

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Methyl acetoacetate

Product Number : 537365  
Brand : Aldrich

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
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Emergency Phone # : (314) 776-6555

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Combustible Liquid, Irritant

##### GHS Label elements, including precautionary statements

Pictogram



Signal word : Warning

Hazard statement(s)

H227 : Combustible liquid  
H303 : May be harmful if swallowed.  
H316 : Causes mild skin irritation.  
H319 : Causes serious eye irritation.

Precautionary statement(s)

P210 : Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P264 : Wash skin thoroughly after handling.  
P280 : Wear protective gloves/protective clothing/eye protection/face protection.  
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 : Call a POISON CENTER or doctor/physician if you feel unwell.  
P332 + P313 : If skin irritation occurs: Get medical advice/attention.  
P337 + P313 : If eye irritation persists: Get medical advice/attention.  
P370 + P378 : In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P403 + P235 : Store in a well-ventilated place. Keep cool.  
P501 : Dispose of contents/container to an approved waste disposal plant.

#### HMIS Classification

Health hazard: 2  
Flammability: 2  
Physical hazards: 0

#### NFPA Rating

Health hazard: 2  
Fire: 2  
Reactivity Hazard: 0

#### Potential Health Effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** May be harmful if swallowed.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Acetoacetic acid methyl ester  
3-Oxobutanoic acid methyl ester  
MAA

Formula : C<sub>5</sub>H<sub>8</sub>O<sub>3</sub>  
Molecular Weight : 116.12 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Methyl acetoacetate</b>			
105-45-3	203-299-8	607-137-00-0	-

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### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIRE-FIGHTING MEASURES

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

#### Environmental precautions

Do not let product enter drains.

#### Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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### 7. HANDLING AND STORAGE

#### Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

#### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves.

#### Eye protection

Safety glasses with side-shields conforming to EN166

#### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form liquid

### Safety data

pH	no data available
Melting point	-80 °C (-112 °F) - lit.
Boiling point	169 - 170 °C (336 - 338 °F) at 93 hPa (70 mmHg) - lit.
Flash point	70 °C (158 °F) - closed cup
Ignition temperature	280 °C (536 °F)
Lower explosion limit	3.1 %(V)
Upper explosion limit	16 %(V)
Density	1.076 g/cm <sup>3</sup> at 25 °C (77 °F)
Water solubility	no data available
Relative vapour density	4.01 - (Air = 1.0)

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Conditions to avoid

no data available

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

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## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

LD50 Oral - rat - 3,228 mg/kg

**Skin corrosion/irritation**

Skin - rabbit - Mild skin irritation - 24 h

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure (GHS)**

no data available

**Specific target organ toxicity - repeated exposure (GHS)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.

**Additional Information**

RTECS: AK5775000

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**12. ECOLOGICAL INFORMATION****Toxicity**

no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

### 13. DISPOSAL CONSIDERATIONS

#### Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

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### 14. TRANSPORT INFORMATION

#### DOT (US)

NA-Number: 1993 Class: CBL Packing group: III  
Proper shipping name: Combustible liquid, n.o.s. (Methyl acetoacetate)  
Marine pollutant: No  
Poison Inhalation Hazard: No

#### IMDG

Not dangerous goods

#### IATA

Not dangerous goods

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### 15. REGULATORY INFORMATION

#### OSHA Hazards

Combustible Liquid, Irritant

#### DSL Status

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

#### SARA 302 Components

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

#### SARA 313 Components

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 311/312 Hazards

Fire Hazard, Acute Health Hazard

#### Massachusetts Right To Know Components

	CAS-No.	Revision Date
Methyl acetoacetate	105-45-3	1993-04-24

#### Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Methyl acetoacetate	105-45-3	1993-04-24

#### New Jersey Right To Know Components

	CAS-No.	Revision Date
Methyl acetoacetate	105-45-3	1993-04-24

#### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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### 16. OTHER INFORMATION

#### Further information

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