

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 29.11.2011

Version number 1

Revision: 23.08.2011

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

- **1.1. Product identifier**
- **Trade name:**  $\beta$ -Propiolactone
- **Article number:** 33672
- **CAS Number:**  
57-57-8
- **EC number:**  
200-340-1
- **Index number:**  
606-031-00-1
- **1.2. Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** Laboratory chemicals
- **1.3. Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
SERVA Electrophoresis GmbH  
Carl-Benz-Str. 7  
D-69115 Heidelberg  
Tel.: +49 6221 13840-0  
FAX: +49 6221 13840-10  
msds.info@serva.de
- **Information department:** Product Safety department Tel.: +49 6221 13840-35
- **1.4. Emergency telephone number:** +49 6131 19240 (university hospital Mainz)

**SERVA**  
Electrophoresis

### 2 Hazards identification

- **2.1. Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS06

Acute Tox. 2 H330 Fatal if inhaled.



GHS08

Carc. 1B H350 May cause cancer.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T+; Very toxic

R26: Very toxic by inhalation.



T; Toxic

Carc. Cat. 2

R45: May cause cancer.



Xi; Irritant

R36/38: Irritating to eyes and skin.

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- **Classification system:**

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

- **2.2. Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms** GHS06, GHS08

- **Signal word** Danger

- **Hazard statements**

H330 Fatal if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H350 May cause cancer.

- **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P201 Obtain special instructions before use.

P264 Wash thoroughly after handling.

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.

P405 Store locked up.

- **2.3. Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** PBT - assessment not available.

- **vPvB:** vPvB - assessment not available.

### 3 Composition/information on ingredients

- **3.1. Chemical characterization: Substances**

- **CAS No. Description:**

57-57-8 1,3-propiolactone

- **Identification number(s):**

- **EC number:** 200-340-1

- **Index number:** 606-031-00-1

- **Description:**

- **Empirical formula:**  $C_3H_4O_2$

- **MW:** 72,1

### 4 First aid measures

- **4.1. Description of first aid measures**

- **General information**

Remove contaminated clothing.

Remove breathing apparatus only after contaminated clothing have been completely removed.

- **After inhalation** Supply fresh air or oxygen; call for doctor.

- **After skin contact** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact**

Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.

- **After swallowing**

Rinse out mouth and then drink plenty of water.

Call a doctor immediately.

- **Information for doctor**

- **4.2. Most important symptoms and effects, both acute and delayed**

No further relevant information available.

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- **4.3. Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Firefighting measures

- **5.1. Extinguishing media**
- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2. Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Carbon monoxide and carbon dioxide  
In certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3. Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

### 6 Accidental release measures

- **6.1. Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective clothing.
- **6.2. Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.  
Dilute with plenty of water.
- **6.3. Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4. Reference to other sections**  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling**
- **7.1. Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Work only in fume cupboard.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **7.2. Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**  
Store only in unopened original receptacles.  
Store at -15 to -25 °C
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**  
Store under lock and key and with access restricted to technical experts or their assistants only.  
Keep receptacle tightly sealed.
- **7.3. Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **8.1. Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.

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- **Additional information:** The lists that were valid during the creation were used as basis.
- **8.2. Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**  
 Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing  
 Wash hands before breaks and at the end of work.  
 Store protective clothing separately.  
 Avoid contact with the eyes and skin.
- **Breathing equipment:**  
 Short term filter device:  
 Filter A/P2.
- **Protection of hands:**  
 Protective gloves.  
 The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
 The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**  
 Rubber gloves  
 Neoprene gloves
- **Eye protection:** Tightly sealed goggles.
- **Body protection:** Protective work clothing.

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## 9 Physical and chemical properties

- **9.1. Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Sweetish
- **Change in condition**

<b>Melting point/Melting range:</b>	- 33°C
<b>Boiling point/Boiling range:</b>	undetermined
- **Flash point:** 74°C
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**

<b>Lower:</b>	2.9 Vol %
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- **Vapour pressure at 20°C:** 3 hPa
- **Density at 20°C:** 1.146 g/cm<sup>3</sup>
- **Solubility in / Miscibility with**

<b>Water at 20°C:</b>	370 g/l Hydrolized
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· **9.2. Other information**      *There are no more data available.*

### 10 Stability and reactivity

- **10.1. Reactivity** No further relevant informations available
- **10.2. Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3. Possibility of hazardous reactions** No further relevant informations available.
- **10.4. Conditions to avoid** Heating
- **10.5. Incompatible materials:** Avoid contact with: strong oxidizers, strong acids, strong alkali
- **10.6. Hazardous decomposition products:** Carbon monoxide and carbon dioxide
- **Additional information:** Danger of polymerisation at room temperature

### 11 Toxicological information

- **11.1. Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**  
Carc. 1B

### 12 Ecological information

- **12.1. Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2. Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **12.3. Bioaccumulative potential** No further relevant information available.
- **12.4. Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water danger class 3 (German Regulation) (Self-assessment): extremely hazardous for water.  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.
- **12.5. Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.
- **12.6. Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **13.1. Waste treatment methods**
- **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

· **14.1. UN-Number**· **ADR, IMDG, IATA**

UN2810

· **14.2. UN proper shipping name**· **ADR**

2810 TOXIC LIQUID, ORGANIC, N.O.S. (1,3-propiolactone)

· **IMDG**

TOXIC LIQUID, ORGANIC, N.O.S. (1,3-propiolactone)

· **IATA**

Toxic liquid, organic, n.o.s. (1,3-Propiolactone)

· **14.3. Transport hazard class(es)**· **ADR**· **Class**

6.1 Toxic substances.

· **Label**

6.1

· **IMDG, IATA**· **Class**

6.1 Toxic substances.

· **Label**

6.1

· **14.4. Packing group**· **ADR, IMDG, IATA**

II

· **14.5. Environmental hazards:**· **Marine pollutant:**

No

· **14.6. Special precautions for user**

Warning: Toxic substances.

· **Danger code (Kemler):**

60

· **EMS Number:**

F-A,S-A

· **14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**· **ADR**· **Tunnel restriction code**

D/E

· **UN "Model Regulation":**

UN2810, TOXIC LIQUID, ORGANIC, N.O.S., 6.1, II

### 15 Regulatory information

· **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**· **National regulations**· **Information about limitation of use:** Employment restrictions concerning young persons must be observed.

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· **Technical instructions (air):**

Class	Share in %
III	80-100

- **Water hazard class:** Water danger class 3 (Self-assessment): extremely hazardous for water.
- **15.2. Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**16 Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Department issuing MSDS:** Product safety department

- **Contact:** +49 6221 13840-35

- **Abbreviations and acronyms:**

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

CLP: Regulation on classification, labelling and packaging of substances and mixtures

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

- **\* Data compared to the previous version altered.**

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