

# SAFETY DATA SHEET



Propionic acid

10970

Version / Revision

3

Supersedes Version

2.00\*\*\*

Revision Date

04-Sep-2020

Issuing date

04-Sep-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 239 670 (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).

# SAFETY DATA SHEET



Propionic acid  
10970

Version / Revision 3

## Hazard pictograms



## 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

# SAFETY DATA SHEET



**Propionic acid**  
**10970**

**Version / Revision** 3

## **Inhalation**

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

## **Skin**

Wash off immediately with soap and plenty of water. 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.

## **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.

# SAFETY DATA SHEET



Propionic acid  
10970

Version / Revision 3

## Precautions for firefighting

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

Further info may be available in the appropriate Exposure scenarios in the annex to this SDS.\*\*\*

#### 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

# SAFETY DATA SHEET



Propionic acid  
10970

Version / Revision 3

## 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 (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

For specific end use information see the annex of this safety data sheet

## SECTION 8: Exposure controls / personal protection

### 8.1. Control parameters

#### Exposure limits European Union

Directive 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Component	TWA (mg/m <sup>3</sup> )	TWA (ppm)	STEL (mg/m <sup>3</sup> )	STEL (ppm)	Skin Absorption
Propionic acid CAS: 79-09-4	31	10	62	20	

#### Exposure limits UK

##### EH40 WELs

Component	TWA (mg/m <sup>3</sup> )	TWA (ppm)	STEL (mg/m <sup>3</sup> )	STEL (ppm)
Propionic acid CAS: 79-09-4	31	10	46	15

##### Note

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

#### DNEL & PNEC

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

##### Workers

DN(M)EL - long-term exposure - systemic effects - Inhalation

73\*\*\* mg/m<sup>3</sup>

# SAFETY DATA SHEET



Propionic acid  
10970

Version / Revision 3

DN(M)EL - acute / short-term exposure - systemic effects - Inhalation	No hazard identified***
DN(M)EL - long-term exposure - local effects - Inhalation	31 mg/m <sup>3</sup>
DN(M)EL - acute / short-term exposure - local effects - Inhalation	62 mg/m <sup>3</sup>
DN(M)EL - long-term exposure - systemic effects - Dermal	20,9*** mg/kg bw/day
DN(M)EL - acute / short-term exposure - systemic effects - Dermal	Medium hazard (no threshold derived)***
DN(M)EL - long-term exposure - local effects - Dermal	Medium hazard (no threshold derived)***
DN(M)EL - acute / short-term exposure - local effects - Dermal	Medium hazard (no threshold derived)***
DN(M)EL - local effects - eyes	Medium hazard (no threshold derived)***

## General population

\*\*\*

DN(M)EL - long-term exposure - systemic effects - Inhalation	18,3*** mg/m <sup>3</sup> ***
DN(M)EL - acute / short-term exposure - systemic effects - Inhalation	No hazard identified***
DN(M)EL - long-term exposure - local effects - Inhalation	3,7*** mg/m <sup>3</sup> ***
DN(M)EL - acute / short-term exposure - local effects - Inhalation	30,8*** mg/m <sup>3</sup> ***
DN(M)EL - long-term exposure - systemic effects - Dermal	10,5*** mg/kg bw/day***
DN(M)EL - acute / short-term exposure - systemic effects - Dermal	Medium hazard (no threshold derived)***
DN(M)EL - long-term exposure - local effects - Dermal	Medium hazard (no threshold derived)***
DN(M)EL - acute / short-term exposure - local effects - Dermal	Medium hazard (no threshold derived)***
DN(M)EL - long-term exposure - systemic effects - Oral	10,5*** mg/kg bw/day***
DN(M)EL - acute / short-term exposure - systemic effects - Oral	No hazard identified***
DN(M)EL - local effects - eyes	Medium hazard (no threshold derived)***

## Environment

PNEC aqua - freshwater	0,5 mg/l
PNEC aqua - marine water	0,05 mg/l
PNEC aqua - intermittent releases	5 mg/l
PNEC STP	5 mg/l
PNEC sediment - freshwater	1,86 mg/kg
PNEC sediment - marine water	0,186 mg/kg
PNEC soil	0,1258 mg/kg
Secondary poisoning	No potential for bioaccumulation

## 8.2. Exposure controls

### Special adaptations (REACH)

Not applicable.

### 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.

# SAFETY DATA SHEET



Propionic acid  
10970

Version / Revision 3

## 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.

Equipment should conform to EN 166

### 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 A filter. Full mask with above mentioned filter according to producers using requirements or self-contained breathing apparatus. Equipment should conform to EN 136 or EN 140 and EN 143.

### 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.

### Additional advice

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>. For specific exposure controls see the annex to this safety data sheet.

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

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

<b>Appearance</b>	liquid
<b>Colour</b>	colourless
<b>Odour</b>	unpleasant

# SAFETY DATA SHEET



Propionic acid  
10970

Version / Revision 3

**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

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

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

## 9.2. Other information

**Molecular weight** 74,08  
**Molecular formula** C3 H6 O2  
**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.

### 10.4. Conditions to avoid



# SAFETY DATA SHEET



Propionic acid  
10970

Version / Revision 3

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

Acute toxicity				
Propionic acid (79-09-4)				
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

Irritation and corrosion				
Propionic acid (79-09-4)				
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

Sensitization				
Propionic acid (79-09-4)				
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

## Subacute, subchronic and prolonged toxicity

# SAFETY DATA SHEET



**Propionic acid**  
**10970**

Version / Revision 3

<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>.

## **SECTION 12: Ecological information**

# SAFETY DATA SHEET



Propionic acid  
10970

Version / Revision 3

## 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

#### Product Information

# SAFETY DATA SHEET



**Propionic acid**  
**10970**

**Version / Revision** 3

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**

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

### **ADN**

ADN: Container and Tanker

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

### **ICAO-TI / IATA-DGR**

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

### **IMDG**

# SAFETY DATA SHEET



Propionic acid  
10970

Version / Revision 3

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

<b>Classification</b>	Skin Corr. 1B; H314
<b>Hazard pictograms</b>	GHS05 Corrosion***
<b>Signal word</b>	Danger
<b>Hazard statements</b>	H314

##### DI 2012/18/EU (Seveso III)

<b>Category</b>	Annex I, part 1: P5a - c; depending on conditions
-----------------	--

##### DI 1999/13/EC (VOC Guideline)

Component	Status
Propionic acid CAS: 79-09-4	regulated

### 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)

# SAFETY DATA SHEET



Propionic acid  
10970

Version / Revision 3

NZIoC (NZ)  
TCSI (TW)

## National regulatory information Great Britain

### Releases to air (Pollution Inventory Substances)

not subject

### Releases to water (Pollution Inventory Substances)

not subject

### Releases to sewer (Pollution Inventory Substances)

not subject

For details and further information please refer to the original regulation

## 15.2. Chemical safety assessment

The Chemical Safety Report (CSR) has been generated. For Exposure Scenarios see the annex.

## **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.

### 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**



Propionic acid  
10970

Version / Revision 3

## Annex to the extended Safety Data Sheet (eSDS)

### General information

**The annex does not yet reflect the latest dossier update and will be updated as soon as possible**

Avoid manual contact with wet work pieces

Clean equipment and the work area every day

Wear protective gloves/clothing and eye/face protection, where direct contact with substance is possible

The RMMs described suffice to control risks for both local and systemic effects

Other combinations of operational conditions may also be safe. Please contact OQ in case your local operational conditions differ from the ones described below and you are unsure if they are also safe\*\*\*

### Operational conditions and risk management measures

Minimization of manual phases. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

### Exposure scenario identification

1 Industrial use resulting in manufacture of another substance (use of intermediates)

### Number of the ES 1

Short title of the exposure scenario

**Industrial use resulting in manufacture of another substance (use of intermediates)**

### List of use descriptors

#### Sector of uses [SU]

SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites

#### Process categories [PROC]

PROC1: Use in closed process, no likelihood of exposure

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC15: Use as laboratory reagent

#### Environmental release categories [ERC]

ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

#### Further explanations

Industrial use

Assumes use at not more than 20°C above ambient temperature (unless stated differently)

Assumes a good basic standard of occupational hygiene is implemented

Number of the contributing scenario

1

# SAFETY DATA SHEET



Propionic acid  
10970

Version / Revision 3

## Contributing exposure scenario controlling environmental exposure for ERC 6a

### Further specification

release factors for (Sp)ERC were modified  
assessment tool used: Chesar 2.3

### Amounts used

Daily amount per site: 10 to  
Annual amount per site: 1000 to  
Fraction of EU tonnage used in region: 1

### Frequency and duration of use

Covers use up to: 100 days

### Environment factors not influenced by risk management

River flow rate: 18000 m<sup>3</sup>/d  
Local freshwater dilution factor: 10  
Local marine water dilution factor: 100

### Other given operational conditions affecting environmental exposure

Indoor/Outdoor use

### Technical conditions and measures at process level (source) to prevent release

Release fraction to air from process: 5 %  
Release fraction to wastewater from process: 0.1 %  
Release fraction to soil from process: 0.1%

### Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Additional site specific RMM: assumed efficiency (release to wastewater): 95 %

### Conditions and measures related to municipal sewage treatment plant

Size of municipal sewage system/ treatment plant (m<sup>3</sup>/d): 2000  
Estimated substance removal from wastewater via domestic sewage treatment (%): 87.35

Number of the contributing scenario 2

## Contributing exposure scenario controlling worker exposure for PROC 1

### Further specification

assessment tool used: Chesar 2.3

### Product characteristics

Covers percentage substance in the product up to 100 % (unless stated differently)  
Liquid, vapour pressure < 0,5 kPa at STP

### Frequency and duration of use

8 h (full shift)

### Human factors not influenced by risk management

Area potentially exposed: corresponds to palm of 1 hand (240 cm<sup>2</sup>)

### Other given operational conditions affecting workers exposure

Indoor use

### Technical conditions and measures to control dispersion from source towards the worker

provide a basic standard of general ventilation (1 to 3 air changes per hour).

Number of the contributing scenario 3

## Contributing exposure scenario controlling worker exposure for PROC 2

### Further specification

assessment tool used: Chesar 2.3

### Product characteristics

Covers percentage substance in the product up to 100 % (unless stated differently)  
Liquid, vapour pressure < 0,5 kPa at STP

### Frequency and duration of use

8 h (full shift)

### Human factors not influenced by risk management

Area potentially exposed: corresponds to palm of 2 hands (480 cm<sup>2</sup>)



# SAFETY DATA SHEET



**Propionic acid**  
**10970**

Version / Revision 3

## Other given operational conditions affecting workers exposure

Indoor use

### Technical conditions and measures to control dispersion from source towards the worker

provide a basic standard of general ventilation (1 to 3 air changes per hour).

### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

## Number of the contributing scenario 4

### Contributing exposure scenario controlling worker exposure for PROC 3

#### Further specification

assessment tool used: Chesar 2.3

#### Product characteristics

Covers percentage substance in the product up to 100 % (unless stated differently)

Liquid, vapour pressure < 0,5 kPa at STP

#### Frequency and duration of use

8 h (full shift)

#### Human factors not influenced by risk management

Area potentially exposed: corresponds to palm of 1 hand (240 cm<sup>2</sup>)

#### Other given operational conditions affecting workers exposure

Indoor use

### Technical conditions and measures to control dispersion from source towards the worker

provide a basic standard of general ventilation (1 to 3 air changes per hour).

### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

## Number of the contributing scenario 5

### Contributing exposure scenario controlling worker exposure for PROC 4

#### Further specification

assessment tool used: Chesar 2.3

#### Product characteristics

Liquid, vapour pressure < 0,5 kPa at STP

Covers percentage substance in the product up to 100 % (unless stated differently)

#### Frequency and duration of use

8 h (full shift)

#### Human factors not influenced by risk management

Area potentially exposed: corresponds to palm of 2 hands (480 cm<sup>2</sup>)

#### Other given operational conditions affecting workers exposure

Indoor use

### Technical conditions and measures to control dispersion from source towards the worker

provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

## Number of the contributing scenario 6

### Contributing exposure scenario controlling worker exposure for PROC 8a

#### Further specification

assessment tool used: Chesar 2.3

#### Product characteristics

Liquid, vapour pressure < 0,5 kPa at STP

Covers percentage substance in the product up to 100 % (unless stated differently)

#### Frequency and duration of use

8 h (full shift)

#### Human factors not influenced by risk management

# SAFETY DATA SHEET



**Propionic acid**  
**10970**

Version / Revision 3

Area potentially exposed: corresponds to 2 hands (960 cm<sup>2</sup>)

**Other given operational conditions affecting workers exposure**

Indoor use

**Technical conditions and measures to control dispersion from source towards the worker**

provide a basic standard of general ventilation (1 to 3 air changes per hour). Effectiveness of LEV (local exhaust ventilation): 90 % (inhalative); 0 % (dermal).

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves tested to EN374.

**Number of the contributing scenario** 7  
**Contributing exposure scenario controlling worker exposure for PROC 8b**

**Further specification**

assessment tool used: Chesar 2.3

**Product characteristics**

Covers percentage substance in the product up to 100 % (unless stated differently)

Liquid, vapour pressure < 0,5 kPa at STP

**Frequency and duration of use**

8 h (full shift)

**Human factors not influenced by risk management**

Area potentially exposed: corresponds to 2 hands (960 cm<sup>2</sup>)

**Other given operational conditions affecting workers exposure**

Indoor use

**Technical conditions and measures to control dispersion from source towards the worker**

provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves tested to EN374.

**Number of the contributing scenario** 8  
**Contributing exposure scenario controlling worker exposure for PROC 9**

**Further specification**

assessment tool used: Chesar 2.3

**Product characteristics**

Covers percentage substance in the product up to 100 % (unless stated differently)

Liquid, vapour pressure < 0,5 kPa at STP

**Frequency and duration of use**

8 h (full shift)

**Human factors not influenced by risk management**

Area potentially exposed: corresponds to palm of 2 hands (480 cm<sup>2</sup>)

**Other given operational conditions affecting workers exposure**

Indoor use

**Technical conditions and measures to control dispersion from source towards the worker**

provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves tested to EN374.

**Number of the contributing scenario** 9  
**Contributing exposure scenario controlling worker exposure for PROC 15**

**Further specification**

assessment tool used: Chesar 2.3

**Product characteristics**

Covers percentage substance in the product up to 100 % (unless stated differently)

Liquid, vapour pressure < 0,5 kPa at STP

**Frequency and duration of use**

# SAFETY DATA SHEET



**Propionic acid**  
**10970**

Version / Revision 3

8 h (full shift)

## Human factors not influenced by risk management

Area potentially exposed: corresponds to palm of 1 hand (240 cm<sup>2</sup>)

## Other given operational conditions affecting workers exposure

Indoor use

## Technical conditions and measures to control dispersion from source towards the worker

provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

## Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

## Exposure estimation and reference to its source

### Environment

PEC = predicted environmental concentration (local+regional); RCR = risk characterisation ratio

Fresh Water (Pelagic)	PEC: 0.063 mg/l; RCR: 0.127
Fresh Water (Sediment)	PEC: 0.236 mg/kg dw; RCR: 0.127
Marine Water (Pelagic)	PEC: 0.006 mg/l; RCR: 0.127
Marine Water (Sediment)	PEC: 0.024 mg/kg dw; RCR: 0.127
Agricultural Soil	PEC: 0.006 mg/kg dw; RCR: 0.047
Sewage Treatment Plant (Effluent)	PEC: 0.633 mg/l; RCR: 0.127

### Human exposure prediction (oral, dermal, inhalative)

EE(derm, local): Estimated dermal local long-term exposure [mg/cm<sup>2</sup>]. EE(inhal): Estimated inhalative short-term exposure [mg/m<sup>3</sup>]; EE(derm): Estimated dermal short-term exposure [mg/kg b.w./d]. Exposure estimates are given for either short-term or long-term exposure depending on which lead to more conservative risk characterisation ratios. The RMMs described above suffice to control risks for both local and systemic effects. Oral exposure is not expected to occur.

Proc 1	EE(inhal): 0.124 ; EE(derm): 0.034 EE(derm, local): 0.010
Proc 2	EE(inhal): 12.346 ; EE(derm): 0.274 EE(derm, local): 0.040
Proc 3	EE(inhal): 37.039 ; EE(derm): 0.138 EE(derm, local): 0.040
Proc 4	EE(inhal): 43.213 ; EE(derm): 1.372 EE(derm, local): 0.200
Proc 8a	EE(inhal): 12.346 ; EE(derm): 2.742 EE(derm, local): 0.200
Proc 8b	EE(inhal): 43.213 ; EE(derm): 2.742 EE(derm, local): 0.200
Proc 9	EE(inhal): 43.213 ; EE(derm): 1.372 EE(derm, local): 0.200
Proc 15	EE(inhal): 43.213 ; EE(derm): 0.068 EE(derm, local): 0.020

### Risk characterisation

RCR(inhal): inhalative risk characterisation ratio; RCR(derm): dermal risk characterisation ratio; total RCR= RCR(inhal) +RCR(derm). RCR(derm, local): dermal local long-term exposure. Where required local and systemic effects were evaluated both for short-term and long-term exposure. The RCR's given correspond in each case to the most conservative calculated values.

Proc 1	RCR(inhal): 0.002 ; RCR(derm): 0.0003 RCR(derm, local): 0.038
Proc 2	RCR(inhal): 0.199 ; RCR(derm): 0.002 RCR(derm, local): 0.154
Proc 3	RCR(inhal): 0.597 ; RCR(derm): 0.001 RCR(derm, local): 0.154

# SAFETY DATA SHEET



**Propionic acid**  
**10970**

**Version / Revision** 3

---

Proc 4	RCR(inhal): 0.697 ; RCR(derm): 0.010 RCR(derm, local): 0.769
Proc 8a	RCR(inhal): 0.199 ; RCR(derm): 0.021 RCR(derm, local): 0.769
Proc 8b	RCR(inhal): 0.697 ; RCR(derm): 0.021 RCR(derm, local): 0.769
Proc 9	RCR(inhal): 0.697 ; RCR(derm): 0.010 RCR(derm, local): 0.769
Proc 15	RCR(inhal): 0.697 ; RCR(derm): 0.001 RCR(derm, local): 0.077