

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 02.08.2013

Version 11.10

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

### 1.1 Product identifier

Catalogue No.	809711
Product name	Methyl 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 ( <a href="http://www.merck-chemicals.com">www.merck-chemicals.com</a> ).
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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: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

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

## SECTION 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, Central nervous system, 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	Highly flammable	R11
Xi	Irritant	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*



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*Signal word*  
Danger

*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*  
Prevention  
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Response  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Storage  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Reduced labelling ( $\leq 125$  ml)

*Hazard pictograms*



*Signal word*  
Danger

*Index-No.* 607-021-00-X

**2.3 Other hazards**  
None known.

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**SECTION 3. Composition/information on ingredients**

**3.1 Substance**

Formula	CH <sub>3</sub> COOCH <sub>3</sub>	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub> (Hill)
CAS-No.	79-20-9	
Index-No.	607-021-00-X	
EC-No.	201-185-2	
Molar mass	74,08 g/mol	

**Hazardous components (REGULATION (EC) No 1272/2008)**

*Chemical Name (Concentration)*

CAS-No.	Registration number	Classification
methyl acetate ( $\leq 100$ %)		
79-20-9	*)	Flammable liquid, Category 2, H225 Eye irritation, Category 2, H319 Specific target organ toxicity - single exposure, Category 3, H336

\*) 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.

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

**Hazardous components (1999/45/EC)**

*Chemical Name (Concentration)*

CAS-No.	Classification
methyl acetate (<= 100 % )	
79-20-9	F, Highly flammable; R11
	Xi, Irritant; R36
	R66
	R67

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

**3.2 Mixture**

not applicable

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**SECTION 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: immediately make victim drink water (two glasses at most). Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

irritant effects, Shortness of breath, Dizziness, Unconsciousness, narcosis, Headache

**4.3 Indication of any immediate medical attention and special treatment needed**

No information available.

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**SECTION 5. Firefighting measures**

**5.1 Extinguishing media**

*Suitable extinguishing media*

Carbon dioxide (CO<sub>2</sub>), 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.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

Development of hazardous combustion gases or vapours possible in the event of fire.

**5.3 Advice for firefighters**

*Special protective equipment 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*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Cool closed containers exposed to fire with water spray.

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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 vapours, 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.

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 and 10).

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.

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**SECTION 7. Handling and storage**

**7.1 Precautions for safe handling**

*Advice on safe handling*

Work under hood. Do not inhale substance/mixture. 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.

*Hygiene measures*

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

**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.

Storage temperature: no restrictions.

**7.3 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**

**8.1 Control parameters**

**8.2 Exposure controls**

**Engineering measures**

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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.

*Eye/face protection*

Safety glasses

*Hand protection*

splash contact:

Glove material:	butyl-rubber
Glove thickness:	0,7 mm
Break through time:	> 240 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). 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](http://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.

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**SECTION 9. Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

Form	liquid
Colour	colourless
Odour	like fruit
Odour Threshold	162 - 297053 ppm
pH	neutral
Melting point	-98 °C

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Boiling point/boiling range	56 - 58 °C at 1.013 hPa Method: DIN 53171
Flash point	-13 °C Method: DIN 51755 Part 1
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	3,1 %(V)
Upper explosion limit	16 %(V)
Vapour pressure	217 hPa at 20 °C
Relative vapour density	2,6
Relative density	0,93 g/cm <sup>3</sup> at 20 °C Method: DIN 51757
Water solubility	250 g/l at 20 °C
Partition coefficient: n-octanol/water	log Pow: 0,18 (experimental) (Lit.) Bioaccumulation is not expected.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	0,381 mPa.s at 20 °C
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

Ignition temperature	455 °C Method: DIN 51794
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## SECTION 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

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Exothermic reaction with:

Risk of ignition or formation of inflammable gases or vapours with:

Strong oxidizing agents

can decompose violently in contact with:

Bases, acids

**10.4 Conditions to avoid**

Warming.

**10.5 Incompatible materials**

rubber, various plastics

**10.6 Hazardous decomposition products**

no information available

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**SECTION 11. Toxicological information**

**11.1 Information on toxicological effects**

*Acute oral toxicity*

LD50 rat: > 5.000 mg/kg (IUCLID)

*Acute inhalation toxicity*

LC50 rat: > 49,28 mg/l; 4 h (External MSDS)

Symptoms: Possible damages:, Irritation symptoms in the respiratory tract.

*Acute dermal toxicity*

LD50 rat: > 2.000 mg/kg

OECD Test Guideline 402

absorption

*Skin irritation*

rabbit

Result: No irritation

OECD Test Guideline 404

Repeated exposure may cause skin dryness or cracking.

*Eye irritation*

rabbit

Result: Eye irritation

OECD Test Guideline 405

Causes serious eye irritation.

*Sensitisation*

Human experience

Result: negative

(IUCLID)

*Germ cell mutagenicity*

*Genotoxicity in vitro*

Ames test

Result: negative

Method: OECD Test Guideline 471

Ames test

Escherichia coli

Result: negative

Method: OECD Test Guideline 472

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*Carcinogenicity*

This information is not available.

*Reproductive toxicity*

This information is not available.

*Teratogenicity*

This information is not available.

*Specific target organ toxicity - single exposure*

May cause drowsiness or dizziness.

*Specific target organ toxicity - repeated exposure*

This information is not available.

*Aspiration hazard*

This information is not available.

### 11.2 Further information

After absorption of toxic quantities:

Headache, Dizziness, Shortness of breath, Unconsciousness, narcosis

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

*Toxicity to fish*

LC50 Danio rerio (zebra fish): 250 - 350 mg/l; 96 h

OECD Test Guideline 203

*Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 1.027 mg/l; 48 h

OECD Test Guideline 202

*Toxicity to algae*

IC50 algae: > 120 mg/l; 72 h

OECD Test Guideline 201

*Toxicity to bacteria*

microtox test EC50 Photobacterium phosphoreum: 6.100 mg/l; 30 min (IUCLID)

### 12.2 Persistence and degradability

*Biodegradability*

> 70 %; 19 d

OECD Test Guideline 301D

Readily biodegradable.

### 12.3 Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: 0,18

(experimental)

(Lit.) Bioaccumulation is not expected.

### 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

*Additional ecological information*

Biological effects:

When discharged properly, no impairments in the function of adapted biological wastewater treatment plants are to be expected.

Discharge into the environment must be avoided.



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**SECTION 13. Disposal considerations**

*Waste treatment methods*

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**

**Land transport (ADR/RID)**

14.1 UN number	UN 1231
14.2 Proper shipping name	METHYL ACETATE
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	D/E

**Inland waterway transport (ADN)**

Not relevant

**Air transport (IATA)**

14.1 UN number	UN 1231
14.2 Proper shipping name	METHYL ACETATE
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

**Sea transport (IMDG)**

14.1 UN number	UN 1231
14.2 Proper shipping name	METHYL ACETATE
14.3 Class	3
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-E S-D

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not relevant

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**SECTION 15. Regulatory information**

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

*EU regulations*

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Major Accident Hazard Legislation 96/82/EC  
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.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern above the respective regulatory limit (> 0.1 % (w/w) Regulation (EC) No 1907/2006 (REACH), Article 57).

*National legislation*

Storage class 3

## 15.2 Chemical Safety Assessment

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

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## SECTION 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.

### Training advice

Provide adequate information, instruction and training for operators.

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

<i>Symbol(s)</i>	 F  Xi	Highly flammable Irritant
<i>R-phrases</i>	11-36-66-67	Highly flammable. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.
<i>S-phrases</i>	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

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seek medical advice. Do not empty into drains. Take  
precautionary measures against static discharges.

EC-No. 201-185-2

EC Label

**Reduced labelling ( $\leq 125$  ml)**

Symbol(s)  F  
 Xi

Highly flammable  
Irritant

**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](http://www.wikipedia.org).

**Regional representation**

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

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*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.*