SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006
Version 6.0 Revision Date 03.11.2016
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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

1.1 Product identifiers

Product name	:	Methyl methacrylate
Product Number	:	M1283
Brand	:	Sigma
Index-No.	:	607-035-00-6
REACH No.	:	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.	:	80-62-6

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

Identified uses	:	Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich Pte Ltd (Co. Registration No. 199403788W) 1 Science Park Road #02-14 The Capricorn, S'pore Sci. PkII SINGAPORE 117528 SINGAPORE
Telephone	:	+65 6779-1200
Fax	:	+65 6779-1822

1.4 Emergency telephone number

Emergency Phone #	:	1-800-262-8200

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225
Skin irritation (Category 2), H315
Skin sensitisation (Category 1), H317
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves.
P370 + P378	In case of fire: Use dry powder or dry sand to extinguish.
P403 + P235	Store in a well-ventilated place. Keep cool.

Supplemental Hazard Statements: none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Lachrymator.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula	:	C5H8O2
Molecular weight	:	100.12 g/mol
CAS-No.	:	80-62-6
EC-No.	:	201-297-1
Index-No.	:	607-035-00-6

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component		Classification	Concentration
Methyl methacrylate			
CAS-No. EC-No. Index-No.	80-62-6 201-297-1 607-035-00-6	Flam. Liq. 2; Skin Irrit. 2; Skin Sens. 1; STOT SE 3; H225, H315, H317, H335	<= 100 %

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
Consult a physician. Show this safety data sheet to the doctor in attendance.

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.

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

5.2 Special hazards arising from the substance or mixture

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

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, 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.
For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 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).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 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.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. 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
Storage class (TRGS 510): 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

8.2 Exposure controls

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

Personal protective equipment

Eye/face 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 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Splash contact
Material: butyl-rubber
Minimum layer thickness: 0.3 mm
Break through time: 66 min
Material tested:Butoject® (KCL 897 / Aldrich Z677647, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, 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 industria situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

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.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee 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).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	pungent
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	-48 °C
f)	Initial boiling point and boiling range	98 - 100 °C
g)	Flash point	9 °C - closed cup
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower	Upper explosion limit: 12.5 %(V)

	flammability or explosive limits	Lower explosion limit: 2.12 %(V)
k)	Vapour pressure	37 hPa at 20 °C
l)	Vapour density	3.46 - (Air = 1.0)
m)	Relative density	0.943 g/cm3
n)	Water solubility	15.3 g/l at 20 °C
o)	Partition coefficient: n-octanol/water	log Pow: 1.38
p)	Auto-ignition temperature	400 °C at 1,013.25 hPa
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information

Surface tension	28 mN/m at 20 °C
Relative vapour density	3.46 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Polymerizes with evolution of heat. Avoid contact with incompatible materials.\'20 Unless inhibited, product can polymerize, raising temperature and pressure often adding to bulk liquid if needed. Do not blanket or mix with oxygen-
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Polymerises readily unless inhibited.

10.4 Conditions to avoid
Heat May polymerize on exposure to light.
Heat, flames and sparks.

10.5 Incompatible materials
Oxidizing agents, Peroxides, Amines, Bases, acids, Reducing agents, Halogens

10.6 Hazardous decomposition products
Other decomposition products - No data available
Hazardous decomposition products formed under fire conditions. - Carbon oxides
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 7,900 mg/kg(Methyl methacrylate)
LC50 Inhalation - Rat - 4 h - 78,000 mg/m3(Methyl methacrylate)
LD50 Dermal - Rabbit - male - > 5,000 mg/kg(Methyl methacrylate)
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit(Methyl methacrylate)
Result: Irritating to skin. - 4 h

Serious eye damage/eye irritation
Eyes - Rabbit(Methyl methacrylate)
Result: No eye irritation

Respiratory or skin sensitisation
in vivo assay - Mouse(Methyl methacrylate)
May cause allergic skin reaction.
(OECD Test Guideline 429)

Germ cell mutagenicity

No data available(Methyl methacrylate)
Ames test(Methyl methacrylate)
S. typhimurium
Result: negative
OECD Test Guideline 478(Methyl methacrylate)
Mouse - male
Result: negative

Carcinogenicity
This product is or contains a component that is not classifiable as to its classification.(Methyl methacrylate)
(Methyl methacrylate)

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

Reproductive toxicity
No data available(Methyl methacrylate)

Specific target organ toxicity - single exposure
May cause respiratory irritation.(Methyl methacrylate)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available(Methyl methacrylate)

Additional Information

Repeated dose toxicity - Rat - male - Oral - No observed adverse effect level - >= 124.1 mg/kg(Methyl methacrylate)
RTECS: OZ5075000

Central nervous system depression, Drowsiness, Irritability, Dizziness, Ataxia., narcosis, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(Methyl methacrylate)

Liver - Irregularities - Based on Human Evidence(Methyl methacrylate)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	static test LC50 - Lepomis macrochirus (Bluegill) - 283 mg/l - 96 h(Methyl methacrylate)
Toxicity to daphnia and other aquatic invertebrates	flow-through test EC50 - Daphnia magna (Water flea) - 69 mg/l - 48 h(Methyl methacrylate)
Toxicity to algae	static test EC50 - Pseudokirchneriella subcapitata - > 110 mg/l - 72 h(Methyl methacrylate) (OECD Test Guideline 201)

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 14 d(Methyl methacrylate) Result: 94 % - Readily biodegradable (OECD Test Guideline 301C)

12.3 Bioaccumulative potential

12.4 Mobility in soil

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Harmful to aquatic life.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1247 IMDG: 1247 IATA: 1247

14.2 UN proper shipping name

ADR/RID: METHYL METHACRYLATE MONOMER, STABILIZED
IMDG: METHYL METHACRYLATE MONOMER, STABILIZED
IATA: Methyl methacrylate monomer, stabilized

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

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

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

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.