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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 Ethanol  
Product number EB000363  
Brand 3ASenrise  
CAS number 64-17-5

#### 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

Flammable liquids (Category 2), H225  
Acute toxicity, Oral (Category 5), H303  
Serious eye damage/eye irritation (Category 2A), H319  
Specific target organ toxicity – single exposure (Category 2), Eyes, Central nervous system, H371

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

##### Pictogram



**Signal word: Danger**

##### Hazard statement(s)

H319 Causes serious eye irritation.  
H225 Highly Flammable liquid and vapour.  
H371 May cause damage to organs.  
H303 May be harmful if swallowed.

## Precautionary statement(s)

### Prevention

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

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

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

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

P264 Wash hands thoroughly after handling.

### Response

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

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.

P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P308+P311 IF exposed or concerned: Call a POISON CENTER/ doctor.

### Storage

P405 Store locked up.

P403+P235 Store in a well-ventilated place. Keep cool.

### Disposal

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

## 2.3 Physical and chemical hazards

H225 Highly Flammable liquid and vapour.

## 2.4 Health hazards

H319 Causes serious eye irritation.

H371 May cause damage to organs.

H303 May be 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             | Ethanol                         |
| Formula          | C <sub>2</sub> H <sub>6</sub> O |
| Molecular Weight | 46.06                           |
| CAS              | 64-17-5                         |
| Concentration    | ACS reagent, ≥99.95%            |

## 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**

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

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

Carbon oxides Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

### **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                                   | Colorless liquid   |
| b) Odor   | No data available  |
| c) pH   | No data available  |
| d) Melting point/freezing point                 | -114° C-lit.   |
| e) Initial boiling point and boiling range      | 78 ° C at 1,013 hPa  |
| f) Upper/lower flammability or explosive limits | Upper explosion limit: 24.5 %(V) Lower explosion limit: 3.3 %(V) |
| g) Flash point                                  | 9 ° C – closed cup   |
| h) Evaporation rate                             | No data available  |
| i) Vapor pressure                               | 59.5 hPa at 20 ° C   |
| j) Vapor density                                | No data available  |
| k) Density                                      | 0.785 g/cm <sup>3</sup>  |
| l) Water solubility                             | No data available  |
| m) Partition coefficient: n-octanol/water       | No data available  |
| n) Autoignition temperature                     | 362 ° C  |
| 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

Aluminum, Acids, Oxidizing agents, Alkali metals, Halogenated compounds, Ammonia, Acid chlorides, Acid anhydrides, Reducing agents, Peroxides

### 10.4 Hazardous decomposition products

In the event of fire: see section 5.

## 11 TOXICOLOGICAL INFORMATION

### **11.1 Acute toxicity**

LD50 Oral

No data available

LC50 Inhalation

No data available

LD50 Dermal

No data available

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

No data available

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

Causes serious eye irritation.

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

No data available

### **11.5 Germ cell mutagenicity**

No data available

### **11.6 Carcinogenicity**

No data available

### **11.7 Reproductive toxicity**

No data available

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

May cause damage to organs. May cause damage to organs. - Eyes, Central nervous system

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

No data available

### **11.10 Aspiration hazard**

no data available.

### **11.11 Additional Information**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Central nervous system depression, Gastrointestinal disturbance, Nausea, Dizziness, Headache, narcosis, May cause convulsions. Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice. Components ethanol Acute toxicity LD50 Oral - Rat - male and female - 10,470 mg/kg LC50 Inhalation - Rat - male and female - 4 h - 124.7 mg/l - vapor Dermal: Skin corrosion/irritation Skin - Rabbit Result: No skin irritation - 24 h Serious eye damage/eye irritation Eyes - Rabbit Result: Causes serious eye irritation. Respiratory or skin sensitization Maximization Test - Guinea pig Result: negative Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Methanol Germ cell mutagenicity Test Type: Ames test Test system: Salmonella typhimurium Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells Result: negative Method: OECD Test Guideline 478 Species: Mouse - male Result: Positive results were obtained in some in vivo tests. Carcinogenicity Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure Aspiration hazard Methanol Acute toxicity Acute toxicity estimate Oral - 100.1 mg/kg (Expert judgment) Symptoms: Nausea, Vomiting Acute toxicity estimate Inhalation - 4 h - 3.1 mg/l - vapor (Expert judgment) Symptoms: Irritation symptoms in the respiratory tract. Acute toxicity estimate Dermal - 300.1 mg/kg (Expert judgment) Skin corrosion/irritation Skin - Rabbit Result: No skin irritation Remarks: Drying-out effect resulting in rough and chapped skin. Serious eye damage/eye irritation Eyes - Rabbit Result: No eye irritation Respiratory or skin

sensitization Sensitisation test: - Guinea pig Result: negative Germ cell mutagenicity Based on available data the classification criteria are not met. Test Type: Ames test Test system: Salmonella typhimurium Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster lung cells Result: negative Method: OECD Test Guideline 474 Species: Mouse - male and female - Bone marrow Result: negative Carcinogenicity Did not show carcinogenic effects in animal experiments. Reproductive toxicity Based on available data the classification criteria are not met. Specific target organ toxicity - single exposure Causes damage to organs. - Eyes, Central nervous system Acute oral toxicity - Nausea, Vomiting Acute inhalation toxicity - Irritation symptoms in the respiratory tract. Specific target organ toxicity - repeated exposure Aspiration hazard 2-Propanol Acute toxicity LD50 Oral - Rat - 5,840 mg/kg LC50 Inhalation - Rat - male and female - 4 h - 37.5 mg/l - vapor LD50 Dermal - Rabbit - 12,800 mg/kg Skin corrosion/irritation Skin - Rabbit Result: No skin irritation - 4 h Serious eye damage/eye irritation Eyes - Rabbit Result: Eye irritation Respiratory or skin sensitization Buehler Test - Guinea pig Result: negative Germ cell mutagenicity Test Type: Ames test Test system: Salmonella typhimurium Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Result: negative Method: OECD Test Guideline 474 Species: Mouse - male and female - Bone marrow Result: negative Carcinogenicity This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification. Reproductive toxicity Specific target organ toxicity - single exposure Inhalation, Oral - May cause drowsiness or dizziness. - Central nervous system Acute inhalation toxicity - Central nervous system Specific target organ toxicity - repeated exposure Aspiration hazard

## **12 ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish:

No data available

Toxicity to daphnia and other aquatic:

No data available

Toxicity to algae:

No data available

Toxicity to bacteria:

No data available

### **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: 1170 IMDG: 1170 IATA: 1170

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

ADR/RID: ETHANOL

IMDG: ETHANOL

IATA-DGR: Ethanol

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

ADR/RID: 3 IMDG: 3 IATA: 3

### **14.4 Packaging group**

ADR/RID: II IMDG: II IATA: II

### **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

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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