

# L-Serine

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 14/10/2011 Revision date: 06/11/2017

**S0718**

Version: 2.0

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

#### 1.1. Product identifier

Product form : Substance  
 Trade name : L-Serine  
 EC-No. : 200-274-3  
 CAS-No. : 56-45-1  
 Product code : S0718  
 Formula : C3H7NO3  
 Synonyms : (S)-2-Amino-3-hydroxypropionic acid.  
 Product group : Raw material

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
 Industrial/Professional use spec : For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

Duchefa Biochemie B.V.  
 A. Hofmanweg 71  
 2031 BH Haarlem - The Netherlands  
 T +31(0)23-5319093 - F +31(0)23-5318027  
[info@duchefa.nl](mailto:info@duchefa.nl)

#### 1.4. Emergency telephone number

Emergency number : Supplier contact information:  
 +31(0)23-5319093 (M-F 09:00-17:00)  
 +31(0)6-30109355 (outside office hours)

Organisation/Company	Address	Comment
World Health Organization world directory of poison centres	<a href="http://apps.who.int/poisoncentres/">http://apps.who.int/poisoncentres/</a>	Consult website for a local poison centre

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

##### Adverse physicochemical, human health and environmental effects

No additional information available

**2.2. Label elements****Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

No labelling applicable

**2.3. Other hazards**

No additional information available

**SECTION 3: Composition/information on ingredients****3.1. Substances**

Name : L-Serine  
CAS-No. : 56-45-1  
EC-No. : 200-274-3

Name	Product identifier	%
L-Serine	(CAS-No.) 56-45-1 (EC-No.) 200-274-3	> 98,5

Full text of H-statements: see section 16

**3.2. Mixtures**

Not applicable

**SECTION 4: First aid measures****4.1. Description of first aid measures**

First-aid measures general : Seek medical attention if ill effect develops.  
First-aid measures after inhalation : Assure fresh air breathing.  
First-aid measures after skin contact : Wash skin with mild soap and water.  
First-aid measures after eye contact : Rinse with water.  
First-aid measures after ingestion : Rinse mouth.

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

No additional information available

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

No additional information available

**SECTION 5: Firefighting measures****5.1. Extinguishing media**Suitable extinguishing media : Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>). Water spray.**5.2. Special hazards arising from the substance or mixture**Hazardous decomposition products in case of fire : Under fire conditions, hazardous fumes will be present. CO<sub>x</sub>. NO<sub>x</sub>.**5.3. Advice for firefighters**

Firefighting instructions : Avoid (reject) fire-fighting water to enter environment.  
Protection during firefighting : Wear proper protective equipment.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****6.1.1. For non-emergency personnel**

Protective equipment : Wear suitable protective clothing.

**6.1.2. For emergency responders**

No additional information available

**6.2. Environmental precautions**

Prevent entry to sewers and public waters.

**6.3. Methods and material for containment and cleaning up**

Methods for cleaning up : Sweep up dry powder and dispose properly.

**6.4. Reference to other sections**

No additional information available

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

Storage conditions : Keep container tightly closed and protected from light. Store in dry, well-ventilated area. Store at ambient temperature.

**7.3. Specific end use(s)**

For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

No additional information available

**8.2. Exposure controls****Hand protection:**

Type	Material	Permeation	Thickness (mm)	Standard
Gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,11	EN 374

**Eye protection:**

Safety glasses (to European standard EN 166 or equivalent)

**Skin and body protection:**

Wear suitable protective clothing

**Respiratory protection:**

Where excessive dust may result, wear approved mask. Type P1 (EN 143)

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state	: Solid
Appearance	: Crystalline powder.
Molecular mass	: 105,09 g/mol
Colour	: White.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 5,2 - 6,2 (10 g /100 ml)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 228 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Water: 250 - 360 g/l
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

**9.2. Other information**

No additional information available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

Stable under normal conditions of storage, handling and use.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

This product is not hazardous.

**10.4. Conditions to avoid**

Moisture. Heat. Direct sunlight.

**10.5. Incompatible materials**

Strong oxidizers.

### 10.6. Hazardous decomposition products

When heated to decomposition, emits dangerous fumes. COx. NOx.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

L-Serine (56-45-1)	
LD50 oral rat	14 g/kg

Skin corrosion/irritation : Not classified  
pH: 5,2 - 6,2 (10 g /100 ml)

Serious eye damage/irritation : Not classified  
pH: 5,2 - 6,2 (10 g /100 ml)

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

### 12.2. Persistence and degradability

L-Serine (56-45-1)	
Biochemical oxygen demand (BOD)	0,609 g O <sub>2</sub> /g substance

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations.

**SECTION 14: Transport information**

In accordance with ADR / IATA / IMDG

ADR	IMDG	IATA
<b>14.1. UN number</b>		
Not regulated	Not regulated	Not regulated
<b>14.2. UN proper shipping name</b>		
Not regulated	Not regulated	Not regulated
Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>		
Not regulated	Not regulated	Not regulated
Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>		
Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>		
Not regulated	Not regulated	Not regulated
No supplementary information available		

**14.6. Special precautions for user****Overland transport**

Not regulated

**- Transport by sea**

Not regulated

**- Air transport**

Not regulated

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. EU-Regulations**

No REACH Annex XVII restrictions

L-Serine is not on the REACH Candidate List

L-Serine is not on the REACH Annex XIV List

**15.1.2. National regulations**

Ensure all national/local regulations are observed.

**Germany**

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 1 or 2; ID No. 6704)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

**Netherlands**

## Safety Data Sheet

according to Regulation (EU) 2015/830

SZW-lijst van kankerverwekkende stoffen	: The substance is not listed
SZW-lijst van mutagene stoffen	: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	: The substance is not listed

**15.2. Chemical safety assessment**

No additional information available

**SECTION 16: Other information**

Indication of changes:

1.4	Emergency number	Modified	
8.2	Hand protection	Modified	Specified material, thickness, et cetera of gloves

Abbreviations and acronyms:

ATE	Acute Toxicity Estimate
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet

Data sources : ECHA (European Chemicals Agency). Supplier.

SDS Biochemicals version 2017

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*