

## Safety Data Sheet

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

Printing date 09.09.2025

Version number 2 (replaces version 1)

Revision: 09.09.2025

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

**1.1 Product identifier****Trade name:** Guanidine Isothiocyanate**Product Code:** 20-8100**CAS Number:**

593-84-0

**EC number:**

209-812-1

**Index number:**

615-004-00-3

**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 involving significant release of dust, vapour or mist in the breathing zone of workers where they are exposed without suitable respiratory protective equipment (RPE).

Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).

Processes involving extreme heat use advised against.

Processes involving the use of incompatible substances - refer to section 10.

The product is strictly intended for industrial or professional use only.

**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 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Corr. 1C H314 Causes severe skin burns and eye damage.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

**2.2 Label elements****Labelling according to GB-CLP** The substance is classified and labelled according to the GB CLP regulation.

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### · Hazard pictograms



GHS05 GHS07

### · Signal word Danger

### · Hazard statements

H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.

H314 Causes severe skin burns and eye damage.

H412 Harmful to aquatic life with long lasting effects.

### · Precautionary statements

P220 Keep away from acids.

P260 Do not breathe dust.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

### · 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

### · 3.1 Substances

### · CAS No. Description

CAS: 593-84-0 Guanidine thiocyanate

### · Identification number(s)

· **EC number:** 209-812-1

· **Index number:** 615-004-00-3

## 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:

In case of inhalation:

- Provide fresh air.

- In case of breathing difficulties administer oxygen.

- No mouth-to-mouth or mouth-to-nose resuscitation. Use respiratory bag or oxygen resuscitation apparatus.

- Do not leave patient unattended.

If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

### · After skin contact:

Immediately wash with water and soap and rinse thoroughly.

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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.

· **Information for doctor:**

Inhalation of an aerosol of this substance may cause lung oedema.

Treat symptomatically and supportively.

· **4.2 Most important symptoms and effects, both acute and delayed** Corrosive damage to gastro-intestinal tract.

· **Hazards** Danger of gastric perforation.

· **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.

Use fire extinguishing methods suitable to surrounding conditions.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

In case of fire, the following can be released:

Ammonia

Carbon monoxide and carbon dioxide

Nitrogen oxides (NO<sub>x</sub>)

Sulphur Oxides (SO<sub>x</sub>)

Hydrogen cyanide (HCN)

Hydrogen sulphide (H<sub>2</sub>S)

· **5.3 Advice for firefighters**

· **Protective equipment:**

Do not inhale explosion gases or combustion gases.

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information**

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**

Avoid formation of dust.

Ensure adequate ventilation

Wear protective equipment. Keep unprotected persons away.

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- **6.2 Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.  
Do not allow to penetrate the ground/soil.
- **6.3 Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Ensure adequate ventilation.  
Send for recovery or disposal in suitable receptacles.
- **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**  
Prevent formation of dust.  
Ensure good ventilation/exhaustion at the workplace.  
Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.  
Do not mix with acids.  
Safety showers and eye wash facilities should be available at the work area.  
Cyanide poisoning first-aid (antidote) kits containing amyl nitrite ampules (or equivalent) must be available at the work site.
- **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:**  
Store in cool, dry conditions in well sealed receptacles.  
Maximum storage temperature: 40 °C  
Store in the dark.  
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:** Not required.

#### · DNELs

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)

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	Short-term systemic effects	3.28 mg/m <sup>3</sup> (worker)
	Long-term systemic effects	270 µg/m <sup>3</sup> (general population)
<b>· PNECs</b>		
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
Soil		8.03 – 37 µg/kg

· **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:**

Do not breathe dust

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.

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.

· **Respiratory protection:**



When dust/mist are present use a Particulate filter, type P2.

· **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.

· **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.

· **Eye/face protection**



Tightly sealed goggles conforming to EN166.

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**· 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.

### SECTION 9: Physical and chemical properties

**· 9.1 Information on basic physical and chemical properties**
**· General Information**

· <b>Physical state</b>	Solid
· <b>Colour:</b>	White
· <b>Odour:</b>	Mild
· <b>Odour threshold:</b>	Not determined.
· <b>Melting point/freezing point:</b>	115 – 118 °C
· <b>Boiling point or initial boiling point and boiling range</b>	Undetermined.
· <b>Flammability</b>	Product is not flammable.
· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.
· <b>Flash point:</b>	Not applicable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>pH</b>	Not applicable.
· <b>Viscosity:</b>	
· <b>Kinematic viscosity</b>	Not applicable.
· <b>Dynamic:</b>	Not applicable.
· <b>Solubility</b>	
· <b>water at 20 °C:</b>	1350 g/l
· <b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
· <b>Vapour pressure:</b>	Not applicable.
· <b>Density and/or relative density</b>	
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not applicable.

**· 9.2 Other information**
**· Appearance:**
**· Form:** Powder

**· Important information on protection of health and environment, and on safety.**
**· Ignition temperature:** Not determined.

**· Explosive properties:** Product does not present an explosion hazard.

**· Molecular weight** 118.16 g/mol

**· Change in condition**
**· Evaporation rate** Not applicable.

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<b>· Information with regard to physical hazard classes</b>	
· 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
· Self-heating substances and mixtures	Not applicable
· Substances and mixtures, which emit flammable gases in contact with water	Not applicable
· Oxidising liquids	Not applicable
· Oxidising solids	Not applicable
· Organic peroxides	Not applicable
· Corrosive to metals	Not applicable
· Desensitised explosives	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 sulphide  
Nitrogen oxides (NO<sub>x</sub>)  
Sulphur oxides (SO<sub>x</sub>)  
Hydrogen cyanide (prussic acid)

### SECTION 11: Toxicological information

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

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

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.

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- **Serious eye damage/irritation**  
Causes severe skin burns and 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.
- **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**
- **Endocrine disrupting properties** Substance is not listed.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** Inherently 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) (Assessment by list): 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.

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Do not mix with other waste streams.

- **Uncleaned packaging:**

- **Recommendation:**

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

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.

Do not mix with other waste streams.

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

### SECTION 14: Transport information

- **14.1 UN number or ID number**

- **ADR/RID/ADN, IMDG, IATA** UN1759

- **14.2 UN proper shipping name**

- **ADR/RID/ADN** UN1759 CORROSIVE SOLID, N.O.S. (Guanidine thiocyanate)

- **IMDG, IATA** CORROSIVE SOLID, N.O.S. (Guanidine thiocyanate)

- **14.3 Transport hazard class(es)**

- **ADR/RID/ADN**



- **Class** 8 (C10) 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**

- **Hazard identification number (Kemler code):** Warning: Corrosive substances.

- **Hazard identification number (Kemler code):** 80

- **Hazchem Code:** 2X

- **EMS Number:** F-A,S-B

- **Stowage Category** A

- **Segregation Code** SG35 Stow "separated from" SGG1-acids

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· <b>14.7 Maritime transport in bulk according to IMO instruments</b>		Not applicable.
· <b>Transport/Additional information:</b>		
· <b>ADR/RID/ADN</b>		
· <b>Limited quantities (LQ)</b>	5 kg	
· <b>Excepted quantities (EQ)</b>	Code: E1	
	Maximum net quantity per inner packaging: 30 g	
	Maximum net quantity per outer packaging: 1000 g	
· <b>Transport category</b>	3	
· <b>Tunnel restriction code</b>	E	
· <b>IMDG</b>		
· <b>Limited quantities (LQ)</b>	5 kg	
· <b>Excepted quantities (EQ)</b>	Code: E1	
	Maximum net quantity per inner packaging: 30 g	
	Maximum net quantity per outer packaging: 1000 g	
· <b>UN "Model Regulation":</b>	UN 1759 CORROSIVE SOLID, 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** Substance is not listed.
- **Regulated poisons** Substance is not listed.
- **Reportable explosives precursors** Substance is not listed.
- **Reportable poisons** Substance is not listed.
- **Control Of Major Accident Hazards Regulations 2015 (COMAH)**
- **Named dangerous substances - ANNEX I** Substance is not 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.

- **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

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

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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

Acute Tox. 4: Acute toxicity – Category 4

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

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

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

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