

# SAFETY DATA SHEET

according to Regulation (FPC) No. 0102/2009



Revision Date Jan. 08, 2018

Version 1.1

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Catalogue No.	800841
Product name	Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (FPC) No 0102/2009, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merck-chemicals.com">www.merck-chemicals.com</a> ).
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### 1.3 Details of the supplier of the safety data sheet

Company	Formosa Plastics Corporation R.O.C.
Responsible Department	Linyuan AE Plant +886-07-6419911 Ext 510

1.4 Emergency telephone number	Please contact the regional company representation in your country.
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## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

Flammable liquid, Category 2, H225  
Acute toxicity, Category 3, Oral, H301  
Acute toxicity, Category 2, Inhalation, H330  
Acute toxicity, Category 2, Dermal, H310  
Skin irritation, Category 2, H315  
Eye irritation, Category 2, H319  
Skin sensitization, Category 1, H317  
Specific target organ toxicity - single exposure, Category 3, H335  
For the full text of the H-Statements mentioned in this Section, see Section 16.

#### Classification

F	Highly flammable	R11
Xn	Harmful	R20/21/22
Xi	Irritant	R36/37/38
		R43

For the full text of the R-phrases mentioned in this Section, see Section 16.

# SAFETY DATA SHEET

according to Regulation (FPC) No. 0102/2009

Catalogue No.

800841

Product name

Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

## 2.2 Label elements

Labelling (REGULATION (FPC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour.

H301 Toxic if swallowed.

H310 Fatal in contact with skin.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H330 Fatal if inhaled.

H335 May cause respiratory irritation.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P280 Wear protective gloves.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

P403 + P235 Store in a well-ventilated place. Keep cool.

Reduced labelling ( $\leq 125$  ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H301 Toxic if swallowed.

H310 Fatal in contact with skin.

H317 May cause an allergic skin reaction.

H330 Fatal if inhaled.

Precautionary statements

P280 Wear protective gloves.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

Index-No.



607-034-00-0

## SAFETY DATA SHEET

according to Regulation (FPC) No. 0102/2009

Catalogue No. 800841  
 Product name Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis



## Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)  F Highly flammable  
 Xn Harmful  
 R-phrase(s) 11-20/21/22-36/37/38-43 Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact.  
 S-phrase(s) 9-25-26-33-36/37-43 Keep container in a well-ventilated place. Avoid contact with eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges. Wear suitable protective clothing and gloves. In case of fire, use fire-fighting equipment on basis class D.

EC-No. 202-500-6

EC Label

Reduced labelling ( $\leq 125$  ml)

Symbol(s)  F Highly flammable  
 Xn Harmful  
 R-phrase(s) 20/21/22-43 Harmful by inhalation, in contact with skin and if swallowed. May cause sensitization by skin contact.  
 S-phrase(s) 36/37 Wear suitable protective clothing and gloves.

## 2.3 Other hazards

None known.

## SECTION 3. Composition/information on ingredients

Formula  $\text{CH}_2=\text{CHCOOCH}_3$   $\text{C}_4\text{H}_6\text{O}_2$  (Hill)  
 CAS-No. 96-33-3  
 Index-No. 607-034-00-0  
 EC-No. 202-500-6  
 Molar mass 86,09 g/mol

## Hazardous components (REGULATION (FPC) No 1272/2008)

Chemical Name (Concentration)

CAS-No. Registration number Classification

methyl acrylate ( $\geq 50\%$  -  $\leq 100\%$ )

96-33-3 \*) Flammable liquid, Category 2, H225  
 Acute toxicity, Category 4, H332  
 Acute toxicity, Category 4, H312  
 Acute toxicity, Category 4, H302  
 Eye irritation, Category 2, H319  
 Specific target organ toxicity - single exposure, Category 3, H335  
 Skin irritation, Category 2, H315  
 Skin sensitization, Category 1, H317

\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (FPC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

## Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No. Classification

methyl acrylate ( $\geq 50\%$  -  $\leq 100\%$ )

96-33-3 F, Highly flammable; R11

# SAFETY DATA SHEET

according to Regulation (FPC) No. 0102/2009

Catalogue No. 800841  
Product name Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

---

Xn, Harmful; R20/21/22  
Xi, Irritant; R36/37/38  
R43

For the full text of the R-phrases mentioned in this Section, see Section 16.

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

#### General advice

First aider needs to protect himself.

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

After skin contact: wash off with plenty of water. Remove contaminated clothing. Call a physician immediately.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

### 4.2 Most important symptoms and effects, both acute and delayed

irritant effects, Allergic reactions, Cough, Shortness of breath, Vomiting, Headache, drowsiness, CNS disorders

### 4.3 Indication of any immediate medical attention and special treatment needed

No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>), 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

Combustible.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

Vapours are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3 Advice for firefighters

#### Special protective equipment 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.

#### Further information

Cool closed containers exposed to fire with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system.

# SAFETY DATA SHEET

according to Regulation (FPC) No. 0102/2009

Catalogue No.	800841
Product name	Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

---

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## SECTION 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### 6.2 Environmental precautions

Do not empty into 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 with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### 7.2 Conditions for safe storage, including any incompatibilities

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 authorised persons. Protected from light.

Store at +15°C to +25°C.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

# SAFETY DATA SHEET

according to Regulation (FPC) No. 0102/2009

Catalogue No. 800841  
Product name Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

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## Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

## Hygiene measures

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

## Eye/face protection

Safety glasses

## Hand protection

full contact:

Glove material:	butyl-rubber
Glove thickness:	0,7 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,40 mm
Break through time:	> 30 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 730 Camatril® -Velours (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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](http://www.kcl.de)).

## Other protective equipment

Flame retardant antistatic protective clothing

## Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

## Environmental exposure controls

Do not empty into drains.

Risk of explosion.

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## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	stinging

SAFETY DATA SHEET  
according to Regulation (FPC) No. 0102/2009

Catalogue No. 800841  
Product name Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

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Odour Threshold	No information available.
pH	No information available.
Melting point	-74 °C
Boiling point/boiling range	79 - 81 °C at 1.013 hPa
Flash point	-3 °C Method: DIN 51755 Part 1
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	2,8 %(V)
Upper explosion limit	25 %(V)
Vapour pressure	93 hPa at 20 °C  346 hPa at 50 °C
Relative vapor density	2,97
Relative density	0,96 g/cm <sup>3</sup> at 20 °C
Water solubility	52 g/l at 25 °C
Partition coefficient: n-octanol/water	log Pow: 0,8 (20 °C) Bioaccumulation is not expected.

SAFETY DATA SHEET  
according to Regulation (FPC) No. 0102/2009

Catalogue No. 800841  
Product name Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

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Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	0,5 mPa.s at 20 °C
Explosive properties	Not classified as explosive.
Oxidizing properties	none

#### 9.2 Other data

Ignition temperature	415 °C
Self-accelerating polymerization temperature(SAPT)	
Onset temperature	198.85 °C
Peak temperature	202.20 °C

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### SECTION 10. Stability and reactivity

#### 10.1 Reactivity

Vapours may form explosive mixture with air.

#### 10.2 Chemical stability

heat-sensitive  
Sensitivity to light  
Sensitive to air.  
tendency towards spontaneous polymerisation  
Decomposes on exposure to light.

#### Stabilizer

hydroquinone monomethyl ether

#### 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

Warming.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

#### 10.5 Incompatible materials

no information available

#### 10.6 Hazardous decomposition products

no information available

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### SECTION 11. Toxicological information

#### 11.1 Information on toxicological effects

Acute oral toxicity

LD50 rat: 277 mg/kg (IUCLID)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.



# SAFETY DATA SHEET

according to Regulation (FPC) No. 0102/2009

Catalogue No. 800841  
Product name Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

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absorption

Acute inhalation toxicity

LC50 rat: 2,0 - 4,8 mg/l; 4 h

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

absorption

Acute dermal toxicity

LD50 rabbit: 126 - 252 mg/kg (IUCLID)

absorption

Skin irritation

rabbit

Result: Irritations  
(IUCLID)

Causes skin irritation.

Eye irritation

rabbit

Result: Eye irritation  
(IUCLID)

Causes serious eye irritation.

Sensitisation

Sensitisation test: guinea pig

Result: positive  
(IUCLID)

May cause an allergic skin reaction.

Genotoxicity in vitro

Ames test

Result: negative  
(IUCLID)

Carcinogenicity

Did not show carcinogenic effects in animal experiments. (IUCLID)

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Based on available data the classification criteria are not met.

## 11.2 Further information

Possible symptoms:

After absorption:

CNS disorders, Headache, Vomiting, drowsiness

Damage to:

Liver, Lungs

Further data:

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

Toxicity to fish

# SAFETY DATA SHEET

according to Regulation (FPC) No. 0102/2009

Catalogue No. 800841  
Product name Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

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LC50 fish: 1,1 mg/l; 96 h  
OECD Test Guideline 203  
Toxicity to daphnia and other aquatic invertebrates  
EC50 Daphnia magna (Water flea): 2,2 mg/l; 48 h (IUCLID)  
Toxicity to algae  
IC50 Desmodesmus subspicatus (green algae): 15 mg/l; 72 h  
DIN 38412  
Toxicity to bacteria  
EC5 Pseudomonas putida: 46 mg/l; 16 h (IUCLID)

## 12.2 Persistence and degradability

Biodegradability

> 30 %; 14 d

MITI test

(IUCLID)

## 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: 0,8 (20 °C)

Bioaccumulation is not expected.

## 12.4 Mobility in soil

No information available.

## 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

## 12.6 Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

Waste treatment methods

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number UN 1919

14.2 Proper shipping name METHYL ACRYLATE, STABILIZED

14.3 Class 3

14.4 Packing group II

14.5 Environmentally hazardous --

14.6 Special precautions for user yes

Tunnel restriction code D/E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number UN 1919

14.2 Proper shipping name METHYL ACRYLATE, STABILIZED

14.3 Class 3

14.4 Packing group II

SAFETY DATA SHEET  
according to Regulation (FPC) No. 0102/2009

Catalogue No. 800841  
Product name Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

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14.5 Environmentally hazardous --

14.6 Special precautions for user no

Sea transport (IMDG)

14.1 UN number UN 1919

14.2 Proper shipping name METHYL ACRYLATE, STABILIZED

14.3 Class 3

14.4 Packing group II

14.5 Environmentally hazardous --

14.6 Special precautions for user yes

# SAFETY DATA SHEET

according to Regulation (FPC) No. 0102/2009

Catalogue No. 800841  
Product name Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

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EmS F-E S-D

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
Not relevant

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## SECTION 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

Major Accident Hazard 96/82/EC  
Legislation Highly flammable  
7b  
Quantity 1: 5.000 t  
Quantity 2: 50.000 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers.

#### National legislation

Storage class 3

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16. Other information

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

H225 Highly flammable liquid and vapour.  
H301 Toxic if swallowed.  
H302 Harmful if swallowed.  
H310 Fatal in contact with skin.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H330 Fatal if inhaled.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.

Full text of R-phrases referred to under sections 2 and 3

R11 Highly flammable.  
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.  
R36/37/38 Irritating to eyes, respiratory system and skin.  
R43 May cause sensitization by skin contact.

#### Training advice

Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

#### Regional representation

This information is given on the authorised Safety Data Sheet for your country.

SAFETY DATA SHEET  
according to Regulation (FPC) No. 0102/2009

Catalogue No.	800841
Product name	Methyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

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The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.