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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  
**Trade name** : L-Cysteine  
**EC-No** : 200-158-2  
**CAS number** : 000052-90-4  
**Formula** : C3H7NO2S  
**Synonyms** : (R)-2-Amino-3-mercaptopropionic acid

**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 2 Hazards identification (continued)

#### 2.3. Other hazards

No additional information available.

### SECTION 3 Composition/information on ingredients

#### 3.1 Substance / Preparation

Molecular weight g/mol : 121.16  
 Structural formula: : C3H7NO2S

#### Hazardous ingredients according to Regulation (EC) No. 1272/2008

Component:	Concentration	CAS No	EC No	Classification
L-Cysteine	<= 100 %	52-90-4	200-158-2	-

### SECTION 4 First aid measures

#### 4.1. Description of first aid measures

- General advice** Consult a physician. Show this safety data sheet to the doctor in attendance.
- If inhaled** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- In case of skin contact** Wash off with soap and plenty of water. Obtain medical attention if irritation persists.
- In case of eye contact** Flush eyes with water as a precaution.
- If swallowed** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and / or in section 11.

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

No additional information available.

### SECTION 5 Fire-fighting measures

#### 5.1. Extinguishing media


**Suitable extinguishing media** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

**Specific hazards** : Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides.

#### 5.3. Advice for firefighters

**Protection during firefighting** : Wear self-contained breathing apparatus for firefighting if necessary.

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### SECTION 6 Accidental release measures

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Avoid breathing dust.  
For personal protection see section 8.

#### **6.2. Environmental precautions**

Prevent entry to sewers and drains.

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

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable containers for disposal.

#### **6.4. Reference to other sections**

For disposal see section 13.

### SECTION 7 Handling and storage

#### **7.1. Precautions for safe handling**

Provide appropriate exhaust ventilation at places where dust is formed.  
For precautions see section 2.2.

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

Store in a cool place. Keep container tightly in a dry and well ventilated place.

Store under inert gas. Air sensitive.  
Storage class (TRGS 510): Non Combustible Solids

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

For research purposes only


### SECTION 8 Exposure controls/personal protection

#### **8.1. Control parameters**

**Components with workplace control parameters** : Contains no substances with occupational exposure limit values.

#### **8.2. Exposure controls**

**Appropriate engineering controls** : Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of workday.  
**Eye / face protection** : Safety glasses tested and approved to NIOSH (US) or EN 166 (EU).  
**Skin protection** : Handle with gloves that meet standard EN 374. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.  
**Respiratory protection** : Where excessive dust may result, wear approved mask. N95 (US) or type P1 (EN 143) dust masks.

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## SECTION 9 Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance	Crystalline.
Colour	White.
Odour	No data available.
Odour Threshold	No data available
pH	No data available
pH solution	1.5 – 2.1.0 g/100 mL
Melting point	240 °C
Freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Relative evaporation rate	No data available
Flammability (solid, gas)	No data available
Vapour pressure	No data available
Relative vapour density at 20°C	1.496 g/cm <sup>3</sup>
Relative density	No data available
Water solubility	No data available.
Log Pow	No data available
Auto-ignition temperature	292 °C
Decomposition temperature	No data available.
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Explosive limits	No data available

### **9.2. Other safety information**

No data available

## SECTION 10 Stability and reactivity

### 10.1. Reactivity

No data available.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

**Hazardous reactions** : None under normal conditions.

### 10.4. Conditions to avoid

**Conditions to avoid** : No data available.

### 10.5. Incompatible materials

**Materials to avoid** : Strong oxidizing agents.

### 10.6. Hazardous decomposition products

No data available.  
In the event of fire see section 5.

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### SECTION 11 Toxicological information

#### 11.1. Information on toxicological effects

<b>Acute toxicity</b>	: LD50 Oral – Rat – female	: 5850 mg/Kg
	: LD50 Dermal – Rat – male and female (OECD Test Guideline 402)	: > 2000 mg/Kg
<b>Skin corrosion / irritation</b>	: Skin – Rabbit (OECD Test Guideline 404)	: No skin irritation.
<b>Serious eye damage / eye irritation</b>	: Eyes – Rabbit (OECD Test Guideline 405)	: No eye irritation.
<b>Respiratory or skin sensitisation</b>	: Mouse - Did not cause sensitisation on laboratory animals. (OECD Test Guideline 429)	
<b>Germ cell mutagenicity</b>	: Chromosome aberration test in vitro Chinese hamster fibroblasts	: Negative
<b>Carcinogenicity</b>	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.	
<b>Reproductive toxicity</b>	No data available	
<b>Specific target organ toxicity – single exposure</b>	No data available.	
<b>Specific target organ toxicity – repeated exposure</b>	No data available.	
<b>Aspiration hazard</b>	No data available.	
<b>Additional information</b>	Repeated dose Rat – male and female toxicity RTECS: HA 1600000 To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.	

### SECTION 12 Ecological information

#### 12.1. Toxicity

Toxicity to fish	semi-static test LC50 – Danio rerio (zebra fish) - > 100 mg/l – 96 h (OECD Test Guideline 203)
Toxicity to daphnia and Other aquatic invertebrates	semi-static test EC50 – Daphnia magna (Water flea) - > 100 mg/l – 48 h (OECD Test Guideline 202)

#### 12.2. Persistence – degradability

No data available.

#### 12.3. Bioaccumulative potential

Biodegradability	aerobic – Exposure time 28 d Result: 98% - Readily biodegradable (OECD Test Guideline 301A)
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#### 12.4. Mobility in soil

No data available.

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

This substance / mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### 12.6. Other adverse effects

No data available.

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### SECTION 13 Disposal considerations

#### 13.1. Waste treatment methods

##### **Product**

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

##### **Contaminated packaging**

Dispose of as unused product.

### SECTION 14 Transport information

#### 14.1. UN Number

Not applicable.

##### **General information**

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

#### 14.2. U N 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

#### 14.7. Bulk transport – annex II Marpol 73/78 – IBC

Not applicable.

### SECTION 15 Regulatory information

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

This safety data sheet complies with the requirements of Regulation (EC) 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