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

**1.1. Product identifier**

Identification of the product : Raw material  
 Product code : DOC0(178-181)  
 Trade name : L-Serine  
 CAS number : 000056-45-1

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

1.2.1 Relevant identified uses : For research purposes only  
 1.2.2 Uses advised against : No additional information available

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

Company identification : Formedium Ltd.  
 Unit 1B Hunstanton Commercial Park  
 Norfolk PE365JQ  
 Tel: +44(0)1485 609069  
 Fax: +44(0)1485 600510  
 E-mail: info@formedium.com

**1.4. Emergency telephone number**

Emergency telephone number : Tel: +44(0)1485 609069 (local time : 9.00 to 17.00)  
 National Poison Information Centre : Europe UK : +44 0845 4647 (this service is only available to health professionals)  
 See [www.toxbase.org](http://www.toxbase.org) for a local poison centre

**SECTION 2 Hazards identification**

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

:

**Classification according to Regulation (EC) 1272/2008**  
 Not regulated

**2.2. Label elements**

**Labelling according to Regulation (EC) No. 1272/2008**  
 Hazards pictograms code : None  
 Precautionary statements : None

**2.3 Other hazards**

None under normal conditions. :.

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### SECTION 3 Composition/information on ingredients

#### 3.1 Substance / Preparation

Molecular weight g/mol : 105.1  
 Structural formula: : C3H7NO3

Substance name:	Contents	CAS No:	EC No:	Annex No:	Ref REACH	Classification
L-Serine	> 98.5 %	56-45-1	200-274-3	--	--	--

### SECTION 4 First aid measures

#### 4.1. Description of first aid measures

- General information** : Seek medical attention if ill effects develops.
- Inhalation** : Remove victim to fresh air.
- Skin contact** : : Wash skin with mild soap and water.
- Eye contact** : Rinse with water.
- Ingestion** : Rinse mouth.

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

Symptoms and effects, both acute and delayed. : No data available

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

Medical attention and special treatment needed. : No data available.

### SECTION 5 Fire-fighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Alcohol foam, Water spray, Carbon dioxide (CO2) or Dry powder.

#### 5.2. Special hazards arising from the substance or mixture

Under fire conditions, hazardous fumes will be present. COx, NOx

#### 5.3. Advice for firefighters

- Protection against fire** : Wear proper protective equipment.
- Special procedures** : Avoid (reject) fire-fighting water to enter environment.

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**SECTION 6 Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**Personal precautions** : Wear suitable protective clothing.

**6.2. Environmental precautions**

**Environmental precautions** : Prevent entry to sewers and public waters.

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

**Clean up methods** : Sweep up dry powder and dispose properly.

**6.4. Reference to other sections**

For disposal see section 13.

**SECTION 7 Handling and storage**

**7.1. Precautions for safe handling**

**General** : Store in a dry, well ventilated area.

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

**Storage** : Store at room temperature.  
Keep container tightly closed and protected from light.

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

For research purposes only

**SECTION 8 Exposure controls/personal protection**

**8.1. Control parameters**

No data available.

**8.2. Exposure controls**

- **Eye protection** : Safety glasses.
- **Skin protection** : In case of possible repeated skin contact wear protective clothing.
- **Hand protection** : Wear gloves.
- **Respiratory protection** : P1 Where excessive dust may result, wear approved mask.

**SECTION 9 Physical and chemical properties**

• **Appearance**

**Appearance** : Crystals, Powder.

**Colour** : White

• **Odour**

**Odour** : Odourless.

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### SECTION 9 Physical and chemical properties (continued)

• <u>Odour threshold</u> Odour threshold	: Not established.
• <u>pH</u> pH value	5.2 – 6.2 (10g/100mL)
• <u>Melting point / Freezing point</u> Melting point (°C)	Circa 228
• <u>Initial boiling point – boiling range</u> Boiling point (°C)	No data available.
• <u>Flash point</u> Flash point (°C)	Not applicable.
• <u>Evaporation rate</u> Evaporation rate (ether =1)	No data available.
• <u>Flammability</u> Flammability range (vol % in air)	No data available.
• <u>Explosion limits (lower – upper)</u> Explosion limits	No data available.
• <u>Vapour pressure</u> Vapour pressure	Not established.
• <u>Vapour density</u> Relative vapour density (air=1)	No data available.
• <u>Relative density</u> Relative density	No data available.
• <u>Solubility</u> Solubility in water	250 – 260 g/L - Good
• <u>Partition coefficient : n-octanol / water</u> Log P octanol / water at 20°C	Not established.
• <u>Auto-ignition temperature</u> Auto-ignition temperature (°C)	No data available.
• <u>Thermal decomposition</u> Thermal decomposition (°C)	No data available.
• <u>Viscosity</u> Viscosity	No data available.
• <u>Explosive properties</u> Explosive properties	Not established.
• <u>Oxidising properties</u> Oxidising properties	Not established.

#### 9.2 Other information

Other data No data available.

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**SECTION 10 Stability and reactivity**

**10.1. Reactivity**

Stable under normal conditions.

**10.2. Chemical stability**

Stability

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

Hazardous reactions

This product is not hazardous.

**10.4. Conditions to avoid**

Conditions to avoid

Moisture.  
Heat.  
Direct sunlight.

**10.5. Incompatible materials**

Materials to avoid

Strong oxidizers.

**10.6. Hazardous decomposition products**

Hazardous decomposition products

When heated to decomposition, emits dangerous fumes.

**SECTION 11 Toxicological information**

**11.1. Information on toxicological effects**

Rat oral LD50 (mg/Kg)

14000

**SECTION 12 Ecological information**

**12.1. Toxicity**

No data available.

**12.2. Persistence - degradability**

Product is biodegradable.

**12.3. Bioaccumulative potential**

No data available.

**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

No data available.

**12.6. Other adverse effects**

Environmental precautions

Prevent entry to sewers and public waters.  
Avoid release to the environment.

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### SECTION 13 Disposal considerations

#### **13.1. Waste treatment methods**

##### **Special precautions**

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

### SECTION 14 Transport information

#### **14.1. UN Number**

Not applicable.

##### **General information**

: Not classified as dangerous in the meaning of transport regulations.

#### **14.2. UN Proper shipping name**

Not applicable.

#### **14.3. Transport Hazard Class(es)**

Not applicable.

#### **14.4. Packing group**

Not applicable.

#### **14.5. Environmental hazards**

Not applicable.

#### **14.6. Special precautions for user**

Not applicable

### SECTION 15 Regulatory information

#### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety datasheet complies with the requirements of Regulation (EU) No. 2015/830.

#### **15.2. Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out.

### SECTION 16 Other information

##### **Further information**

: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Formedium Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product.

##### **Revision**

: Complete SDS revision

End of document

#### **Formedium Ltd.**

Unit 1B Hunstanton Commercial Park Norfolk PE365JQ

Tel: +44(0)1485 609069

Fax: +44(0)1485 600510

E-mail: info@formedium.com

In case of emergency :+44(0)1485 609069