

Revision Date 01.01.2026  
Date of first issue 09.01.2017

## Material Safety Data Sheet

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

#### 1.1 Product identifiers

Product name 2,2-Dibromo-2-cyanoacetamide  
Product number B020003  
Brand 3ASenrise  
CAS number 10222-01-2

#### 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  
Acute toxicity, Inhalation (Category 2), H330  
Skin corrosion/irritation (Category 2), H315  
Serious eye damage/eye irritation (Category 1), H318  
Skin sensitization (Category 1), H317  
Specific target organ toxicity - repeated exposure, Inhalation (Category 1), Respiratory Tract, H372  
Short-term (acute) aquatic hazard (Category 1), H400  
Long-term (chronic) aquatic hazard (Category 1), H410

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

##### Pictogram



Signal word: Danger

Hazard statement(s)

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H330 Fatal if inhaled.

H372 Causes damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

### **Precautionary statement(s)**

#### **Prevention**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

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

P284 Wear respiratory protection.

#### **Response**

P301+P312+P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

P302+P352 IF ON SKIN: wash with plenty of soap and water.

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.

P314 Get medical advice/attention if you feel unwell.

P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

P391 Collect spillage. Hazardous to the aquatic environment

#### **Storage**

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

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.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H330 Fatal if inhaled.

H372 Causes damage to organs through prolonged or repeated exposure.

### **2.5 Environmental hazards Code**

H400 Very toxic to aquatic life.

H410 Very 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	2, 2-Dibromo-2-cyanoacetamide
Formula	C3H2Br2N2O
Molecular Weight	241.87
CAS	10222-01-2
Concentration	98%

## **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 (CO2) Dry powder

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

Carbon oxides Nitrogen oxides (NOx) Hydrogen bromide gas 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 off-white solid
b) Odor	No data available
c) pH	No data available
d) Melting point/freezing point	122 – 125 ° C – lit.
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	No data available
l) Water solubility	at 20 ° C slightly soluble
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 data available

### **10.4 Hazardous decomposition products**

In the event of fire: see section 5.

## **11 TOXICOLOGICAL INFORMATION**

### **11.1 Acute toxicity**

LD50 Oral

– Rat – male and female – 308 mg/kg

LC50 Inhalation

– Rat – male and female – 4 h – 0.275 mg/l – dust/mist

LD50 Dermal

– Rabbit – male and female – > 2,000 mg/kg

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

Skin – Rabbit Result: irritating – 4 h

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

Eyes – Rabbit Result: Severe eye irritation

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

Buehler Test – Guinea pig Result: positive

### **11.5 Germ cell mutagenicity**

Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 482 Result: negative Test Type: Ames test Test system: Escherichia coli

### **11.6 Carcinogenicity**

No data available

### **11.7 Reproductive toxicity**

No data available

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

No data available

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

Inhalation – Causes damage to organs through prolonged or repeated exposure. – Respiratory Tract

### **11.10 Aspiration hazard**

no data available.

### **11.11 Additional Information**

RTECS: AB5956000 Cough, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## **12 ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish:

flow-through test LC50 – Cyprinodon variegatus variegatus (Sheepshead minnow) – 3.4 mg/l – 96 h

Toxicity to daphnia and other aquatic:

EC50 - Mysidopsis bahia (opossum shrimp) - 0.72 mg/l - 48 h

Toxicity to algae:

static test ErC50 - Algae - 2.3 mg/l - 72 h static test NOEC - Algae - 0.36 mg/l - 72 h

Toxicity to bacteria:

Respiration inhibition EC50 - activated sludge - 4.6 mg/l - 3 h

## **12.2 Persistence and degradability**

Biodegradability Result: 11 % - Not readily biodegradable.

## **12.3 Bioaccumulative potential**

No data available

## **12.4 Mobility in soil**

No data available

## **12.5 Other adverse effects**

Discharge into the environment must be avoided.

# **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: 2811 IMDG: 2811 IATA: 2811

## **14.2 UN proper shipping name**

ADR/RID: TOXICSOLID, ORGANIC, N. O. S. (2,2-Dibromo-2-cyanoacetamide)

IMDG: TOXICSOLID, ORGANIC, N. O. S. (2,2-Dibromo-2-cyanoacetamide)

IATA-DGR: Toxic solid, organic, n. o. s. (2,2-Dibromo-2-cyanoacetamide)

## **14.3 Transport hazard class(es)**

ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1

## **14.4 Packaging group**

ADR/RID: II IMDG: II IATA: II

## **14.5 Environmental hazards**

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

## **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

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.

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