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Material Safety Data Sheet

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Guanidine isothiocyanate
Company: Suzhou YACOO Science Co., Ltd.
Address: No.128, FangZhou Road, Suzhou Industrial Park, China
Tel: 0512-87182055
Fax: 0512-87182056

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

Skin corrosion (Sub-category 1C), H314

Serious eye damage (Category 1), H318

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 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word Danger

Hazard statement(s)

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.

H314 Causes severe skin burns and eye damage.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P260 Do not breathe dusts or mists.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable

for breathing. Immediately call a POISON CENTER/ doctor. P305 + P351 + P338IF IN EYES:
Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard information (EU)
EUH032Contact with acids liberates very toxic gas.

Reduced Labeling (<= 125 ml)

Pictogram

Signal WordDanger Hazard statement(s)

H314Causes severe skin burns and eye damage.

H412Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P260Do not breathe dusts or mists.

P280Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P533IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

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Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard information (EU)

EUH032Contact with acids liberates very toxic gas.

2.3Other 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

3.1Substances

Synonyms: Guanidinium rhodanide Guanidinium thiocyanate

Formula: CH₅N₃ • CHNS

Molecular weight: 118,16 g/mol

CAS-No.: 593-84-0

EC-No.: 209-812-1

Index-No.: 615-030-00-5

Component	Classification	Concentration
guanidinium, thiocyanate (1:1)		
CAS-No.	593-84-0	Acute Tox. 4; Skin Corr. 1C; Eye Dam. 1; Aquatic Chronic 3; H302, H332, H312, H314, H318, H412
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

4.1Description 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

SECTION 5: Firefighting measures

5.1 Extinguishing media Suitable extinguishing media

Water Foam Carbon dioxide (CO₂) 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_x) 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.

5.4 Further information

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

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.

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. Hygroscopic. Store under inert gas.

Storage class

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

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

Ingredients with workplace control parameters

8.2 Exposure controls

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: 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

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.

Recommended Filter type: Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

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/cm³ 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

SECTION 10: Stability and reactivity

10.1 Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Contact with acids liberates very toxic gas.

10.2 Chemical stability

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

10.3 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

10.4 Conditions to avoid

Contact with acids liberates very toxic gas. no information available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

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 Inhalation - 1,6 mg/l - dust/mist (Expert judgment)

Acute toxicity estimate Dermal - 1.100,1 mg/kg (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 Endocrine disrupting properties

Product:

Assessment The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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

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.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish static test LC50 - *Poecilia reticulata* (guppy) - ca. 89,1 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - *Daphnia magna* (Water flea) - 42,4 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to alga static test ErC50 - *Desmodesmus subspicatus* (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)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

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 Endocrine disrupting properties Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1759 IMDG: 1759 IATA: 1759

14.2 UN proper shipping name

ADR/RID: CORROSIVE SOLID, N.O.S. (guanidinium, thiocyanate (1:1)) IMDG: CORROSIVE SOLID, N.O.S. (guanidinium, thiocyanate (1:1)) IATA: Corrosive solid, n.o.s. (guanidinium, thiocyanate (1:1))

14.3 Transport hazard class(es)

ADR/RID: 8 IMDG: 8 IATA: 8

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

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

14.6 Special precautions for user

Tunnel restriction code: (E)

Further information: No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: OTHER INFORMATION



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 way shall the company 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 the company has been advised of the possibility of such damages.

