

SAFETY DATA SHEET

according to Regulation CLP 1270/2008



Revision Date Jan. 08, 2018

Version 1.1

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

1.1 Product identifier

Catalogue No.	800836
Product name	Ethyl 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 (www.merck-chemicals.com).
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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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2. Hazards identification

2.1 Classification of the substance or mixture

Flammable liquid, Category 2, H225
Acute toxicity, Category 4, Inhalation, H332
Acute toxicity, Category 4, Dermal, H312
Acute toxicity, Category 4, Oral, 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

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

Classification

F; R11
Xn; R20/21/22
Xi; R36/37/38
R43

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

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2.2 Label elements

Labelling (REGULATION (FPC) No 0102/2009)

Hazard pictograms



Signal word

Danger

Hazard statements

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

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
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.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Index-No. 607-032-00-X

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

Symbol(s)	F Xn	Highly flammable 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)	9-16-33-36/37	Keep container in a well-ventilated place. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Wear suitable protective clothing and gloves.

EC-No. 205-438-8 EC Label

Reduced labelling (≤ 125 ml)

Symbol(s)	F Xn	Highly flammable 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.

3. Composition/information on ingredients

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Formula $C_5H_8O_2$ (Hill)
CAS-No. 140-88-5
Index-No. 607-032-00-X
EC-No. 205-438-8
Molar mass 100,11 g/mol

4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

After skin contact: wash off with plenty of water. Remove contaminated clothing. Get medical attention.

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

If swallowed Caution Aspiration hazard Keep respiratory tract clear. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

irritant effects, Allergic reactions, Cough, Shortness of breath, Dermatitis, Drowsiness, Gastrointestinal disturbance, Nausea, Vomiting, Convulsions, drowsiness, ataxia (impaired locomotor coordination)

4.3 Indication of immediate medical attention and special treatment needed

No information available.

5. Fire-fighting 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

Combustible material

Vapours 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.

Pay attention to flashback.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

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

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Suppress (knock down) gases/vapours/mists with a water spray jet. Cool closed containers exposed to fire with water spray.

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6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapours, aerosols. 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 7.2 and 10.5).

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.

7. Handling and storage

7.1 Precautions for safe handling

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

Protected from light. Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.

Store at +15°C to +25°C.

7.3 Specific end uses

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

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.

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.

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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).

Other protective equipment:

Flame retardant antistatic protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: Filter A-(P2)

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.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	stinging
Odour Threshold	No information available.
pH	No information available.
Melting point	-71 °C
Boiling point/boiling range	100 °C

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Flash point	10 °C Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	1,8 %(V)
Upper explosion limit	14 %(V)
Vapour pressure	160 hPa at 50 °C 39 hPa at 20 °C
Relative vapour density	3,4 at 20 °C
Relative density	0,92 g/cm ³ at 20 °C
Water solubility	15 g/l at 20 °C
Partition coefficient: n-octanol/water	log Pow: 1,18 (25 °C) Method: OECD Test Guideline 107 No remarkable bioaccumulation potential is expected (log Pow 1-3).

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Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	0,564 mPa.s at 20 °C
Explosive properties	No information available.
Oxidizing properties	No information available.

9.2 Other data

Ignition temperature	355 °C DIN 51794
Self-accelerating polymerization temperature(SAPT)	
Onset temperature	193.19 °C
Peak temperature	197.97 °C

10. Stability and reactivity

10.1 Reactivity

Vapours may form explosive mixture with air.

10.2 Chemical stability

Sensitivity to light
tendency towards spontaneous polymerisation

Decomposes on exposure to light.

Stabilizer

Hydroquinone monomethyl ether

10.3 Possibility of hazardous reactions

chlorosulfonic acid

Risk of explosion with:

polymerisation initiators, Strong oxidizing agents, Reducing agents, Peroxides, Activated charcoal

Exothermic reaction with:

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

11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 rat

Dose: 550 mg/kg

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(IUCLID)

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

absorption

Acute inhalation toxicity

LC50 rat

Dose: 5,9 mg/l, 4 h

(IUCLID)

Symptoms: mucosal irritations, Cough, Shortness of breath, absorption, Inhalation may lead to the formation of oedemas in the respiratory tract.

Acute dermal toxicity

LD50 rabbit

Dose: 1.800 mg/kg

(IUCLID)

absorption

Skin irritation

rabbit

Result: Irritations

Method: OECD Test Guideline 404

Dermatitis

Causes skin irritation.

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Product name Ethyl acrylate (stabilised with hydroquinone monomethyl ether) for synthesis

Eye irritation

rabbit

Result: Eye irritation
(IUCLID)

Causes serious eye irritation.

Sensitisation

Patch test: human

Result: positive

(Lit.) May cause sensitization by skin contact.

May cause an allergic skin reaction.

Genotoxicity in vitro

Mutagenicity (mammal cell test):

Result: positive

(National Toxicology Program)

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

No aspiration toxicity classification

11.2 Further information

Further information

After absorption:

Shortness of breath, Drowsiness, drowsiness, ataxia (impaired locomotor coordination),
Gastrointestinal disturbance, Nausea, Vomiting, Cough, Convulsions

Further data:

Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

12.1 Toxicity

Toxicity to fish

LC50

Species: Pimephales promelas (fathead minnow)

Dose: 2,5 mg/l

Exposure time: 96 h

(ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates.

EC50

Species: Daphnia magna (Water flea)

Dose: 4,4 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

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Toxicity to algae
IC50
Species: *Desmodesmus subspicatus* (green algae)
Dose: 48 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to bacteria
EC50
Species: *Pseudomonas putida*
Dose: 1.500 mg/l
Exposure time: 16 h
(External MSDS)

12.2 Persistence and degradability
Biodegradability
52 %
Method: OECD Test Guideline 301C
Result: Not readily biodegradable.

Biochemical Oxygen Demand (BOD)
980 mg/g (5 d)
(IUCLID)

12.3 Bioaccumulative potential
Partition coefficient: n-octanol/water
log Pow: 1,18 (25 °C)
Method: OECD Test Guideline 107
No remarkable bioaccumulation potential is expected (log Pow 1-3).

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
Do not allow to run into surface waters, wastewater, or soil.

13. Disposal considerations

Waste treatment methods
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

14. Transport information

ADR/RID
UN 1917 ETHYL ACRYLATE, STABILIZED, 3, II
IATA
UN 1917 ETHYL ACRYLATE, STABILIZED, 3, II
IMDG
UN 1917 ETHYL ACRYLATE, STABILIZED, 3, II
EmS F-E S-D

The transport regulations are cited according to international regulations and in the form

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applicable in Germany. Possible national deviations in other countries are not considered.

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 VCI 3 Flammable Liquids

15.2 Chemical Safety Assessment

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

16. Other information

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

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
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.

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

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.

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.