

## Chemical Safety Data Sheet

### Section 1 IDENTIFICATION

**GHS Product identifier:** Methyl methacrylate.

**Other means of identification:** 2-Methylacrylic acid methyl ester; MMA.

**Recommended use of the chemical and restrictions on use:** This material can be used as monomer of plexiglass. It can also be used to produce plastic, paint, etc.

**Supplier's details:** Echem Incorporation Limited.

**Emergency phone number:** 0086-532-80905922

### Section 2 HAZARDS IDENTIFICATION

**Classification of the substance or mixture:**

Flammable liquids Category 2

Skin corrosion/irritation Category 2

Sensitisation, skin Category 1

Specific target organ toxicity, single exposure; Respiratory tract irritation Category 3

**GHS Label elements, including precautionary statements:**



**Signal word:** Danger

**Hazard statement(s):** Highly flammable liquid and vapor. Causes skin irritation. May cause an allergic skin reaction. May cause respiratory irritation.

**Precautionary statement(s):**

Prevention:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting/...] equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well-ventilated area.

Response:

In case of fire: Use carbon dioxide, foam or chemical powder to extinguish. If on skin (or hair): Rinse skin with water/shower. Specific treatment (see under for further information). If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

Storage:

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other hazards which do not result in classification: /**

### Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration%
Methyl methacrylate	80-62-6	99.93%

### Section 4 FIRST AID MEASURES

#### Description of necessary first aid measures

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

**Most important symptoms/effects, acute and delayed: /**

**Indication of immediate medical attention and special treatment needed, if necessary: /**

### Section 5 FIREFIGHTING MEASURES

**Suitable extinguishing media:** Use alcohol-resistant foam, chemical powder or carbon dioxide.

**Special hazards arising from the chemical:** Liquid and vapour are highly flammable. May explode and burn in high temperature and fire and release toxic fumes.

**Special protective actions for fire-fighters:** Wear self-contained breathing apparatus for firefighting if necessary. Use water spray to cool unopened containers.

### Section 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe 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 collect with pump and place in a clean container for disposal according to local regulations.

### Section 7 HANDLING AND STORAGE

**Precautions for safe handling:** Wear protective gloves/eye protection/face protection/protective clothing. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking.

**Conditions for safe storage, including any incompatibilities:** Store in cool place. Protect from sunlight. 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. Keep

away from flammable materials, acids, alkalis and oxidizers.

#### Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

##### Control parameters:

Source	Material name	TWA	STEL
China Occupational Exposure Limits for Hazardous Agents in the Workplace	Methyl methacrylate	100 (mg/m <sup>3</sup> )	/

**Appropriate engineering controls:** Local exhaust ventilation or a process enclosure ventilation system may be required.

##### Individual protection measures

**Eye/face protection:** Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

**Skin protection:** Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. rubber. Impervious clothing,

**Respiratory protection:** Selection of the class and type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant.

**Thermal hazards:** /

#### Section 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance (physical state, colour etc)</b>	Colorless transparent liquid.
<b>Odour</b>	/
<b>Odour Threshold</b>	/
<b>pH</b>	/
<b>Melting point/freezing point</b>	-48°C.
<b>Initial boiling point and boiling range</b>	100.5°C.
<b>Flash point</b>	<18.0°C.
<b>Evaporation rate</b>	/
<b>Flammability (solid, gas)</b>	/
<b>Upper/lower flammability or explosive limits</b>	1.7%-12.5%.
<b>Vapour pressure</b>	3.9kPa(20°C).
<b>Vapour density</b>	3.5.
<b>Relative density</b>	0.94.
<b>Solubility(ies)</b>	1.6g/100mL(20°C).
<b>Partition coefficient: n-octanol/water</b>	1.38.
<b>Auto-ignition temperature</b>	/
<b>Decomposition temperature</b>	421°C.
<b>Viscosity</b>	/

## Section 10 STABILITY AND REACTIVITY

**Reactivity:** /**Chemical stability:** This material is stable in normal temperature.**Possibility of hazardous reactions:** The substance may polymerize due to warming or due to heating, under the influence of light, polymerization catalysts and strong oxidants. This generates fire or explosion hazard. Reacts with strong acids and strong bases.**Conditions to avoid:** Spark, high temperature and static electricity.**Incompatible materials:** Flammable materials, acids, alkalis and oxidizers.**Hazardous decomposition products:** Oxycarbides.

## Section 11 TOXICOLOGICAL INFORMATION

**Information on the likely routes of exposure:** Inhaled, swallowed, skin, eyes.**Symptoms related to the physical, chemical and toxicological characteristics:** /**Acute health effects:** Accidental ingestion of the material may be harmful and cause cough and throat irritation. Oral intake cause bellyache, nausea, vomit and other symptoms. This material may produce skin and eyes irritation.**Chronic health effects:** Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the peripheral nervous system.**Numerical measures of toxicity(such as acute toxicity estimates):**

LD50(Oral, rat): 7872 mg/kg

LD50(Dermal, rabbit): &gt;5000 mg/kg

LC50(Inhalation, rat): 78 mg/L/4H

## Section 12 ECOLOGICAL INFORMATION

**Toxicity:** /**Persistence and degradability:** Low.**Bioaccumulative potential:** Low (BCF = 6.6).**Mobility in soil:** Low (KOC = 10.14).**Other adverse effects:** /

## Section 13 DISPOSAL CONSIDERATIONS

**Disposal methods:** Burial in a land-fill specifically licensed to accept chemical. Reuse of broken container is forbidden.

## Section 14 TRANSPORT INFORMATION

**UN number:** 1247.**UN proper shipping name:** METHYL METHACRYLATE MONOMER, STABILIZED.**Transport hazard class(es) :** 3.**Packing group, if applicable:** II.**Environmental hazards:** /**Special precautions for user:** /

## Section 15 REGULATORY INFORMATION

**Regulations:** This safety data sheet is in compliance with the following national

standards: GB 16483-2008, GB 13690-2009, GB 18218-2009, GB 15258-2009, GB 6944-2012, GB 190-2009, GB 191-2009, GB 12268-2012, GA 57-1993, GB/T 15098-2008, GBZ 2.1-2007, GBZ 2.2-2007 as well as the following national regulations: Dangerous Goods Transport Administrative Regulation [Published by the Ministry of Railways, 2008], Dangerous Chemicals Safety Administrative Regulation [Published by the State Council, 2011].

## Section 16 OTHER INFORMATION

<b>References</b>	UN Recommendations on the Transport of Dangerous Goods Model Regulations UN Globally Harmonized System of Classification and Labelling of Chemicals
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