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

1.1 Product identifiers
Product name: Propionic acid

Product Number: 402907
Brand: Sigma-Aldrich
Index-No.: 607-089-00-0
REACH No.: 01-2119486971-24-XXXX
CAS-No.: 79-09-4

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
Company: Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO  63103
UNITED STATES

Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone
Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 3), H226
Skin corrosion (Sub-category 1B), H314
Serious eye damage (Category 1), H318
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

The life science business of Merck operates as MilliporeSigma in the US and Canada
The life science business of Merck operates as MilliporeSigma in the US and Canada.

2. Hazard

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

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms: Propanoic acid
Propanyl acid
Acid C3
SECTION 4: First aid measures

4.1 Description of first-aid measures

**General advice**
First aider needs to protect himself. Show this material safety data sheet to the doctor in attendance.

**If inhaled**
After inhalation: fresh air. Call in physician.

**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.

4.2 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

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

**Suitable extinguishing media**
Water Foam Carbon dioxide (CO2) Dry powder

For the full text of the H-Statements mentioned in this Section, see Section 16.
**Unsuitable extinguishing media**
For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**
Nature of decomposition products not known.
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air at elevated temperatures.
Development of hazardous combustion gases or vapours possible in the event of fire.

**5.3 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.

**5.4 Further information**
Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6: Accidental release measures**

**6.1 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.

**6.2 Environmental precautions**
Do not let product enter drains. Risk of explosion.

**6.3 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 with liquid-absorbent and neutralising material (e.g. Chemizorb® H⁺, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

**6.4 Reference to other sections**
For disposal see section 13.

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

*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.

**7.2 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.

**7.3 Specific end use(s)**
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
**SECTION 8: Exposure controls/personal protection**

### 8.1 Control parameters

**Ingredients with workplace control parameters**

### 8.2 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**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

**Full contact**

<table>
<thead>
<tr>
<th>Material</th>
<th>Minimum layer thickness</th>
<th>Break time</th>
<th>Tested Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>butyl-rubber</td>
<td>0.3 mm</td>
<td>480 min</td>
<td>Butoject® (KCL 897 / Aldrich Z677647, Size M)</td>
</tr>
</tbody>
</table>

**Splash contact**

<table>
<thead>
<tr>
<th>Material</th>
<th>Minimum layer thickness</th>
<th>Break through time</th>
<th>Tested Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature latex/chloroprene</td>
<td>0.6 mm</td>
<td>41 min</td>
<td>Lapren® (KCL 706 / Aldrich Z677558, Size M)</td>
</tr>
</tbody>
</table>

**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.
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance
   Form: liquid, clear
   Color: colorless

b) Odor
   No data available

c) Odor Threshold
   No data available

d) pH
   2,5 at 100 g/l at 20 °C

e) Melting point/freezing point
   Melting point/range: -24 °C - lit.

f) Initial boiling point and boiling range
   141 °C - lit.

g) Flash point
   54 °C - closed cup

h) Evaporation rate
   No data available

i) Flammability (solid, gas)
   No data available

j) Upper/lower flammability or explosive limits
   Upper explosion limit: 12,1 %(V)
   Lower explosion limit: 2,9 %(V)

k) Vapor pressure
   3,2 hPa at 20 °C

l) Vapor density
   2,56 - (Air = 1.0)

m) Relative density
   0,993 g/mL at 25 °C

n) Water solubility
   soluble

o) Partition coefficient: n-octanol/water
   log Pow: 0,25

p) Autoignition temperature
   440 °C
   at 1.013 hPa

q) Decomposition temperature
   No data available

r) Viscosity
   Viscosity, kinematic: No data available
   Viscosity, dynamic: 10 mPa.s at 25 °C

s) Explosive properties
   No data available

t) Oxidizing properties
   No data available

9.2 Other safety information

Surface tension
   27,21 mN/m at 15 °C

Dissociation constant
   4,88

Relative vapor density
   2,56 - (Air = 1.0)
SECTION 10: Stability and reactivity

10.1 Reactivity
Vapor/air-mixtures are explosive at intense warming.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions
Exothermic reaction with:
- Oxidizing agents
- Reducing agents
- Alkalines
Risk of ignition or formation of inflammable gases or vapours with:
- Iron
- Zinc
- Magnesium
- Lead

10.4 Conditions to avoid
Heating.

10.5 Incompatible materials
Various plastics

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

**Acute toxicity**
- LD50 Oral - Rat - male and female - 3.455,1 mg/kg
  (OECD Test Guideline 401)
- LC50 Inhalation - Rat - male and female - 4 h - > 20 mg/l
  (OECD Test Guideline 403)
- LD50 Dermal - Rat - female - 3.235 mg/kg
  (OECD Test Guideline 402)
- LD50 Parenteral - Rat - 3.500 mg/kg

**Skin corrosion/irritation**
Skin - Rabbit
Result: Causes burns.

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Risk of serious damage to eyes.

**Respiratory or skin sensitization**
No data available

**Germ cell mutagenicity**
Reverse mutation assay
S. typhimurium
Result: negative
OECD Test Guideline 474
Hamster - male and female  
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

### 11.2 Additional Information

Repeated dose toxicity - Mouse - female - LOAEL (Lowest observed adverse effect level) - 136.9 mg/kg  
RTECS: UE595000

May cause an asthmatic-like bronchitis, Nausea, Dizziness, Headache, Blood disorders,  
May cause irritation to eyes and respiratory passages to workers briefly exposed to high concentrations  
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

**SECTION 12: Ecological information**

#### 12.1 Toxicity
No data available

#### 12.2 Persistence and degradability

**Biodegradability**  
- aerobic - Exposure time 20 d  
Result: 93% - Readily biodegradable.

#### 12.3 Bioaccumulative potential
No data available

#### 12.4 Mobility in soil
No data available

#### 12.5 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.

#### 12.6 Other adverse effects
No data available
SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 3463  
IMDG: 3463  
IATA: 3463

14.2 UN proper shipping name
ADR/RID: PROPIONIC ACID  
IMDG: PROPIONIC ACID  
IATA: Propionic acid

14.3 Transport hazard class(es)
ADR/RID: 8 (3)  
IMDG: 8 (3)  
IATA: 8 (3)

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

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)
National legislation
P5c FLAMMABLE LIQUIDS

Other regulations
Take note of Dir 94/33/EC on the protection of young people at work.
15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

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

H226 Flammable liquid and vapor.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Relevant changes since previous version

2. Hazards identification

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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