BIOSPECTRA
Premium Pharmaceutical Ingredients

Guanidine Thiocyanate

Safety Data Sheet
According to Regulation (EC) 1272/2008
Issue Date: 03/05/21

SECTION 1 - Chemical Product and Company Identification

1.1 Product Identifiers

Product Name	:	Guanidine Thiocyanate
CAS#	:	593-84-0
EC#	:	209-812-1
RTECS	:	Not available
Synonyms	:	Guanidine Isothiocyanate

1.2 Recommended Use of the Chemical and Restrictions of Use

Chemical manufacturing

1.3 Supplier Details

Supplier

BioSpectra, Inc.
100 Majestic Way
Bangor, PA 18013
T: 610-599-3400
ra@biospectra.us

1.4 Emergency Numbers

Emergency Numbers:

US & Canada: 1-800-424-9300
Outside the US & Canada: +1 703-527-3887

SECTION 2 - Hazards Identification

2.1 Classification of the Substance or Mixture

GHS Classification: 29 CFR 1910 & EU 1272/2008
Acute toxicity, Oral (Category 4)
Acute toxicity, Dermal (Category 4)
Acute toxicity, Inhalation(Category 4)
Skin corrosion/Irritation (Category 1C)
Serious eye damage (Category 1)
Chronic aquatic toxicity (Category 3)

2.2 GHS Label Element Including Precautionary Statements

Pictogram :

Signal Word : Danger

Hazard Statement(s)

: 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
: EUH071 Corrosive to the respiratory tract

Precautionary Statement(s)

: P260 - Do not breathe dust or mist.
: P270 - Do not eat, drink or smoke when using this product.
: P280 - Wear protective gloves/protective clothing/eye protection/ face protection.
: P301+P330+P331 - IF SWALLOWED: rinse mouth, Do NOT induce vomiting.
: P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
: P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest position comfortable for breathing.
: 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 or doctor/physician.
: P501 - Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not Classified or not Covered by the GHS

None

SECTION 3 - Composition, Information on Ingredients

3.1 Substances

Chemical Name	:	Guanidine Thiocyanate
Synonyms	:	Guanidine Isothiocyanate
CAS#	:	593-84-0
EC#	:	209-812-1
Molecular Formula	:	$C_2H_6N_4S$ or $NH_2C(NH)NH_2 \cdot HSCN$
Molecular Weight	:	118.16 g/mol

SECTION 4 - First Aid Measures

4.1 Description of Necessary First Aid Measures

General Advice	:	Remove contaminated clothing for the protection of first aider. Show this safety data sheet to the doctor in attendance.
Eyes	:	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Consult a physician.
Skin	:	Wash with soap and plenty of water. Remove contaminated clothing and shoes. Cover irritated skin with emollient. Consult a physician.
Ingestion	:	Immediate medical attention is required. Do no induce vomiting. Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.
Inhalation	:	Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.

4.2 Most Important Symptoms/Effects, Acute and Delayed

Causes burns by all exposure routes. Product is corrosive. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated.

4.3 Indication of Immediate Medical Attention and Special Treatment

No information available.

SECTION 5 - Firefighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media : In case of fire, use dry powder, fog or foam
Unsuitable Extinguishing Media : Water Jet

5.2 Specific Hazards Associated with this Chemical

Hydrogen cyanide (hydrocyanic acid), Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides.

5.3 Special Equipment/Precautions for Firefighters

Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a NIOSH approved (or equivalent) self-contained breathing apparatus (SCBA) and full protective gear to prevent contact with thermal decomposition products. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

5.4 Other Information

None available.

SECTION 6 - Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Use proper Personal Protective Equipment as indicated in Section 8. Avoid dust and aerosol formation. Avoid breathing dust, vapors, mist or gas.

6.2 Environmental Precautions

Prevent any additional leakage or spillage, if safe to do so. Do not allow to enter drains. Do not discharge to the environment.

6.3 Methods and Materials for Containment and Cleaning Up

Avoid creating dust. Vacuum or sweep up material and place into a suitable disposal container. Do not flush with water. Keep in suitable closed containers for disposal.

6.4 Other Information

See Section 13 for disposal considerations.

SECTION 7 - Handling and Storage

7.1 Precautions for Safe Handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for Storage Including any Incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Never allow product to get in contact with water during storage. Do not store near acids. Light sensitive. Hygroscopic. Store under inert gas.

7.3 Other Information

No information available.

SECTION 8 - Exposure Controls, Personal Protection

8.1 Control Parameters

Chemical does not contain any substances with occupational exposure limits.

8.2 Engineering Controls

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

8.3 Personal Protective Measures

Eyes
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin
Wear appropriate gloves to prevent skin exposure. Wear impervious gloves: Nitrile rubber with layer thickness 0.11mm.

Clothing
Wear appropriate impervious protective clothing to minimize contact with skin.

Respirators
Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Where protection from nuisance levels of dust are desired use type N95 (US) or type P1 (EN143) dust masks.

SECTION 9 – Physical and Chemical Properties

9.1 Chemical Property Information

Physical State	:	Solid
Appearance	:	Off-white powder
Odor	:	Odorless
pH	:	4.8-6.0 (20% aqueous solution)
Vapor Pressure	:	No data
Vapor Density	:	No data
Viscosity	:	No data
Melting Point	:	118-122°C (244.4-251.6°F)
Boiling Point	:	No data
Flash Point	:	No data
Solubility	:	1,420 g/l at 20°C
Relative Density	:	1.29 g/cm3 at 20 °C
Molecular Formula	:	$C_2H_6N_4S$ or $NH_2C(NH)NH_2 \cdot HSCN$
Molecular Weight	:	118.16 g/mol

SECTION 10 - Stability and Reactivity

10.1 Chemical Stability

Stable under recommended storage conditions.

10.2 Conditions to Avoid

Contact with acids liberates very toxic gas.

10.3 Incompatibilities with Other Materials

Strong acids, Strong oxidizing agents, Cyanides.

10.4 Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions: Hydrogen cyanide (hydrocyanic acid), Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides.

10.5 Hazardous Polymerization

Has not been reported.

SECTION 11 - Toxicological Information

11.1 Toxicological Effects

LD50/LC50:

Oral LD50	:	Rat - 593 mg/kg
Inhalation LC50	:	No data available
Dermal LD50	:	No data available

Other Information on Acute Toxicity:

LD50 Intraperitoneal	:	Mouse - 300 mg/kg.
Carcinogenicity	:	Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology	:	No data available
Teratogenicity	:	No data available
Reproductive Effects	:	No data available
Mutagenicity	:	No data available
OSHA	:	No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Specific target organ toxicity-single exposure	:	No data available
Specific target organ toxicity-repeated exposure	:	No data available
Aspiration hazard	:	No data available

Additional Information

RTECS	:	Not available

To the best of our knowledge the associated physical, chemical and toxicological properties of this chemical have not undergone thorough investigation, all known information is contained in this SDS.

SECTION 12 - Ecological Information

12.1 Ecotoxicity

Toxicity to Daphnia and Other Aquatic Invertebrates	
EC50 - Daphnia	42.4 mg/L - 48 h.

12.2 Persistence and Degradability

Persistence is unlikely.

12.3 Bioaccumulative Potential

Bioaccumulation is unlikely.

12.4 Mobility in Soil

The product is water soluble, and may spread in water systems. Highly mobile in soils.

12.5 Result of PBT and vPvB Assessment

PBT/vPvB assessment not available, chemical safety assessment not required/conducted.

12.6 Other Adverse Effects

Environmental hazard cannot be completely ruled out in the event of unprofessional handling or disposal. Harmful to aquatic life.

SECTION 13 - Disposal Considerations

13.1 Disposal Methods

Waste is considered hazardous. Dispose of in a manner consistent with Federal, State, and Local Regulations.

SECTION 14 - Transport Information

	DOT	ADR	IATA	IMDG
Proper Shipping Name	Corrosive Solid, N.O.S. (Guanidinum Thiocyanate)	1759 Corrosive Solid, N.O.S. (Guanidinium Thiocyanate)	Corrosive Solid, N.O.S. (Guanidinium Thiocyanate)	Corrosive Solid, N.O.S. (Guanidinium Thiocyanate)
UN Number	UN1759	UN1759	UN1759	UN1759
Hazard Class	8	8	8	8
Packing Group	III	III	III	III

SECTION 15 - Regulatory Information

TSCA : CAS# 593-84-0 is listed on the TSCA inventory.

OSHA Hazards : Harmful by ingestion, Corrosive.

SARA:

SARA Section 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA Section 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA Section 311/312 : Acute Health Hazard

STATE SPECIFIC:

Massachusetts Right to Know Components : No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components : Guanidinium thiocyanate CAS# 593-84-0

New Jersey Right to Know Components : Guanidinium thiocyanate CAS# 593-84-0

California Prop. 65 Components : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16 - Additional Information

16.1 Hazard Ratings:

NFPA Rating	
Health Hazard	3
Fire Hazard	1
Reactivity Hazard	0