

**GUANIDINE THIOCYANATE**  
**CAS No 593-84-0**

**MATERIAL SAFETY DATA SHEET**  
**SDS/MSDS**

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

**1.1 Product identifiers**

Product name : Guanidine Thiocyanate

CAS-No. : 593-84-0

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Industrial & for professional use only.

**1.3 Details of the supplier of the safety data sheet**

Company : Central Drug House (P) Ltd  
7/28 Vardaan House  
Ansari Road Daryaganj  
New Delhi -110002  
INDIA

Telephone : +91 11 49404040  
Email : [care@cdhfinechemical.com](mailto:care@cdhfinechemical.com)

**1.4 Emergency telephone number**

Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008**

Acute toxicity, Oral (Category 4), H302  
Acute toxicity, Inhalation (Category 4), H332  
Acute toxicity, Dermal (Category 4), H312  
Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 Label elements**

**Labelling according Regulation (EC) No 1272/2008**

Pictogram



Signal word

Warning

Hazard statement(s)  
H302 + H312 + H332  
H412

Harmful if swallowed, in contact with skin or if inhaled.  
Harmful to aquatic life with long lasting effects.

Precautionary statement(s)  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves/ protective clothing.  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
Rinse mouth.

Supplemental Hazard information (EU)  
EUH032 Contact with acids liberates very toxic gas.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : Guanidinium thiocyanate  
Guanidinium rhodanide

Formula : C<sub>2</sub>H<sub>6</sub>N<sub>4</sub>S  
Molecular weight : 118.16 g/mol  
CAS-No. : 593-84-0  
EC-No. : 209-812-1  
Index-No. : 615-030-00-5

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component		Classification	Concentration
<b>Guanidinium thiocyanate</b>			
CAS-No.	593-84-0	Acute Tox. 4; Aquatic Chronic 3; H302, H332, H312, H412	<= 100 %
EC-No.	209-812-1		
Index-No.	615-030-00-5		

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Dry powder

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

Carbon oxides, Nitrogen oxides (NO<sub>x</sub>), Sulphur oxides

### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

### **5.4 Further information**

No data available

## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

For personal protection see section 8.

### **6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### **6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For disposal see section 13.

## **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.

For precautions see section 2.2.

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

Store in cool place. 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.

Storage class (TRGS 510): Combustible solids, corrosive

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### **Personal protective equipment**

##### **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).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If the full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## **SECTION 9: Physical and chemical properties**

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

- |   |                                   |
|---|-----------------------------------|
| a) Appearance                                   | Form: solid<br>Colour: white      |
| b) Odour  | odourless                         |
| c) Odour Threshold                              | No data available                 |
| d) pH   | 4.8 - 6.0 at 1,420 g/l at 20 °C   |
| e) Melting point/freezing point                 | Melting point/range: 117 - 120 °C |
| f) Initial boiling point and boiling range      | No data available                 |
| g) Flash point                                  | No data available                 |
| h) Evaporation rate                             | No data available                 |
| i) Flammability (solid, gas)                    | No data available                 |
| j) Upper/lower flammability or explosive limits | No data available                 |
| k) Vapour pressure                              | No data available                 |
| l) Vapour density                               | No data available                 |
| m) Relative density                             | 1.29 g/cm <sup>3</sup> at 20 °C   |
| n) Water solubility                             | soluble                           |
| o) Partition coefficient: n-octanol/water       | No data available                 |
| p) Auto-ignition temperature                    | No data available                 |
| q) Decomposition temperature                    | No data available                 |
| r) Viscosity                                    | No data available                 |
| s) Explosive properties                         | No data available                 |
| t) Oxidizing properties                         | No data available                 |

### **9.2 Other safety information**

- |              |                          |
|--------------|--------------------------|
| Bulk density | ca.630 kg/m <sup>3</sup> |
|--------------|--------------------------|

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Contact with acids liberates very toxic gas.

### 10.5 Incompatible materials

Strong acids, Strong oxidizing agents, Cyanides

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides

Other decomposition products - No data available

In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 593 mg/kg(Guanidinium thiocyanate)

LD50 Intraperitoneal - Mouse - 300 mg/kg(Guanidinium thiocyanate)

#### Skin corrosion/irritation

#### Serious eye damage/eye irritation

#### Respiratory or skin sensitisation

No data available(Guanidinium thiocyanate)

#### Germ cell mutagenicity

No data available(Guanidinium thiocyanate)

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### Reproductive toxicity

No data available(Guanidinium thiocyanate)

#### Specific target organ toxicity - single exposure

No data available(Guanidinium thiocyanate)

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available(Guanidinium thiocyanate)

#### Additional Information

RTECS: XL1225000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(Guanidinium thiocyanate)

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia (water flea) - 42.4 mg/l - 48 h(Guanidinium thiocyanate)

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available(Guanidinium thiocyanate)

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

Harmful to aquatic life with long lasting effects.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

#### Contaminated packaging

Dispose of as unused product.

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: - IMDG: - IATA: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods  
IMDG: Not dangerous goods  
IATA: Not dangerous goods

### 14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

### 14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

### 14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

### 14.6 Special precautions for user

No data available

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

## **SECTION 16: Other information**

### **Full text of H-Statements referred to under sections 2 and 3.**

EUH032	Contact with acids liberates very toxic gas.
H302	Harmful if swallowed.
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.

### **Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.cdhfinechemical.com](http://www.cdhfinechemical.com) for additional terms and conditions of sale.