

Propionic Acid

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

Product identifier:	
Product Name:	Propionic Acid
Substance Name:	Propionic Acid
CAS No:	79-09-4
EC No:	201-176-3
<b>REACH registration number:</b>	01-2119486971-24-XXXX
Pure substance/mixture:	Substance
Relevant identified uses of the	substance or mixture and uses advised against:
Industrial:	Manufacture of substances. Transfer of substance or preparation (charging/discharging).
	Formulation of preparations (mixtures). Use in laboratories. Use in chemical processes.
	Use as an intermediate.
Professional:	Transfer of substance or preparation (charging/discharging). Use in laboratories. Use in
	animal nutrition. Use as a co-formulant in plant protection products.
Consumer:	Use in animal nutrition.
Application:	Chemical intermediate, Feed additive E280, 1k280
Uses advised against:	Not identified.
Company name:	Nexchem Ltd
	Unit 3 Barshaw Park
	Leycroft Road
	Leicester
	LE4 1ET
	Tel: 0116 2311130
	24/7 Emergency Tel: 0800 246 1274
	Email: <u>sales@nexchem.co.uk</u>

# 2. HAZARDS IDENTIFICATION

Hazards 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.

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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 oesophagus and stomach.

#### Classification of the substance or mixture:

## Classification according to Regulation (EC) No. 1272/2008 [CLP]:

Skin corrosion/irritation	Category 1 Sub-category B - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Specific target organ toxicity - single exposure	Category 3 - (H335)
Flammable liquids	Category 3 - (H226)

#### Label elements:

## Symbols/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:	<ul> <li>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</li> <li>P260 - Do not breathe vapour.</li> <li>P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.</li> <li>Rinse skin with water or shower.</li> <li>P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.</li> <li>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P310 - Immediately call a POISON CENTER or doctor.</li> </ul>
Other hazards:	The substance is a flammable liquid and may form explosive air/vapour mixtures. This substance does not meet the criteria for classification as PBT or vPvB. This product does not contain any known or suspected endocrine disruptors.

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# 3. COMPOSITION / INFORMATION ON INGREDIENTS

## Substances

Chemical name:	Propionic acid. CAS: 79-09-4
EC No.:	201-176-3
<b>REACH registration No.:</b>	01-2119486971-24-XXXX
Weight %:	100
Classification according to R	egulation (EC) No. 1272/2008 [CLP]:
	Flam. Liq. 3 (H226)
	Skin Corr. 1B (H314)
	Eye Dam. 1 (H318)
	STOT SE 3 (H335)
Specific concentration limit (	SCL): Eye Irrit. 2: 10%<=C<25%
	Skin Corr. 1B: C>=25%
	Skin Irrit. 2: 10%<=C<25%
	STOT SE 3: C>=10%
M-Factor:	No data available.
M-Factor (long-term):	No data available.
Classification according to R	egulation (EC) No. 1272/2008 [CLP] – Notes:
	[A] - Not classified, Data are conclusive but insufficient for classification.
	Full text of H- and EUH-phrases: see section 16.
Acute Toxicity Estimate:	If LD50/LC50 data is not available or does not correspond to the classification category, then
	the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute
	toxicity estimate (ATE mix) for classifying a mixture based on its components.
Chemical name:	Propionic acid. CAS: 79-09-4
Oral LD50 mg/kg:	3455
Dermal LD50 mg/kg:	3235
Inhalation LC50 - 4 hour - dus	st/mist - mg/L: -
Inhalation LC50 - 4 hour - vap	oour - mg/L: 24.4
Inhalation LC50 - 4 hour - gas	<b>s – ppm:</b> Not applicable.

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59).

## **4. FIRST AID MEASURES**

# Description of first aid measures: General advice: Begin first-aid measures immediately! Causes severe skin burns and eye damage. If unconscious place in recovery position and seek medical advice. First aider: Pay attention to self-protection. Emergency shower and eye wash facilities must exist in the workplace. Inhalation: Remove to fresh air. Call a doctor or poison control centre immediately. If experiencing respiratory symptoms: Artificial respiration and/or oxygen may be necessary.

[cont...]

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Skin contact:	Wash off immediately with plenty of water for at least 15 minutes. Use lukewarm wate	er if
	possible. Take off contaminated clothing. Seek immediate medical attention/advice.	
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes	. Keep
	eye wide open while rinsing. Do not rub affected area. Use lukewarm water if possible	e. Seek
	immediate medical attention/advice.	
Ingestion:	Do NOT induce vomiting. Clean mouth with water and drink plenty of water afterward	s.
	Remove from exposure, lie down. Seek immediate medical attention/advice.	
Self-protection of the first aider:	Avoid contact with skin, eyes or clothing. Remove all sources of ignition.	
Most important symptoms and e	ffects, both acute and delayed:	
Symptoms:		
Inhalation:	Inhalation of vapours may cause smarting pain in nose and throat, cough and hoarse	ness.
	Inhalation of high concentrations may also cause pulmonary oedema that may occur	after
	several hours. Prolonged and repeated contact with vapours may cause inflammation	ı in nose
	and throat, chronic bronchitis and dental corrosion.	
Skin contact:	Skin contact may cause severe burns with redness, smarting pain and wounds.	
Eye contact:	Splashes causes intensive pain and corneal burns. Risk of permanent eye damage.	/apours
	may be substantially irritating.	
Ingestion:	Ingestion may cause severe burns with burning pain, vomiting and eventually shock a	and kidney
	damage. Risk of permanent damage due to scarring of the oesophagus and stomach	
Indication of any immediate med	lical attention and special treatment needed:	
Note to doctors:	Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated.	
	Possible perforation of stomach or oesophagus should be investigated. Do not give c	hemical
	antidotes. Asphyxia from glottal oedema may occur. Marked decrease in blood press	ure may
	occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically	1.

#### **5. FIRE-FIGHTING MEASURES**

Extinguishing media: Suitable Extinguishing Media: Carbon dioxide (CO2). Extinguishing powder. Water spray (fog). Alcohol resistant foam. Small Fire: Carbon dioxide (CO2). Extinguishing powder. Large Fire: Alcohol resistant foam. Water spray or fog. Unsuitable extinguishing media: High volume water jet.

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

In the event of fire and/or explosion do not breathe fumes. Most vapours are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). The product causes burns of eyes, skin and mucous membranes. Vapours may form explosive mixtures with air. Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Hazardous combustion products: Carbon dioxide (CO2). Carbon monoxide (CO).

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#### Advice for firefighters:

Special protective equipment and precautions for fire-fighters:

Keep away from sources of ignition. Prevent firefighting water from entering surface water or groundwater. Cool containers with spray water from a safe distance. Never use welding or cutting torch on or near container (even empty) because product may ignite explosively.

Additional information:Cool containers with flooding quantities of water until well after fire is out. Prevent fire<br/>extinguishing water from contaminating surface water or the ground water system.

#### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective	e equipment and emergency procedures:	
Personal precautions:	Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Do not touch	
	damaged containers or spilled material unless wearing appropriate protective clothing. Remove	
	all sources of ignition. Ensure adequate ventilation, especially in confined areas. Prevent	
	further leakage or spillage if safe to do so.	
Environmental precautions:	Do not allow into any sewer, on the ground or into any body of water. Should not be released	
	into the environment. Local authorities should be advised if significant spillages cannot be	
	contained. Dilute with plenty of water. See Section 12 for additional ecological information.	
Methods and material for contai	nment and cleaning up:	
Methods for containment:	Small spill Dilute with water and wipe up or absorb with inert material.	
	Large spill Dyke to collect large liquid spills. Pump up the product into a spare container	
	suitably labelled.	
Methods for cleaning up:	Flush area with flooding quantities of water.	
Reference to other sections:	See Section 7,8,13 for more information.	

#### 7. HANDLING AND STORAGE

 Precautions for safe handling:
 Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Avoid contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. For details, see the separate exposure scenario(s).

 General hygiene considerations:
 When using do not eat, drink or smoke. Take off all contaminated clothing and wash it before re-use.

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

 Storage Conditions:
 Keep tightly closed in a dry and cool place. Keep in properly labelled containers. Keep away

 from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).
 [cont...]

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#### Specific end use(s):

Risk Management Methods (RMM): For details, see the separate exposure scenario(s).

# 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### **Control parameters:**

## **Exposure Limits:**

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

Chemical name	European Union	United Kingdom	
Propionic acid	TWA 10 ppm	TWA: 10 ppm	
79-09-4	TWA 31 mg/m3	TWA: 31 mg/m3	
	STEL 20 ppm	STEL: 15 ppm	
	STEL 62 mg/m3	STEL: 46 mg/m3	
Derived No Effect Level (DNEL) – worker	:		
Propionic acid (79-09-4)			
Туре	Exposure route	DNEL	Remarks
Acute effects, local	Inhalation	62	mg/m3
Chronic effects, local	Inhalation	31	mg/m3
Chronic effects, systemic	Inhalation	73	mg/m3
Chronic effects, systemic	Dermal	20.9	mg/kg bw/d
Propionic acid (79-09-4)			
Туре	Exposure route	DNEL	Remarks
Chronic effects, systemic	Oral	10.5	mg/kg bw/d
Chronic effects, systemic	Inhalation	18.3	mg/m3
Acute effects, local	Inhalation	30.8	mg/m3
Chronic effects, local	Inhalation	3.7	mg/m3
Chronic effects, systemic	Dermal	10.5	mg/kg bw/d

#### Predicted No Effect Concentration (PNEC):

Propionic acid (79-09-4)		
Environmental compartment	Predicted No Effect Concentration (PNEC)	Remarks
Freshwater	0.5	mg/l
Impact on Sewage Treatment	5	mg/l
Marine water	0.05	mg/l
Freshwater sediment	1.86	mg/kg dry weight
Marine sediment	0.186	mg/kg dry weight
Soil	0.1258	mg/kg dry weight
Air	-	No hazard identified

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Exposure controls:

Appropriate engineering controls: Emergency shower and eye wash facilities must exist in the workplace. Ensure adequate ventilation, especially in confined areas. Comply with 2014/34/EU concerning equipment and protective systems intended for use in potentially explosive atmospheres and Directive 1999/92/EC regarding minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres.

Individual protection measures, such as personal protective equipment:			
Eye/face protection:	Tight sealing safety goggles. Face protection shield.		
Hand protection:	Wear suitable gloves.		

#### **Gloves:**

Duration of contact	Material	Glove thickness	Break through time	Remarks
Suitable materials also with prolonged,	Butyl rubber	=>0.7 mm	>480 min	
direct contact (protective index 6,				
corresponding > 480 minutes of				
permeation time according to EN 374):				
Suitable materials short-term contact	Nitrile rubber, NBR	=>0.4 mm	>30 min	
and/or splashes (protective index 2,				
corresponding > 30 minutes of				
permeation time according to EN 374):				
Suitable materials short-term	Chloroprene rubber, CR	=>0.5 mm	>30 min	
contact and/or splashes (protective				
index 2, corresponding > 30 minutes				
of permeation time according to EN 374):				

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

**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. Type A).

Suitable respiratory protection for higher concentrations or long-term exposure: Self-contained breathing apparatus.

#### Environmental exposure controls:

Further information concerning special risk management measures: See annex of this safety data sheet (exposure scenarios).

# 9. PHYSICAL AND CHEMICAL PROPERTIES

information on pasic physical a	nd chemical properties:	
Physical state:	Liquid	
Colour:	Colourless	
Odour:	Pungent	
Odour threshold:	0.026-0.17 ppm	
Property	Values	Remarks/Method
Melting point/freezing point:	< -20 °C / -4 °F	
Boiling point / boiling range:	141 °C / 286 °F	OECD Test No. 103: Boiling Point
Flammability (solid, gas):	Not applicable.	
Explosive limits:	Upper explosive limits 12%	
	Lower explosive limits 2%	
Flash point:	51 °C / 124 °F	ASTM D 7094-04
Autoignition temperature:	425 °C / 797 °F	ASTM E 659-78
Decomposition temperature:	Not applicable.	
pH:	2.5	@20°C (100 g/l)
Kinematic viscosity:	No information available.	
Dynamic viscosity:	1.2 mPa s	@20°C; ISO 3219
Explosive properties:	The product is not explosive. How	ever, formation of explosive air/vapour mixtures are possible.
Oxidising properties:	Not oxidising.	
Water solubility:	Miscible in water.	
Solubility(ies):	No information available.	
Partition coefficient:	0.3	log POW (@20°C; OECD 107) Partition Coefficient
		(n-octanol/water)
Vapour pressure:	0.4 kPa	@20°C; lit.
Vapour density:	No information available.	
Relative density:	No information available.	
Relative density: Density:	No information available. 994 kg/m³	@ 20 °C
-		@ 20 °C
Density:	994 kg/m³	@ 20 °C
Density: Bulk density: Particle characteristics:	994 kg/m³ No information available. No information available.	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to physic	994 kg/m <sup>3</sup> No information available. No information available. sical hazard classes:	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to physic Explosives:	994 kg/m <sup>3</sup> No information available. No information available. sical hazard classes: Not applicable.	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to physic Explosives: Flammable gases:	994 kg/m <sup>3</sup> No information available. No information available. sical hazard classes: Not applicable. Not applicable.	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to physic Explosives: Flammable gases: Aerosols:	994 kg/m <sup>3</sup> No information available. No information available. sical hazard classes: Not applicable. Not applicable. Not applicable.	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to phys Explosives: Flammable gases: Aerosols: Oxidising gases:	994 kg/m <sup>3</sup> No information available. No information available. sical hazard classes: Not applicable. Not applicable. Not applicable. Not applicable.	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to physic Explosives: Flammable gases: Aerosols: Oxidising gases: Gases under pressure:	994 kg/m <sup>3</sup> No information available. No information available. sical hazard classes: Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to phys Explosives: Flammable gases: Aerosols: Oxidising gases: Gases under pressure: Flammable solids:	994 kg/m <sup>3</sup> No information available. No information available. <b>sical hazard classes:</b> Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Burning Rate: Not applicable.	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to physic Explosives: Flammable gases: Aerosols: Oxidising gases: Gases under pressure: Flammable solids: Self-reactive substances and ministration	994 kg/m <sup>3</sup> No information available. No information available. <b>sical hazard classes:</b> Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Burning Rate: Not applicable.	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to physe Explosives: Flammable gases: Aerosols: Oxidising gases: Gases under pressure: Flammable solids: Self-reactive substances and mit Pyrophoric liquids:	994 kg/m <sup>3</sup> No information available. No information available. <b>sical hazard classes:</b> Not applicable. Not applicable. Not applicable. Not applicable. Burning Rate: Not applicable. <b>ixtures:</b> Not applicable. Not applicable.	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to physic Explosives: Flammable gases: Aerosols: Oxidising gases: Gases under pressure: Flammable solids: Self-reactive substances and mit Pyrophoric liquids: Pyrophoric solids:	994 kg/m <sup>3</sup> No information available. No information available. <b>sical hazard classes:</b> Not applicable. Not applicable. Not applicable. Not applicable. Burning Rate: Not applicable. <b>ixtures:</b> Not applicable. Not applicable. Not applicable. Not applicable.	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to physe Explosives: Flammable gases: Aerosols: Oxidising gases: Gases under pressure: Flammable solids: Self-reactive substances and mit Pyrophoric liquids: Pyrophoric solids: Self-heating substances and mit	994 kg/m <sup>3</sup> No information available. No information available. Sical hazard classes: Not applicable. Not applicable. Not applicable. Not applicable. Burning Rate: Not applicable. Sturres: Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.	@ 20 °C
Density: Bulk density: Particle characteristics: Information with regards to physic Explosives: Flammable gases: Aerosols: Oxidising gases: Gases under pressure: Flammable solids: Self-reactive substances and mit Pyrophoric liquids: Pyrophoric solids:	994 kg/m <sup>3</sup> No information available. No information available. <b>sical hazard classes:</b> Not applicable. Not applicable. Not applicable. Not applicable. Burning Rate: Not applicable. <b>ixtures:</b> Not applicable. Not applicable. Not applicable. Not applicable.	@ 20 °C [cont]

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Oxidising properties:	
Organic peroxides:	Not applicable.
Desensitised explosives:	Not applicable.

Other safety characteristics: N

# No information available.

# **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: Stability:	Stable under normal conditions.	
Possibility of hazardous reaction	<b>ns</b> Vapours may form explosive mixture with air. Reacts with. alkalis. Oxidising substances. Corrosive substances in contact with metals may produce flammable hydrogen gas.	
Conditions to avoid:	No information available.	
Incompatible materials:	Alkali. Oxidising substances.	
Hazardous decomposition products: Hydrogen, Flammable gases, In case of fire: Carbon oxides.		

## **11. TOXICOLOGICAL INFORMATION**

# Information on hazard classes as defined in Regulation (EC) No 1272/2008: Information on likely routes of exposure: Inhalation. Dermal.

## Symptoms related to the physical, chemical and toxicological characteristics:

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

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.
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 oesophagus and stomach.

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Numerical measures of toxicity:				
Acute toxicity: May be harm	ful if swallowe	d. May be harmful in	contact with skin.	
Propionic acid (79-09-4)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 401: Acute Oral Toxicity	Rat	Oral	3455	LD50 (lethal dose) mg/kg
OECD Test No. 402: Acute Dermal Toxicity	Rat	Dermal	3235	LD50 (lethal dose) mg/kg
OECD Test No. 403: Acute Inhalation Toxicity	Rat	Inhalation, Vapour	>19.7	LC0 /1h, mg/l
OECD Test No. 403: Acute Inhalation Toxicity	Rat	Inhalation, Vapour	24.4	LC0 /8h, mg/l
Skin corrosion/irritation: Causes burns	3.			
Propionic acid (79-09-4)				
Method	Species	Exposure r	oute Re	sults
Other Guidelines	Rabbit	Dermal	Co	rrosive Category 1B
Serious eye damage/eye irritation: Causes burn Propionic acid (79-09-4) Method Other Guidelines	ns. <b>Species</b> Rabbit	<b>Exposure r</b> Eye		<b>sults</b> rrosive
Respiratory or skin sensitisation: Not a skin se Propionic acid (79-09-4)	nsitiser.			
Method	Species	Exposure r	oute Re	sults
OECD Test No. 406: Skin Sensitisation	Guinea p	ig Skin	No	t a skin sensitiser
Germ cell mutagenicity: Not mutageni Propionic acid (79-09-4)	ic.			
Method		Species	Re	sults
OECD Test No. 471: Bacterial Reverse Mutation	Test	In vitro	Ne	gative
OECD Test No. 476: In vitro Mammalian Cell Ger	ne Mutation Te	est In vitro	sup	gative read-across from oporting substance ructural analogue)
OECD Test No. 479: Genetic Toxicology: In vitro Chromatid Exchange Assay in Mammalian Cells	Sister	In vitro	Ne	gative
OECD Test No. 474: Mammalian Erythrocyte Mic	ronucleus Tes	t In vivo	Ne	gative

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Other adverse effects:

Carcinogenicity: Animal studies have not shown any carcinogenic potential. There is no indication for any carcinogenic potential since all in vitro and in vivo mutagenicity studies are negative. Propionic acid (79-09-4) Method Species **Exposure route** Effective dose Remarks Unknown 4000 Rat Oral NOAEL ppm Animal studies have not shown any carcinogenic potential. **Reproductive toxicity:** No embryotoxic or teratogenic effects have been observed. Propionic acid (79-09-4) Method **Species Exposure route** Effective dose Remarks OECD Test No. 414: Pre-natal 300 Rat Oral NOAEL mg/kg bw/d read-across **Development Toxicity Study** from supporting substance (structural analogue) STOT - single exposure: Irritating to respiratory system Propionic acid (79-09-4) Method Effective dose Remarks **Species** Exposure route Inhalation Irritating to respiratory system STOT - repeated exposure: The available data indicate that the product is of low toxicity and is not classified for repeated dose effects. Propionic acid (79-09-4) Method **Exposure route** Effective dose Remarks Species OECD Test No. 408: Repeated Dose 90-Day Rat Oral 6200 NOAEL Chronic effects, Oral Toxicity Study in Rodents local ppm OECD Test No. 408: Repeated Dose 90-Day Rat Oral 50000 NOAEL systemic toxicity Oral Toxicity Study in Rodents ppm OECD Test No. 411: Sub-chronic Dermal Mouse Dermal 136.9 LOAEL Subchronic Toxicity: 90-day Study toxicity mg/kg bw/d OECD Test No. 409: Repeated Dose 90-Day Dog Oral 733.4 NOAEL mg/kg bw/d Oral Toxicity Study in Non-Rodents No hazard identified. Aspiration hazard: Information on other hazards: Endocrine disrupting properties: This product does not contain any known or suspected endocrine disruptors. Other information:

No information available.

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## **12. ECOLOGICAL INFORMATION**

Toxicity:

Low toxicity to aquatic organisms.

## Propionic acid (79-09-4)

Method	Species	Exposure route	Effective dose	Exposure time	Remarks
DIN 38412	Leuciscus idus	Freshwater	>10000	96h	LC50 (lethal
					concentration) mg/l
Regulation (EC) No.	Daphnia magna	Freshwater	>500	48h	EC50 (effective
440/2008, Annex, C.2					concentration) mg/l
OECD Test No. 201:	Scenedesmus	Freshwater	>500	72h	EC50 (effective
Freshwater Algae and	subspicatus				concentration) mg/l
Cyanobacteria, Growth					
Inhibition Test					
DIN 38412	Leuciscus idus	Freshwater	>5000	96h	NOEC mg/l
Regulation (EC) No.	Daphnia magna	Freshwater	250	48h	NOEC mg/l
440/2008, Annex, C.2					

## Persistence and degradability: Readily biodegradable.

Propionic acid (79-09-4)				
Method		Value	Exposure time	Results
Regulation (EC) No. 440/2008, A	nnex, C.5 (BOD)	93%	20d	Readily biodegradable
OECD Test No. 302B: Inherent E	Biodegradability:	95%	10d	Readily biodegradable
Zahn-Wellens/ EVPA Test				
Unknown		74%	30d	Readily biodegradable
Bioaccumulative potential:	No bioaccumula	ation potential.		
Chemical name	Partition coeff	icient	<b>Bioconcentration fa</b>	ctor (BCF):
Propionic acid	0.33			
Mobility in soil:	The substance based upon the		d to adsorb to a high degree	e to suspended solids and sediment

Results of PBT and vPvB assessment: This substance does not meet the criteria for classification as PBT or vPvB.

Endocrine disrupting properties: This product does not contain any known or suspected endocrine disruptors.

 Other adverse effects:
 Emissions to water lowers the pH. This may cause local damage to fish and aquatic organisms in the discharge area.

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# **13. DISPOSAL CONSIDERATIONS**

#### Waste treatment methods:

Waste from residues/unused products: The product is classified as hazardous waste and must be disposed of as such. Incinerate at a licensed installation.

Contaminated packaging: Thoroughly emptied and clean packaging may be recycled.

Waste codes / waste designations according to EWC / AVV: Waste from residues/unused products. 16 03 05\*.

 Other Information:
 Waste codes should be assigned by the user based on the application for which the product was used.

## **14. TRANSPORT INFORMATION**



ADR Road transport:		
UN number or ID number:	UN3463	
UN proper shipping name:	Propionic acid	
Proper Shipping Description:	UN3463, Propionic acid, 8 (3), II, (D/E)	
Transport hazard class(es):	8	
Subsidiary class:	3	
Packing Group:	II	
Environmental hazard:	Not applicable	
Special precautions for user:	None	
Tunnel restriction code:	(D/E)	
Limited quantity (LQ):	1 L	
ADR Hazard Id (Kemmler Number): 83		

RID Rail transport:	
UN number:	UN3463
UN proper shipping name:	Propionic acid
Proper Shipping Description:	UN3463, Propionic acid, 8 (3), II
Transport hazard class(es):	8
Subsidiary hazard class:	3
Packing Group:	II
Environmental hazard:	Not applicable
Special precautions for user:	None

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IMDG Sea transport:		
UN number or ID number:	UN3463	
UN proper shipping name:	Propionic acid	
Proper Shipping Description:	UN3463, Propionic acid, 8 (3), II, (51°C c.c.)	
Transport hazard class(es):	8	
Subsidiary hazard class:	3	
Packing Group:	II	
Marine pollutant:	Not applicable	
Special precautions for user:	None	
EmS-No:	F-E, S-C	
Limited quantity (LQ):	1 L	
Transport in bulk according to Annex II of MARPOL and the IBC Code: $\rm Y$ , S/P, 3,2G		

IATA Air transport:	
UN number or ID number:	UN3463
UN proper shipping name:	Propionic acid
Transport hazard class(es):	8
Subsidiary hazard class:	3
Packing group:	II
Proper Shipping Description:	UN3463, Propionic acid, 8 (3), II
Environmental hazard:	Not applicable
Special precautions for user:	None
Limited quantity (LQ):	0.5 L
ERG Code:	8F

# **15. REGULATORY INFORMATION**

Safety, health and environmenta International Regulations:	al regulations/legislation specific for the substance or mixture: Not applicable.
European Union:	This product contains one or more substance(s) subject to restriction (Regulation (EC) No.
	1907/2006 (REACH), Annex XVII), Number: 03.
	https://echa.europa.eu/substances-restricted-under-reach
	Take note of Directive 98/24/EC on the protection of the health and safety of workers from the
	risks related to chemical agent at work.
	Take note of Directive 94/33/EC on the protection of young people at work.
	Take note of feed additive regulation (EC) 1831/2003.
	Comply with 2014/34/EU concerning equipment and protective systems intended for use in
	potentially explosive atmospheres and Directive 1999/92/EC regarding minimum requirements
	for improving the safety and health protection of workers potentially at risk from explosive
	atmospheres.

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National regulations:	
France:	Occupational Illnesses (R-463-3, France) Not applicable
Germany:	Water hazard class (WGK) slightly hazardous to water (WGK 1)
Denmark:	MAL Code Number 5-4
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**

Key or legend to abbreviations and acronyms used in the safety data sheet:		
Full text of H-Statements referred to under section 3:		
	H226 - Flammable liquid and vapour.	
	H314 - Causes severe skin burns and eye damage.	
	H318 - Causes serious eye damage.	
	H335 - May cause respiratory irritation.	
Legend:	REACH: Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006).	
	CLP: The Classification, Labelling and Packaging of Substances and Mixtures (CLP)	
	Regulation (EC 1272/2008).	
	SVHC: Substances of Very High Concern for Authorisation.	
	PBT: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals.	
	vPvB: Very Persistent and very Bioaccumulative (vPvB) Chemicals.	
	ED: Endocrine disrupting potential.	
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.	