Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 26.07.2024 *Version number 9* *Revision: 26.07.2024*

*
SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name: ß-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:**
Emergency medical information in case of poisoning
Poison Information Centre Mainz-Tel: +49 (0) 6131 19240
(Counselling in German and English)

*
SECTION 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.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008:**
The substance is classified and labelled according to the GB CLP regulation.
· **Hazard pictograms:** GHS06, GHS08
· **Signal word:** Danger

(Contd. on page 2)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Trade name: ß-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/hearing 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.

· **Labelling of packages where the contents do not exceed 125 ml**
· **Hazard pictograms** GHS06, GHS08
· **Signal word** Danger
· **Hazard statements**
H330 Fatal if inhaled.
H350 May cause cancer.
· **Precautionary statements**

P201	Obtain special instructions before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment:**
· **PBT:** PBT - Assessment not available.
· **vPvB:** vPvB - Assessment not available.
· **Determination of endocrine-disrupting properties** No further relevant information available.

*
SECTION 3: Composition/information on ingredients

· **3.1 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

*
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. Consult a doctor immediately.
· **After skin contact:**
Wash off immediately with plenty of soap and water; rinse thoroughly; seek medical attention.

(Contd. on page 3)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 26.07.2024 *Version number 9* *Revision: 26.07.2024*

Trade name: ß-Propiolactone

(Contd. of page 2)

· ***After eye contact:***
Rinse opened eye for several minutes with running water. Remove contact lenses if possible and continue rinsing. Consult an ophthalmologist immediately.
· ***After swallowing:*** *Rinse 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.
· ***5.2 Special hazards arising from the substance or mixture:***
In case of fire, development of irritating or toxic vapours and gases 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 breathing apparatus.*
· ***Additional information***
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

*
SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures***
Wear a respirator with filter A/P3 immediately.
Wear protective clothing.
Ensure adequate ventilation
Avoid contact with 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 section 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.
Storage temperature: -15 to -25 °C
· ***Information about storage in one common storage facility:*** *Store away from oxidising agents.*

(Contd. on page 4)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 26.07.2024 *Version number 9* *Revision: 26.07.2024*

Trade name: ß-Propiolactone

(Contd. of page 3)

· ***Further information about storage conditions:***
Store under lock and key and with access restricted to technical experts or their assistants only.
Store containers tightly closed and dry.
· ***7.3 Specific end use(s):*** *No further relevant information available.*

*
SECTION 8: Exposure controls/personal protection

· ***8.1 Control parameters***
· ***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***
· ***Appropriate engineering controls:*** *No further data; see section 7.*
· ***Individual protection measures, such as 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/P3
· ***Hand protection:***
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 trough 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/face 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:***

· ***Physical state:***	*Fluid*
· ***Colour:***	*Colourless*
· ***Odour:***	*Pungent*
· ***Odour threshold:***	*Not determined.*
· ***Melting point/freezing point:***	*-33 °C*
· ***Boiling point or initial boiling point and boiling range:***	*not applicable (decomposition)*
· ***Flammability:***	*Based on available data, the classification criteria for flammable liquids are not met.*

(Contd. on page 5)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 26.07.2024 *Version number 9* *Revision: 26.07.2024*

Trade name: ß-Propiolactone

(Contd. of page 4)

· **Lower and upper explosion limit:**	
· **Lower:**	2.9 Vol %
· **Upper:**	No information available
· **Flash point:**	74 °C
· **Decomposition temperature:**	155 °C
· **pH:**	No information available
· **Viscosity:**	
· **Kinematic viscosity:**	No information available
· **Dynamic viscosity:**	No information available
· **Solubility:**	
· **Water:**	370 g/l (hydrolysis)
· **Partition coefficient n-octanol/water (log value):**	No information available
· **Vapour pressure at 20 °C:**	3 hPa
· **Vapour pressure at 50 °C:**	12 hPa
· **Density and/or relative density:**	
· **Density:**	No information available
· **Relative density:**	No information available
· **9.2 Other information**	Further physico-chemical data are not available.
· **Appearance:**	
· **Form:**	Liquid
· **Important information on protection of health and environment, and on safety:**	
· **Explosive properties:**	Not determined.
· **Molecular weight**	72.1 g/mol

*
SECTION 10: Stability and reactivity

· **10.1 Reactivity:** No further relevant information 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 information available.
· **10.4 Conditions to avoid:**
Avoid contact with moisture and water.
The product hydrolyses completely in water.
warming
· **10.5 Incompatible materials:** Avoid contact with strong oxidising agents, strong acids, strong alkalis.
· **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 hazard classes as defined in Regulation (EC) No 1272/2008:**
· **Acute toxicity:** Fatal if inhaled.
· **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.
· **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.

(Contd. on page 6)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 26.07.2024 *Version number 9* *Revision: 26.07.2024*

Trade name: ß-Propiolactone

(Contd. of page 5)

· **11.2 Information on other hazards:**
· **Endocrine disrupting properties:** No relevant information available

*
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.
· **12.5 Results of PBT and vPvB assessment:**
· **PBT:** PBT - assessment not available.
· **vPvB:** vPvB - assessment not available.
· **12.6 Endocrine disrupting properties:** For information on endocrine disrupting properties see section 11.
· **12.7 Other adverse effects:**
· **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.

*
SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Dispose of in accordance with official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:**
Uncleaned packaging must be disposed of in the same way as the product in accordance with official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

*
SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN2810
· **14.2 UN proper shipping name**	
· **ADR**	2810 TOXIC LIQUID, ORGANIC, N.O.S. (1,3-propiolactone)
· **IMDG, IATA**	TOXIC LIQUID, ORGANIC, N.O.S. (1,3-propiolactone)
· **14.3 Transport hazard class(es)**	
· **ADR, IMDG, IATA**	
· **Class:**	6.1 Toxic substances.
· **Label:**	6.1
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	II

(Contd. on page 7)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 26.07.2024 *Version number 9* *Revision: 26.07.2024*

Trade name: ß-Propiolactone

(Contd. of page 6)

· **14.5 Environmental hazards**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Warning: Toxic substances.
· **Hazard identification number (Kemler code):**	60
· **EMS Number:**	F-A,S-A
· **Stowage Category**	B
· **Stowage Code**	SW2 Clear of living quarters.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **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**
· **Poisons Act**
· **Regulated explosives precursors** Substance is not listed.
· **Regulated poisons** Substance is not listed.
· **Reportable explosives precursors** Substance is not listed.
· **Reportable poisons** Substance is not listed.

· **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
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 28, 75
· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
· **REGULATION (EU) 2019/1148**
· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
Substance is not listed.
· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
· **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
Substance is not listed.

(Contd. on page 8)

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 26.07.2024 *Version number 9* *Revision: 26.07.2024*

Trade name: ß-Propiolactone

(Contd. of page 7)

· ***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*
· ***Date of previous version:*** *27.08.2021*
· ***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 (UK REACH)
vPvB: very persistent, very bioaccumulative substance (UK REACH)
UK REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
GB 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)
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