

## SAFETY DATA SHEET

Version: 2.13  
Creation Date: March 15, 2022  
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### Guanidine thiocyanate

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

##### 1.1 Product identifiers

Product name : Guanidine thiocyanate  
Brand : Dideu  
CAS-No. : 593-84-0

##### 1.2 Details of the supplier of the safety data sheet

Company : Shaanxi Dideu Medchem Co.,LTD  
302#, Dingkunchi 1 Road,  
Hi-Tech Zone Xi'an City,  
Shaanxi province  
CHINA

302

Telephone : +86-029-87569262

Fax : +86 29 88380326

##### 1.3 Emergency telephone

Emergency Phone # : +86-29-89586681

##### 1.4 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Industrial and scientific research use.

## SECTION 2: Hazards identification

### Summary of emergency

white odorless Harmful if swallowed, in contact with skin or if inhaled., Causes severe skin burns and eye damage., Harmful to aquatic life with long lasting effects. First aiders need to protect themselves., Show this material safety data sheet to the doctor in attendance. After inhalation: fresh air. Immediately call in physician., If breathing stops: immediately apply artificial respiration, if necessary also oxygen. In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower., Call a physician immediately. After eye contact: rinse out with plenty of water., Immediately call in ophthalmologist., Remove contact lenses. After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation)., Call a physician immediately., Do not attempt to neutralise. Combustible. Development of hazardous combustion gases or vapours possible in the event of fire. A risk of explosion and/or of toxic gas formation exists with the following substances: Acids Generates dangerous gases or fumes in contact with:, Acids

### 2.1 GHS Classification

Acute toxicity, Oral (Category 4), H302  
Acute toxicity, Inhalation (Category 4), H332  
Acute toxicity, Dermal (Category 4), H312  
Skin corrosion/irritation (Category 1C), H314  
Serious eye damage/eye irritation (Category 1), H318  
Short-term (acute) aquatic hazard (Category 3), H402  
Long-term (chronic) aquatic hazard (Category 3), H412

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

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statement(s)

H302 + H312 + H332  
H314  
H412

Harmful if swallowed, in contact with skin or if inhaled.  
Causes severe skin burns and eye damage.

Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention

P260  
P264  
P270  
P271  
P273  
P280

Do not breathe dust.  
Wash skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Avoid release to the environment.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P312 + P330  
  
P301 + P330 + P331  
P303 + P361 + P353

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P362 + P364	Take off contaminated clothing and wash it before reuse.
Storage P405	Store locked up.
Disposal P501	Dispose of contents/ container to an approved waste disposal plant.

### Reduced Labeling (<= 125 ml)

Pictogram



Signal Word	Danger
Hazard statement(s) H302 + H312 + H332 H314 H412	Harmful if swallowed, in contact with skin or if inhaled. Causes severe skin burns and eye damage. Harmful to aquatic life with long lasting effects.
Precautionary statement(s)	none

### 2.3 Physical and chemical hazards

Referring to current information, no physical or chemical hazard.

### 2.4 Health hazards

H302	Harmful if swallowed.
H332	Harmful if inhaled.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

### 2.5 Environmental hazards

H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

### 2.6 Other hazards

Contact with acids liberates very toxic gas.

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## SECTION 3: Composition/information on ingredients

Substance / Mixture : Substance

### 3.1 Substances

Synonyms : Guanidinium thiocyanate  
Guanidinium rhodanide

Formula : CH<sub>5</sub>N<sub>3</sub> · CHNS  
Molecular weight : 118.16 g/mol  
CAS-No. : 593-84-0  
EC-No. : 209-812-1

**Hazardous ingredients**

Component	Classification	Concentration
<b>guanidinium, thiocyanate (1:1)</b>	Acute toxicity Category 4; Skin corrosion/irritation Category 1C; Serious eye damage/eye irritation Category 1; Short-term (acute) aquatic hazard Category 3; Long-term (chronic) aquatic hazard Category 3; H302, H332, H312, H314, H318, H402, H412	<= 100 %

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**

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

**If inhaled**

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

**In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

**In case of eye contact**

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

**If swallowed**

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

**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

**4.4 Notes to physician**

No data available

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## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

#### **Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

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

Carbon oxides

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

Sulfur oxides

Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

### **5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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

For disposal see section 13.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

#### **Advice on safe handling**

Work under hood. Do not inhale substance/mixture.

#### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Tightly closed. Dry.

Do not store near acids.

Light sensitive.

### Storage class

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

##### Body Protection

protective clothing

### **Respiratory protection**

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

### **Control of environmental exposure**

Do not let product enter drains.

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

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

a) Physical state	solid
b) Color	white
c) Odor	odorless
d) Melting point/freezing point	Melting point/range: 115 - 122 °C
e) Initial boiling point and boiling range	No data available
f) Flammability (solid, gas)	The product is not flammable. - Flammability (solids)
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	No data available
i) Autoignition temperature	does not ignite
j) Decomposition temperature	No data available
k) pH	No data available
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	ca.636 g/l at 25 °C - OECD Test Guideline 105
n) Partition coefficient: n-octanol/water	No data available
o) Vapor pressure	< 0.1 hPa at 25 °C - Regulation (EC) No. 440/2008, Annex, A.4
p) Density	1.29 g/cm <sup>3</sup> at 20 °C
Relative density	ca.1.29 at 25 °C - Regulation (EC) No. 440/2008, Annex, A.3
q) Relative vapor density	
r) Particle characteristics	No data available

- s) Explosive properties No data available
- t) Oxidizing properties none

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.2 Possibility of hazardous reactions

A risk of explosion and/or of toxic gas formation exists with the following substances:

Acids

Generates dangerous gases or fumes in contact with:

Acids

### 10.3 Conditions to avoid

Contact with acids liberates very toxic gas.

no information available

### 10.4 Incompatible materials

No data available

### 10.5 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - female - 593 mg/kg

(OECD Test Guideline 401)

Symptoms: Possible damages:, Nausea, Vomiting

Acute toxicity estimate Inhalation - 1.6 mg/l - dust/mist

(Expert judgment)

Acute toxicity estimate Dermal - 1,100.1 mg/kg

(Expert judgment)

#### Skin corrosion/irritation

Skin - Rabbit

Result: Corrosive after 1 to 4 hours of exposure - 4 h

(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium



Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster fibroblasts

Metabolic activation: without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

### **Carcinogenicity**

No data available

### **Reproductive toxicity**

No data available

### **Specific target organ toxicity - single exposure**

No data available

### **Specific target organ toxicity - repeated exposure**

No data available

### **Aspiration hazard**

No data available

## **11.2 Additional Information**

Repeated dose toxicity - Rat - male and female - Oral - 90 Days - NOAEL (No observed adverse effect level) - 100 mg/kg

RTECS: XL1225000

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

After absorption of large quantities:

Systemic effects:

ataxia (impaired locomotor coordination)

Convulsions

Coma

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish	static test LC50 - <i>Poecilia reticulata</i> (guppy) - ca. 89.1 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - <i>Daphnia magna</i> (Water flea) - 42.4 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - <i>Desmodesmus subspicatus</i> (green algae) - 130 mg/l - 72 h (DIN 38412)
Toxicity to bacteria	static test EC50 - activated sludge - > 185 mg/l - 28 h Remarks: (ECHA)

### 12.2 Persistence and degradability

Biodegradability	aerobic Dissolved organic carbon (DOC) - Exposure time 28 d Result: 46 % - Inherently biodegradable. (OECD Test Guideline 302B)
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### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Endocrine disrupting properties

No data available

### 12.7 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1759

IMDG: 1759

IATA-DGR: 1759

### 14.2 UN proper shipping name

ADR/RID: CORROSIVE SOLID, N.O.S. (guanidinium, thiocyanate (1:1)) (guanidinium, thiocyanate (1:1))



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