

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Propionic acid

Creation date	11th March 2021	Version	2.0
Revision date			

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier	Propionic acid
Substance / mixture	substance
Chemical name	propionic acid ... %
CAS number	79-09-4
Index number	607-089-00-0
EC (EINECS) number	201-176-3
Registration number	01-2119486971-24-xxxx

1.2. Relevant identified uses of the substance or mixture and uses advised against
Substance's intended use
 Chemical production, analytical chemistry, laboratory synthesis, industrial applications.

Substance uses advised against

The product should not be used in ways other than those referred in Section 1.

1.3. Details of the supplier of the safety data sheet

Supplier

Name or trade name	Ing. Petr Švec - PENTA s.r.o.
Address	Radiová 1122/1, Praha 10, 102 00
	Czech Republic
Identification number (CRN)	02096013
VAT Reg No	CZ02096013
Phone	+420 226 060 681
E-mail	info@pentachemicals.eu
Web address	www.pentachemicals.eu

Competent person responsible for the safety data sheet

Name	Ing. Petr Švec - PENTA s.r.o.
E-mail	info@pentachemicals.eu

1.4. Emergency telephone number

European emergency number: 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the substance in accordance with Regulation (EC) No 1272/2008

The substance is classified as dangerous.

Flam. Liq. 3, H226
 Skin Corr. 1B, H314
 Eye Dam. 1, H318
 STOT SE 3, H335

Full text of all classifications and hazard statements is given in the section 16.

Most serious adverse physico-chemical effects

Flammable liquid and vapour.

Most serious adverse effects on human health and the environment

Causes severe skin burns and eye damage. May cause respiratory irritation.

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2.2. Label elements

Hazard pictogram



Signal word

Danger

Dangerous substance

propionic acid ... %
(Index: 607-089-00-0; CAS: 79-09-4)

Hazard statements

H226 Flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical characterization

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 607-089-00-0 CAS: 79-09-4 EC: 201-176-3 Registration number: 01-2119486971-24-xxxx	substance main component propionic acid ... %	>99	Flam. Liq. 3, H226 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Specific concentration limit: Skin Corr. 1B, H314: C ≥ 25 % Eye Irrit. 2, H319: 10 % ≤ C < 25 % STOT SE 3, H335: C ≥ 10 %	1, 2

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Notes

- Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.
- Substance for which exposure limits of Community for working environment exist.

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

If inhaled

Take care of your own safety, do not let the affected person walk! Terminate the exposure immediately; move the affected person to fresh air. Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

If on skin

Remove contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Depending on the situation, call the medical rescue service and always ensure medical treatment. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers. Rinse skin with water or shower. Rinse cautiously with water for several minutes.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.

If swallowed

Danger of esophageal and gastric perforation! RINSE THE MOUTH WITH WATER IMMEDIATELY AND LET THE PERSON DRINK 2-5 dl of cold water to reduce the heating effect of the corrosive substance. Consuming larger amounts of liquid is not advisable as it may induce vomiting and potential inhaling of the corrosive substances in the lungs. The affected person must not be forced to drink, particularly if already feeling pain in the mouth or throat. In this case let the affected person only rinse the mouth with water. DO NOT PROVIDE ACTIVATED CARBON! Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible.

4.2. Most important symptoms and effects, both acute and delayed

If inhaled

Inhaling vapours can cause corrosion of the breathing system. May cause respiratory irritation.

If on skin

Causes severe skin burns.

If in eyes

Causes serious eye damage.

If swallowed

Corrosion of the digestion system can occur.

4.3. Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Closed containers with the product near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide sufficient ventilation. The substance is flammable. Remove all ignition sources. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale aerosols. Prevent contact with skin and eyes.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in flammable or explosive concentrations and concentrations exceeding the occupational exposure limits. The product should be used only in the areas where it is not in contact with open fire and other ignition sources. Use non-sparking tools. Use of antistatic clothes and footwear is recommended. Do not inhale aerosols. Prevent contact with skin and eyes. No smoking. Wash hands and exposed parts of the body thoroughly after handling. Use only outdoors or in a well-ventilated area. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take action to prevent static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Do not expose to sunlight. Store locked up. Keep container tightly closed. Keep cool.

The specific requirements or rules relating to the substance/mixture

Solvent vapours are heavier than air and accumulate especially near the floor where they may form an explosive mixture with the air.

7.3. Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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European Union

Commission Directive 2000/39/EC

Substance name (component)	Type	Value
propionic acid ... % (CAS: 79-09-4)	OEL 8 hours	31 mg/m ³
	OEL 8 hours	10 ppm
	OEL 15 minutes	62 mg/m ³
	OEL 15 minutes	20 ppm

8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. If exposure limits cannot be observed in this mode, suitable protection of airways must be used. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Protective goggles or face shield (based on the nature of the work performed).

Skin protection

Hand protection: Protective gloves resistant to the product (nitrile rubber). When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Observe other recommendations of the manufacturer. Other protection: protective workwear. Contaminated skin should be washed thoroughly.

Respiratory protection

Halfmask with a filter against organic vapours or a self-contained breathing apparatus as appropriate if exposure limit values of substances are exceeded or in a poorly ventilated environment.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Color	colourless
Odour	characteristic
Melting point/freezing point	-20 °C
Boiling point or initial boiling point and boiling range	140-142 °C
Flammability	data not available
Lower and upper explosion limit	
bottom	2,9 %
upper	12,1 %
Flash point	51 °C
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	2,5 (undiluted)
Kinematic viscosity	data not available
Solubility in water	miscible
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	5hPa at 20 °C
Density and/or relative density	
Density	0,993 g/cm ³ at 20 °C

9.2. Other information

Ignition temperature	513 °C
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SECTION 10: Stability and reactivity

10.1. Reactivity

The substance is flammable.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Unknown.

10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

No toxicological data is available for the substance.

Acute toxicity

Based on available data the classification criteria are not met.

propionic acid ... %

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD50	OECD 401	3455 mg/kg		Rat	
Dermal	LD50	OECD 402	3235 mg/kg		Rat (Rattus norvegicus)	
Inhalation	LC50	OECD 403	>20 mg/l	4 hour	Rat (Rattus norvegicus)	

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/irritation

Causes severe skin burns and eye damage. Causes serious eye damage.

Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure

May cause respiratory irritation.

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Toxicity for specific target organ - repeated exposure

Based on available data the classification criteria are not met.

Aspiration hazard

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. Based on available data the classification criteria are not met.

11.2. Information on other hazards

not available

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity

Based on available data the classification criteria are not met.

propionic acid ... %

Parameter	Value	Time of exposure	Species	Environment
LC50	>10000 mg/l	96 hour	Fishes (Leuciscus idus)	
EC50	>500 mg/l	48 hour	Daphnia (Daphnia magna)	
IC50	>500 mg/l	72 hour	Algae (Desmodesmus subspicatus)	

12.2. Persistence and degradability

The substance is biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation is not expected.

12.4. Mobility in soil

Not available.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Endocrine disrupting properties

Not available.

12.7. Other adverse effects

not available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

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SECTION 14: Transport information

- 14.1. UN number or ID number**
UN 3463
- 14.2. UN proper shipping name**
PROPIONIC ACID
- 14.3. Transport hazard class(es)**
8 Corrosive substances
- 14.4. Packing group**
II - substances presenting medium danger
- 14.5. Environmental hazards**
not available
- 14.6. Special precautions for user**
Reference in the Sections 4 to 8.
- 14.7. Maritime transport in bulk according to IMO instruments**
not available

Additional information

Hazard identification No.
UN number
Classification code
Safety signs

83
3463

CF1
8+3



Air transport - ICAO/IATA

Packaging instructions passenger	666
Cargo packaging instructions	673

SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended.
- 15.2. Chemical safety assessment**
not available

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

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Guidelines for safe handling used in the safety data sheet

- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground and bond container and receiving equipment.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

- ADR European agreement concerning the international carriage of dangerous goods by road
- BCF Bioconcentration Factor
- CAS Chemical Abstracts Service
- CLP Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
- DNEL Derived no-effect level
- EC Identification code for each substance listed in EINECS
- EC50 Concentration of a substance when it is affected 50% of the population
- EINECS European Inventory of Existing Commercial Chemical Substances
- EmS Emergency plan
- EU European Union
- EuPCS European Product Categorisation System
- IATA International Air Transport Association
- IBC International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
- IC50 Concentration causing 50% blockade
- ICAO International Civil Aviation Organization
- IMDG International Maritime Dangerous Goods
- INCI International Nomenclature of Cosmetic Ingredients
- ISO International Organization for Standardization
- IUPAC International Union of Pure and Applied Chemistry
- LC50 Lethal concentration of a substance in which it can be expected death of 50% of the population
- LD50 Lethal dose of a substance in which it can be expected death of 50% of the population
- LOAEC Lowest observed adverse effect concentration
- LOAEL Lowest observed adverse effect level
- log Kow Octanol-water partition coefficient
- MARPOL International Convention for the Prevention of Pollution From Ships
- NOAEC No observed adverse effect concentration
- NOAEL No observed adverse effect level
- NOEC No observed effect concentration
- NOEL No observed effect level
- OEL Occupational Exposure Limits
- PBT Persistent, Bioaccumulative and Toxic
- PNEC Predicted no-effect concentration
- ppm Parts per million
- REACH Registration, Evaluation, Authorisation and Restriction of Chemicals
- RID Agreement on the transport of dangerous goods by rail

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UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative

Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquid
Skin Corr.	Skin corrosion
STOT SE	Specific target organ toxicity - single exposure

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended.
REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.