

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 27.08.2021

Version number 8

Revision: 27.08.2021

**SECTION 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**  
No further relevant information available.
- **Application of the substance / the mixture** 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:**  
Medical Emergency Information in case of poisoning:  
Poison Information Center Mainz - Phone: +49 (0) 6131 19240  
(advisory service in German or English language)

**SERVA**  
■ serving scientists ■

**SECTION 2: Hazards identification**

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



Acute Tox. 2 H330 Fatal if inhaled.



Carc. 1B H350 May cause cancer.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

- **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

(Contd. on page 2)

GB

# Safety data sheet

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

Printing date 27.08.2021

Version number 8

Revision: 27.08.2021

**Trade name:  $\beta$ -Propiolactone**

(Contd. of page 1)

- **Hazard statements**

- H330 Fatal if inhaled.

- H315 Causes skin irritation.

- H319 Causes serious eye irritation.

- H350 May cause cancer.

- **Precautionary statements**

- P201 Obtain special instructions before use.

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

- P302+P352 IF ON SKIN: Wash with plenty of soap and water.

- P304+P340 IF INHALED: Remove person to fresh air and keep 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.

- P337+P313 If eye irritation persists: Get medical advice/attention.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

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

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

\*

### SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**

- **CAS No. Description:**

- 57-57-8 1,3-propiolactone

- **Identification number(s):**

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

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

- **Impurities and stabilising additives:**

- **Empirical formula:**  $C_3H_4O_2$

- **MW:** 72.1

\*

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information**

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

- Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation** Provide fresh air. Call for doctor immediately.

- **After skin contact**

- Immediate wash with copious amounts of water and soap; rinse thoroughly; seek medical advice.

- **After eye contact**

- Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist immediately.

- **After swallowing** Wash out mouth. Call a doctor immediately.

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

- No further relevant information available.

- **4.3 Indication of any immediate medical attention and special treatment needed**

- No further relevant information available.

\*

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**

- **Suitable extinguishing agents**

- $CO_2$ , extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

(Contd. on page 3)

# Safety data sheet

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

Printing date 27.08.2021

Version number 8

Revision: 27.08.2021

**Trade name:  $\beta$ -Propiolactone**

(Contd. of page 2)

- **5.2 Special hazards arising from the substance or mixture**  
In case of fire formation of irritant or toxic vapours and gases is possible.  
In case of fire, the following can be formed, but not limited to:  
Carbon monoxide and carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.  
Ensure adequate ventilation  
Avoid contact with the eyes and skin.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Dispose contaminated material as waste according to item 13.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Work only in fume cupboard.  
Avoid contact with eyes and skin.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **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 oxidising 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 and store in dry conditions.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

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

(Contd. on page 4)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 27.08.2021

Version number 8

Revision: 27.08.2021

**Trade name:  $\beta$ -Propiolactone**

(Contd. of page 3)

Avoid contact with the eyes and skin.

· **Breathing equipment:**

Short term filter device:

Filter A/P3

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Protective gloves.

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.**SECTION 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>	Pungent
-----------------	---------

· <b>Odour threshold:</b>	Not determined.
---------------------------	-----------------

· **Change in condition**

<b>Melting point/freezing point:</b>	-33 °C
--------------------------------------	--------

<b>Initial boiling point and boiling range:</b>	undetermined
---	--------------

· <b>Flash point:</b>	74 °C
-----------------------	-------

· <b>Flammability (solid, gaseous)</b>	Not applicable.
--	-----------------

· <b>Decomposition temperature:</b>	155 °C
-------------------------------------	--------

· <b>Self igniting:</b>	Not determined.
-------------------------	-----------------

· <b>Explosive properties:</b>	Product does not present an explosion hazard.
--------------------------------	---

· **Explosion limits:**

<b>Lower:</b>	2.9 Vol %
<b>Upper:</b>	no information available

· <b>Vapour pressure at 20 °C:</b>	3 hPa
------------------------------------	-------

· <b>Density at 20 °C:</b>	1.146 g/cm <sup>3</sup>
----------------------------	-------------------------

· <b>Relative density</b>	Not determined.
---------------------------	-----------------

· <b>Vapour density</b>	Not determined.
-------------------------	-----------------

· <b>Evaporation rate</b>	Not determined.
---------------------------	-----------------

(Contd. on page 5)

GB

# Safety data sheet

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

Printing date 27.08.2021

Version number 8

Revision: 27.08.2021

**Trade name:  $\beta$ -Propiolactone**

(Contd. of page 4)

- |   |                                   |
|---|-----------------------------------|
| <b>· Solubility in / Miscibility with Water at 20 °C:</b> | 370 g/l                           |
| <b>· Partition coefficient: n-octanol/water:</b>          | Not determined.                   |
| <b>· Viscosity:</b>                                       |                                   |
| <b>dynamic:</b>   | Not determined.                   |
| <b>kinematic:</b>   | Not determined.                   |
| <b>· 9.2 Other information</b>                            | There are no more data available. |

### SECTION 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**  
 Avoid moisture and contact with water.  
 The product hydrolyzes in water completely.  
 Heating
- **10.5 Incompatible materials:** Avoid contact with: strong oxidizers, strong acids, strong alkali
- **10.6 Hazardous decomposition products:** In case of fire: See Section 5
- **Additional information:** Danger of polymerisation at room temperature

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**  
 Fatal if inhaled.
- **Primary irritant effect:**
- **Skin corrosion/irritation**  
 Causes skin irritation.
- **Serious eye damage/irritation**  
 Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**  
 May cause cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.

(Contd. on page 6)

GB

# Safety data sheet

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

Printing date 27.08.2021

Version number 8

Revision: 27.08.2021

**Trade name:  $\beta$ -Propiolactone**


(Contd. of page 5)

- **Additional ecological information:**
- **General notes:**  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Water danger class 3 (German Regulation) (Self-assessment): extremely hazardous for water.
- **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.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Disposal must be made according to official regulations.  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**  
Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### SECTION 14: Transport information

- |   |  |
|---|--|
| · <b>14.1 UN-Number</b>   | UN2810   |
| · <b>ADR, IMDG, IATA</b>  |  |
| · <b>14.2 UN proper shipping name</b>   | 2810 TOXIC LIQUID, ORGANIC, N.O.S. (1,3-propiolactone) |
| · <b>ADR</b>  |  |
| · <b>IMDG, IATA</b>   | TOXIC LIQUID, ORGANIC, N.O.S. (1,3-propiolactone)      |
| · <b>14.3 Transport hazard class(es)</b>  |  |
| · <b>ADR, IMDG, IATA</b>  |  |
|  |  |
| · <b>Class</b>  | 6.1 Toxic substances.                                  |
| · <b>Label</b>  | 6.1  |
| · <b>14.4 Packing group</b>   |  |
| · <b>ADR, IMDG, IATA</b>  | II   |
| · <b>14.5 Environmental hazards:</b>  |  |
| · <b>Marine pollutant:</b>  | No   |
| · <b>14.6 Special precautions for user</b>  | Warning: Toxic substances.                             |
| · <b>Hazard identification number (Kemler code):</b>                                | 60   |
| · <b>EMS Number:</b>  | F-A,S-A  |
| · <b>Stowage Category</b>   | B  |
| · <b>Stowage Code</b>   | SW2 Clear of living quarters.                          |
| · <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>    | Not applicable.  |

(Contd. on page 7)



# Safety data sheet

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

Printing date 27.08.2021

Version number 8

Revision: 27.08.2021

**Trade name:  $\beta$ -Propiolactone**

(Contd. of page 6)

**· Transport/Additional information:****· ADR****· Limited quantities (LQ)**

100 ml

**· Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 ml

Maximum net quantity per outer packaging: 500 ml

**· Transport category**

2

**· Tunnel restriction code**

D/E

**· IMDG****· Limited quantities (LQ)**

100 ml

**· Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 ml

Maximum net quantity per outer packaging: 500 ml

**· UN "Model Regulation":**

UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (1,3-PROPIOLACTONE), 6.1, II

**SECTION 15: Regulatory information****· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****· Directive 2012/18/EU****· Named dangerous substances - ANNEX I** Substance is not listed.**· Seveso category H2 ACUTE TOXIC****· Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t**· Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t**· National regulations****· Information about limitation of use:**

Employment restrictions concerning young persons must be observed.

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

**· 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.**SECTION 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 SDS:** Product safety department**· Contact:** +49 6221 13840-35**· Abbreviations and acronyms:**

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

ICAO: International Civil Aviation Organisation

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

bw: body weight

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

(Contd. on page 8)

**Safety data sheet**  
**according to 1907/2006/EC, Article 31**

Printing date 27.08.2021

Version number 8

Revision: 27.08.2021

**Trade name:  $\beta$ -Propiolactone**

(Contd. of page 7)

*IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised 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)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 2: Acute toxicity – Category 2**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Irrit. 2: Serious eye damage/eye irritation – Category 2**Carc. 1B: Carcinogenicity – Category 1B*

GB