

## **1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING**

**Product identifier:**

**Trade name:** Propionic Acid  
**EC No.:** 201-176-3

**Relevant identified uses of the substance or mixture and uses advised against:**

**Use of the Sub-stance/Mixture:** Chemical intermediate, Feed additive, Silage additives, Preservatives.  
For further information see eSDS.

**Recommended restrictions on use:** Not defined.

**Details of the supplier of the safety data sheet:**

**Company name:** Nexchem Ltd  
Unit 3 Barshaw Park  
Leycroft Road  
Leicester  
LE4 1ET  
Tel: 0116 2311130  
24/7 Emergency Tel: 0800 246 1274  
Email: [sales@nexchem.co.uk](mailto:sales@nexchem.co.uk)

## **2. HAZARDS IDENTIFICATION**

**Classification of the substance or mixture:**

**Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567):**

**Flammable liquids, Category 3:** H226: Flammable liquid and vapour.

**Skin corrosion, Sub-category 1B:** H314: Causes severe skin burns and eye damage.

**Serious eye damage, Category 1:** H318: Causes serious eye damage.

**Specific target organ toxicity - single exposure, Category 3, Respiratory system:** H335: May cause respiratory irritation.

**Label elements:**

**Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567):**

**Hazard pictograms:**



**Signal word:** Danger

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**Hazard statements:** H226 Flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

#### Precautionary statements:

##### Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

##### Response:

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

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

##### Other hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances:

EC No.: 201-176-3

#### Components:

Chemical name	CAS No.:	EC No.:	Concentration (%w/w)
Propionic acid	79-09-4	201-176-3	>=90 – <=100

## 4. FIRST AID MEASURES

#### Description of first aid measures:

##### General advice:

Move out of dangerous area. Consult a physician.

Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.

##### If inhaled:

If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

##### In case of skin contact:

Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.

##### In case of eye contact:

Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

##### If swallowed:

Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

[cont...]

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### Most important symptoms and effects, both acute and delayed:

**Risks:**

- Causes serious eye damage.
- May cause respiratory irritation.
- Causes severe burns.

### Indication of any immediate medical attention and special treatment needed:

**Treatment:**

- Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media:

**Suitable extinguishing media:** Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical.

**Unsuitable extinguishing media:** High volume water jet.

### Special hazards arising from the substance or mixture:

**Specific hazards during fire-fighting:** Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous combustion products:** No hazardous combustion products are known.

### Advice for firefighters:

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Further information:**

- Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures:

**Personal precautions:**

- Use personal protective equipment. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

**Environmental precautions:**

- Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
- If the product contaminates rivers and lakes or drains inform respective authorities.

### Methods and material for containment and cleaning up:

**Methods for cleaning up:**

- Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13).

**Reference to other sections:**

- See sections: 7, 8, 11, 12 and 13.

[cont...]

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## 7. HANDLING AND STORAGE

### Precautions for safe handling:

#### Advice on safe handling:

Avoid formation of aerosol. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.

**Advice on protection against fire and explosion:** Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.

#### Hygiene measures:

When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

### Conditions for safe storage, including any incompatibilities:

**Requirements for storage areas and containers:** No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

**Further information on storage stability:** No decomposition if stored and applied as directed.

**Specific end use(s):** For further information see eSDS.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters:

#### Occupational Exposure Limits

Components	CAS No.	Value type (form of exposure)	Control parameters	Basis
Propionic Acid	79-09-4	STEL	15 ppm 46 mg/m <sup>3</sup>	GB EH40
		TWA	10 ppm 31 mg/m <sup>3</sup>	GB EH40
		STEL	20 ppm 62 mg/m <sup>3</sup>	2000/39/EC
Further information: Indicative				
		TWA	10 ppm 31 mg/m <sup>3</sup>	2000/39/EC

[cont...]

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### Derived No Effect Level (DNEL):

Substance name	End use	Exposure routes	Potential health effects	Value
Propionic Acid	Workers	Inhalation	Acute local effects	62 mg/m <sup>3</sup>
	Workers	Inhalation	Chronic effects, Local effects	31 mg/m <sup>3</sup>
	Workers	Inhalation	Chronic effects, Systemic effects	73 mg/m <sup>3</sup>
	Workers	Dermal	Chronic effects, Systemic effects	20.9 mg/kg bw/day
	Consumers	Oral	Chronic effects, Systemic effects	10.5 mg/kg bw/day
	Consumers	Inhalation	Chronic effects, Systemic effects	18.3 mg/m <sup>3</sup>
	Consumers	Inhalation	Acute local effects	30.8 mg/m <sup>3</sup>
	Consumers	Inhalation	Chronic effects, Local effects	3.7 mg/m <sup>3</sup>
	Consumers	Dermal	Chronic effects, Systemic effects	10.5 mg/m <sup>3</sup>

### Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
Propionic Acid	Fresh water	0.5 mg/l
	Sewage treatment plant	5 mg/l
	Marine water	0.05 mg/l
	Fresh water sediment	1.86 mg/kg dry weight (d.w.)
	Marine sediment	0.186 mg/kg dry weight (d.w.)
	Soil	0.1258 mg/kg dry weight (d.w.)

### Exposure controls:

#### Personal protective equipment:

**Eye/face protection:** Eye wash bottle with pure water.  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

**Hand protection:** The suitability for a specific workplace should be discussed with the producers of the protective gloves.

**Skin and body protection:** Impervious clothing.  
Choose body protection according to the amount and concentration of the dangerous substance at the workplace.

**Respiratory protection:** No personal respiratory protective equipment normally required.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties:

**Appearance:** Liquid

**Colour:** Colourless

**Odour:** Pungent

**Odour Threshold:** 0.02 – 0.17 ppm

**pH:** 2.5 (20°C) Concentration: 100 g/l

**Melting point/freezing point:** -20°C

**Boiling point/boiling range:** 141°C Method: OECD Test Guideline 103

**Flash point:** 51°C Method: ASTM D 7094-04

[cont...]

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<b>Evaporation rate:</b>	No data available
<b>Flammability:</b>	Not applicable
<b>Upper explosion limit / Upper flammability limit:</b>	12% (V)
<b>Lower explosion limit / Lower flammability limit:</b>	2% (V)
<b>Vapour pressure:</b>	400 Pa (20°C)
<b>Relative vapour density:</b>	No data available
<b>Relative density:</b>	No data available
<b>Density:</b>	994 kg/m <sup>3</sup> (20°C)
<b>Bulk density:</b>	No data available
<b>Solubility(ies):</b>	
<b>Water solubility:</b>	Soluble
<b>Partition coefficient: n-octanol/water:</b>	log Pow: 0.3 (20°C) Method: OECD Test Guideline 107
<b>Auto-ignition temperature:</b>	425°C Method: ASTM E 659
<b>Decomposition temperature:</b>	No data available
<b>Viscosity:</b>	
<b>Viscosity, dynamic:</b>	1.2 mPa.s (20°C) Method: ISO 3219
<b>Viscosity, kinematic:</b>	No data available
<b>Explosive properties:</b>	No data available
<b>Oxidising properties:</b>	No data available
<b>Other information:</b>	
<b>Self-heating substances:</b>	No data available
<b>Molecular weight:</b>	No data available
<b>Metal corrosion rate:</b>	No data available
<b>Particle size:</b>	Not applicable
<b>Self-ignition:</b>	No data available

## 10. STABILITY AND REACTIVITY

**Reactivity:** No decomposition if stored and applied as directed.

**Chemical stability:** No decomposition if stored and applied as directed.

**Possibility of hazardous reactions:**

**Hazardous reactions:** No decomposition if stored and applied as directed.  
Vapours may form explosive mixture with air.

**Conditions to avoid:** Heat, flames and sparks.

**Incompatible materials:**

**Materials to avoid:** Not applicable

**Hazardous decomposition products:** No hazardous decomposition products are known.

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### 11. TOXICOLOGICAL INFORMATION

#### Information on toxicological effects:

**Acute toxicity:** Based on available data, the classification criteria are not met.

**Components:** Propionic acid

**Acute oral toxicity:** LD50 (Rat): 3,455 mg/kg

Method: OECD Test Guideline 401

**Acute inhalation toxicity:** LC0 (Rat): > 19.7 mg/l

Exposure time: 1h

Test atmosphere: vapour Method: OECD Test Guideline 403

LC0 (Rat): 24.4 mg/l

Exposure time: 8h

Test atmosphere: vapour Method: OECD Test Guideline 403

**Acute dermal toxicity:** LD50 (Rat): 3,235 mg/kg

Method: OECD Test Guideline 402

**Skin corrosion/irritation:** Causes severe burns.

**Remarks:** Extremely corrosive and destructive to tissue.

**Components:** Propionic acid

**Species:** Rabbit

**Method:** Other guidelines

**Result:** Causes burns.

**Serious eye damage/eye irritation:** Causes serious eye damage.

**Remarks:** May cause irreversible eye damage.

**Components:** Propionic acid

**Species:** Rabbit

**Method:** Other guidelines

**Result:** Corrosive

#### Respiratory or skin sensitisation:

**Skin sensitisation:** Based on available data, the classification criteria are not met.

**Respiratory sensitisation:** Based on available data, the classification criteria are not met.

**Components:** Propionic acid

**Species:** Guinea pig

**Method:** OECD Test Guideline 406

**Result:** Not a skin sensitisier

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**Components:** Propionic acid

#### Genotoxicity in vitro:

**Test Type:** Ames test

**Method:** OECD Test Guideline 471

**Result:** Negative

[cont...]

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**Test Type:** In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476  
**Result:** Negative  
**Remarks:** Based on data from similar materials  
**Test Type:** Sister chromatid exchange assay Method: OECD Test Guideline 479  
**Result:** Negative

#### Genotoxicity in vivo:

**Test Type:** In vivo micronucleus test  
**Method:** OECD Test Guideline 474  
**Result:** Negative

**Carcinogenicity:** Based on available data, the classification criteria are not met.

**Reproductive toxicity:** Based on available data, the classification criteria are not met.

**Components:** Propionic acid

#### Reproductive/developmental toxicity:

**Application Route:** Oral  
**Developmental Toxicity:** NOAEL: 300 mg/kg bw/day  
**Method:** OECD Test Guideline 414  
**Result:** Not classified  
**Remarks:** Based on data from similar materials.

**STOT - single exposure:** May cause respiratory irritation.

**Components:** Propionic acid

**Exposure routes:** Inhalation

**Target Organs:** Respiratory system

**Assessment:** May cause respiratory irritation.

**STOT - repeated exposure:** Based on available data, the classification criteria are not met.

#### Repeated dose toxicity:

**Components:** Propionic acid  
**Species:** Rat  
**NOAEL:** 6,200 mg/l  
**Application Route:** Oral  
**Method:** OECD Test Guideline 408

**Species:** Rat

**NOAEL:** 50,000 mg/l

**Application Route:** Oral

**Method:** OECD Test Guideline 408

**Species:** Mouse

**LOAEL:** 136,9 mg/kg bw/day

**Application Route:** Dermal

**Method:** OECD Test Guideline 411

**Remarks:** Subchronic toxicity

[cont...]

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**Species:** Dog  
**NOAEL:** 733,4 mg/kg bw/day  
**Application Route:** Oral  
**Method:** OECD Test Guideline 409

**Aspiration toxicity:** Based on available data, the classification criteria are not met.  
**Further information:**  
**Remarks:** Solvents may degrease the skin.

## 12. ECOLOGICAL INFORMATION

**Toxicity:**  
**Components:** Propionic acid.  
**Toxicity to fish:** LC50 (Leuciscus idus (Golden orfe)): > 10,000 mg/l  
**Exposure time:** 96h  
**Method:** DIN 38412  
NOEC (Leuciscus idus (Golden orfe)): > 5,000 mg/l  
**Exposure time:** 96 h  
**Method:** DIN 38412

**Toxicity to daphnia and other aquatic invertebrates:** EC50 (Daphnia magna (Water flea)): > 500 mg/l  
**Exposure time:** 48h  
**Method:** Regulation (EC) No. 440/2008, Annex, C.2  
**NOEC (Daphnia magna (Water flea)):** 250 mg/l Exposure time: 48 h  
**Method:** Regulation (EC) No. 440/2008, Annex, C.2

**Toxicity to algae/aquatic plants:** EC50 (green algae): > 500 mg/l  
**Exposure time:** 72h  
**Method:** OECD Test Guideline 201

### Persistence and degradability:

**Biodegradability:**  
**Result:** Readily biodegradable.  
**Biodegradation:** 93 %  
**Exposure time:** 20d  
**Method:** Regulation (EC) No. 440/2008, Annex, C.5 (BOD)  
**Result:** Readily biodegradable.  
**Biodegradation:** 95%  
**Exposure time:** 10d  
**Method:** OECD Test Guideline 302B  
**Result:** Readily biodegradable.  
**Biodegradation:** 74%  
**Exposure time:** 30d  
**Method:** No information available.

[cont...]

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**Bioaccumulative potential:**

**Partition coefficient: n-octanol/water:**

**Log Pow:** 0.33

**Mobility in soil:** No data available.

**Results of PBT and vPvB assessment:**

**Assessment:** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Other adverse effects:**

**Endocrine disrupting potential:** This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

**Additional ecological information:** No data available.

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods:**

**Product:** Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

**Contaminated packaging:** Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

## 14. TRANSPORT INFORMATION

**UN Number:**

**ADR:** UN3463  
**RID:** UN3463  
**IMDG:** UN3463  
**IATA:** UN3463

**UN proper shipping name:**

**ADR:** PROPIONIC ACID  
**RID:** PROPIONIC ACID  
**IMDG:** PROPIONIC ACID  
**IATA:** Propionic acid

**Transport hazard class(es):** **Class** **Subsidiary risks**

<b>ADR:</b>	8	3
<b>RID:</b>	8	3
<b>IMDG:</b>	8	3
<b>IATA:</b>	8	3

[cont...]

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#### Packing group:

ADR:

**Packing group:** II  
**Classification Code:** CF1  
**Hazard Identification Number:** 83  
**Labels:** 8 (3)  
**Tunnel restriction code:** (D/E)

RID:

**Packing group:** II  
**Classification Code:** CF1  
**Hazard Identification Number:** 83  
**Labels:** 8 (3)

IMDG:

**Packing group:** II  
**Labels:** 8 (3)  
**EmS Code:** F-E, S-C

#### IATA (Cargo):

**Packing instruction (cargo aircraft):** 855  
**Packing instruction (LQ):** Y840  
**Packing group:** II  
**Labels:** Corrosives, Flammable Liquids

#### IATA (Passenger):

**Packing instruction (passenger aircraft):** 851  
**Packing instruction (LQ):** Y840  
**Packing group:** II  
**Labels:** Corrosives, Flammable Liquids

#### Environmental hazards:

ADR:

**Environmentally hazardous:** No

RID:

**Environmentally hazardous:** No

IMDG:

**Marine pollutant:** No

**Special precautions for user:** The transport classification(s) provided herein are for informational purposes only and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

**Transport in bulk according to Annex II of Marpol and the IBC Code:** Not applicable for product as supplied.

[cont...]

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## 15. REGULATORY INFORMATION

**Chemical safety assessment:** A Chemical Safety Assessment has been carried out for this substance.

**Note:** The regulatory information given above only indicates the principal regulations specifically Applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

## 16. OTHER INFORMATION

**Full text of other abbreviations:**

<b>2000/39/EC:</b>	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
<b>GB EH40:</b>	UK. EH40 WEL - Workplace Exposure Limits
<b>2000/39/EC / TWA:</b>	Limit Value - eight hours
<b>2000/39/EC / STEL:</b>	Short term exposure limit
<b>GB EH40 / TWA:</b>	Long-term exposure limit (8-hour TWA reference period)
<b>GB EH40 / STEL:</b>	Short-term exposure limit (15-minute reference period)

**Legal disclaimer:**

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.