

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

- **Product name: Propionic Acid**
- **Product identifier**  
 Propionic acid  
 Cas No.: 79-09-4  
 EC Number: 201-176-3
- **Registration number** 01-21 19486971-24-0002
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Industrial use**  
 Industrial manufacturing  
 Manufacture of substances  
 Distribution and storage  
 Formulations  
 Use:  
 as an intermediate  
 in animal nutrition  
 in laboratories  
 for polymer processing
- **Professional use**  
 Use:  
 in animal nutrition  
 in laboratories  
 for polymer processing
- **Consumer use**  
 Use:  
 in animal nutrition
- **Application of the substance / the preparation**  
 Chemical intermediate  
 Agricultural chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Perstorp Oxo AB  
 SE-444 84 Stenungsund  
 Sweden  
 Tel. +46 303 728600  
 Fax. +46 303 728607  
 www.perstorp.com
- **Further information obtainable from:** [productinfo@perstorp.com](mailto:productinfo@perstorp.com)
- **Emergency telephone number:** (Int.) +46 8 337043 (Emergency Response Center, Sweden)

**SECTION 2: Hazards identification**

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS05 corrosion

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Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



C; Corrosive

R34: Causes burns.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02 GHS05

· **Signal word** Danger

· **Hazard-determining components of labelling:**

propionic acid 100%

· **Hazard statements**

H226 Flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P260 Do not breathe mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.

· **Hazard description:**

Inhalation:

Inhalation of vapours may cause smarting pain in nose and throat, cough and hoarseness. Inhalation of high concentrations may also cause pulmonary oedema that may occur after several hours. Prolonged and repeated contact with vapours may cause inflammation in nose and throat, chronic bronchitis and dental corrosion.

Skin contact:

Skin contact may cause severe burns with redness, smarting pain and wounds. Prolonged and repeated contact with vapours may cause calluses.

Eye contact:

Splashes causes intensive pain and corneal burns. Risk of permanent eye damage. Vapours may be substantially irritating.

Ingestion:

Ingestion may cause severe burns with burning pain, vomiting and eventually shock and kidney damage. Risk of permanent damage due to scarring of the esophagus and stomach.

· **Other hazards** Fumes can combine with air to form an explosive mixture.

· **Results of PBT and vPvB assessment**

· **PBT:** No.

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· **vPvB:** No.

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### SECTION 3: Composition/information on ingredients

· **Substances** Yes.

· **Chemical components:**

CAS: 79-09-4	propionic acid	100%
EINECS: 201-176-3	 C R34	
Reg.nr.: 01-2119486971-24-0002	 Flam. Liq. 3, H226;  Skin Corr. 1B, H314; Eye Dam. 1, H318	

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

### SECTION 4: First aid measures

· **Description of first aid measures**

· **General information:**

Begin first-aid measures immediately!

The product causes burns.

In case of unconsciousness place patient stably in side position for transportation.

Apply artificial respiration if necessary.

First aid personnel should pay attention to their own safety.

Emergency shower and eye wash facilities must exist on work place.

· **After inhalation:**

Move to fresh air.

In case of unconsciousness place patient stably in side position for transportation.

Seek immediate medical advice.

· **After skin contact:**

Important! Immediately flush skin with water and rinse skin with soap and water for at least 15 minutes. Use lukewarm water if possible. Remove contaminated clothing and shoes. Get medical attention immediately.

Cover wound with a sterile dressing.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

· **After eye contact:**

Important! Immediately rinse cautiously with tempered water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

Always obtain medical advice immediately, even if there are no symptoms.

Risk of permanent eye damage.

· **After swallowing:**

Rinse mouth then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### SECTION 5: Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**  
 In case of fire, the following can be released:  
 Carbon monoxide (CO)  
 Carbon dioxide (CO<sub>2</sub>)
- **Advice for firefighters**
- **Protective equipment:**  
 Respiratory protective device.  
 Wear fully protective suit.
- **Additional information**  
 Cool endangered receptacles with water spray.  
 Collect contaminated fire fighting water separately. It must not enter the sewage system.

### SECTION 6: Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
 Wear full protective clothing and self contained breathing apparatus.  
 Wear acid resistant boots.  
 Keep unprotected persons away.
- **Environmental precautions:**  
 Do not allow to enter sewers/ surface or ground water.  
 Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**  
 Ensure adequate ventilation.  
 Small spill:  
 Dilute with plenty water.  
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).  
 Large spill:  
 Pump up the product into a spare container suitably labelled.
- **Reference to other sections**  
 See Section 7 for information on safe handling.  
 See Section 8 for information on personal protection equipment.  
 See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **Precautions for safe handling**  
 Ensure good ventilation/exhaustion at the workplace.  
 If possible, use only in closed system.  
 Prevent formation of aerosols.  
 Before handling, investigate the hazards and risk of using this product at your work place.
- **Information about fire - and explosion protection:**  
 Protect from heat.  
 Keep ignition sources away - Do not smoke.  
 Protect against electrostatic charges.  
 Fumes can combine with air to form an explosive mixture.
- **Conditions for safe storage, including any incompatibilities**  
 Store segregated from:
  - acids.
  - bases.

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- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
 Store in a cool location.  
 Store only in the original receptacle.  
 Prevent any seepage into the ground.
- **Further information about storage conditions:**  
 Store receptacle in a well ventilated area.  
 Keep container tightly sealed.
- **Specific end use(s)** For details, see the separate exposure scenario(s).

### SECTION 8: Exposure controls/personal protection

- **Control parameters**  
 Keep personal exposure levels below Derived No Effect Level (DNEL) and national exposure limit values (if existing).

- **Ingredients with limit values that require monitoring at the workplace:**

#### 79-09-4 propionic acid

WEL (Great Britain)	Short-term value: 46 mg/m <sup>3</sup> , 15 ppm Long-term value: 31 mg/m <sup>3</sup> , 10 ppm
IOELV (EU)	Short-term value: 62 mg/m <sup>3</sup> , 20 ppm Long-term value: 31 mg/m <sup>3</sup> , 10 ppm

- **DNELs**

#### 79-09-4 propionic acid

Dermal	DNEL long term local	260 µg/cm <sup>2</sup> (workers)
	DNEL long term syst.	132 mg/kg bw/d (workers)
Inhalative	DNEL acute local eff	62 mg/m <sup>3</sup> (workers)
	DNEL acute systemic	62 mg/m <sup>3</sup> (workers)
	DNEL long term local	31 mg/m <sup>3</sup> (workers)
	DNEL long term syst.	31 mg/m <sup>3</sup> (workers)

- **PNECs**

#### 79-09-4 propionic acid

PNEC freshwater	0.5 mg/l (-)
PNEC intermittent	5 mg/l (-)
PNEC marine water	0.05 mg/l (-)
PNEC sediment (FW)	1.86 mg/kg dw (-)
PNEC sediment (MW)	0.186 mg/kg dw (-)

- **Additional information:**  
 Ensure that eyewash stations and safety showers are proximal to the work-station location.
- **Exposure controls**  
 Keep personal exposure levels below Derived No Effect Level (DNEL) by wearing personal protective equipment mentioned below.
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
 Immediately remove all soiled and contaminated clothing.  
 Avoid contact with the eyes and skin.
- **Respiratory protection:**  
 Suitable respiratory protection for lower concentrations or short-term exposure:  
 Gas filter for gases/vapours of organic compounds (boiling point >65°C, e. g. EN 14387 Type A)  
 Suitable respiratory protection for higher concentrations or long-term exposure:

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Self-contained breathing apparatus.

· **Protection of hands:**



Protective gloves

· **Material of gloves**

Suitable materials also with prolonged, direct contact (protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

Butyl rubber, BR

Recommended thickness of the material:  $\geq 0.7$  mm

Suitable materials short-term contact and/or splashes (protective index 2, corresponding > 30 minutes of permeation time according to EN 374):

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.4$  mm

Chloroprene rubber, CR

Recommended thickness of the material:  $\geq 0.5$  mm

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

Face protection

· **Body protection:**

Boots

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes).

· **Risk management measures** For details, see the separate exposure scenario(s).

## SECTION 9: Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:** Liquid

**Colour:** Colourless

· **Odour:** Pungent

· **Odour threshold:** 0.026-0.17 ppm

· **pH-value (100 g/l) at 20 °C:** 2.5

· **Change in condition**

**Melting point/Melting range:** <-20 °C

**Boiling point/Boiling range:** 141 °C (OECD 103)

· **Flash point:** 51 °C (ASTM D 7094-04)

· **Flammability (solid, gaseous):** Not applicable

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· <b>Ignition temperature:</b>	425 °C (ASTM E 659-78)
· <b>Danger of explosion:</b>	The product is not explosive. However, formation of explosive air-vapour mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	2 Vol %
<b>Upper:</b>	12 Vol %
· <b>Oxidizing properties</b>	Not applicable
· <b>Vapour pressure at 20°C:</b>	0.5 kPa (litt.)
· <b>Density at 20°C:</b>	0.994 g/cm <sup>3</sup> (ISO 2811-2)
· <b>Solubility in / Miscibility with water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water) at 20°C:</b>	0.3 log POW (OECD 107)
· <b>Viscosity:</b>	
<b>Dynamic at 20°C:</b>	1.2 mPas (ISO 3219)
· <b>Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

- **Reactivity**

The substance may act as a source for a formyl group or a hydride ion.  
 Due to its acidity, its solutions in alcohols form esters spontaneously.  
 Propionate salts are formed by reaction with hydroxides of alkali metals.

- **Chemical stability** The product is stable at normal conditions.

- **Possibility of hazardous reactions**

Violent reactions with strong alkalis and oxidizing agents.

Reacts with metals forming hydrogen.

- **Conditions to avoid** Direct sunlight and heat.

- **Incompatible materials:** Violent reactions with strong alkalis and oxidizing agents.

- **Hazardous decomposition products:**

Hydrogen

Flammable gases/vapours

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO<sub>2</sub>)

### SECTION 11: Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values:**

**79-09-4 propionic acid**

Oral	LD50	3455 mg/kg (rat) (OECD 401)
Inhalative	LC50/1h	>19.7 mg/l (rat) (OECD 403)

- **Primary irritant effect:**

- **on the skin:** Corrosive effect on skin and mucous membranes.

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- **on the eye:** Corrosive.
- **Inhalation:**  
May give smarting pain in nose and throat, headache, tiredness, dizziness and coughing. High concentration can give difficulties in breathing.
- **Additional toxicological information:**  
Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Sensitisation** No sensitizing effects known.

• **Repeated dose toxicity**

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Oral	NOAEL local/90d	6200 ppm (rat) (OECD 408)
	NOAEL systemic/90d	50000 ppm (rat) (OECD 408)
Dermal	LOAEL/90d	136.9 mg/kg bw/d (mouse) (OECD 411)

- **Carcinogenicity:**  
Animal studies have not shown any carcinogenic potential.

**79-09-4 propionic acid**

Oral	NOAEL/2yrs	4000 ppm (rat)
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- **Mutagenicity:**  
Not mutagenic in Bacterial Reverse Mutation Assay. (OECD 471)  
Not mutagenic in mammalian cells. (OECD 476)\*  
The substance is not clastogenic. Mammalian Chromosomal Aberration Test (OECD 473).\*  
Not mutagenic in in vivo Mammalian Erythrocyte Micronucleus Test. (OECD 474)
- **Reproductive toxicity:**  
No impairment of fertility has been observed.  
No embryotoxic or teratogenic effects have been observed.
- **Remark:** \* read-across from supporting substance (structural analogue)

**SECTION 12: Ecological information**

- **Toxicity**
- **Aquatic toxicity:**  
Acute aquatic toxicity data are available for the substance. In these studies, the test solution was not buffered prior to addition of the test organisms resulting in low pH in the test solution and the results suggest that the toxicity observed are surely related to changes in pH. Therefore, data for the read across substance are used in analogy instead. These values were used for derivation of PNECs too. Low toxicity to aquatic organisms.

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EC50/48h	>500* mg/l (Daphnia magna) (EU Method C.2)
EC50/72h	>500* mg/l (Desmodesmus subspicatus) (OECD 201)
LC50/96h	>10000* mg/l (Leuciscus idus) (DIN 38412)
NOEC	>5000* mg/l (Leuciscus idus) (DIN 38412) 250* mg/l (Daphnia magna) (EU Method C.2)

- **Persistence and degradability**  
The product is readily biodegradable.

**79-09-4 propionic acid**

BOD10	73 % (-) (Warburg test)
BOD20d	93 % (-) (EU Method C.5)
BOD24h	40.4 % (-) (Warburg test)

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BOD7	1175 mg/g (-)
COD	1330 mg/g (-)
TOC	452 mg/l (-)

- **Behaviour in environmental systems:**
- **Bioaccumulative potential**  
Does not accumulate in organisms.

**79-09-4 propionic acid**

BCF	3.2 (fish)
log Pow	0.3 (-) (OECD 107)

- **Mobility in soil**  
The substance does not adsorb to suspended solids and sediment based upon the log Koc which indicates a high mobility in soil.

**79-09-4 propionic acid**

Log Koc	0.079 (-) (calc)
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- **Ecotoxicological effects:**

- **Behaviour in sewage processing plants:**

**79-09-4 propionic acid**

EC20/30min	500-1040* mg/l (activated sludge) (ISO 8192)
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- **Additional ecological information:**
- **General notes:** Must not reach sewage water or drainage ditch undiluted or unneutralized.
- **Results of PBT and vPvB assessment**
- **PBT:** No.
- **vPvB:** No.
- **Other adverse effects**  
Emissions to water lowers the pH. This may cause local damage to fish and aquatic organisms in the discharge area.
- **Remark:** \* read-across from supporting substance (structural analogue)

**SECTION 13: Disposal considerations**

- **Waste treatment methods**
- **Recommendation**  
The product is classified as hazardous waste and must be disposed of as such.  
Incinerate at a licensed installation.

- **European waste catalogue**

02 01 08*	agrochemical waste containing dangerous substances
07 01 08*	other still bottoms and reaction residues

- **Uncleaned packaging:**  
Thoroughly emptied and clean packaging may be recycled.  
Contaminated packaging materials must be disposed of in the same manner as the product.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

**SECTION 14: Transport information**

- **UN Number**
- **ADR, IMDG, IATA** UN3463

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· **Proper shipping name (Technical Name)**  
· **ADR, IMDG, IATA** PROPIONIC ACID

· **Transport hazard class(es)**

· **ADR**



· **Class** 8 Corrosive substances.  
· **Label** 8+3

· **IMDG, IATA**



· **Class** 8 Corrosive substances.  
· **Label** 8+3

· **Packing group**

· **ADR, IMDG, IATA** II

· **Environmental hazards:**

· **Hazard Identification number:** 83  
· **EmS (Emergency schedule) :** F-E,S-C  
· **Segregation groups :** Acids

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Marpol Annex 2 classification Y

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 1L  
· **Tunnel restriction code :** D/E

### SECTION 15: Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.  
Council Directive 94/33/EC on the protection of young people at work.  
Commission Regulation No 10/2011 relating to plastic materials and articles intended to come into contact with food.  
Council Directive 76/768/EEC on the approximation of the laws of the Member States relating to cosmetic products.
- **Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

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**SECTION 16: Other information**

This Safety Data Sheet is not a Product Specification. It is based on our present knowledge and experience and it is intended to serve as a guide for safe handling of the product regarding to health and environmental aspects.

Propionic acid (E 280) 99.5%  
Feed preservative  
Used as preservative in feed and as silage additive.  
For all animal species and categories.

Net Vol: As per Freight documents  
Batch number: As stated on Certificate of Analysis  
Date of manufacture: Not earlier than one month prior to loading date  
Shelf life: 36 months from loading date

**· Relevant phrases**

H226 Flammable liquid and vapour.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
.....  
R34 Causes burns.

- **Department issuing SDS:** Corporate EHSQ Perstorp Holding AB
- **\* Data compared to the previous version altered.**

GB