

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Methyl methacrylate

Product Number : M55909  
Brand : Aldrich

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

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Flammable liquid, Target Organ Effect, Skin sensitiser, Irritant

##### Target Organs

Liver, Kidney

##### Other hazards which do not result in classification

Lachrymator.

##### GHS Classification

Flammable liquids (Category 2)  
Skin irritation (Category 2)  
Skin sensitization (Category 1)  
Specific target organ toxicity - single exposure (Category 3)

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

Pictogram



Signal word

Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves.

##### HMIS Classification

Health hazard: 2

**Chronic Health Hazard:** \*  
**Flammability:** 3  
**Physical hazards:** 0

**NFPA Rating**

**Health hazard:** 2  
**Fire:** 3  
**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**

Formula : C<sub>5</sub>H<sub>8</sub>O<sub>2</sub>  
Molecular Weight : 100.12 g/mol

| Component                  | Concentration |
|----------------------------|---------------|
| <b>Methyl methacrylate</b> |               |
| CAS-No. 80-62-6            | -             |
| EC-No. 201-297-1           | -             |
| Index-No. 607-035-00-6     | -             |

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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**

Flush eyes with water as a precaution.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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**5. FIREFIGHTING MEASURES**

**Conditions of flammability**

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

**Suitable extinguishing media**

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

**Specific hazards arising from the chemical**

Flash back possible over considerable distance. Container explosion may occur under fire conditions.

**Special protective equipment for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides

**Further information**

Use water spray to cool unopened containers.

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**6. ACCIDENTAL RELEASE MEASURES**

### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

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## 7. HANDLING AND STORAGE

### Precautions for safe handling

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

Use explosion-proof equipment. 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. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature: 2 - 8 °C

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

| Components          | CAS-No.   | Value | Control parameters   | Basis  |
|---------------------|---|-------|----------------------|--|
| Methyl methacrylate | 80-62-6   | TWA   | 50 ppm               | USA. ACGIH Threshold Limit Values (TLV)  |
| Remarks             | Upper Respiratory Tract irritation Eye irritation Pulmonary edema body weight effects Not classifiable as a human carcinogen Sensitizer |       |                      |  |
|                     |   | STEL  | 100 ppm              | USA. ACGIH Threshold Limit Values (TLV)  |
|                     | Upper Respiratory Tract irritation Eye irritation Pulmonary edema body weight effects Not classifiable as a human carcinogen Sensitizer |       |                      |  |
|                     |   | TWA   | 100 ppm<br>410 mg/m3 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000                    |
|                     |   | TWA   | 100 ppm<br>410 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|                     | The value in mg/m3 is approximate.  |       |                      |  |
|                     |   | TWA   | 100 ppm<br>410 mg/m3 | USA. NIOSH Recommended Exposure Limits   |

### 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. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Splash protection

Material: butyl-rubber  
Minimum layer thickness: 0.3 mm  
Break through time: > 30 min  
Material tested: Butoject® (Aldrich Z677647, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### **Eye protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### **Skin and body protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **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     |
| Colour | colourless |

### **Safety data**

|  |   |
|--|---|
| pH                                     | no data available                           |
| Melting point/freezing point           | Melting point/range: -48 °C (-54 °F) - lit. |
| Boiling point                          | 100 °C (212 °F) - lit.                      |
| Flash point                            | 9 °C (48 °F) - closed cup                   |
| Ignition temperature                   | 435 °C (815 °F)                             |
| Autoignition temperature               | no data available                           |
| Lower explosion limit                  | 2.12 %(V)                                   |
| Upper explosion limit                  | 12.5 %(V)                                   |
| Vapour pressure                        | 51.3 hPa (38.5 mmHg) at 25 °C (77 °F)       |
| Density                                | 0.936 g/cm <sup>3</sup> at 25 °C (77 °F)    |
| Water solubility                       | 15 g/l                                      |
| Partition coefficient: n-octanol/water | log Pow: 1.38                               |
| Relative vapour density                | 3.46<br>- (Air = 1.0)                       |
| Odour                                  | no data available                           |
| Odour Threshold                        | no data available                           |
| Evaporation rate                       | no data available                           |

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## **10. STABILITY AND REACTIVITY**

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

Vapours may form explosive mixture with air.

**Conditions to avoid**

Heat. May polymerize on exposure to light.

Heat, flames and sparks. Extremes of temperature and direct sunlight.

**Materials to avoid**

Oxidizing agents, Peroxides, Amines, Bases, acids, Reducing agents, Halogens

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - no data available

Contains the following stabiliser(s):

Mequinol (<=0.003 %)

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**11. TOXICOLOGICAL INFORMATION****Acute toxicity****Oral LD50**

LD50 Oral - rat - 7,872 mg/kg

Remarks: Behavioral:Muscle weakness. Behavioral:Coma. Respiratory disorder

**Inhalation LC50**

LC50 Inhalation - rat - 4 h - 78,000 mg/m3

**Dermal LD50**

LD50 Dermal - rabbit - > 5,000 mg/kg

Remarks: Prolonged skin contact may cause skin irritation and/or dermatitis.

**Other information on acute toxicity**

no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

May cause allergic skin reaction.

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Methyl methacrylate)

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

### **Teratogenicity**

no data available

### **Specific target organ toxicity - single exposure (Globally Harmonized System)**

May cause respiratory irritation.

### **Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

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.   |

### **Signs and Symptoms of Exposure**

Central nervous system depression, Drowsiness, Irritability, Dizziness, Ataxia., narcosis

### **Synergistic effects**

no data available

### **Additional Information**

RTECS: OZ5075000

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## **12. ECOLOGICAL INFORMATION**

### **Toxicity**

|   |   |
|---|---|
| Toxicity to fish                                    | LC50 - Pimephales promelas (fathead minnow) - 125.5 - 275.0 mg/l - 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 720 mg/l                            |
| Toxicity to algae                                   | EC50 - Pseudokirchneriella subcapitata (green algae) - 170 mg/l - 96 h  |

### **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

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## **13. DISPOSAL CONSIDERATIONS**

### **Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 1247 Class: 3 Packing group: II  
 Proper shipping name: Methyl methacrylate monomer, stabilized  
 Reportable Quantity (RQ): 1000 lbs  
 Marine pollutant: No  
 Poison Inhalation Hazard: No

**IMDG**

UN number: 1247 Class: 3 Packing group: II EMS-No: F-E, S-D  
 Proper shipping name: METHYL METHACRYLATE, MONOMER, STABILIZED  
 Marine pollutant: No

**IATA**

UN number: 1247 Class: 3 Packing group: II  
 Proper shipping name: Methyl methacrylate monomer, stabilized

**15. REGULATORY INFORMATION****OSHA Hazards**

Flammable liquid, Target Organ Effect, Skin sensitiser, Irritant

**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**

The following components are subject to reporting levels established by SARA Title III, Section 313:

|                     | CAS-No. | Revision Date |
|---------------------|---------|---------------|
| Methyl methacrylate | 80-62-6 | 2007-07-01    |

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

|                     | CAS-No. | Revision Date |
|---------------------|---------|---------------|
| Methyl methacrylate | 80-62-6 | 2007-07-01    |

**Pennsylvania Right To Know Components**

|                     | CAS-No. | Revision Date |
|---------------------|---------|---------------|
| Methyl methacrylate | 80-62-6 | 2007-07-01    |

**New Jersey Right To Know Components**

|                     | CAS-No. | Revision Date |
|---------------------|---------|---------------|
| Methyl methacrylate | 80-62-6 | 2007-07-01    |

**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.

**16. OTHER INFORMATION****Further information**

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