

## Material Safety Data Sheet

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

#### 1.1 Product identifiers

Product name	2-(1-Methylethoxy)-Ethanol
Product number	A040463
Brand	3ASenrise
CAS number	109-59-1

#### 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 3), H226

Acute toxicity, Inhalation (Category 4), H332

Acute toxicity, Dermal (Category 4), H312

Skin corrosion/irritation (Category 2), H315

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

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

##### Pictogram



**Signal word: Warning**

##### Hazard statement(s)

H226 Flammable liquid and vapour.

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

H315 Causes skin irritation.

H319 Causes serious eye irritation.

## Precautionary statement(s)

### Prevention

- 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.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

### Response

- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
- P304+P340+P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P332+P313 IF SKIN irritation occurs: Get medical advice/attention.
- 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.

### Storage

- 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

- H226 Flammable liquid and vapour.

## 2.4 Health hazards

- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.

## 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	2-(1-Methylethoxy)-Ethanol
Formula	C5H12O2
Molecular Weight	104.15
CAS	109-59-1
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**

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

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

Carbon oxides Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. 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	Colorless liquid
b) Odor	ether-like
c) pH	No data available
d) Melting point/freezing point	<math>-60\text{ }^{\circ}\text{C}</math>
e) Initial boiling point and boiling range	42 - 44 ° C at 17 hPa
f) Upper/lower flammability or explosive limits	Upper explosion limit: 13.0 % (V) Lower explosion limit: 1.6 % (V)
g) Flash point	43 - 45 ° C - closed cup
h) Evaporation rate	No data available
i) Vapor pressure	5.99 hPa at 25 ° C
j) Vapor density	No data available
k) Density	0.903 g/mL at 25 ° C
l) Water solubility	100 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

Light metals

### 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 - > 2,000 mg/kg

LC50 Inhalation

- Rat - 4 h - 3,100 mg/m<sup>3</sup> - vapor

LD50 Dermal

- Rat - male - 1,300 mg/kg

### 11.2 Skin corrosion/irritation

Skin - Rabbit Result: Irritating to skin. - 4 h

### 11.3 Serious eye damage/eye irritation

Eyes - Rabbit Result: Causes serious 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

RTECS: KL5075000 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:

semi-static test LC50 - Oryzias latipes (Orange-red killifish) - > 100 mg/l - 96 h

Toxicity to daphnia and other aquatic:

static test LC50 - Daphnia magna (Water flea) - > 970 mg/l - 48 h

Toxicity to algae:

No data available

Toxicity to bacteria:

EC10 - Pseudomonas putida - 4,600 mg/l - 16 h

### 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: 23 % - Not readily biodegradable.

Biochemical Oxygen Demand (BOD) Chemical Oxygen Demand (COD) 2,080 mg/g

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### **12.5 Other adverse effects**

Additional ecological Biological effects: information Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities. 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: 1993 IMDG: 1993 IATA: 1993

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

ADR/RID: FLAMMABLE LIQUID, N. O. S. (2-(1-Methylethoxy)-Ethanol)

IMDG: FLAMMABLE LIQUID, N. O. S. (2-(1-Methylethoxy)-Ethanol)

IATA-DGR: Flammable liquid, n. o. s. (2-(1-Methylethoxy)-Ethanol)

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

ADR/RID: 3 IMDG: 3 IATA: 3

### **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**

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.

Tel: +86 -400-005-6266 Fax: +86 -0556-5555368 E-mail: Service@3asenrise.com

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