**Jorenku A/S**
Teglvaerksvej 11
DK-4733 Tappernoeje
Tel.: +45 56 21 40 70
jorenku@jorenku.dk
www.jorenku.dk

# SAFETY DATA SHEET

Safety data sheet according to (EF) no. 1907/2006.

## POINT 1: Identification of material/compounds and of the company/factory

### 1.1. Product identifier:

Propionic Acid 99,5 %

### 1.2. Relevant identifying use of the material or compound and the usage that is contraindicated:

Liquid supplementary feed. Only for commercial use.

### 1.3. Detailed information about the supplier for the safety data sheet:

Jorenku A/S
Teglvaerksvej 11
4733 Tappernoeje
Denmark
Tel.: +45 56214070

Responsible for safety data sheet (e-mail): jorenku@jorenku.dk

### 1.4. Emergency phone:

Contact the poison centre in your own country.

## POINT 2: Identification of danger

### 2.1. Classification of the material or compound:

According to Regulation (EC) No. 1272/2008 [CLP]
Flam. Liq. 3
Skin Corr./Irrit. 1B
Eye Dam./Irrit. 1
STOT SE 3 (irritating to the respiratory system)
H226, H335, H314

Specific concentration limit values according to Regulation (EC) no. 1272/2008 [CLP]
STOT SE 3, irritating to the respiratory system: >= 10 %
Skin Corr./Irrit. 2: 10 - < 25 %
Eye Dam./Irrit. 2: 10 - < 25 %
Skin Corr./Irrit. 1B: >= 25 %

For the claccifications not fully stated under this point, is the full wording stated under point 16.

### 2.2. Label elements:

DANGER

Hazard statements:

| | |
|---|---|
| H226 | Flammable liquid and vapour |
| H335 | May cause respiratory irritation. |
| H314 | Causes severe skin burns and eye damage. |

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Precautionary statements (prevention):

| | |
|---|---|
| P280: | Wear protective gloves/protective clothing/eye protection/face protection. |
| P271: | Use only outdoors or in a well-ventilated area. |
| P210: | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P243: | Take precautionary measures against static discharge. |
| P260: | Do not breathe dust or mist. |
| P241: | Use explosion-proof [electrical/ventilating/lighting/...] equipment. |
| P264: | Wash thoroughly after handling. |
| P240: | Ground and bond container and receiving equipment. |
| P242: | Use only non-sparking tools. |

Precautionary statements (reaction):

| | |
|---|---|
| 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. |
| P303 + P361 + P353: | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |
| P304 + P340: | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P301 + P330 + P331: | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P370 + P378: | In case of fire: Use water fogging, foam, powder and carbon dioxide to extinguish. |

Precautionary statements (storage):

| | |
|---|---|
| P233: | Keep container tightly closed. |
| P403 + P235: | Store in a well-ventilated place. Keep cool. |
| P405: | Store locked up. |

Precautionary statements (disposal):

| | |
|---|---|
| P501: | Dispose of contents/container in a place for hazardous or special waste. |

According to Regulation (EC) No. 1272/2008 [CLP].
Hazardous component(s) for labelling: propionic acid.

**2.3. Other dangers:**
According to Regulation (EC) No. 1272/2008 [CLP]
If appropriate, information is provided in this section on other hazards that do not result in classification but may contribute to the overall hazards of the substance or mixture.

## POINT 3: Compensation of/information about contents

**3.1. Compensation of/information about contents**

**3.2. Compounds:**

| Substance name | CAS | EF-No. | Index-no. | REACH reg.no. | Substance Classification | Note |
|---|---|---|---|---|---|---|
| Propionic acid | 79-09-4 | 201-176-3 | 607-089-00-0 | 01-2119486971-24 | Flam. Liq. 3;H226<br>Skin Corr. 1B;H314<br>Eye Dam. 1;H318<br>STOT SE 3;H335 | 1 |

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1) SCL (Specific Concentration limits) for classification: Skin Corr. 1B;H314: C ≥ 25%; Skin Irrit. 2;H315: 10% ≤ C < 25%; Eye Irrit. 2;H319: 10% ≤ C < 25%; STOT SE 3;H335: C ≥ 10% (harmonised classification)

The wording of the hazard statements - see point 16.

## POINT 4: First aid measures

### 4.1. Description of first aid measures:

The first aider must consider his own safety. In case of risk of unconsciousness, the patient is placed and transported in a locked lateral position. Immediately remove contaminated clothing.

| | |
|---|---|
| After inhalation: | Immediately inhale corticosterone dosing spray. Calm, fresh air, medical attention. |
| Skin contact: | Immediately wash thoroughly with plenty of water, apply a sterile bandage, see a dermatologist. |
| Eye contact: | Immediately rinse thoroughly for at least 15 minutes under running water with eyes open, contact an ophthalmologist. |
| Ingestion: | Immediately rinse the mouth and then drink 200-300 ml of water, seek medical attention. |

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

Symptoms: The most important known symptoms and effects are described in the labeling of the product (see point 2) and/or in point 11.

### 4.3. Indication of whether emergency medical attention and special treatment are needed:

Treatment: Symptomatic treatment (decontamination, vital signs), no specific antidote is known.

## POINT 5: Fire suppression

### 5.1. Suppression methods:

Water fogging, foam, powder, carbon dioxide.

### 5.2. Special dangers in connection with the material or compound:

Carbon oxide, nitrogen oxide. The mentioned substances/groups can be released in case of fire.

### 5.3. Indication for a fire department:

Use compressed air mask and protective suit.
Additionalt: Contaminated extinguishing water must be collected separately, may not be discharged into sewers or waste water.

## POINT 6: Accidental release measures

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

Personal protection by using tight-fitting protective clothing and air-supplied respirator. Wear acid resistant boots.

### 6.2. Environmental protection indications:

Avoid discharge to drains.

### 6.3. Methods and equipment for containment and cleaning:

Larger amounts: The product is pumped away.
Residue: Soak up with liquid binding material (e.g. sand, sawdust, universal binding agent, diatomaceous earth). The collected material is disposed of in accordance with the Ministry of the Environment's regulations on waste disposal.

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**6.4. References to other points:**
Information about exposure control/personal protective gear and conditions regarding disposal can be seen in point 8 and 13.

## POINT 7: Handling and storage

**7.1. Measures for safe handling:**
Ensure good room ventilation in the warehouse and workplace.
Fire and explosion protection: Take measures against electrostatic charging - keep away from sources of ignition - fire extinguisher must be ready for use.

**7.2. Conditions for safe storage, including any incompatibility:**
Keep away from alkali and basic substances. Further information on storage conditions: In a well-closed container in a cool and well-ventilated place.

Shelf life:
Storage temperature: < 30 °C
Storage time: <= 36 md
Guarantees for application properties cannot be derived from the indications for storage time in this safety data sheet.

**7.3. Special usage:**
See exposure scenario(s) in the appendix to this safety data sheet.

## PUNKT 8: Exposure control/personal protective equipment

**8.1. Control parameter:**
AT-limit value (reg. 1054 of 28.06.2022):

| | 8-hours limit value | Short-term limit value | Anm. |
|---|---|---|---|
| Propionic acid | 10 ppm = 31 mg/m$^3$ | 20 ppm = 62 mg/m$^3$ | E |

E = The substance has an EF-limit value

| DNEL: | Exposure | Value | Population | Effects |
|---|---|---|---|---|
| Propionic acid | Long-term, skin | 0.26 mg/kg | Workers | Local |
| | Long-term, skin | 20.9 mg/kg | Workers | Systemic |
| | Acute, inhalation | 62 mg/m$^3$ | Workers | Local |
| | Acute, inhalation | 62 mg/m$^3$ | Workers | Systemic |
| | Long-term, inhalation | 31 mg/m$^3$ | Workers | Local |
| | Long-term, inhalation | 73 mg/m$^3$ | Workers | Systemic |

| PNEC: | Medium | Value |
|---|---|---|
| Propionic acid | Fresh water | 0.5 mg/l |
| | Sea water | 0.05 mg/l |
| | Fresh water sediment | 1.86 mg/kg |
| | Sea water sediment | 0.186 mg/kg |
| | Sewage works (STP) | 5 mg/l |
| | Soil | 0.126 mg/kg |

**8.2. Exposure control:**
Personal protective equipment:
Protection of respiratory organs:

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Gas filter for organic gases/vapours (boiling point > 65 °C, e.g. EN 14387 type A). Respiratory protection in case of insufficient ventilation. Take into account the risk management measures indicated in the exposure scenario.

Protection of hands:
Chemical resistant protective gloves (EN 374). Suitable materials also for storage, direct contact (recommended: Protection index 6, corresponding to > 480 minute penetration time according to EN 374): butyl rubber (butyl) - 0.7 mm material thickness). Suitable materials for short-term contact (recommended: At least protection index 2, corresponding to > 30 minutes permeation time according to EN 374) nitrile rubber (NBR) - 0.4 mm material thickness chloroprene rubber (CR) - 0.5 mm material thickness.

Protection of eyes:
Tightly fitted safety goggles (e.g. EN 166) and face shield.

Protection of skin:
Acid-resistant chemical protective suit (after DIN-EN 465)

General protective and hygiene measures:
Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours. Avoid contact with skin and eyes. Contaminated clothing is removed immediately.

## POINT 9: Physical and chemical characteristics

### 9.1. Information about basic physical and chemical characteristics:

| | |
|---|---|
| Appearance: | Liquid |
| Colour: | Uncoloured |
| Odor: | Smelly |
| Odor limit: | Not decided |
| pH: | 2.5 (100 g/l, 20 °C) |
| Melting point: | -20 °C |
| Boiling point: | 140.7 - 141.6 °C |
| Flash point: | 50.5 °C (DIN 51755) |
| Evaporation rate: | Can be estimated from Henry's constant or vapor pressure. |
| Ignitability: | Flamable liquid and vapour. |
| Lower explosive limit: | Not relevant for the classicifation and labelling of liquids. The lower explosive limit can be between 5 °C to 15 °C under the flash point. |
| Upper explosive limit: | Not relevant for the classicifation and labelling of liquids. |
| Auto-ignition temperature: | 485 °C (DIN 51794) |
| Vapor pressure: | 5 mbar (20 °C)<br>approx. 23 hPa (50 °C) |
| Density: | 0.993 g/cm$^3$ (20 °C) Literature statement.<br>0.957 g/cm$^3$ (55 °C) Literature statement.<br>0.9990 g/cm$^3$ (15 °C)<br>0.9610 g/cm$^3$ (50 °C) |
| Solubility in water: | mixable (20 °C) |
| Partition coefficient n-octanol/water (log $Kow_{ow}$): | 0.25 (25 °C) |

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| | |
|---|---|
| | 0.33 (calculation Hansch/Leo) |
| Auto-flammability: | Due to its structure, the product is classified as non-self-igniting. |
| Test type: | Spontaneous self-ignition at room temperature. |
| Thermal decomposition: | Not decided |
| Viscosity, dynamic: | 1,102 mPa.s (20 °C) Literature statement. |
| Oxidising property: | Due to its structure, the product is classified as non-self-igniting. |

**9.2. Other information:**

| | |
|---|---|
| Self heating: | Not applicable, the product is a liquid. |
| SADT: | No self-degrading substance / mixture according to GHS. |
| pKA: | 4.87 (20 °C) |
| Adsorption/water - soil: | $K_{OC}$: 1.201; log $K_{OC}$: 0.08 (calculated)<br>The data refer to the uncharged form of the substance. Under environmental conditions, the substance is mainly found in its charged form. |
| Surface tension: | Due to the chemical structure, no surface activity is expected. |
| Particle size distribution: | Test substance<br>The substance/product is not sold or used in solid form or as granules. |
| Molecular mass: | 74.08 g/mol |

## POINT 10: Stability and reactivity

**10.1. Reactivity:**

Metal corrosion: No metal corrosion is expected. In the presence of water or moisture, a metal corrosive effect cannot be ruled out.
Formation of flammable gases: Remarks: No flammable gases are formed with water.

**10.2. Chemical stability:**

The product is chemically stable.

**10.3. Risk of dangerous reactions:**

Reachts with strong bases. Exothermic reaction.

**10.4. Conditions that should be avoided:**

No conditions that should be avoided are expected.

**10.5. Materials that should be avoided:**

Bases, uncoated metals and base metals.

**10.6. Dangerous decomposition products:**

No dangerous decomposition products are known.

## POINT 11: Toxicological information

**11.1. Information about hazard classes as defined in Regulation (EC) No 1272/2008:**

Acute toxicity: Based on available data, the classification criteria are not met.
Skin corrosion/irritation: Skin Corr. 1B; H314 Causes severe skin burns and eye damage.
Serious eye damage/eye irritation: Eye Dam. 1; H314 Causes serious eye damage.
Respiratory or skin sensitization: Based on available data, the classification criteria are not met.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproduction toxicity: Based on available data, the classification criteria are not met.

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Single STOT-exposure: Based on available data, the classification criteria are not met.
Repeated STOT-exposures: Based on available data, the classification criteria are not met.
Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.

| **Danger class** | **Data** (Propionic acid) | **Test** | **Data source** |
|---|---|---|---|
| Acute toxicity:<br>Inhalation<br>Dermal<br>Oral | <br>$LC_{50}$ (rat) > 19.7 mg/l/1h (vapour)<br>$LD_{50}$ (rabbit) = 3235 mg/kg<br>$LD_{50}$ (rat) = 2600 mg/kg | <br>Not informed<br>Not informed<br>Not informed | <br>ECHA<br>ECHA<br>TOXNET |
| Corrosivity/ irritation: | Corrosive, rabbit | OECD 404 | ECHA |
| Sensitisation: | No sensitizing effect, guinea pig | OECD 406 | ECHA |
| CMR: | No CMR-effects | Different | ECHA |

**11.2. Information about other hazards:** None known.

## POINT 12: Environmental information

**12.1. Toxicity:**

| **Aquatic** | **Data** (Propionic acid) | **Test (Media)** | **Data source** |
|---|---|---|---|
| Fish | $LC_{50}$ (Leuciscus idus, 96h) > 10,000 mg/l<br>NOEC (Leuciscus idus, 96h) > 5,000 mg/l | DIN 38412 (FW)<br>DIN 38412 (FW) | ECHA<br>Supplier |
| Crustacean | $EC_{50}$ (Daphnia magna, 48h) > 500 mg/l<br>NOEC (Daphnia magna, 48h) = 250 mg/l | Not informed (FW)<br>Not informed (FW) | ECHA<br>Supplier |
| Alga | $EC_{50}$ (Scenedesmus subspicatus, 72h) > 500 mg/l | OECD 201 (FW) | Supplier |

**12.2. Persistence and degradability:**
Propionic acid is rapidly biodegradable, 95 % in 10 days (OECD 302B).

**12.3. Bioaccumulative potential:**
Propionic acid: Log $K_{ow}$ = 0.3 (OECD 107) (no bioaccumulation).

**12.4. Mobility in soil:**
Assessment of transport between environmental areas:
Volatility: From the water attack, the substance does not evaporate into the atmosphere.
Adsorption in soil: Adsorption in solid soil particles is not expected.

**12.5. Results of PBT and vPvB assessment:**
The ingredients are not PBT/vPvB according to the criteria in REACH annex XIII.

**12.6. Endocrine-disrupting capacities:**
The substancce is not listed under Regulation (EC) 1005/2009 about substances that deplete the ozone layer.

**12.7. Other adverse effects:**
Sum parameter
Chemical Oxygen Consumption (COD): 1,520 mg/g
Biochemical oxygen barrier (BOD) incubation time 5 d: 1,300 mg/g

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## POINT 13: Removal

**13.1. Methods for waste handling:**
Combustion in a suitable incineration plant. However, should be coordinated with the local authorities. A waste code in accordance with the European Waste Catalogue codes (EWC) cannot be determined as these are depending on the use of the product. The waste code number must be according to the European Waste Catalogue (EWC) be determined in collaboration with the waste handler/producer/ authorities.
Contaminated packaging: Contaminated packaging must be emptied optimally, and can then be reused after cleaning.

## POINT 14: Transport information

**14.1. UN-number or ID-number:** 3463
**14.2. UN-shipment designation (UN proper shipping name):** PROPIONIC ACID
**14.3. Transport danger class(es):** 8, 3
**14.4. Packaging group:** II
**14.5. Environmental dangers:** None.
**14.6. Special regulations for the user:** None.
**14.7. Bulk transport by sea according to IMO instruments:** Not relevant.

## POINT 15: Information about regulations

**15.1. Special determinations/special rules for the material or compound with respect to safety, health and environment:**
Prohibitions, restrictions and authorisations
Appendix XVII to Regulation (EC) No. 1907/2006: Number on the list: 3, 40

If additional legislation applies that is not already listed elsewhere in this safety data sheet, it will be described in this subsection.

As a general rule, young people under the age of 18 may not work with this product, cf. the executive order on youth work (Denmark).
The product is covered by the Working Environment Authority's Notice/guidance on limit values for substances and materials (Denmark).

**15.2. Chemical safety evaluation:**
Chemical safety evaluation accomplished.

## POINT 16: Other information

Assessment of the hazard classes according to the UN GHS criteria (in its latest edition)
Skin Corr./Irrit. 1B
Acute Tox. 5 (oral)
Flam. Liq. 3
Eye Dam./Irrit. 1
Acute Tox. 5 (dermal)
STOT SE 3 (irritating to the respiratory system)

The full wording of the classifications, including hazard classes and hazard statements, if mentioned in point 2 or 3:

| | |
|---|---|
| Flam. Liq. | Flammable liquids |
| Skin Corr./Irrit. | Skin corrosion/irritation |

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| | |
|---|---|
| Eye Dam./Irrit. | Severe eye damage/eye irritation |
| STOT SE | Specific target organ toxicity - single exposure |
| H226 | Flammable liquid and vapour |
| H335 | May cause respiratory irritation |
| H314 | Causes severe skin burns and eye damage |

**Advice on training / instruction:**
The product may only be used by persons who are carefully instructed in the execution of the work and who have knowledge of the contents of this safety data sheet.

**Changes since previous version:**
Not relevant - first edition.

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