

## Material Safety Data Sheet

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifiers

Product name	Thiourea
Product number	E050047
Brand	3ASenrise
CAS number	62-56-6

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

Company: Anhui Senrise Technology Co., Ltd.

Address: No. 88 Weisan Road, High-Tech Industrial Development Zone, Anqing, Anhui

Post code: 246003

Tel: 400-005-6266

Fax: 0556-5555368

Email: service@3asenrise.com

#### 1.3 Emergency telephone

Emergency telephone: 0556-5500208

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

Identified uses: For R&D use only. Not for pharmaceutical, household or other uses.

## 2 HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Acute toxicity, Oral (Category 4), H302

Carcinogenicity (Category 2), H351

Reproductive toxicity (Category 2), H361

Long-term (chronic) aquatic hazard (Category 2), H411

#### 2.2 GHS label elements, including precautionary statements

##### Pictogram



##### Signal word: Warning

##### Hazard statement(s)

H302 Harmful if swallowed.

H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child.

H411 Toxic to aquatic life with long lasting effects.

##### Precautionary statement(s)

## **Prevention**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

## **Response**

P301+P312+P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P391 Collect spillage. Hazardous to the aquatic environment

## **Storage**

P405 Store locked up.

## **Disposal**

P501 Dispose of contents/ container to an approved waste disposal plant.

## **2.3 Physical and chemical hazards**

No data available

## **2.4 Health hazards**

H302 Harmful if swallowed.  
H351 Suspected of causing cancer.  
H361 Suspected of damaging fertility or the unborn child.

## **2.5 Environmental hazards Code**

H401 Toxic to aquatic life.  
H411 Toxic to aquatic life with long lasting effects.

## **2.6 Other hazards**

No data available

## **3 COMPOSITION/INFORMATION ON INGREDIENTS**

### **Substance / Mixture: Substance**

#### **3.1 Substance**

Name	Thiourea
Formula	CH4N2S
Molecular Weight	76.12
CAS	62-56-6
Concentration	AR, ≥99%

## **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**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### **If swallowed**

Do NOT induce vomiting. 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

No data available.

## 5 FIREFIGHTING MEASURES

### 5.1 Extinguishing media

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

### 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

Wear self-contained breathing apparatus for firefighting if necessary.

## 6 ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

### 6.2 Environmental precautions

Do not let product enter drains.

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

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

### 6.4 Reference to other section

For disposal see section 13.

## 7 HANDLING AND STORAGE

### 7.1 Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

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

#### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Long term storage: RT

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

No data available.

### 8.2 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). Safety glasses.

#### 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.

## **Body protection**

Flame retardant antistatic protective clothing.

## **Respiratory protection**

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

## **Control of environmental exposure**

Do not let product enter drains. Risk of explosion.

## **9 PHYSICAL AND CHEMICAL PROPERTIES**

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

a) Appearance	White to whitish solid
b) Odor	odorless
c) pH	5.0 – 7 at 50 g/l at 20 ° C
d) Melting point/freezing point	176 – 178 ° C
e) Initial boiling point and boiling range	No data available
f) Upper/lower flammability or explosive limits	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Vapor pressure	No data available
j) Vapor density	No data available
k) Density	1.405 g/cm3 at 20 ° C
l) Water solubility	137 g/l at 20 ° C
m) Partition coefficient: n-octanol/water	No data available
n) Autoignition temperature	No data available
o) Decomposition temperature	No data available
p) Flammability	No data available

## **10 STABILITY AND REACTIVITY**

### **10.1 Chemical stability**

No data available.

### **10.2 Conditions to avoid**

No data available.

### **10.3 Incompatible materials**

no information available

### **10.4 Hazardous decomposition products**

In the event of fire: see section 5.

## **11 TOXICOLOGICAL INFORMATION**

### **11.1 Acute toxicity**

LD50 Oral

– Rat – female – 2,000 – 2,500 mg/kg

LC50 Inhalation

– Rat – male and female – 4 h – > 195 mg/l – dust/mist

LD50 Dermal

– Rabbit – male and female – > 2,800 mg/kg

### **11.2 Skin corrosion/irritation**

Skin – Rabbit Result: No skin irritation – 24 h

### **11.3 Serious eye damage/eye irritation**

Eyes – Rabbit Result: No eye irritation

### **11.4 Respiratory or skin sensitization**

Maximization Test – Guinea pig Result: negative

### **11.5 Germ cell mutagenicity**

No data available

### **11.6 Carcinogenicity**

Suspected of causing cancer.

### **11.7 Reproductive toxicity**

Suspected of damaging the unborn child. Suspected of damaging fertility.

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

No data available

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

No data available

### **11.10 Aspiration hazard**

no data available.

### **11.11 Additional Information**

Repeated dose toxicity – Mouse – male and female – Oral – 2 yr – NOAEL (No observed adverse effect level) – 6,88 mg/kg – LOAEL (Lowest observed adverse effect level) – 27,5 mg/kg To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Liver – Irregularities – Based on Human Evidence

## **12 ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish:

static test LC50 – Pimephales promelas (fathead minnow) – > 600 mg/l – 96 h

Toxicity to daphnia and other aquatic:

EC50 – Daphnia magna (Water flea) – 5.6 – 18.0 mg/l – 48 h

Toxicity to algae:

EC50 – Desmodesmus subspicatus (green algae) – 6,8 mg/l – 96 h

Toxicity to bacteria:

EC10 – Pseudomonas putida – 1,265 mg/l – 18 h

### **12.2 Persistence and degradability**

Biodegradability aerobic – Exposure time 34 d Result: 0 % – Not readily biodegradable.

Biochemical Oxygen 13 mg/g Demand (BOD)

### **12.3 Bioaccumulative potential**

No data available

### **12.4 Mobility in soil**

No data available

### **12.5 Other adverse effects**

No data available

## **13 DISPOSAL CONSIDERATIONS**

### **13.1 Waste treatment methods**

#### **Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Observe all federal, state and local regulations when disposing of the substance.

#### **Contaminated packaging**

Disposal must be made according to official regulations.

## 14 TRANSPORT INFORMATION

### 14.1 UN number

ADR/RID: 3077 IMDG: 3077 IATA: 3077

### 14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLYHAZARDOUSSUBSTANCE, SOLID, N. O. S. (Thiourea)

IMDG: ENVIRONMENTALLYHAZARDOUSSUBSTANCE, SOLID, N. O. S. (Thiourea)

IATA-DGR: Environmentally hazardous substance, solid, n. o. s. (Thiourea)

### 14.3 Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

### 14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

### 14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: yes

### 14.6 Special precautions for user

No data available

## 15. REGULATORY INFORMATION

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

Applicable regulations

Regulations on the Control over Safety of Dangerous Chemicals.

This product is included in the list of dangerous chemicals.

Please pay attention to waste disposal and meet the requirements of local regulations.

## 16. OTHER INFORMATION

### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Dangerous Goods

IATA: International Air Transport Association

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

CAS: Chemical Abstracts Service (division of the American Chemical Society)

### Further information

The above safety technical information is for reference only, because many physical and chemical properties are not entirely clear. Please consult information carefully before use and use after confirmation.

Anhui Senrise Technology Co., Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product. More terms of use, see invoice information for details.

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