



# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 03/11/2013

Version 1.0

## SECTION 1. Identification

### Product identifier

Product number	809711
Product name	Methyl acetate for synthesis

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

Identified uses	Chemical for synthesis
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### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   SDS Phone Support: +1-978-715-1335   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)  e-mail: mm_sds@merckgroup.com
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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## SECTION 2. Hazards identification

### GHS Classification

Flammable liquid, Category 2, H225  
Eye irritation, Category 2, H319  
Specific target organ systemic toxicity - single exposure, Category 3, H336  
For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

#### Hazard pictograms



*Signal Word*  
Danger

#### Hazard Statements

H225 Highly flammable liquid and vapor.  
H319 Causes serious eye irritation.

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H336 May cause drowsiness or dizziness.

## Precautionary Statements

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

P233 Keep container tightly closed.

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

## OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

## Other hazards

None known.

## SECTION 3. Composition/information on ingredients

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	
Molar mass	74.08 g/mol	

## Hazardous ingredients

*Chemical Name ( Concentration)*

CAS-No.

*methyl acetate ( >= 90 % - <= 100 % )*

79-20-9

## SECTION 4. First aid measures

### Description of first-aid measures

#### Inhalation

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

#### Skin contact

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

#### Eye contact

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

#### Ingestion

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

Never give anything by mouth to an unconscious person.

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

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

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

No information available.

## SECTION 5. Fire-fighting measures

### Extinguishing media

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### *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.

### **Special hazards arising from the substance or mixture**

Combustible.

Vapors 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 vapors possible in the event of fire.

### **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*

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**

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, 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.

### **Environmental precautions**

Do not empty into 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 with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

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## **SECTION 7. Handling and storage**

### **Precautions for safe handling**

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

### **Conditions for safe storage, including any incompatibilities**

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

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Storage temperature: no restrictions.

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Ingredients

Basis	Value	Threshold limits	Remarks
<i>methyl acetate 79-20-9</i>			
ACGIH	Short Term Exposure Limit (STEL):	250 ppm	
	Time Weighted Average (TWA):	200 ppm	
NIOSH/GUIDE	Recommended exposure limit (REL):	200 ppm 610 mg/m <sup>3</sup>	
	Short Term Exposure Limit (STEL):	250 ppm 760 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	200 ppm 610 mg/m <sup>3</sup>	
Z1A	Short Term Exposure Limit (STEL):	250 ppm 760 mg/m <sup>3</sup>	
	Time Weighted Average (TWA):	200 ppm 610 mg/m <sup>3</sup>	

### Engineering measures

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

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

#### Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

#### Eye/face protection

Safety glasses

#### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

#### Other protective equipment:

Flame retardant antistatic protective clothing

#### Respiratory protection

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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## SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	fruity
Odor Threshold	162 - 297053 ppm
pH	neutral
Melting point	-98 °C
Boiling point/boiling range	133 - 136 °F ( 56 - 58 °C) at 1,013 hPa Method: DIN 53171
Flash point	9 °F ( -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)
Vapor pressure	217 hPa at 68 °F ( 20 °C)
Relative vapor density	2.6
Relative density	0.93 g/cm <sup>3</sup> at 68 °F ( 20 °C) Method: DIN 51757
Water solubility	250 g/l at 68 °F ( 20 °C)
Partition coefficient: n-octanol/water	log Pow: 0.18 (experimental) (Lit.) Bioaccumulation is not expected (log Pow <1).
Autoignition temperature	No information available.
Decomposition temperature	No information available.

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Viscosity, dynamic	0.381 mPa.s at 68 °F ( 20 °C)
Explosive properties	Not classified as explosive.
Ignition temperature	851 °F ( 455 °C) Method: DIN 51794

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### SECTION 10. Stability and reactivity

#### Reactivity

Vapors may form explosive mixture with air.

#### Chemical stability

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

#### Possibility of hazardous reactions

Exothermic reaction with:

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

Strong oxidizing agents

can decompose violently in contact with:

Bases, acids

#### Conditions to avoid

Warming.

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

#### Incompatible materials

rubber, various plastics

#### Hazardous decomposition products

no information available

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### SECTION 11. Toxicological information

#### Information on toxicological effects

##### *Likely route of exposure*

Inhalation, Eye contact, Skin contact

##### *Target Organs*

Eyes

Skin

Respiratory system

Central nervous system

##### *Acute oral toxicity*

LD50 rat: > 5,000 mg/kg (IUCLID)

##### *Acute inhalation toxicity*

LC50 rat: > 49.28 mg/l; 4 h (External MSDS)

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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.

## *Sensitization*

Human experience

Result: negative

(IUCLID)

## *Genotoxicity in vitro*

Ames test

Result: negative

Method: OECD Test Guideline 471

Ames test

Escherichia coli

Result: negative

Method: OECD Test Guideline 472

## *Specific target organ systemic toxicity - single exposure*

May cause drowsiness or dizziness.

## *Specific target organ systemic toxicity - repeated exposure*

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

## *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **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.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen

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ACGIH by NTP.  
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## 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

### Ecotoxicity

#### *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)

### Persistence and degradability

#### *Biodegradability*

> 70 %; 19 d

OECD Test Guideline 301D

Readily biodegradable.

### Bioaccumulative potential

#### *Partition coefficient: n-octanol/water*

log Pow: 0.18

(experimental)

(Lit.) Bioaccumulation is not expected (log Pow <1).

### Mobility in soil

No information available.

### 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

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN 1231
Proper shipping name	METHYL ACETATE
Class	3
Packing group	II
Environmentally hazardous	--

### Air transport (IATA)

UN number	UN 1231
Proper shipping name	METHYL ACETATE
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

### Sea transport (IMDG)

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

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## SECTION 15. Regulatory information

### United States of America

#### OSHA Hazards

Flammable Liquid

Eye irritant

Target organ effects

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

#### SARA 311/312 Hazards

Fire Hazard

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Acute Health Hazard  
Chronic Health Hazard

### **SARA 313**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### **SARA 302**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### **Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

### **DEA List I**

Not listed

### **DEA List II**

Not listed

### **Massachusetts Right To Know**

*Ingredients*  
methyl acetate

### **Pennsylvania Right To Know**

*Ingredients*  
methyl acetate

### **New Jersey Right To Know**

*Ingredients*  
methyl acetate

### **Notification status**

TSCA: On TSCA Inventory

DSL: All components of this product are on the Canadian DSL.

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## **SECTION 16. Other information**

### **Training advice**

Provide adequate information, instruction and training for operators.

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

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

## 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).

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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