Safety Data Sheet(SDS)

Print Date : 08-06-2026
Last revised date : 01-06-2026

1. Identification

1) Product identifier : MMA

2) Relevant identified uses of the substance or mixture and uses advised against

○ Relevant identified uses

1.Raw materials and intermediates

○ Restrictions on use

Use for recommended use only
Do not use it for weapons manufacturing and related purposes.

3) Supplier information

○ Seller

Company name : Lotte Chemical Corporation
Address : 05551 Lotte World Tower, 300, Olympic-ro, Songpa-gu, Seoul, 05551 Rep. of KOREA
Telephone number :

Basic Chemicals	+82-2-829-4114	Advanced Materials	+82-31-596-3114

Emergency phone number

Yeosu Plant	+82-61-688-2100	Ulsan Plant	+82-52-278-3500
Yeosu Plant(Advanced Materials)	+82-61-689-1100		

Fax number : +82-2-834-6070

2. Hazards identification

1) Hazard classification

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

2) Allocation label elements

Hazard pictograms



Signal word

- DANGER

Hazard statements

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

Precautionary statements

- Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use only explosion-proof electrical, ventilating, lighting and equipment.
P242 Use nonsparking tools.
P243 Take action to prevent static discharges.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Avoid contact during pregnancy/ while nursing.
P271 Use only outdoors or in a wellventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

- Response

P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Discomfort call a POISON CENTER / toxins center / physician if you feel unwell.
P320 Specific treatment is urgent (see supplemental instructions on the administration of antidotes on this label).
P332+P313 If skin irritation occurs: Get medical advice/attention.
P333+P313 If skin irritation or a rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

- Storage

P403+P233 Store in a wellventilated place. Keep container tightly closed.
P403+P235 Store in a wellventilated place. Keep cool.
P405 Store locked up.

- Disposal

P501 Discard the contents/containers in accordance with the laws and laws related to waste.

3) Other hazards:

According to experience and information provided, this product does not affect harmful effects when using and handling it as a regulation.

3. Composition/Information on ingredients

Chemical name	Common name	CAS No.	Content(wt%)
Methyl methacrylate	methyl methacrylate	80-62-6	100

4. First-aid measures

1) Following eye contact
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Seek immediate medical assistance.

2) Following skin contact
- For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat.
- For minor skin contact, avoid spreading material on unaffected skin.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Remove and isolate contaminated clothing and shoes.
- Seek immediate medical assistance.
- Wash skin with soap and water.

3) Following inhalation
- Administer oxygen if breathing is difficult.
- Give artificial respiration if victim is not breathing.
- If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.
- Keep victim warm and quiet.
- Move to fresh air.
- Seek immediate medical assistance.

4) Following ingestion
- Seek immediate medical assistance.

5) Delayed and immediate effects and also chronic effects from short and long term exposure
- Causes skin irritation
- May cause an allergic skin reaction
- May cause respiratory irritation

6) Advice to physician
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect

themselves.

5. Fire-Fighting measures

1) Suitable (and unsuitable) extinguishing media

○ Suitable extinguishing media

- Regular foam.
- Dry chemical.
- CO2.
- For mixtures containing alcohol or polar solvent: Alcohol-resistant foam.
- Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.
- Use dry sand or earth to smother fire.
- Water spray.

○ Unsuitable extinguishing media

- Direct water.

2) Special hazards arising from the substance or mixture

○ Pyrolytic product

- During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

○ Risk of fire and explosion

- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
- Can form explosive mixtures at temperatures at or above the flashpoint.
- May violently polymerize and result in fire and explosion.
- Containers may explode when heated.
- Vapor explosion hazard indoors, outdoors or in sewers.
- Runoff may create fire or explosion hazard.
- Vapors may form explosive mixtures with air.
- Some may burn but none ignite readily.
- Vapors may travel to source of ignition and flash back.

○ Other

- Fire may produce irritating, corrosive and/or toxic gases.
- May cause toxic effects if inhaled or absorbed through skin.

3) Special protective equipment for firefighters

- Move containers from fire area if you can do it without risk.
- Rescuers should put on appropriate protective gear.
- Substance may be transported hot.
- Substance may be transported in a molten form.
- Cautions ; Most of liquids are lighter than water.
- Dike fire-control water for later disposal; do not scatter the material.
- Evacuate area and fight fire from a safe distance.
- Fire involving Tanks: ALWAYS stay away from tanks engulfed in fire.

- Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Fire involving Tanks: For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
- Fire involving Tanks: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).

6. Accident release measures

1) Personal precautions, protective equipment and emergency procedures
- The very fine particles can cause a fire or explosion, eliminate all ignition sources.
- A vapor suppressing foam may be used to reduce vapors.
- All equipment used when handling the product must be grounded.
- Clean up spills immediately, observing precautions in Protective Equipment section.
- Cover with plastic sheet to prevent spreading.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Do not touch or walk through spilled material.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Please note that materials and conditions to be avoided.
- Stop leak if you can do it without risk.

2) Environmental precautions
- Prevent entry into waterways, sewers, basements or confined areas.
- Runoff may cause pollution.

3) Methods and materials for containment and cleaning up
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.
- Absorb the liquid and scrub the area with detergent and water.
- Dike and collect water used to fight fire.
- Large Spill: Dike far ahead of liquid spill for later disposal.
- Use clean non-sparking tools to collect absorbed material.

7. Handling and storage

1) Precautions for safe handling
- Measure atmospheric oxygen concentration and ventilate the area during the operation since low-closed area can cause oxygen deficiency.
- Please note that materials and conditions to be avoided.
- Use care in handling/storage.
- Use only in a well-ventilated area.
- All equipment used when handling the product must be grounded.
- Avoid breathing vapors from heated material.
- Avoid prolonged or repeated contact with skin.
- Caution: Heat.

- Do not enter storage area unless adequately ventilated.
- DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION;.
- Follow all MSDS/label precautions even after container is emptied because they may retain product residues.
- Handling refer to engineering control/personal protection section.
- Loosen closure cautiously before opening.

2) Conditions for safe storage (including any incompatibilities)

- Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner, or properly disposed of.

8. Exposure controls & personal protection

1) Chemical exposure limits, Biological exposure standard

Components	ACGIH regulations	Biological limit values
Methyl methacrylate	50 ppm TWA 100 ppm STEL	No data available

2) Appropriate engineering controls

- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

3) Personal protective equipment

○ Respiratory protection

- If you have a direct contact or exposed to the material, wear the appropriate form of respiratory protection certified.

○ Eye protection

- If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.

○ Hand protection

- Wear chemical safety gloves.

○ Skin protection

- Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

9. Physical and chemical information

Property name	Values	Source
Appearance		
Physical state	Liquid	ECHA
Color	colourless	ECHA
Odor	fruity	HSDB
Odor threshold	No data available	
pH	No data available	

Melting point/freezing point	-48℃	ECHA
Initial boiling point and boiling range(℃)	100.36℃	ECHA
Flash point(℃)	10 ℃ (closed cup)	ECHA
Evaporation rate	No data available	
Flammability(solid, gas)	Flammable liquid	ECHA
Upper/lower flammability or explosive limits	Upper explosive limits 12.5 %/ lower explosive limits 1.7 %	ICSC
Vapour pressure	27.75 ㎜Hg (20℃)	ECHA
Solubility(ies)	15.3g/L (20℃)	ECHA
Vapour density	3.45 (air=1)	HSDB
Relative density	0.94 (15.56 ℃)	Experimental data
n-octanol/water partition coefficient	log Pow: 1.38	ECHA
Auto ignition temperature	435 ℃	ECHA
Decomposition temperature	No data available	
Viscosity(㎟/s, 40℃)	0.53 (20℃)	ECHA
Molecular weight(mass)	100.13g/mol	HSDB
Density	0.945 g/㎤ (25 ℃)	Experimental data
Specific gravity	0.94 (15.56 ℃)	Experimental data

10. Stability and hazardous reactivity

1) Chemical stability and Possibility of hazardous reactions

- Vapor explosion hazard indoors, outdoors or in sewers.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- Can form explosive mixtures at temperatures at or above the flashpoint.
- Containers may explode when heated.
- Fire may produce irritating, corrosive and/or toxic gases.
- HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
- May cause toxic effects if inhaled or absorbed through skin.
- May violently polymerize and result in fire and explosion.
- Runoff may create fire or explosion hazard.
- Some may burn but none ignite readily.

2) Conditions to avoid

- Heat, contamination.
- Heat.
- Ignition source(heat, spark, flame, etc.).

3) Incompatible materials

- Combustibles, reducing material.

4) Hazardous decomposition products

- Corrosive/toxic fume.
- During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
- Irritating, corrosive and/or toxic gas.

11. Toxicological information

1) Information on the likely routes of exposure

○ Skin Contact

- Liquids can be exposed through the eyes, skin and oral.

2) Delayed and immediate effects and also chronic effects from short and long term exposure

○ Acute toxicity

- Acute toxicity(Oral)

  - LD50 7900 ㎎ / ㎏ experimental species: Rat (mouse LD50 = 5300 mg / kg bw, more LD50 = 4725mg / kg)

- Acute toxicity(Dermal)

  - LD50> 5000 ㎎ / ㎏ experimental species: Guinea pig

- Acute toxicity(Inhalation:Gases)

  - No data available

- Acute toxicity(Inhalation:Vapours)

  - LC50 7093 ppm 4 hr experiment Species: Rat (rats, LC50, 3750ppm, 8H, HSDB rats, LC50, 78000mg / m3, 4H, ChemIDplus)

- Acute toxicity(Inhalation:Dust/mist)

  - No data available

○ Skin corrosion/irritation

- It is observed severe erythema and edema symptoms of skin corrosion / irritation test using rabbits.

○ Serious eye damage/eye irritation

- Severe eye damage / irritation Weak irritation test with rabbits being observed. Deception that little red.

○ Respiratory sensitization

- No data available

○ Skin sensitization

- Confirmed skin sensitization. It may cause allergic dermatitis on contact.

○ Carcinogenicity

- 3 (IARC)
  A4 (ACGIH)

○ Germ cell mutagenicity

- Sister chromosome exchange with a mammalian spermatogonial cells (SCE) test result negative. (Whether in vitro in vivo can not be sure whether spoken), regardless of the mammalian chromosome aberration test results or absence of metabolic activation system.

○ Reproductive toxicity

- Developmental toxicity test using rats (OECD TG414, GLP) the result is not observed is developmental toxicity effects associated with the test substance NOAEC> = 8.3 mg / L, developmental toxicity tests using rabbits (OECD TG 414, GLP) Results Feed consumption and body weight reduced such maternal toxicity NOAEL = 50 mg / kg bw / day, effects related to the development of toxicity is not observed at all concentrations NOAEL (developmental toxicity) = 450 mg / kg bw / day

○ Specific target organ toxicity single exposure

- The drowsiness, ataxia, gastrointestinal structure and changes in salivary function, respiratory depression, coma, muscle weakness being observed. Human respiratory irritation

○ Specific target organ toxicity repeated exposure

- 104 main repeat result oral toxicity test using rats effects associated with testing up to the highest concentration (2000 ppm) material is not observed (ECHA) 104 main repeat inhalation toxicity test (OECD TG453, GLP) using a rat inflammation of the nasal cavity, nose It observed epithelial degeneration. Localized effects LOAEC = 250 ppm, or other significant pathological effects are not observed NOEC (systemic effect) = 500 ppm

○ Aspiration hazard

- No data available

12. Ecological information

1) Ecotoxicity

- Hazardous to the aquatic environment, short-term (acute)
  No data available
- Hazardous to the aquatic environment, long-term (chronic)
  No data available
- Fish
  LC50 368.1 ㎎ / ℓ 96 hr Other (Lebistes reticulatus)
- Crustaceans
  EC50 69 ㎎ / ℓ 48 hr Daphnia magna (EU-RAR (2002))
- Aquatic algae
  EbC50> 110 ㎎ / ℓ 72 hr Selenastrum capricornutum (OECD Guideline 201)

2) Persistence and degradability

- Degradability
  No data available
- Biodegradation
  94% 2 week (rapid degradation)

3) Bioaccumulative potential

- n-octanol water partition coefficient

  1.38 log Kow

- Bioconcentration factor(BCF)

  4

4) Mobility in soil

   No data available

5) Other adverse effects

   No data available

13. Disposal considerations

1) Disposal methods

- Empty containers should be taken to an approved waste handling site for recycling or disposal.

2) Precautions (including disposal of contaminated container of package)

- Dispose of in accordance with local regulations.
- Send to a licensed waste management company.

14. Transport information

1) UN No. : 1247

2) Proper shipping name : METHYL METHACRYLATE MONOMER, STABILIZED

3) Hazard class : 3

4) Packing group : II

5) Marine pollutant : Not applicable

6) Special precautions for user related to transport or transportation measures :

Emergency measures in case of fire : F-E

Emergency measures in the effluent : S-D

- ADR

· Tunnel restriction code : D/E

- IMDG

· Marine pollutant : Not applicable

- Air transport(IATA)

· UN No. : 1247

· Proper shipping name : METHYL METHACRYLATE MONOMER, STABILIZED

· Class or division : 3

· Packing group : II

- Maritime transport in bulk according to IMO instruments :

Not applicable

15. Regulatory information

Australia Industrial Chemicals Notification and Assessment Act

- Inventory - Australia - Inventory of Industrial Chemicals (AIIC)

- Methyl methacrylate : Present

China Inventory of Existing Chemical Substances (IECSC)

- Inventory - China - Inventory of Existing Chemical Substances (IECSC)

- Methyl methacrylate : Present [17458]

92/32/EEC

- Not applicable

European Union Official Journal of the European Communities 15 June 1990 - Annex Based on Article 13 of Directive 67/548/EEC Amended by Directive 79/831/EEC

- Inventory - European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

- Methyl methacrylate : 201-297-1

Japan - ISHL Ordinance Hazardous Substances Whose Names Are to be Indicated on the Label

Japan Law Concerning the Examination and Regulations of Manufacture, etc. of Chemical Substances

- Inventory - Japan - Existing and New Chemical Substances (ENCS)

- Methyl methacrylate : (2)-1036

New Zealand Environmental Protection Authority, Inventory of Chemicals

- Inventory - New Zealand - Inventory of Chemicals (NZIoC)

- Methyl methacrylate : HSNO Approval: HSR001195

Turkey Regulation on Inventory and Control of Chemicals

- Not applicable

Taiwan Chemical Substance Inventory

- Inventory - Taiwan - Taiwan Chemical Substance Inventory (TCSI)

- Methyl methacrylate : Present

U.S. Toxic Substances Control Act

Vietnam National Chemicals Inventory (NCI)

- Inventory - Vietnam - National Chemicals Inventory (NCI) (DRAFT)

- Methyl methacrylate : Present 00661

16. Other information

1) Reference

NCIS, KOSHA, Montreal Protocol, ECHA, OECD SIDS, EU IUCLID, HSDB(PubChem), NITE, NTP, ACGIH, IARC, NIOSH, ChemIDplus, EPA, EPI Suite, INCHEM

2) Issue date : 01-06-2010

3) Revision date

○ Revised date count : 2-3

○ Last revised date : 01-06-2026

4) Other

ACGIH : American Conference of Governmental Industrial Hygienists
ADR : Agreement Concerning the International Carriage of Dangerous Goods by Road
ATE : The Acute Toxicity Estimate
ECHA : European Chemicals Agency
EPA : United States Environmental Protection Agency
EPI Suite : The Estimation Programs Interface for Windows
EU IUCLID : International Uniform Chemical Information Database
HSDB : Hazardous Substances Data Bank
IARC : International Agency for Research on Cancer
IATA : International Air Transport Association
IMDG : International Maritime Dangerous Goods Codes
INCHEM : Internationally Peer Reviewed Chemical Safety Information
M-Factor : The Multiplication Factor
NIOSH : National Institute of Occupational Safety and Health
NITE : National Institute of Technology and Evaluation(JAPAN)
NTP : National Toxicology Program
SCL : Specific Concentration Limit
OECD SIDS : Organization for Economic Co-operation and Development Screening Information Dataset

GHS/EN