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## Material Safety Data Sheet

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

#### 1.1 Product identifiers

Product name Ammonium chloride  
Product number E010132  
Brand 3ASenrise  
CAS number 12125-02-9

#### 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  
Serious eye damage/eye irritation (Category 2A), H319

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

##### Pictogram



**Signal word: No data available**

##### Hazard statement(s)

H319 Causes serious eye irritation.  
H302 Harmful if swallowed.

##### Precautionary statement(s)

##### Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P270 Do not eat, drink or smoke when using this product.  
P264 Wash hands thoroughly after handling.

## Response

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 IF eye irritation persists: Get medical advice/attention.

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

## Storage

No data available

## 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

H319 Causes serious eye irritation.

H302 Harmful if swallowed.

## 2.5 Environmental hazards Code

No data available

## 2.6 Other hazards

No data available

# 3 COMPOSITION/INFORMATION ON INGREDIENTS

## Substance / Mixture: Substance

### 3.1 Substance

Name	Ammonium chloride
Formula	NH <sub>4</sub> Cl
Molecular Weight	53.49
CAS	12125-02-9
Concentration	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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

## 5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO<sub>x</sub>) Hydrogen chloride gas Not combustible. Ambient fire may liberate hazardous vapours.

### **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 solid
b) Odor	odorless
c) pH	5 – 5.5 at 25 ° C
d) Melting point/freezing point	338 ° C(sublimed)
e) Initial boiling point and boiling range	520 ° C
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	1.3 hPa at 160.4 ° C
j) Vapor density	No data available
k) Density	1.53 g/cm <sup>3</sup> at 25 ° C
l) Water solubility	372 g/l at 20 ° C
m) Partition coefficient: n-octanol/water	No data available
n) Autoignition temperature	> 400 ° C – Relative self-ignition temperature for solids
o) Decomposition temperature	No data available
p) Flammability	The product is not flammable.

## 10 STABILITY AND REACTIVITY

### 10.1 Chemical stability

No data available.

### 10.2 Conditions to avoid

No data available.

### 10.3 Incompatible materials

Aluminum, Lead, Iron, Copper, copper compounds

### 10.4 Hazardous decomposition products

In the event of fire: see section 5.

## 11 TOXICOLOGICAL INFORMATION

### 11.1 Acute toxicity

LD<sub>50</sub> Oral

– Rat – male and female – 1,410 mg/kg

LC<sub>50</sub> Inhalation

No data available

LD<sub>50</sub> Dermal

– Rat – male and female – > 2,000 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: Eye irritation

### 11.4 Respiratory or skin sensitization

Maximization Test – Guinea pig Result: negative

### 11.5 Germ cell mutagenicity

Test Type: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic

activation: with and without metabolic activation Method: OECD Test Guideline 471 Result:

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

### 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**

No data available

### **11.10 Aspiration hazard**

no data available.

### **11.11 Additional Information**

Repeated dose toxicity – Rat – male and female – Oral – 90 d – NOAEL (No observed adverse effect level) – 1,695.7 mg/kg Remarks: Subchronic toxicity RTECS: BP4550000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis. Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

## **12 ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish:

semi-static test LC50 – Cyprinus carpio (Carp) – 209.00 mg/l – 96 h

Toxicity to daphnia and other aquatic:

static test EC50 – Daphnia magna (Water flea) – 101 mg/l – 48 h

Toxicity to algae:

static test ErC50 – Chlorella vulgaris (Fresh water algae) – 1,300 mg/l – 5 d

Toxicity to bacteria:

static test EC50 – activated sludge – 1,310 mg/l – 0.5 h

### **12.2 Persistence and degradability**

No data available

### **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: - IMDG: - IATA: -

#### **14.2 UN proper shipping name**

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA-DGR: 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

### **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.

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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