



SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 10/08/2008
Date Updated: 02/02/2007
Version 1.50

Section 1 - Product and Company Information

Product Name Propionic-1-¹³C acid, 99 atom % ¹³C
Product Number 282448
Brand Aldrich Chemical

Company Sigma-Aldrich
Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
PROPIONIC-1- ¹³ C ACID, 99 ATOM % ¹³ C	6212-69-7	No		607-089-00-0

Formula ¹³C₃H₆O₂
Synonyms propionic-2,3-¹³C₂ acid

Section 3 - Hazards Identification

Emergency Overview

Combustible (USA) Flammable (EU) Corrosive.
Harmful in contact with skin. Causes burns.
Readily absorbed through skin. Target organ(s): Central nervous system. Blood. Combustible.

HMIS Rating
Health: 3* Flammability: 2 Reactivity: 1

NFPA Rating
Health: 3 Flammability: 2 Reactivity: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician. Do not induce vomiting.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Information for Physician

Contamination of the eyes should be treated by immediate and prolonged irrigation with copious amounts of water.

Information for Physician

Contamination of the eyes should be treated by immediate and prolonged irrigation with copious amounts of water.

Section 5 - Fire Fighting Measures

Flash Point: 129.2 °F 54 °C
Explosion Limits: Lower: 2.9 % Upper: 12.1 %
Autoignition Temp: 513 °C

Extinguishing Media

Suitable
Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Combustible liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Keep away from heat and open flame. Store in a cool dry place.

Special Requirements
Hygroscopic.

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Use only in a chemical fume hood.

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate, use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a fullface supplied air respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

Other

Face shield (8-inch minimum).

General Hygiene Measures

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Color
Physical State Clear liquid	Colorless

Molecular Weight	74.08 AMU
------------------	-----------

pH	2.5	20 °C	Concentration: 100 g/l
BP/BP Range	141 - 142 °C		
MP/MP Range	-24 - -23 °C		
Freezing Point	N/A		
Vapor Pressure	2.4 mmHg	20 °C	
Vapor Density	2.55 g/l		
Saturated Vapor Conc.	N/A		
SG/Density	0.992 g/cm3		
Bulk Density	N/A		
Odor Threshold	N/A		
Volatile%	N/A		
VOC Content	N/A		
Water Content	N/A		
Solvent Content	N/A		
Evaporation Rate	N/A		
Viscosity	10 Pas	25 °C	
Surface Tension	27.21 mN/m	15 °C	
Partition Coefficient	Log Kow: 0.25		
Decomposition Temp.	N/A		
Flash Point °F	129.2 °F		Method: closed cup
Flash Point °C	54 °C		Method: closed cup

Explosion Limits
Lower: 2.9 %
Upper: 12.1 %

Flammability
N/A

Autoignition Temp 513 °C
Refractive Index 1.387
Solubility
Solubility in Water: Soluble.
Other Solvents: ALCOHOL, ETHER, CHLOROFORM

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable

Stable.

Conditions of Instability

Hygroscopic.

Materials to Avoid

Strong oxidizing agents

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

Causes burns.

Skin Absorption

Harmful if absorbed through skin. Readily absorbed through skin.

Eye Contact

Causes burns.

Inhalation

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion

May be harmful if swallowed.

Target Organ(s) or System(s)

Central nervous system. Blood. Liver. Kidneys.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. May cause an asthmatic-like bronchitis. Nausea, dizziness, and headache. Blood effects.

RTECS Number: N/A

Toxicity Data

Oral - Rat: 3,500 - 4,200 mg/kg (LD50)

Skin - Rabbit: 500 mg/kg (LD50)

Inhalation - Rat: >4.9 MG/L (LC50)

Section 12 - Ecological Information

Acute Ecotoxicity Tests

Test Type

EC50 Algae

Time: 72.0 h
Value: 45.8 mg/l

Test Type

EC50 Daphnia

Species

Daphnia magna

Time: 48.0 h
Value: 21 - 24.6 mg/l

Test Type

LC50 Fish

Species

Lepomis macrochirus (Bluegill)

Time: 96.0 h
Value: 73 - 115 mg/l

Test Type

LC50 Fish

Species

Onchorhynchus mykiss (Rainbow trout)

Time: 96.0 h
Value: 51 - 73.2 mg/l

Section 14 - Transport Information

DOT

Proper Shipping Name: Propionic acid

UN#: 3463

Class: 8

Packing Group: Packing Group II

Hazard Label: Corrosive

Hazard Label: Flammable liquid

PIH: Not PIH

IATA

Proper Shipping Name: Propionic acid

IATA UN Number: 3463

Hazard Class: 8

Packing Group: II

Section 15 - Regulatory Information

EU Directives Classification

Symbol of Danger: C

Indication of Danger

Corrosive.

Risk Statements R: 34

Causes burns.

Safety Statements S: 23 36 45

Do not breathe vapor. Wear suitable protective clothing. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Classification and Label Text

Indication of Danger

Combustible (USA) Flammable (EU). Corrosive.

Risk Statements

Harmful in contact with skin. Causes burns.

Safety Statements

Keep away from sources of ignition - no smoking. Do not breathe vapor. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Statements

Readily absorbed through skin. Target organ(s): Central nervous system, Blood, Combustible.

United States Regulatory Information

SARA Listed: No

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

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. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or form contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

