

Material Safety Data Sheet

Guanidine thiocyanate

ACC# 01933

Section 1 - Chemical Product and Company Identification

MSDS Name: Guanidine thiocyanate

Catalog Numbers: AC411110000, AC411110050, AC411111000, AC411112500, BP221-1, BP221-250

Synonyms: Thiocyanic acid, compd. with guanidine (1:1); Guanidinium thiocyanate; Guanidine monothiocyanate.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

| CAS# | Chemical Name | Percent | EINECS/ELINCS |
|----------|-----------------------|---------|---------------|
| 593-84-0 | Guanidine thiocyanate | 99 | 209-812-1 |

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white crystals.

Warning! Causes eye, skin, and respiratory tract irritation. Harmful if swallowed, inhaled, or absorbed through the skin. May cause central nervous system depression. May cause lung damage. Light sensitive. May cause liver and kidney damage.

Target Organs: Kidneys, central nervous system, liver, lungs, cardiovascular system.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. In the presence of moisture, this material may be absorbed through the skin. If absorbed, may cause symptoms similar to those for ingestion.

Ingestion: May cause irritation of the digestive tract. May cause liver and kidney damage. Ingestion of thiocyanates may cause disorientation, weakness, low blood pressure, confusion, psychotic behavior, muscular spasms, convulsions, and death. Contact with stomach acid releases poisonous hydrogen cyanide.

Inhalation: May cause effects similar to those described for ingestion. Exposure produces central nervous system depression. Causes irritation of mucous membrane. In rare instances, exposure may cause sensitization, resulting in inflammation of the mucous membranes and in eczematous eruptions.

Chronic: May cause liver and kidney damage. Effects may be delayed. May cause lung damage. Repeated or prolonged exposure may cause allergic reactions in sensitive individuals. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed.

Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: For ingestion, the stomach should be intubated, aspirated, and lavaged with a slurry of activated charcoal--protect the airway from aspiration of gastric contents.

Antidote: Always have a cyanide antidote kit on hand when working with cyanide compounds. Get medical advice to use.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 1

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Wash area with soap and water. Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Store protected from light. Discard contaminated shoes. Acids should not be used around this material unless absolutely necessary and then only after careful planning. Contact with acids liberates toxic gas.

Storage: Do not store in direct sunlight. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|-----------------------|-------------|-------------|-------------------|
| Guanidine thiocyanate | none listed | none listed | none listed |

OSHA Vacated PELs: Guanidine thiocyanate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

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 protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Crystals

Appearance: white

Odor: odorless

pH: 4.8-6.0 (sat soln)

Vapor Pressure: Negligible.

Vapor Density: Not available.

Evaporation Rate: Negligible.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 118 - 122 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 1.29 g/cm³

Molecular Formula: C₂H₆N₄S

Molecular Weight: 118.16

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Light, dust generation, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, acids.

Hazardous Decomposition Products: Hydrogen cyanide, carbon monoxide, oxides of nitrogen, oxides of sulfur, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 593-84-0: XL1225000

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 593-84-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

| | US DOT | Canada TDG |
|-----------------------|-------------------------------|---|
| Shipping Name: | TOXIC SOLIDS, ORGANIC, N.O.S. | TOXIC SOLID ORGANIC NOS (GUANIDINE THIOCYANATE) |
| Hazard Class: | 6.1 | 6.1 |
| UN Number: | UN2811 | UN2811 |
| Packing Group: | III | III |

Section 15 - Regulatory Information

US FEDERAL

TSCA

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

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 593-84-0: immediate.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 593-84-0 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R 32 Contact with acids liberates very toxic gas.

Safety Phrases:

S 36/37 Wear suitable protective clothing and gloves.

S 50A Do not mix with acids.

WGK (Water Danger/Protection)

CAS# 593-84-0: No information available.

Canada - DSL/NDSL

CAS# 593-84-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 3/06/1998

Revision #7 Date: 5/11/2006

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.