

SAFETY DATA SHEET

Creation Date 21-Feb-2012 Revision Date 13-Oct-2023 Revision Number 7

1. Identification

Product Name Propionic acid

Cat No.: A258-500; A258-N119; XXA2581LI; NC3780517

CAS No 79-09-4

Synonyms Carboxyethane; Ethanecarboxylic acid; Ethylformic acid

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Fisher Scientific Company One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300 CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids
Corrosive to metals
Category 1
Skin Corrosion/Irritation
Serious Eye Damage/Eye Irritation
Category 1
Specific target organ toxicity (single exposure)

Category 3
Category 1
Category 3

Target Organs - Respiratory system.

Label Elements

Signal Word

Danger

Hazard Statements

Flammable liquid and vapor May be corrosive to metals

Causes severe skin burns and eye damage May cause respiratory irritation



Precautionary Statements

Prevention

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Use only outdoors or in a well-ventilated area

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting equipment

Use only non-sparking tools

Take precautionary measures against static discharge

Keep only in original container

Keep cool

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing **Ingestion**

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Fire

In case of fire: Use CO2, dry chemical, or foam for extinction

Spills

Absorb spillage to prevent material damage

Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Store in corrosive resistant polypropylene container with a resistant inliner

Store in a dry place

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/information on Ingredients

Component	CAS No	Weight %
Propionic acid	79-09-4	>95

4. First-aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Immediate medical attention is required.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Remove and wash

contaminated clothing and gloves, including the inside, before re-use. Call a physician

immediately.

Inhalation If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use

mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory

medical device. Call a physician immediately.

Ingestion Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an

unconscious person. Call a physician immediately.

Most important symptoms and

effects

Causes burns by all exposure routes. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue

and danger of perforation

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media CO₂, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable Extinguishing Media No information available

Flash Point 51 °C / 123.8 °F

Method - No information available

Autoignition Temperature 485 °C / 905 °F

Explosion Limits

Upper 12.1 vol % **Lower** 2.1 vol %

Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO2).

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

HealthFlammabilityInstabilityPhysical hazards320N/A

6. Accidental release measures

Personal Precautions

Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Should not be released into the environment.

Environmental Precautions

Methods for Containment and Clean Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and Storage

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face Handling

protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not

ingest. If swallowed then seek immediate medical assistance.

Storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

> Keep away from heat, sparks and flame. Do not store in metal containers. Incompatible Materials. Bases. Strong oxidizing agents. Amines. Halogens. Metals. Reducing Agent.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Propionic acid	TWA: 10 ppm	(Vacated) TWA: 10 ppm	REL = 10 ppm (TWA)	TWA: 10 ppm
		(Vacated) TWA: 30 mg/m ³	$REL = 30 \text{ mg/m}^3 \text{ (TWA)}$	
			STEL: 15 ppm	
			STEL: 45 mg/m ³	

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting **Engineering Measures**

equipment. Ensure that evewash stations and safety showers are close to the workstation

location. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection Tight sealing safety goggles. Face protection shield.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard **Respiratory Protection**

> EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Particulates filter conforming to EN 143. or. Acid gases filter. Type E. Yellow. conforming to Recommended Filter type:

EN14387.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State Liquid

No information available **Appearance**

Odor pungent

Odor Threshold No information available

pH 2.5 100 g/l aq. sol

Melting Point/Range -22 °C / -7.6 °F
Softening Point No data available
Roiling Point/Range 141 °C / 285 8 °I

Boiling Point/Range 141 °C / 285.8 °F @ 760 mmHg

Flash Point 51 °C / 123.8 °F Method - No information available

Flammability (liquid) Flammable On basis of test data Flammability (solid,gas) Not applicable Liquid

Explosion Limits

Lower 2.1 Vol%
Upper 12.1 Vol%

Autoignition Temperature

Decomposition Temperature

Water Solubility

485 °C / 905 °F

No data available

Miscible

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Componentlog PowPropionic acid0.33

Vapor Pressure 5 mbar @ 20 °C

Density / Specific Gravity 0.990

Bulk Density
Not applicable
2.56

Viscosity 1.02 mPa.s at 25 °C Particle characteristics Not applicable (liquid)

Molecular Formula C3 H6 O2 Molecular Weight 74.08

Explosive Properties explosive air/vapour mixtures possible

10. Stability and reactivity

Liquid

(Air = 1.0)

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat. Keep away from open flames, hot surfaces and

sources of ignition.

Incompatible Materials Bases, Strong oxidizing agents, Amines, Halogens, Metals, Reducing Agent

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous ReactionsNone under normal processing.

11. Toxicological information

Information on expected route of exposure

Inhalation Causes burns. Harmful by inhalation.

Ingestion Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. Can

burn mouth, throat, and stomach. Harmful if swallowed.

Eyes Causes burns. Irritating to eyes. Corrosive to the eyes and may cause severe damage

including blindness. Risk of serious damage to eyes.

Skin Causes burns.

Acute Toxicity

Product Information Component Information

Revision Date 13-Oct-2023 Propionic acid

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation		
Propionic acid	LD50 = 3455 mg/kg (Rat)	LD50 = 3235 mg/kg (Rabbit)	LC50 = > 19.7 mg/l (Rat) 1 h		

Toxicologically Synergistic

No information available

Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Causes burns by all exposure routes

Sensitization No information available

The table below indicates whether each agency has listed any ingredient as a carcinogen. Carcinogenicity

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Propionic acid	79-09-4	Not listed				

Mutagenic Effects Not mutagenic in AMES Test

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system STOT - repeated exposure None known

No information available **Aspiration hazard**

delayed

Symptoms / effects,both acute and Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains.

Freshwater Algae	Freshwater Fish	Microtox	Water Flea
EC50: = 45.8 mg/L, 72h	5 ,	EC50 = 59.6 mg/L 17 h	Not listed
(` , ,		
subspicatus)	LC50: 73 - 99.7 mg/L, 96h		
EC50: = 43 mg/L , 96h	static (Lepomis macrochirus)		
(Desmodesmus	LC50: > 1 mg/L, 96h static		
subspicatus)	(Pimephales promelas)		
	EC50: = 45.8 mg/L, 72h (Desmodesmus subspicatus) EC50: = 43 mg/L, 96h (Desmodesmus	EC50: = 45.8 mg/L, 72h (Desmodesmus subspicatus) EC50: = 43 mg/L, 96h (Desmodesmus (C50: = 51 mg/L, 96h static (Oncorhynchus mykiss) LC50: 73 - 99.7 mg/L, 96h static (Lepomis macrochirus) LC50: > 1 mg/L, 96h static	EC50: = 45.8 mg/L, 72h (Desmodesmus subspicatus) EC50: = 43 mg/L, 72h (Oncorhynchus mykiss) EC50: = 43 mg/L, 96h static (Lepomis macrochirus) (Desmodesmus LC50: = 51 mg/L, 96h static (Lepomis macrochirus) LC50: > 1 mg/L, 96h static

Persistence and Degradability Miscible with water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

. Will likely be mobile in the environment due to its water solubility. Mobility

Component	log Pow
Propionic acid	0.33

13. Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a

hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN3463

Proper Shipping Name PROPIONIC ACID

Hazard Class 8
Subsidiary Hazard Class 3
Packing Group || |

TDG_

UN-No UN3463

Proper Shipping Name PROPIONIC ACID

Hazard Class 8
Subsidiary Hazard Class 3
Packing Group ||

IATA

UN-No UN3463

Proper Shipping Name PROPIONIC ACID

Hazard Class 8
Subsidiary Hazard Class 3
Packing Group ||

IMDG/IMO

UN-No UN3463

Proper Shipping Name PROPIONIC ACID

Hazard Class 8
Subsidiary Hazard Class 3
Packing Group ||

15. Regulatory Information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Propionic acid	79-09-4	X	ACTIVE	-

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)

Not applicable

TSCA 12(b) - Notices of Export

Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Propionic acid	79-09-4	Χ	-	201-176-3	Х	Χ	Χ	Х	Χ	KE-29352

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any

chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Propionic acid	X	5000 lb	-	-

Clean Air Act

Not applicable

OSHA - Occupational Safety and

Health Administration

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
Propionic acid	5000 lb	-	5000 lb 2270 kg

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Propionic acid	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland

Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Moderate risk, Grade 2

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization		REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Propionic acid	79-09-4	-	Use restricted. See entry 75. (see link for restriction details)	•

REACH links

https://echa.europa.eu/substances-restricted-under-reach

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Propionic acid	79-09-4	Listed	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) -	Seveso III Directive (2012/18/EC) -	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
		(Qualifying Quantities		(Hazardous Waste)
		for Major Accident	for Safety Report		
		Notification	Requirements		
Propionic acid	79-09-4	Not applicable	Not applicable	Not applicable	Annex I - Y34

16. Other Information

Prepared By	Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com
Creation Date Revision Date	21-Feb-2012 13-Oct-2023
Print Date	13-Oct-2023
Revision Summary	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS