

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 04.11.2010

Version 8.5

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Catalogue No.	803183
Product name	Propyl acetate for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal (www.merck-chemicals.com).
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1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number Please contact the regional company representation in your country.

2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquid, Category 2, H225

Eye irritation, Category 2, H319

Specific target organ toxicity - single exposure, Category 3, H336

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

Classification (67/548/EEC or 1999/45/EC)

F; R11

Xi; R36

R66

R67

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

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Hazard statements

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P243 Take precautionary measures against static discharge.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403 + P235 Store in a well-ventilated place. Keep cool.

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word
Danger

Index-No. 607-024-00-6

Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)	F Xi	Highly flammable Irritant
R-phrases(s)	11-36-66-67	Highly flammable. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.
S-phrases(s)	16-26-29-33	Keep away from sources of ignition - No smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Do not empty into drains. Take precautionary measures against static discharges.
EC-No.	203-686-1	EC Label

Reduced labelling (≤125 ml)

Symbol(s)	F Xi	Highly flammable Irritant
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2.3 Other hazards

None known.

3. Composition/information on ingredients

Formula	CH ₃ COOCH ₂ CH ₂ CH ₃	C ₅ H ₁₀ O ₂ (Hill)
CAS-No.	109-60-4	
Index-No.	607-024-00-6	
EC-No.	203-686-1	
Molar mass	102,13 g/mol	

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4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air. Consult doctor if feeling unwell.

After skin contact: wash off with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

irritant effects, narcosis

Drying-out effect resulting in rough and chapped skin.

4.3 Indication of immediate medical attention and special treatment needed

Subsequently administer: activated charcoal (20 - 40 g in 10% slurry).

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible material

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

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

Cool closed containers exposed to fire with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not empty into 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 7.2 and 10.5).

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Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment see section 13.

7. Handling and storage

7.1 Precautions for safe handling

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

Observe label precautions.

Advice on protection against fire and explosion

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

7.2 Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.

Store at +15°C to +25°C.

7.3 Specific end uses

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

8. Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Hygiene measures

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

Eye/face protection

Safety glasses

Hand protection

splash contact:

Glove material:	butyl-rubber
Glove thickness:	0,7 mm
Break through time:	> 120 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (splash contact).

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The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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).

Other protective equipment:

Flame retardant antistatic protective clothing

Respiratory protection

required when vapours/aerosols are generated.

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.

Environmental exposure controls

Do not empty into drains.

Risk of explosion.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	like fruit
Odour Threshold	No information available.
pH	No information available.
Melting point	-95 °C
Boiling point/boiling range	101,5 °C at 1.013 hPa
Flash point	14 °C Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	1,7 %(V)
Upper explosion limit	8 %(V)
Vapour pressure	33 hPa at 20 °C
Relative vapour density	No information available.

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Relative density	0,89 g/cm ³ at 20 °C
Water solubility	21,2 g/l at 20 °C
Partition coefficient: n-octanol/water	log Pow: 1,23 (Lit.) No remarkable bioaccumulation potential is expected (log Pow 1-3).
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	0,585 mPa.s at 20 °C
Explosive properties	No information available.
Oxidizing properties	No information available.

9.2 Other data

Ignition temperature 430 °C

10. Stability and reactivity

10.1 Reactivity

Vapours may form explosive mixture with air.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents

10.4 Conditions to avoid

Warming.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.5 Incompatible materials

various plastics

10.6 Hazardous decomposition products

no information available

11. Toxicological information

11.1 Information on toxicological effects

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Acute oral toxicity

LD50 rat

Dose: 9.370 mg/kg

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity

Symptoms: Possible damages:, mucosal irritations

Skin irritation

Drying-out effect resulting in rough and chapped skin.

Repeated exposure may cause skin dryness or cracking.

Eye irritation

Causes serious eye irritation.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

No aspiration toxicity classification

11.2 Further information

Further information

After absorption:

Systemic effects:

narcosis

Further data:

Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

12.1 Toxicity

Toxicity to fish

LC50

Species: Pimephales promelas (fathead minnow)

Dose: 60 mg/l

Exposure time: 96 h

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: 1,23

(Lit.)

No remarkable bioaccumulation potential is expected (log Pow 1-3).

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

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Additional ecological information

Do not allow to run into surface waters, wastewater, or soil.

13. Disposal considerations

Waste treatment methods

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

14. Transport information

ADR/RID

UN 1276 N-PROPYL ACETATE, 3, II

IATA

UN 1276 N-PROPYL ACETATE, 3, II

IMDG

UN 1276 PROPYL ACETATE, 3, II

EmS F-E S-D

The transport regulations are cited according to international regulations and in the form applicable in Germany. Possible national deviations in other countries are not considered.

15. Regulatory information

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

EU regulations

Major Accident Hazard 96/82/EC
Legislation Highly flammable
7b
Quantity 1: 5.000 t
Quantity 2: 50.000 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

National legislation

Storage class VCI 3 Flammable Liquids

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

16. Other information

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

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Full text of R-phrases referred to under sections 2 and 3

R11 Highly flammable.
R36 Irritating to eyes.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

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Training advice

Provide adequate information, instruction and training for operators.

Regional representation: This information is given on the authorised Safety Data Sheet for your country.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.