

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : (R)-(-)- $\gamma$ -Ethoxycarbonyl- $\gamma$ -butyrolactone

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Not a dangerous substance according to GHS.  
This substance is not classified as dangerous according to Directive 67/548/EEC.

### Label elements

This substance is not classified as dangerous according to Directive 67/548/EEC.

**Other hazards** - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Ethyl (R)-(-)-5-oxotetrahydro-2-furancarboxylate

Formula : C7H10O4

Molecular Weight : 158,15 g/mol

CAS-No.	EC-No.	Classification	Concentration
(R)-(-)- $\gamma$ -Ethoxycarbonyl- $\gamma$ -butyrolactone 33019-03-3	-	-	-

## 4. FIRST AID MEASURES

### If inhaled

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

### In case of skin contact

Wash off with soap and plenty of water.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

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

## 5. FIRE-FIGHTING MEASURES

### Suitable extinguishing media

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

### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Avoid breathing vapors, mist or gas.

### Environmental precautions

Do not let product enter drains.

### Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Normal measures for preventive fire protection.

### Conditions for safe storage

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. Store in cool place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

#### Respiratory protection

Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand 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.

#### Eye protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

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

#### Hygiene measures

General industrial hygiene practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form : clear, liquid

Colour : colourless

### Safety data

pH : no data available

Melting point : no data available

Boiling point : 151 - 155 °C at 16 hPa - lit.

Flash point : 110 °C - closed cup

Ignition temperature : no data available

Lower explosion limit : no data available

Upper explosion limit : no data available

Density : 1,163 g/cm3 at 25 °C

Water solubility : no data available

## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Conditions to avoid

no data available

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/eye irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### 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 data available

### Specific target organ toxicity - repeated exposure

no data available

### Aspiration hazard

no data available

### Potential health effects

#### Inhalation

May be harmful if inhaled. May cause respiratory tract irritation.

#### Ingestion

May be harmful if swallowed.

#### Skin

May be harmful if absorbed through skin. May cause skin irritation.

#### Eyes

May cause eye irritation.

### Signs and Symptoms of Exposure

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

### Additional Information

RTECS: Not available

## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

### Other adverse effects

no data available

## 13. DISPOSAL CONSIDERATIONS

### Product

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

### Contaminated packaging

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### ADR/RID

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

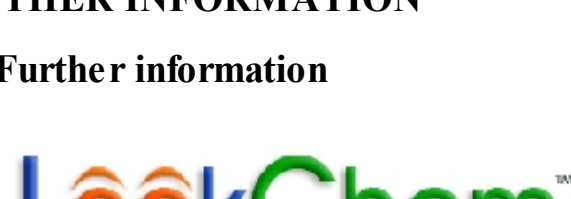
## 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

## 16. OTHER INFORMATION

### Further information

For R&D use only. Not for drug, household or other uses.



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