

## Safety data sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 29.04.2025

Version number 5 (replaces version 4)

Revision: 29.04.2025



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

- **1.1 Product identifier**
- **Trade name: L2 Buffer**
- **Product Code: 20-8200-15**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Product category** PC21 Laboratory chemicals
- **Application of the substance / the mixture** Laboratory chemicals
- **Uses advised against** Any use not specified above.
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier:**  
Severn Biotech Ltd.  
Unit 2,  
Park Lane,  
Kidderminster,  
Worcestershire.  
DY11 6TJ  
UK  
Tel: 0044 1562 825286  
Fax: 0044 1562 825284  
email: info@severnbiotech.com
- **Further information obtainable from:** Product safety department.
- **1.4 Emergency telephone number:**  
Members of the public seeking specific information on poisons should contact:  
In England and Wales: NHS 111 - dial 111  
In Scotland: NHS 24 - dial 111

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to GB-CLP**

Acute Tox. 4	H302 Harmful if swallowed.
Acute Tox. 4	H332 Harmful if inhaled.
Skin Corr. 1C	H314 Causes severe skin burns and eye damage.
Eye Dam. 1	H318 Causes serious eye damage.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.
- **2.2 Label elements**
- **Labelling according to GB-CLP** The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms**

GHS05    GHS07
- **Signal word** Danger
- **Hazard-determining components of labelling:**  
Guanidine thiocyanate
- **Hazard statements**  
H302+H332 Harmful if swallowed or if inhaled.  
H314 Causes severe skin burns and eye damage.

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- H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
    - P260 Do not breathe dusts or mists.
    - P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
    - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
    - P310 Immediately call a POISON CENTER/doctor.
    - P405 Store locked up.
    - P501 Dispose of contents/container in accordance with local regulations.
  - **Additional information:**
    - EUH032 Contact with acids liberates very toxic gas.
  - **2.3 Other hazards**
  - **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 593-84-0 EINECS: 209-812-1 Index number: 615-004-00-3 Reg.nr.: 01-2120735072-65-XXXX	Guanidine thiocyanate ⚠ Skin Corr. 1C, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Aquatic Chronic 3, H412, EUH032 ATE: LD50 dermal: 1,100.1 mg/kg LC50/4 h inhalative: 1.5 mg/l	25 – 50%
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- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
  - Immediately remove any clothing soiled by the product.
  - Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
  - Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
  - In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
  - Immediately wash with water and soap and rinse thoroughly.
  - If skin irritation continues, consult a doctor.
  - Chemical burns must be treated promptly by a physician.
- **After eye contact:**
  - Check for and remove any contact lenses.
  - Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
  - Rinse out mouth and then drink plenty of water.
  - Do not induce vomiting; call for medical help immediately.
  - If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

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- **Information for doctor:** Treat symptomatically and supportively.
- **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<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Ammonia  
Carbon monoxide and carbon dioxide  
Sulphur Oxides (SO<sub>x</sub>)  
Nitrogen oxides (NO<sub>x</sub>)  
Hydrogen cyanide (HCN)  
Hydrogen sulphide (H<sub>2</sub>S)
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear fully protective suit.  
Wear self-contained respiratory protective device.  
Do not inhale explosion gases or combustion gases.
- **Additional information**  
Absorb gas/vapours with water spray.  
Cool endangered receptacles with water spray.  
Collect contaminated fire fighting water separately. It must not enter the sewage system.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation
- **6.2 Environmental precautions:**  
Do not allow to penetrate the ground/soil.  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.
- **6.3 Methods and material for containment and cleaning up:**  
Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.  
Wash the area with plenty of water.  
Ensure adequate ventilation.
- **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.

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### SECTION 7: Handling and storage

#### · 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.

Safety showers and eye wash facilities should be available at the work area.

Do not mix with acids.

· **Information about fire - and explosion protection:** No special measures required.

#### · 7.2 Conditions for safe storage, including any incompatibilities

##### · Storage:

· **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.

· **Information about storage in one common storage facility:**

Do not store together with acids.

Store away from oxidising agents.

Store away from foodstuffs.

· **Further information about storage conditions:**

Protect from heat and direct sunlight.

Store under lock and key and with access restricted to technical experts or their assistants only.

· **Storage class:** 8 B

· **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

#### · 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

#### · DNELs

##### CAS: 593-84-0 Guanidine thiocyanate

Oral	Long-term systemic effects	155 µg/kg bw/day (general population)
Dermal	Long-term systemic effects	155 µg/kg bw/day (general population)
		310 µg/kg bw/day (worker)
Inhalative	Long-term systemic effects	1.092 mg/m <sup>3</sup> (worker)
	Short-term systemic effects	3.28 mg/m <sup>3</sup> (worker)
	Long-term systemic effects	270 µg/m <sup>3</sup> (general population)

#### · PNECs

##### CAS: 593-84-0 Guanidine thiocyanate

Freshwater	42.4 – 194 µg/L
Freshwater - Intermittent releases	424 µg/L
Marine water	4.24 – 19.4 µg/L
Marine Water - Intermittent releases	424 µg/L
Sewage Treatment Plant	20 mg/L
Sediment (freshwater)	165 – 750 µg/kg
Sediment (marine water)	16.5 – 75 µg/kg

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Soil	8.03 – 37 µg/kg
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· **Additional information:** The lists valid during the making 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.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat, drink, smoke or sniff while working.

Do not inhale dust / smoke / mist.

A safe system of work must be formulated and followed to ensure safe working with this product. Relevant workers must receive suitable and sufficient training and supervision.

· **Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.

· **Hand protection**



Protective gloves.

Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

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

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Nitrile rubber, NBR

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

Break-through time: > 480 minutes

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Not suitable are gloves made of the following materials:**

Leather gloves

Textile gloves.

· **Eye/face protection**



Safety glasses with side-shields conforming to EN166.

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

· **Body protection:**



Impervious protective clothing

Body protection must be chosen depending on product properties, activity and possible exposure.

· **Environmental exposure controls** Do not allow to enter drains, sewers or watercourses.

· **Risk management measures** The operators shall be instructed adequately.

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### SECTION 9: Physical and chemical properties

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

##### · General Information

· Physical state	Liquid
· Colour:	Clear
· Odour:	Mild
· Odour threshold:	Not determined.
· Melting point/freezing point:	Undetermined.
· Boiling point or initial boiling point and boiling range	approx. 100 °C
· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	Not applicable.
· Decomposition temperature:	Not determined.
· pH at 20 °C	4 – 5
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic:	Not determined.
· Solubility	
· water:	Fully miscible.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure at 20 °C:	23 hPa
· Density and/or relative density	
· Density at 20 °C:	1.2 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.

#### · 9.2 Other information

· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not self-igniting.
· Explosive properties:	Product does not present an explosion hazard.
· Solvent content:	
· VOC (EC)	0.00 %
· Change in condition	
· Evaporation rate	Not determined.

#### · Information with regard to physical hazard classes

· Explosives	Not applicable
· Flammable gases	Not applicable
· Aerosols	Not applicable
· Oxidising gases	Not applicable
· Gases under pressure	Not applicable
· Flammable liquids	Not applicable
· Flammable solids	Not applicable
· Self-reactive substances and mixtures	Not applicable
· Pyrophoric liquids	Not applicable
· Pyrophoric solids	Not applicable

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· <b>Self-heating substances and mixtures</b>	Not applicable
· <b>Substances and mixtures, which emit flammable gases in contact with water</b>	Not applicable
· <b>Oxidising liquids</b>	Not applicable
· <b>Oxidising solids</b>	Not applicable
· <b>Organic peroxides</b>	Not applicable
· <b>Corrosive to metals</b>	Not applicable
· <b>Desensitised explosives</b>	Not applicable

### 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 and stored according to specifications.
- **10.3 Possibility of hazardous reactions** Contact with acids releases toxic gases.
- **10.4 Conditions to avoid** Heat and static discharge.
- **10.5 Incompatible materials:** Strong acids and oxidising agents
- **10.6 Hazardous decomposition products:**  
Ammonia  
Carbon monoxide and carbon dioxide  
Hydrogen cyanide  
Hydrogen sulphide  
Sulphur oxides (SO<sub>x</sub>)  
Nitrogen oxides (NO<sub>x</sub>)

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**  
Harmful if swallowed or if inhaled.

#### · **LD/LC50 values relevant for classification:**

##### ATE (Acute Toxicity Estimates)

Oral	LD50	1,548.3 mg/kg (rat)
Dermal	LD50	2,872.3 mg/kg (ATE)
Inhalative	LC50/4 h	3.9164 mg/l

##### CAS: 593-84-0 Guanidine thiocyanate

Oral	LD50	593 mg/kg (rat)
Dermal	LD50	1,100.1 mg/kg (ATE)

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **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** Based on available data, the classification criteria are not met.

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- **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.
- **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.  
Inhalation may cause lung oedema, but only after initial corrosive effects on eyes and/or airways have become manifest. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.
- **11.2 Information on other hazards**

<b>· Endocrine disrupting properties</b>
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None of the ingredients are listed.
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## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** biodegradable
- **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.

## SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Recommended Hierarchy of Controls:
  - Minimise waste;
  - Reuse if not contaminated;
  - Recycle, if possible; or
  - Safe disposal (if all else fails).
Must not be disposed together with household garbage. Do not allow product to reach sewage system.  
Contact waste processors for recycling information.  
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.
- **Uncleaned packaging:**
- **Recommendation:**  
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

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Disposal must be made according to official regulations.

Container remains hazardous when empty. Continue to observe all precautions.

Containers, even those that are "empty," may contain residues that can develop flammable and/or hazardous vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

#### \* SECTION 14: Transport information

· 14.1 UN number or ID number	UN1760
· ADR/RID/ADN, IMDG, IATA	
· 14.2 UN proper shipping name	UN1760 CORROSIVE LIQUID, N.O.S. (Guanidine thiocyanate)
· ADR/RID/ADN	
· IMDG, IATA	CORROSIVE LIQUID, N.O.S. (Guanidine thiocyanate)
· 14.3 Transport hazard class(es)	
· ADR/RID/ADN	
	
· Class	8 (C9) Corrosive substances.
· Label	8
· IMDG, IATA	
	
· Class	8 Corrosive substances.
· Label	8
· 14.4 Packing group	
· ADR/RID/ADN, IMDG, IATA	III
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Corrosive substances.
· Hazard identification number (Kemler code):	80
· Hazchem Code:	2X
· EMS Number:	F-A,S-B
· Stowage Category	A
· Stowage Code	SW2 Clear of living quarters.
· Segregation Code	SG35 Stow "separated from" SGG1-acids
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.

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<b>· Transport/Additional information:</b>	
· ADR/RID/ADN	5L
· Limited quantities (LQ)	Code: E1
· Excepted quantities (EQ)	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1760 CORROSIVE LIQUID, N.O.S. (GUANIDINE THIOCYANATE), 8, III

## SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Poisons Act

### · Regulated explosives precursors

None of the ingredients are listed.

### · Regulated poisons

None of the ingredients are listed.

### · Reportable explosives precursors

None of the ingredients are listed.

### · Reportable poisons

None of the ingredients are listed.

### · Control Of Major Accident Hazards Regulations 2015 (COMAH)

- Named dangerous substances - ANNEX I None of the ingredients are listed.

- 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.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

### · Relevant phrases

H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H332 Harmful if inhaled.  
H412 Harmful to aquatic life with long lasting effects.  
EUH032 Contact with acids liberates very toxic gas.

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**· Training hints**

This product should only be handled by workers who have received sufficient training in the safe handling and use of chemical products.

**· Department issuing SDS: Product safety department.****· Abbreviations and acronyms:**

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

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1C: Skin corrosion/irritation – Category 1C

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

**· \* Data compared to the previous version altered.**

— GB —