

# SAFETY DATA SHEET



**Propionic acid**  
**10970**

**Version / Revision** 2  
**Supersedes Version** 1.00

**Revision Date** 06-May-2020  
**Issuing date** 15-May-2020

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

### 1.1. Product identifier

**Identification of the substance/preparation**

**Propionic acid**

**CAS-No** 79-09-4  
**EC No.** 201-176-3  
**Registration number (REACH)** 01-2119486971-24

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** Intermediate under non-strictly controlled conditions  
**Uses advised against** None

### 1.3. Details of the supplier of the safety data sheet

**Company/Undertaking Identification** **OQ Chemicals GmbH**  
Rheinpromenade 4A  
D-40789 Monheim  
Germany

**Product Information** Product Stewardship  
FAX: +49 (0)208 693 2053  
email: sc.psq@oq.com

### 1.4. Emergency telephone number

**Emergency telephone number** +44 (0) 1235 239 671 (UK) available 24/7

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**This substance is classified based on Directive 1272/2008/EC and its amendments (CLP Regulation)**

Flammable liquid Category 3, H226  
Skin corrosion/irritation Category 1B, H314  
Serious eye damage/eye irritation Category 1, H318  
Target Organ Systemic Toxicant - Single exposure Category 3, H335

#### **Additional information**

For full text of Hazard- and EU Hazard-statements see SECTION 16.

### 2.2. Label elements

Labelling according to Regulation 1272/2008/EC and its amendments (CLP Regulation).

#### **Hazard pictograms**

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**Signal word**

**Danger**

**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.  
P260: Do not breathe gas/mist/vapours.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
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.  
P310: Immediately call a POISON CENTER/doctor.  
P403 + P233: Store in a well ventilated place. Keep container tightly closed.  
P235: Keep cool.

## 2.3. Other hazards

Vapour/air-mixtures are explosive at intense warming

Components of the product may be absorbed into the body by inhalation and ingestion

**PBT and vPvB assessment**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

## SECTION 3: Composition / information on ingredients

### 3.1. Substances

Component	CAS-No	REACH-No	1272/2008/EC	Concentration (%)
Propionic acid	79-09-4	01-2119486971-24	Flam. Liq. 3; H226 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335 (>=10%)	> 99,5

For full text of Hazard- and EU Hazard-statements see SECTION 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**Inhalation**

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Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.

## **Eyes**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

## **Skin**

Wash off immediately with soap and plenty of water. When symptoms persist or in all cases of doubt seek medical advice.

## **Ingestion**

Call a physician immediately. Do not induce vomiting without medical advice.

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

### **Main symptoms**

cough, shortness of breath, abdominal pain, nausea, vomiting, circulatory collapse.

### **Special hazard**

Lung irritation.

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

### **General advice**

Remove contaminated, soaked clothing immediately and dispose of safely. First aider needs to protect himself.

Treat symptomatically.

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

#### **Suitable extinguishing media**

foam, dry chemical, carbon dioxide (CO<sub>2</sub>), water spray

#### **Unsuitable Extinguishing Media**

Do not use a solid water stream as it may scatter and spread fire.

### **5.2. Special hazards arising from the substance or mixture**

Under conditions giving incomplete combustion, hazardous gases produced may consist of:

carbon monoxide (CO)

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

Combustion gases of organic materials must in principle be graded as inhalation poisons

Vapours are heavier than air and may spread along floors

Vapour/air-mixtures are explosive at intense warming

### **5.3. Advice for firefighters**

#### **Special protective equipment for firefighters**

Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turn out gear.

#### **Precautions for firefighting**

Cool containers / tanks with water spray. Water run-off and vapor cloud may be corrosive. Dike and collect water

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used to fight fire. Keep people away from and upwind of fire.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: For personal protective equipment see section 8. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.  
For emergency responders: Personal protection see section 8.

### 6.2. Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

### 6.3. Methods and material for containment and cleaning up

#### Methods for containment

Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

#### Methods for cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

### 6.4. Reference to other sections

For personal protective equipment see section 8.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms.

#### Hygiene measures

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

#### Advice on the protection of the environment

See Section 8: Environmental exposure controls.

#### Incompatible products

bases  
amines  
strong oxidizing agents

### 7.2. Conditions for safe storage, including any incompatibilities

#### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge

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(which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material. Vapour/air-mixtures are explosive at intense warming.

## Technical measures/Storage conditions

Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care. Keep at temperatures between -12 and 38 °C (10 and 100 °F).

## Unsuitable material

None known

## Temperature class

T2

## 7.3. Specific end use(s)

Intermediate under non-strictly controlled conditions

## SECTION 8: Exposure controls / personal protection

### 8.1. Control parameters

#### Exposure limits Egypt

Component	TWA (mg/m <sup>3</sup> )	TWA (ppm)	STEL (mg/m <sup>3</sup> )	STEL (ppm)
Propionic acid CAS: 79-09-4	30	10		

#### Exposure limits Israel

Component	TWA (mg/m <sup>3</sup> )	TWA (ppm)	STEL (mg/m <sup>3</sup> )	STEL (ppm)
Propionic acid CAS: 79-09-4		10		

#### Exposure limits South Africa

Component	TWA (mg/m <sup>3</sup> )	TWA (ppm)	STEL (mg/m <sup>3</sup> )	STEL (ppm)
Propionic acid CAS: 79-09-4	30	10	45	15

#### Exposure limits United Arab Emirates

Component	TWA (mg/m <sup>3</sup> )	TWA (ppm)	STEL (mg/m <sup>3</sup> )	STEL (ppm)
Propionic acid CAS: 79-09-4	30	10		

#### Exposure limits Kuwait

No exposure limits established.

#### Note

For details and further information please refer to the original regulation.

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## Occupational Exposure Controls

### 8.2. Exposure controls

#### **Appropriate Engineering controls**

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

#### **Personal protective equipment**

##### **General industrial hygiene practice**

Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

##### **Hygiene measures**

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

##### **Eye protection**

Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.

##### **Hand protection**

Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

<b>Suitable material</b>	butyl-rubber
<b>Evaluation</b>	according to EN 374: level 6
<b>Glove thickness</b>	approx 0,3 mm
<b>Break through time</b>	> 480 min

<b>Suitable material</b>	polyvinylchloride / nitrile rubber
<b>Evaluation</b>	according to EN 374: level 4
<b>Glove thickness</b>	approx 0,9 mm
<b>Break through time</b>	approx 120 min

##### **Skin and body protection**

Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.

##### **Respiratory protection**

Respirator with filter for organic vapour. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Equipment should conform to NIOSH, EN or other applicable national standards.

##### **Environmental exposure controls**

If possible use in closed systems. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

## **SECTION 9: Physical and chemical properties**

### **9.1. Information on basic physical and chemical properties**

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**Appearance** liquid  
**Colour** colourless  
**Odour** unpleasant  
**Odour threshold** No data available  
**pH** No data available  
**Melting point/range** -21,5 °C  
**Boiling point/range** 141 °C @ 1013 hPa  
**Flash point** 50,5 °C  
**Method** DIN 51755  
**Evaporation rate** No data available  
**Flammability (solid, gas)** Does not apply, the substance is a liquid  
**Lower explosion limit** 2,1 Vol %  
**Upper explosion limit** 12 Vol %

## Vapour pressure

Values [hPa]	Values [kPa]	Values [atm]	@ °C	@ °F	Method
4,0	0,40	0,004	23	73	
22	2,2	0,022	50	122	

**Vapour density** 2,6 (Air = 1) @ 20 °C (68 °F)

## Relative density

Values	@ °C	@ °F	Method
0,99	20	68	

**Solubility** completely soluble, in water

**log Pow** 0,33 (measured)

**Autoignition temperature** 440 °C

**Method** DIN 51794

**Decomposition temperature** No data available

**Viscosity** 1,175 mPa\*s @ 15 °C

**Oxidizing properties** Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties

**Explosive properties** Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties

## 9.2. Other information

**Molecular weight** 74,08

**Molecular formula** C<sub>3</sub> H<sub>6</sub> O<sub>2</sub>

**Refractive index** 1,387 @ 20 °C

## SECTION 10: Stability and Reactivity

### 10.1. Reactivity

The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

Vapour/air-mixtures are explosive at intense warming.

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## 10.4. Conditions to avoid

Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.

## 10.5. Incompatible materials

bases, amines, strong oxidizing agents.

## 10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Likely routes of exposure**      Ingestion, Inhalation, Eye contact, Skin contact

<b>Acute toxicity</b>				
<b>Propionic acid (79-09-4)</b>				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	3455 mg/kg	rat, male/female	OECD 401
Inhalative	LC50	> 19,7 mg/l (1 h)	rat, male/female	OECD 403 (vapour)

#### **Propionic acid, CAS: 79-09-4**

##### **Assessment**

Based on available data, the classification criteria are not met for:

Acute oral toxicity

Acute inhalation toxicity

STOT SE

Dermal acute toxicity data were not determined, because of the corrosive properties of the substance

<b>Irritation and corrosion</b>				
<b>Propionic acid (79-09-4)</b>				
Target Organ Effects	Species	Result	Method	
Skin	rabbit	corrosive		
Eyes	rabbit	corrosive		

#### **Propionic acid, CAS: 79-09-4**

##### **Assessment**

The available data lead to the classification given in section 2

For respiratory irritation, no data are available

<b>Sensitization</b>				
<b>Propionic acid (79-09-4)</b>				
Target Organ Effects	Species	Evaluation	Method	
Skin	guinea pig	not sensitizing	OECD 406	

#### **Propionic acid, CAS: 79-09-4**

##### **Assessment**

Based on available data, the classification criteria are not met for:

Skin sensitization

For respiratory sensitization, no data are available



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<b>Subacute, subchronic and prolonged toxicity</b>				
<b>Propionic acid (79-09-4)</b>				
Type	Dose	Species	Method	
Subchronic toxicity	NOAEL: 6200 ppm/d (90d) Local effects	rat, male/female	OECD 408 Oral	
Subchronic toxicity	NOAEL: 50000 ppm/d (90d) systemic effects	rat, male/female	OECD 408 Oral	
Subchronic toxicity	LOAEL: 136,9 mg/kg/d (90d)	mouse	OECD 411 Dermal	

## **Propionic acid, CAS: 79-09-4**

### **Assessment**

Based on available data, the classification criteria are not met for:  
STOT RE

<b>Carcinogenicity, Mutagenicity, Reproductive toxicity</b>					
<b>Propionic acid (79-09-4)</b>					
Type	Dose	Species	Evaluation	Method	
Mutagenicity		Salmonella typhimurium	negative	OECD 471 (Ames)	In vitro study
Mutagenicity		Chinese hamster	negative	OECD 474	in vivo
Carcinogenicity	NOAEL: 400 ppm	rat		Oral	Local effects
Carcinogenicity	NOAEL: 4000 ppm	rat		Oral	systemic effects
Developmental Toxicity	NOAEL 300 mg/kg/d	rat		OECD 414, Oral	Maternal toxicity Teratogenicity read across

## **Propionic acid, CAS: 79-09-4**

### **CMR Classification**

The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B

### **Evaluation**

In vitro tests did not show mutagenic effects

## **Propionic acid, CAS: 79-09-4**

### **Main symptoms**

cough, shortness of breath, abdominal pain, nausea, vomiting, circulatory collapse.

### **Target Organ Systemic Toxicant - Single exposure**

Based on available data, the classification criteria are not met for:  
STOT SE

### **Target Organ Systemic Toxicant - Repeated exposure**

Based on available data, the classification criteria are not met for:  
STOT RE

### **Aspiration toxicity**

no data available

### **Note**

Handle in accordance with good industrial hygiene and safety practice. Further details on substance data can be found in the registration dossier under the following link:

<http://echa.europa.eu/information-on-chemicals/registered-substances>.

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## SECTION 12: Ecological information

### 12.1. Toxicity

Acute aquatic toxicity			
Propionic acid (79-09-4)			
Species	Exposure time	Dose	Method
Leuciscus idus (Golden orfe)	96h	LC50: > 10000 mg/l	DIN 38412, part 15
Daphnia magna (Water flea)	48h	EC50: > 500 mg/l	84/449/EEC C.2
Desmodesmus subspicatus	72h	EC50: > 500 mg/l (Biomass)	OECD 201
Activated sludge (domestic)	30 min	EC20: 1040 mg/l	ISO 8192 Respiration rate

### 12.2. Persistence and degradability

Propionic acid, CAS: 79-09-4

#### Biodegradation

95 % (10 d), aerobic, activated sludge, industrial, OECD 302 B (Zahn-Wellens Test).

### 12.3. Bioaccumulative potential

Propionic acid (79-09-4)		
Type	Result	Method
log Pow	0,33	measured

### 12.4. Mobility in soil

Propionic acid (79-09-4)		
Type	Result	Method
	no data available	

### 12.5. Results of PBT and vPvB assessment

Propionic acid, CAS: 79-09-4

#### PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

### 12.6. Other adverse effects

Propionic acid, CAS: 79-09-4

No data available

#### Note

Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

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## Product Information

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

Hazardous waste according to European Waste Catalogue (EWC)

## Uncleaned empty packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

## SECTION 14: Transport information

### ADR/RID

14.1. UN number	UN 3463
14.2. UN proper shipping name	Propionic acid
14.3. Transport hazard class(es)	8
Subsidiary Risk	3
14.4. Packing group	II
14.5. Environmental hazards	no
14.6. Special precautions for user	
ADR Tunnel restriction code	(D/E)
Classification Code	CF1
Hazard Number	83

### ADN

ADN: Container and Tanker

14.1. UN number	UN 3463
14.2. UN proper shipping name	Propionic acid
14.3. Transport hazard class(es)	8
Subsidiary Risk	3
14.4. Packing group	II
14.5. Environmental hazards	no
14.6. Special precautions for user	
Classification Code	CF1
Hazard Number	83

### ICAO-TI / IATA-DGR

14.1. UN number	UN 3463
14.2. UN proper shipping name	Propionic acid
14.3. Transport hazard class(es)	8
Subsidiary Risk	3
14.4. Packing group	II
14.5. Environmental hazards	no
14.6. Special precautions for user	no data available

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## IMDG

14.1. UN number	UN 3463
14.2. UN proper shipping name	Propionic acid
14.3. Transport hazard class(es)	8
Subsidiary Risk	3
14.4. Packing group	II
14.5. Environmental hazards	no
14.6. Special precautions for user	
EmS	F-E, S-C
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	
Product name	Propionic acid
Ship type	3
Pollution category	Y

## **SECTION 15: Regulatory information**

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

#### Regulation 1272/2008, Annex VI

#### Propionic acid, CAS: 79-09-4

Classification	Skin Corr. 1B; H314
Hazard pictograms	GHS05 Corrosion
Signal word	Danger
Hazard statements	H314

#### International Inventories

#### Propionic acid, CAS: 79-09-4

AICS (AU)  
DSL (CA)  
IECSC (CN)  
EC-No. 2011763 (EU)  
ENCS (2)-602 (JP)  
ISHL (2)-602 (JP)  
KECI KE-29352 (KR)  
INSQ (MX)  
PICCS (PH)  
TSCA (US)  
NZIoC (NZ)  
TCSI (TW)

#### National regulatory information Egypt

**Banned Chemicals (Unified List of Hazardous Substances, List A)**  
not listed

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## **Substances Requiring Permits (Unified List of Hazardous Substances, List B)**

not listed

## **Non-Restricted Substances (Unified List of Hazardous Substances, List C)**

not listed

## **National regulatory information Israel**

### **Harmful Chemicals (Hazardous Substances Law, 5753-1993, Annex 1)**

<b>Component</b>	<b>Listed</b>
Propionic acid CAS: 79-09-4	Yes

### **Toxic Chemicals (Hazardous Substances Law, 5753-1993, Annex 2)**

not listed

### **Hazardous materials requiring annual testing (Labor Inspection Regs., Appendix 1)**

not listed

### **Hazardous Substances Regulations (Classification & Exemptions)**

not listed

## **National regulatory information South Africa**

### **Group 1 Hazardous Substances (G.N.R 452)**

not listed

## **National regulatory information United Arab Emirates**

### **Prohibited and restricted imports (Ministry of Environment and Water)**

not listed

For details and further information please refer to the original regulation.

## **SECTION 16: Other information**

### **Full text of H-Statements referred to under sections 2 and 3**

H226: Flammable liquid and vapour.

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

H335: May cause respiratory irritation.

### **Abbreviations**

A table of terms and abbreviations can be found under the following link:

[http://echa.europa.eu/documents/10162/13632/information\\_requirements\\_r20\\_en.pdf](http://echa.europa.eu/documents/10162/13632/information_requirements_r20_en.pdf)

### **Training advice**

For effective first-aid, special training / education is needed.

### **Sources of key data used to compile the datasheet**

Information contained in this safety data sheet is based on OQ owned data and public sources deemed valid or acceptable. The absence of data elements required by OSHA, ANSI or Annex II, Regulation 1907/2006/EC indicates, that no data meeting these requirements is available.

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## Further information for the safety data sheet

Changes against the previous version are marked by \*\*\*. Observe national and local legal requirements. For more information, other material safety data sheets or technical data sheets please consult the OQ homepage ([www.chemicals.oq.com](http://www.chemicals.oq.com)).

## Disclaimer

**For industrial use only.** The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. OQ makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.

**End of Safety Data Sheet**