

ORTEC, INC.

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name **ε-Caprolactone**

CAS Number 502-44-3

EC Number 207-938-1

1.2 Relevant identified uses of the substance or mixture

Identified uses: Manufacture of substances

1.3 Supplier Information

Company Address Ortec, Inc.
505 Gentry Memorial Highway
Easley, SC 29640
USA

Telephone Number 1-864-859-1471

1.4 Emergency telephone number

Chemtrec 24 Hour Emergency Phone Number 1-800-424-9300

International: 1-703-527-3887

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

2.2 GHS Label elements, including precautionary statements

Pictogram(s)



Signal word

DANGER

Hazard statement(s)

H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation

Precautionary statement(s)

P261	Avoid breathing vapors
P280	Wear protective gloves/eye protection/face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms Hexano-6-lactone, 2-Oxepanone,
6-Hexanolactone, 6-hydroxycaproic acid lactone

Formula $C_6H_{10}O_2$

Molecular Weight 114.14 g/mol

CAS Number 502-44-3
EC Number 207-938-1

Hazardous components

Component	Classification	Concentration
ε-Caprolactone	Skin Irrit. 2; Eye Dam. 1; STOT SE 3; H315, H318, H335	≤ 100%

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.
Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described on the labeling, see section 2.2

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

Avoid breathing vapors, mist or gas.

Ensure adequate ventilation.

Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

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

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place.

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

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters - none

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practices.

Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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.

Body Protection

The type of protective equipment must be selected according to the concentration and amount of the substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate, use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance	Clear, colorless liquid
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	237°C
g) Flash point	109°C - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	0.8 Pa @ 25°C
l) Vapor density	No data available
m) Relative density	1.07 g/cm ³ @ 20°C
n) Solubility(ies)	No data available
o) Partition coefficient: n-octanol/water	log Pow: 0.68
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents, strong bases

10.6 Hazardous decomposition products

No data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Routes of Exposure

Inhalation, ingestion, skin and eye contact

11.2 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 4,290 mg/kg

LD50 Dermal - Rabbit - 6,400 mg/kg

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Chronic toxicity

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Histidine reversion (Ames)

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

Inhalation - May cause respiratory irritation

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: MO8400000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

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 data available

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

14. TRANSPORT INFORMATION

DOT (US) - Land Transport

Not classified as a dangerous good under transport regulations.

IMDG - Sea Transport

Not classified as a dangerous good under transport regulations.

IATA - Air Transport

Not classified as a dangerous good under transport regulations.

Special Precautions

None assigned

15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

16. OTHER INFORMATION

Further information

The information herein is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of knowledge and is only applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product or fitness of use. Final determination of suitability of any material is the sole responsibility of the user. Ortec, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

Prepared by: Ortec, Inc., EHS&S Department

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