SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Methyl acrylate
Product Number : M27301
Brand : Aldrich
Index-No. : 607-034-00-0
CAS-No. : 96-33-3

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

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO  63103
UNITED STATES
Telephone : +1 314 771-5765
Fax : +1 800 325-5052

1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 4), H312
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Skin sensitization (Category 1), H317
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Short-term (acute) aquatic hazard (Category 2), H401
Long-term (chronic) aquatic hazard (Category 3), H412
For the full text of the H-statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word  Danger

Hazard statement(s)
H225 Highly flammable liquid and vapor.
H302 + H312 Harmful if swallowed or in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H401 Toxic to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS
Lachrymator.

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Formula</th>
<th>Molecular weight</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C₄H₆O₂</td>
<td>86.09 g/mol</td>
<td>96-33-3</td>
<td>202-500-6</td>
<td>607-034-00-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl acrylate</td>
<td>Flam. Liq. 2; Acute Tox. 4; Acute Tox. 3; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; Skin Sens. 1; STOT SE 3; Aquatic Acute 2; Aquatic Chronic 3; H225, H302, H331, H312, H315, H319, H317, H335, H401, H412</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

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

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Immediately call a physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

In case of eye contact
After eye contact: rinse out with plenty of water. Call an ophthalmologist. Remove contact lenses.

If swallowed
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**
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 **Indication of any immediate medical attention and special treatment needed**
No data available

**SECTION 5: Firefighting 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**
Carbon oxides
Combustible.
Pay attention to flashback.
Vapors are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.

5.3 **Advice 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.

5.4 **Further information**
Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

**SECTION 6: Accidental release measures**

6.1 **Personal precautions, protective equipment and emergency procedures**
Advice for non-emergency personnel: Do not breathe vapors, 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.
For personal protection see section 8.

6.2 **Environmental precautions**
Do not let product enter 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 carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 **Reference to other sections**
For disposal see section 13.
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.

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 preventative skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

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. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage stability
Recommended storage temperature 2 - 8 °C

Light sensitive.

Storage class
Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl acrylate</td>
<td>96-33-3</td>
<td>TWA</td>
<td>2 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
</tbody>
</table>

Remarks
Dermal Sensitization
Not classifiable as a human carcinogen
Danger of cutaneous absorption

TWA 10 ppm
35 mg/m3
USA. NIOSH Recommended Exposure Limits

Potential for dermal absorption

TWA 10 ppm
35 mg/m3
USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

Skin designation
8.2 Exposure controls

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

**Personal protective equipment**

**Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**
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).

Full contact
- Material: butyl-rubber
- Minimum layer thickness: 0.7 mm
- Break through time: 480 min
- Material tested: Butoject® (KCL 898)

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).

Splash contact
- Material: Nitrile rubber
- Minimum layer thickness: 0.4 mm
- Break through time: 30 min
- Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

**Body Protection**
Flame retardant antistatic protective clothing.

**Respiratory protection**
required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of environmental exposure**
Do not let product enter drains. Risk of explosion.
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance
   Form: clear, liquid
   Color: colorless

b) Odor
   Pungent

c) Odor Threshold
   No data available

d) pH
   At 20 °C (68 °F) neutral

e) Melting point/freezing point
   Melting point/range: -75 °C (-103 °F) - lit.

f) Initial boiling point and boiling range
   80 °C 176 °F - lit.

g) Flash point
   -2.8 °C (27.0 °F) - closed cup

h) Evaporation rate
   No data available

i) Flammability (solid, gas)
   No data available

j) Upper/lower flammability or explosive limits
   Upper explosion limit: 25 %(V)
   Lower explosion limit: 2.8 %(V)

k) Vapor pressure
   90 hPa at 20.2 °C (68.4 °F)
   150 hPa at 30.8 °C (87.4 °F)

l) Vapor density
   2.97 - (Air = 1.0)

m) Density
   0.956 g/cm3 at 25 °C (77 °F) - lit.
   Relative density
   0.9520 °C

n) Water solubility
   Ca. 60 g/l at 20 °C (68 °F)

o) Partition coefficient: n-octanol/water
   Log Pow: 0.74 at 25 °C (77 °F) - Bioaccumulation is not expected.

p) Autoignition temperature
   468 °C (874 °F) at 1,013.25 hPa

q) Decomposition temperature
   No data available

r) Viscosity
   10 mm2/s at 23 °C (73 °F) -

s) Explosive properties
   No data available

t) Oxidizing properties
   None

9.2 Other safety information

Surface tension
24.2 mN/m at 20 °C (68 °F)

Relative vapor density
2.97 - (Air = 1.0)
SECTION 10: Stability and reactivity

10.1 Reactivity
Vapors 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
Risk of explosion with:
Peroxides
Strong oxidizing agents
Strong acids
strong alkalis
Activated charcoal

10.4 Conditions to avoid
Heat. May polymerize on exposure to light.
Warming.

10.5 Incompatible materials
No data available

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Oral: No data available
LD50 Oral - Rat - male - 768 mg/kg
(OECD Test Guideline 401)
Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Inhalation: No data available
LC50 Inhalation - Rat - male and female - 4 h - 6.5 mg/l - vapor

(OECD Test Guideline 403)
Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
Inhalation: Irritating to respiratory system.
Dermal: No data available

LD50 Dermal - Rabbit - 1,250 mg/kg
Remarks: (ECHA)
No data available

Skin corrosion/irritation
Skin - Rabbit
Result: irritating - 4 h
(OECD Test Guideline 404)

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Eye irritation
Remarks: (IUCLID)

**Respiratory or skin sensitization**
Local lymph node assay (LLNA) - Mouse
Result: positive
(OECD Test Guideline 429)

**Germ cell mutagenicity**
Test Type: Ames test
Result: Not mutagenic in Ames Test.
Remarks: (IUCLID)

Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: inhalation (vapor)
Result: negative
Remarks: (ECHA)

**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: 2B - Group 2B: Possibly carcinogenic to humans (methyl acrylate)
NTP: No ingredient 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 on OSHA's list of regulated carcinogens.

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

11.2 Additional Information
Repeated dose toxicity - Rat - male and female - Oral - 90 d - NOAEL (No observed adverse effect level) - 5 mg/kg - LOAEL (Lowest observed adverse effect level) - 20 mg/kg
Remarks: Subchronic toxicity

RTECS: AT2800000
Cough, Shortness of breath, Headache, Nausea, Vomiting, prolonged or repeated exposure can cause:, Lung irritation
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Possible symptoms:

After absorption:

- CNS disorders
- Headache
- Vomiting
- Somnolence

Damage to:

- Liver
- Lungs

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

### SECTION 12: Ecological information

#### 12.1 Toxicity

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>flow-through test LC50 - <em>Onchorhynchus mykiss</em> (rainbow trout) - 3.4 mg/l - 96 h (OECD Test Guideline 203)</th>
<th>flow-through test LC50 - <em>Cyprinodon variegatus</em> (sheepshead minnow) - 1.1 mg/l - 96 h (OECD Test Guideline 203)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>flow-through test EC50 - <em>Daphnia magna</em> (Water flea) - 2.6 mg/l - 48 h (OECD Test Guideline 202)</td>
<td>static test ErC50 - <em>Pseudokirchneriella subcapitata</em> (green algae) - 3.55 mg/l - 96 h (OECD Test Guideline 201)</td>
</tr>
<tr>
<td>Toxicity to algae</td>
<td>static test EC10 - activated sludge - &gt; 100 mg/l - 72 h (ECHA)</td>
<td></td>
</tr>
<tr>
<td>Toxicity to bacteria</td>
<td>semi-static test NOEC - <em>Daphnia magna</em> (Water flea) - 0.46 mg/l - 21 d (OECD Test Guideline 211)</td>
<td></td>
</tr>
<tr>
<td>Remarks: (in analogy to similar products)</td>
<td>The value is given in analogy to the following substances: n-butyl acrylate</td>
<td></td>
</tr>
</tbody>
</table>

The value is given in analogy to the following substances: n-butyl acrylate.
21 d (US-EPA)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Ethyl acrylate

flow-through test EC50 - Daphnia magna (Water flea) - 0.5 mg/l - 21 d (US-EPA)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Ethyl acrylate

12.2 Persistence and degradability
Biodegradability

aerobic - Exposure time 28 d
Result: 90 - 100 % - Readily biodegradable.
(OECD Test Guideline 310)

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties
No data available

12.7 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

DOT (US)
UN number: 1919 Class: 3 Packing group: II
Proper shipping name: Methyl acrylate, stabilized
Reportable Quantity (RQ):
Poison Inhalation Hazard: No

**IMDG**
UN number: 1919    Class: 3    Packing group: II    EMS-No: F-E, S-D
Proper shipping name: METHYL ACRYLATE, STABILIZED

**IATA**
UN number: 1919    Class: 3    Packing group: II
Proper shipping name: Methyl acrylate, stabilized

---

**SECTION 15: Regulatory information**

**SARA 302 Components**
This material does not contain any components with a section 302 EHS TPQ.

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl acrylate</td>
<td>96-33-3</td>
<td>2007-07-01</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazards**
Fire Hazard, Acute Health Hazard

**Massachusetts Right To Know Components**

<table>
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</thead>
<tbody>
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</table>

**Pennsylvania Right To Know Components**

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**California Prop. 65 Components**

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>methyl acrylate</td>
<td>96-33-3</td>
<td>2021-12-31</td>
</tr>
</tbody>
</table>
SECTION 16: Other information

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 6.8  Revision Date: 05/24/2023  Print Date: 12/02/2023