



Safety Data Sheet
Guanidine Thiocyanate

Section 1 - Chemical Product and Company Identification

1.1 Product Identifiers:

Product Name: Guanidine Thiocyanate
Catalog Number(s): GT3201, GT3220, GT4205, GT4220, GT5201, GT5202, GT5203, GT5220
CAS#: 593-84-0
RTECS: Not available
REACH Number: No registration number is available, the substance or uses of this substance are exempt from registration, annual tonnage registration is not required or it is envisaged for a registration deadline at a later date.

1.2 Recommended Use of the Chemical and Restrictions of Use:

Chemical manufacturing

1.3 Supplier Details:

BioSpectra, Inc.
 100 Majestic Way
 Bangor, PA 18013
 610-599-3400

1.4 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 in accordance with 29 CFR 1910:
 Acute toxicity, Oral (Category 4)
 Skin corrosion (Category 1C)
 Serious eye damage (Category 1)
 Acute aquatic toxicity (Category 3)
 Chronic aquatic toxicity (Category 3)

2.2 GHS Label Element Including Precautionary Statements:

Pictogram:



Signal Word: Danger

Hazard statement(s):	
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.

H412	Harmful to aquatic life with long lasting effects.
Precautionary statement(s):	
P260	Do not breathe dust or mist.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
Precautionary statement(s) Continued:	
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
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.
P321	Specific treatment (see supplemental first aid instructions on this SDS).
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not Classified or not Covered by the GHS:

When in contact with acids, liberates very toxic gas.

Section 3 - Composition, Information on Ingredients

3.1 Substances:

Synonyms: Guanidine Isothiocyanate
Formula: NH₂C(NH)NH₂·HSCN
Molecular Weight: 118.16 g/mol
CAS#: 593-84-0
EC#: 209-812-1

Component	Classification	Concentration
Guanidine Thiocyanate	Acute Tox. 4; Skin Corr. 1C; Eye Dam. 1; Aquatic Acute 3;	≤100%

	Aquatic Chronic 3; H302 + H312 + H332, H314, H412	
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Section 4 - First Aid Measures

4.1 Description of Necessary First Aid Measures:

General advice: Remove from dangerous area. Consult a physician. 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. Continue rinsing eyes on the way to the hospital. Get medical aid.

Skin: Wash with soap and plenty of water. Remove contaminated clothing and shoes. Cover irritated skin with emollient. Consult a physician.

Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing. Get medical aid.

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:

Refer to Section 2.2 for Precautionary Statements if applicable.

4.3 Indication of Immediate Medical Attention and Special Treatment:

No information available.

Section 5 - Firefighting Measures

5.1 Extinguishing Media: In case of fire, use dry powder, water spray, fog or foam. Do not use water jet.

5.2 Specific Hazards Associated with this Chemical: 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 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: No information 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, vapours, 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	Melting Point: 117°C
Appearance: White	Boiling Point: No data
Odor: Odorless	Flash Point: No data

pH: 4-7 (5% aqueous solution)	Solubility: 1,420 g/l at 20°C
Vapor Pressure: No data	Relative Density: 1.29 g/cm ³ at 20 °C
Vapor Density: No data	Molecular Formula: NH ₂ C(NH)NH ₂ ·HSCN
Viscosity: No data	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: Carbon oxides, Nitrogen oxides (NO_x), 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: No information available.

12.3 Bioaccumulative Potential: No information available.

12.4 Mobility in Soil: No information available.

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: Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

Regulations	US DOT	IATA	IMDG
Shipping Name	Guanidine Thiocyanate, Corrosive Solids	Guanidine Thiocyanate, Corrosive Solids	Guanidine Thiocyanate, Corrosive Solids
Hazard Class	8	8	8
UN Number	UN1759	UN1759	UN1759
Packing Group	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 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.

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: 0

Reactivity Hazard: 0

The information conveyed in this Safety Data Sheet is only a representation of what BioSpectra has found to be accurate based on the current information that is available in regards to this compound. BioSpectra makes no warranty, expressed or implied, with respect to such information, and therefore assumes no liability resulting from product usage. It is strongly recommended that users of this product perform their own investigations to determine the accuracy and suitability of the information for their specific purposes. In no way will BioSpectra assume liability for any claims, losses, damages to any third party, any lost profits or any special, indirect, incidental, consequential or exemplary damages that may arise, even if BioSpectra has been advised of the possibility of such damages.