition. Keep container closed when not in use. Store in a tightly closed container. 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. Use only under a chemical fume hood.

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 appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

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: butter-like

pH: 2.5 (100 g/l aq. sol.)

Vapor Pressure: 2 mm Hg @ 20 deg C

Vapor Density: 2.56 (air=1)

Evaporation Rate: Not available.

Viscosity: 1.02 mPa @25 deg C

Boiling Point: 141 deg C @760mmHg

Freezing/Melting Point: -22 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 0.9942

Molecular Formula: CH₃CH₂COOH

Molecular Weight: 74.08

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat.

Incompatibilities with Other Materials: Steel, metals, reducing agents, amines, halogens, oxidizing agents, bases.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported

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) Fish: Bluegill/Sunfish: LC50 : 5000 mg/l; 24Hr; Fish: Leuciscus idus: LC50 : >10000 mg/l; 96Hr; DIN 38412, Part 15 Fish: Carp: LC50 : 72 mg/l; 48Hr; 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:	UN3463	UN3463
Packing Group:	II	II

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 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

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 #7 Date: 2/11/2008

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.