

## Chemical Safety Data Sheet MSDS / SDS

## Propionyl chloride

Revision Date:2025-04-12 Revision Number:1

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

## Product identifier

Product name : Propionyl chloride  
CBnumber : CB3156885  
CAS : 79-03-8  
EINECS Number : 201-170-0  
Synonyms : propionyl chloride,propanoyl chloride

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

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

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

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

Continuerinsing.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

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

## Hazard statements

H225 Highly Flammable liquid and vapour

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

H331 Toxic if inhaled

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## SECTION 3: Composition/information on ingredients

### Substance

Product name	: Propionyl chloride
Synonyms	: propionyl chloride, propanoyl chloride
CAS	: 79-03-8
EC number	: 201-170-0
MF	: C <sub>3</sub> H <sub>5</sub> ClO
MW	: 92.52

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## SECTION 4: First aid measures

### Description of first aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor

#### If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

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

#### Unsuitable extinguishing media

Foam Water

## Special hazards arising from the substance or mixture

Carbon oxides Hydrogen chloride gas Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors. May not get in touch with: Water

Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

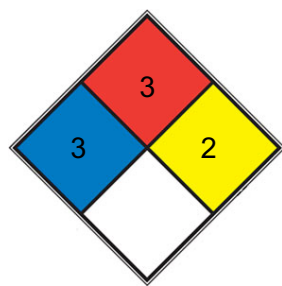
## Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

## Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## NFPA 704



HEALTH	3	Short exposure could cause serious temporary or moderate residual injury (e.g. <a href="#">liquid hydrogen</a> , <a href="#">sulfuric acid</a> , <a href="#">calcium hypochlorite</a> , hexafluorosilicic acid)
FIRE	3	Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions . Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, <a href="#">acetone</a> )
REACT	2	Undergoes violent chemical change at elevated temperatures and pressures, reacts violently with water, or may form explosive mixtures with water (e.g. white phosphorus, <a href="#">potassium</a> , <a href="#">sodium</a> )
SPEC.		
HAZ.		

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

### Environmental precautions

Do not let product enter drains. Risk of explosion.

## Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g.

Chemisorb?). Dispose of properly. Clean up affected area.

## Reference to other sections

For disposal see section 13.

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# SECTION 7: Handling and storage

## Precautions for safe handling

### Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Keep workplace dry. Do not allow product to come into contact with water.

### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

## Conditions for safe storage, including any incompatibilities

### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Never allow product to get in contact with water during storage. Reacts violently with water.

### Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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# SECTION 8: Exposure controls/personal protection

## control parameter

### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

## Exposure controls

### Personal protective equipment

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate

government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

#### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact Material: butyl-rubber

Minimum layer thickness: 0,7 mm Break through time: 60 min

Material tested: Butoject? (KCL 898)

#### Body Protection

Flame retardant antistatic protective clothing.

#### Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

#### Control of environmental exposure

Do not let product enter drains. Risk of explosion.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Appearance	yellow liquid
Odour	unpleasant
Odour Threshold	No data available
pH	< 7
Melting point/freezing point	Melting point/range: -94 °C
Initial boiling point and boiling range	77 - 79 °C - lit.
Flash point	6 °C - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 11,9 %(V) Lower explosion limit: 3,6 %(V)
Vapour pressure	106 hPa (20 °C)
Vapour density	3,19 - (Air = 1.0)
Relative density	No data available
Water solubility	insoluble
Partition coefficient: n-octanol/water	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	No data available

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## Other safety information

Relative vapor density

3,19 - (Air = 1.0)

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## SECTION 10: Stability and reactivity

### Reactivity

Vapors may form explosive mixture with air.

Reacts violently with water.

### Chemical stability

sensitive to moisture

### Possibility of hazardous reactions

Violent reactions possible with:

Water

release of hydrochloric acid Risk of explosion with:

Alkali metals Alkaline earth metals Powdered metals

organometallic compounds Exothermic reaction with:

Oxidizing agents Alcohols

strong alkalis Amines bases

### Conditions to avoid

Do not allow water to enter container because of violent reaction. Warming.

Moisture.

### Incompatible materials

No data available

### Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - 823 mg/kg (OECD Test Guideline 401)

LC50 Inhalation - 4 h - 3 mg/l

LD50 Intraperitoneal - Mouse - male and female - 96 mg/kg Remarks:

(ECHA)

#### Skin corrosion/irritation

Skin - Rabbit Result: Corrosive

(OECD Test Guideline 404)

**Serious eye damage/eye irritation**

Eyes - Rabbit Result: Corrosive

(OECD Test Guideline 405)

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

S. typhimurium Result: negative

**Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Toxicity**

LD50 orally in Rabbit: 823 mg/kg

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## SECTION 12: Ecological information

### Toxicity

#### Toxicity to fish

static test LC50 - Danio rerio (zebra fish) - 301 mg/l - 96 h (OECD Test Guideline 203)

#### Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 500 mg/l - 48 h Remarks: (ECHA)

#### Toxicity to algae

static test NOEC - Desmodesmus subspicatus (green algae) - 125 mg/l - 72 h

(OECD Test Guideline 201)

#### Toxicity to bacteria

static test EC50 - Pseudomonas putida - 506,2 mg/l - 17 h (DIN 38412)

### Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 83,5 % - Readily biodegradable.

### Bioaccumulative potential

### Mobility in soil

No data available

### Results of PBT and vPvB assessment

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

### Other adverse effects

Biological effects:

After hydrolysis acid effect on fish and plankton. Further information on ecology

Discharge into the environment must be avoided.

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## SECTION 13: Disposal considerations

### Waste treatment methods

### Product

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

### UN number

ADR/RID: 1815 IMDG: 1815 IATA: 1815

### UN proper shipping name

ADR/RID: PROPIONYL CHLORIDE IMDG: PROPIONYL CHLORIDE

IATA: Propionyl chloride

14.3	Transport hazard class(es)	
	ADR/RID: 3 (8) IMDG: 3 (8)	IATA: 3 (8)
14.4	Packaging group	
	ADR/RID: II IMDG: II	IATA: II
14.5	Environmental hazards	
	ADR/RID: no IMDG Marine pollutant: no	IATA: no
14.6	Special precautions for user	
	No data available	

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## SECTION 15: Regulatory information

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

#### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015: Listed. website: <https://www.mem.gov.cn/>

#### Measures for Environmental Management of New Chemical Substances



Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>  
EC Inventory:Listed.  
European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>  
Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>  
New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>  
Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>  
United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>  
Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

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## SECTION 16: Other information

### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road  
CAS: Chemical Abstracts Service  
EC50: Effective Concentration 50%  
IATA: International Air Transportation Association  
IMDG: International Maritime Dangerous Goods  
LC50: Lethal Concentration 50%  
LD50: Lethal Dose 50%  
RID: Regulation concerning the International Carriage of Dangerous Goods by Rail  
STEL: Short term exposure limit  
TWA: Time Weighted Average

### References

- 【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- 【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- 【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>
- 【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- 【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- 【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- 【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- 【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- 【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

#### Disclaimer:

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