

ε-Caprolactone



Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name:	ε-Caprolactone
CAS Number:	502-44-3
EC Number:	207-938-1

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

Identified use: Laboratory chemicals, manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company name:	East Harbour Group Ltd Miranda House, The Quay Harwich, Essex, CO12 3HH United Kingdom
Telephone:	+44 (0) 333 242 0100
Email:	info@eastharbourgroup.com

1.4 Emergency telephone number

Emergency telephone:	0800 246 1274
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Section 2: Hazardous identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008: Eye irritation (Category 2), H319

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

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xi/Irritant/R36

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram





ε-Caprolactone

Signal word Warning
Hazard statement(s) H319 Causes serious eye irritation

Precautionary statements:

P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves.
P305 + 351 + 338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Labelling according Regulation (EC) No 1272/2008 Pictogram Signal word Warning
Hazard statement(s) H319 Causes serious eye irritation.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bio-accumulative and toxic (PBT), or very persistent and very bio-accumulative (vPvB) at levels of 0.1% or higher.

Section 3: Composition/information on ingredients

3.1 Substance

Formula: $C_6H_{10}O_2$ (Hill) $C_6H_{10}O_2$ (Hill)
Molar mass 114.14 g/mol

3.2 Mixtures

Not applicable

Section 4: First aid measures

4.1 Description of first aid measures

In case of skin contact: Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms appear.

In case of eye contact: In cases of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

If swallowed: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Section 5: Fire-fighting measures

5.1 Fire Fighting Media and Instructions:

Suitable extinguishing media: Use water spray (fog), foam, dry chemical, or CO₂

Unsuitable extinguishing media: No information available



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5.2 Special hazards arising from the substance or mixture

No information available

5.3 Advice for firefighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment. Follow all firefighting procedures.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste.

Section 7: Handling and storage

7.1 Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2..

7.2 Storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): Combustible liquids.

7.3 Packaging materials

Use original container.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Personal protective equipment

Eye/face protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).



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Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Full contact Material: butyl-rubber Minimum layer thickness: 0.3 mm Break through time: 480 min Material tested: Butoject®

Splash contact Material: Nature latex/chloroprene

Minimum layer thickness: 0.6 mm Break through time: 116 min Material tested: Lapren®

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Colourless
Physical State	Liquid
Odor	Characteristic
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-1.5 C
Boiling Point/Range	235 C at 1,013 hPa
Flash Point	127 C Method: open cup
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Explosion Limits	Lower: 1.2% (V) Upper: 9% (V)
Vapor Pressure	No information available
Vapor Density	4.0
Specific Gravity / Density	No information available
Bulk Density	No information available
Water Solubility	At 20 C soluble
Solubility in other solvents	No information available
Partition Coefficient	Log Pow: 1.25
Auto-ignition temperature	No information available
Decomposition temperature	> 220 C

Section 10: Stability and Reactivity

10.1 Reactivity

Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical Stability

The product is chemically stable under standard ambient conditions (room temperature)



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10.3 Possibility of hazardous reactions

Violent reactions possible with strong oxidizing agents, alkalines or acids

10.4 Conditions to avoid

Strong heating

10.5 Incompatible materials

Polyvinylchloride

10.6 Hazardous decomposition products

No information available

Section 11: Toxicological Information

Product Information

11.1 Toxicological effects

LD50 Oral – rat – 4,290 mg/kg

LD50 Dermal – rabbit – 6,400 mg/kg (OECD Test Guideline 402)

11.2 Acute toxicity

Skin corrosion/irritation: Skin - Rabbit Result: No skin irritation (OECD Test Guideline 404)

Serious eye damage/eye irritation: Eyes - Rabbit Result: Irritating to eyes. (OECD Test Guideline 405)

Respiratory or skin sensitisation: No information available

Germ cell mutagenicity: Chromosome aberration test in vitro Chinese hamster fibroblasts. Result: negative

Carcinogenicity (IARC): No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity No data available Specific target organ toxicity - single exposure: No information available

Specific target organ toxicity - repeated exposure: No information available

Aspiration hazard: No information available

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish: LC50 - Poecilia reticulata (guppy) - 280 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 204 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae: ErC50 - Desmodesmus subspicatus (green algae) - 2,616 mg/l - 72 h (OECD Test Guideline 201)

12.2 Persistence and degradability

No information available

12.3 Bio-accumulative potential

No information available

12.4 Mobility in soil

No information available



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12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No information available

Section 13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

DOT: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)	Listed.
EC Inventory	Listed.
United States Toxic Substances Control Act (TSCA) Inventory	Listed.
China Catalog of Hazardous chemicals 2015	Not Listed.
New Zealand Inventory of Chemicals (NZIoC)	Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed.
Vietnam National Chemical Inventory	Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Listed.