

Safety data sheet

2-ETHYLHEXYL ACRYLATE

Revision date : 2005/08/09
Version : 7.0

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(30042028/MDS_GEN_US/EN)

1. Substance/preparation and company identification

Company
BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932

24 Hour Emergency Response Information
CHEMTREC: (800) 424-9300
BASF HOTLINE: (800) 832-HELP

Synonyms: 2-Propenoic acid, 2-ethylhexyl ester

2. Composition/information on ingredients

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
103-11-7	99.5 %	2-ethylhexyl acrylate
150-76-5	$\geq 0.001 - \leq 0.11$ %	MEHQ

3. Hazard identification

Emergency overview

WARNING: SEVERELY IRRITATING TO EYES, SKIN, RESPIRATORY TRACT.
PROLONGED OR REPEATED CONTACT MAY RESULT IN DERMATITIS.
CAN CAUSE NERVOUS SYSTEM DAMAGE.
MAY CAUSE DIFFICULTY BREATHING.

Skin contact may result in dermatitis and deep burns.

Ensure adequate ventilation.

Wear a NIOSH-certified (or equivalent) organic vapour respirator.

Wear NIOSH-certified chemical goggles.

Wear protective clothing.

Eye wash fountains and safety showers must be easily accessible.

Wear full face shield if splashing hazard exists.

Potential health effects

Primary routes of exposure

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:

Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard.

Irritation:

Irritating to respiratory system and skin. Not irritating to the eyes.

Sensitization:

Caused sensitization in animal studies.

Potential environmental effects

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Aquatic toxicity:

Acutely toxic for aquatic organisms.

4. First-aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Flush with copious amounts of water for at least 15 minutes. Sterile protective dressing. Immediate medical attention required.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary edema.

5. Fire-fighting measures

Flash point:	86 °C	(DIN 51758)
Autoignition:	230 °C	(DIN 51794)
Lower explosion limit:	0.9 %(V)	(82.5 °C)
Upper explosion limit:	6.0 %(V)	(126 °C)

Suitable extinguishing media:

carbon dioxide, dry extinguishing media, water spray, foam

Hazards during fire-fighting:

Risk of violent self-polymerization if overheated in a container.

Protective equipment for fire-fighting :

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information :

Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition. Fight fire from maximum distance.

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6. Accidental release measures

Personal precautions :

Take appropriate protective measures.

Ensure adequate ventilation. Use personal protective clothing. Breathing protection required.

Environmental precautions :

Do not discharge into waterways or sewer systems without proper authorization.

This product is not regulated by RCRA. This product is not regulated by CERCLA ('Superfund').

Cleanup :

Spills should be contained, solidified, and placed in suitable containers for disposal.

7. Handling and storage

Handling

General advice:

Ensure adequate inhibitor and dissolved oxygen level.

Protection against fire and explosion :

Substance/product can form explosive mixture with air. Ground all transfer equipment properly to prevent electrostatic discharge. Containers should be grounded against electrostatic charge. It is recommended that all conductive parts of the machinery are grounded. Explosion-proof equipment is not necessary when loading and processing of the product takes place at a minimum of 5 °C below the flash point.

Heated containers should be cooled to prevent polymerization. If exposed to fire, keep containers cool by spraying with water. Emergency cooling must be provided for the eventuality of a fire in the vicinity. Sealed containers should be protected against heat as this results in pressure build-up. Avoid influence of heat.

Storage

General advice:

Risk of polymerization. Protect from direct sunlight.

Storage stability:

Storage temperature: < 35 °C

Storage duration: 12 Months

The stated storage temperature should be noted. Avoid prolonged storage.

8. Exposure controls and personal protection

Components with workplace control parameters

MEHQ

ACGIH

TWA value 5 mg/m³ ;

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Advice on system design:

Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator as needed. At concentrations < 250 ppm, use a chemical cartridge respirator. At concentrations > 250 ppm, use an air-supplied or self-contained breathing apparatus.

Hand protection:

Chemical resistant protective gloves

Eye protection:

Tightly fitting safety goggles (chemical goggles).

Body protection:

light protective clothing

General safety and hygiene measures:

Avoid contact with skin. Avoid inhalation of vapour. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Form	liquid	
Odour :	ester-like	
Colour :	colourless	
Melting temperature	approx. -90 °C	
boiling temperature:	approx. 216 °C	(1,013 hPa)
Vapour pressure	0.12 mbar	(20 °C)
	19.8 mbar	(100 °C)
Relative density:	0.89	
Partitioning coefficient n-octanol/water (log Pow):	3.67	
Viscosity, dynamic:	1.7 mPa.s	(20 °C) (DIN 51562)
Solubility in water:	0.1 g/l	(25 °C)
Solubility (qualitative) :	miscible	
	solvent(s): organic solvents ,	

10. Stability and reactivity

Conditions to avoid :

Avoid heat. Avoid oxygen content above the product of less than 5 %. Do not blanket with nitrogen. Avoid UV -light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss. Avoid excessive temperatures.

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Substances to avoid:

polyvinylchloride, radical formers, free radical initiators, peroxides, mercaptans, nitro-compounds, perborates, azides, ether, ketones, aldehydes, amines, nitrates, nitrites, oxidizing agent, reducing agents, strong bases, acid anhydrides, acid chlorides, concentrated mineral acids, metal salts
Inert gas

Hazardous reactions :

Explosion and fire hazard exists under confined conditions. Ignitable air mixtures can form when the product is heated above the flash point and/or when sprayed or atomized. Formation of explosive gas/air mixtures. Risk of spontaneous and violent self-polymerization if inhibitor is lost or product is exposed to excessive heat. Risk of spontaneous polymerization when heated or in the presence of UV radiation. With unstabilised product, spontaneous polymerisation may occur e.g. through ambient heat. Polymerization coupled with heat formation. Polymerization produces gases which may burst closed or confined containers. Reactions may cause ignition.
Risk of spontaneous polymerization by oxygen depletion of the liquid phase.
Radical formation can cause exothermic polymerization. Reacts with peroxides and other radical components. Risk of spontaneous polymerization in the presence of starters for radical chain reactions (e.g. peroxides). Reacts with nitric acid. Polymerizes explosively in contact with strong oxidizing agents. Risk of spontaneous polymerization in the presence of oxidizing agents.
Hazardous reactions in presence of mentioned substances to avoid.
The product is stabilized against spontaneous polymerization prior to despatch. The product is stable if stored and handled as prescribed/indicated.

Decomposition products:

carbon monoxide, Carbon dioxide

11. Toxicological information

Acute toxicity

Oral:

LD50/rat: 4,435 mg/kg (BASF-Test)

Inhalation:

rat: / 8 h (IRT)

No mortality within the stated exposition time as shown in animal studies.

Dermal:

LD50/rat: > 12,000 mg/kg

Skin irritation:

rabbit: Irritant.

Eye irritation :

rabbit: non-irritant (BASF-Test)

Sensitization:

Freund's complete adjuvant test (FCA)/guinea pig sensitizing

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Chronic toxicity

Genetic toxicity:

In the majority of studies performed with microorganisms and in mammalian cell culture, a mutagenic effect was not found. A mutagenic effect was also not observed in in vivo tests.

Reproductive toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity/teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Experiences in humans :

Can irritate the respiratory tract.

Other information :

Causes tumours by the lifelong administration of severely irritant concentrations.
Caused by the chronic irritation.

12. Ecological information

Environmental fate and transport

Biodegradation:

Test method:	OECD Guideline 301 F (aerobic), activated sludge, domestic
Method of analysis:	BOD of the ThOD
Degree of elimination:	75 % (28 d)
Test method:	OECD Guideline 301 F (aerobic), activated sludge, domestic
Method of analysis:	BOD of the ThOD
Degree of elimination:	70 % (15 d)
Evaluation:	Readily biodegradable (according to OECD criteria).

Bioaccumulation:

calculated
Bioconcentration factor 282.4
The product may be accumulated in organisms.

Environmental toxicity

Acute and prolonged toxicity to fish:

semistatic
Rainbow trout/LC50 (96 h): 2.15 - 3.16 mg/l
Nominal concentration.

Acute toxicity to aquatic invertebrates:

static
Daphnia magna/EC50 (48 h): 1.3 mg/l
The statement of the toxic effect relates to the analytically determined concentration.

Toxicity to aquatic plants :

OECD Guideline 201 green algae/EC50 (72 h): 1.71 mg/l
The statement of the toxic effect relates to the analytically determined concentration.

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Toxicity to microorganisms:

DIN/EN/ISO 8192 activated sludge, domestic/EC20 (0.5 h): 1,000 mg/l

Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Other ecotoxicological advice:

According to the criteria of Guidelines 67/548/EEC and 1999/45/EC the product is not to classify as environmental hazard.

13. Disposal considerations

Waste disposal of substance :

Incinerate or dispose of in a RCRA -licensed facility.
Do not discharge into drains/surface waters/groundwater.

Container disposal :

Empty containers with less than 1 inch of residue may be landfilled at a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. If containers are not empty, they must be disposed of in a RCRA -licensed facility.

14. Transport information

Reference Bill of Lading

15. Regulatory information

Federal Regulations

Registration status:

TSCA, US released / listed

OSHA hazard category:

ACGIH TLV established

CERCLA RQ

CAS Number

Chemical name

1 mg/l
1,000 mg/kg
100 mg/kg
10 mg/l
10 LBS

State regulations

State RTK

CAS Number

103-11-7
150-76-5

Chemical name

2-ethylhexyl acrylate
MEHQ

State RTK

MA, PA
MA, NJ, PA

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16. Other information

HMIS III rating

Health: 3 Flammability: 2 Physical hazard: 2

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

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