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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 Trichloroethylene  
Product number D060042  
Brand 3ASenrise  
CAS number 79-01-6

#### 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

Skin corrosion/irritation (Category 2), H315  
Serious eye damage/eye irritation (Category 2A), H319  
Skin sensitization (Category 1), H317  
Germ cell mutagenicity (Category 2), H341  
Carcinogenicity (Category 1B), H350  
Specific target organ toxicity - single exposure (Category 3), Narcotic effects, H336  
Short-term (acute) aquatic hazard (Category 3), H402  
Long-term (chronic) aquatic hazard (Category 3), H412

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

##### Pictogram



**Signal word: Danger**

##### Hazard statement(s)

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H341 Suspected of causing genetic defects.  
H350 May cause cancer.  
H412 Harmful 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.  
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.  
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.

#### **Response**

P302+P352 IF ON SKIN: wash with plenty of soap and water.  
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.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.  
P337+P313 IF eye irritation persists: Get medical advice/attention.

#### **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**

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H341 Suspected of causing genetic defects.  
H350 May cause cancer.

### **2.5 Environmental hazards Code**

H402 Harmful to aquatic life.  
H412 Harmful 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 Trichloroethylene

Formula	C2HC13
Molecular Weight	131.39
CAS	79-01-6
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 water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Carbon oxides 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: 2–8° C

## 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	characteristic
c) pH	No data available
d) Melting point/freezing point	-84.8 ° C at 1,013 hPa
e) Initial boiling point and boiling range	86.7 ° C at 1,013 hPa
f) Upper/lower flammability or explosive limits	Upper explosion limit: > 99 %(V) - (Saturation - at high volume fractions. explosion turns into a decomposition reaction) Lower explosion limit: 7.9 %(V)
g) Flash point	No data available
h) Evaporation rate	No data available
i) Vapor pressure	81.3 hPa at 20.0 ° C
j) Vapor density	No data available
k) Density	1.46 g/cm <sup>3</sup> at 20 ° C
l) Water solubility	1.1 g/l at 20 ° C
m) Partition coefficient: n-octanol/water	No data available
n) Autoignition temperature	410.0 ° 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

various plastics

## 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

- Rat - male - 4 h - 67.41 mg/l

LD50 Dermal

- Rabbit - > 20,000 mg/kg

## 11.2 Skin corrosion/irritation

Skin - Rabbit Result: Skin irritation

## 11.3 Serious eye damage/eye irritation

Eyes - Rabbit Result: Eye irritation - 24 h

## 11.4 Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse Result: positive

## 11.5 Germ cell mutagenicity

In vitro tests showed mutagenic effects Test Type: Ames test Test system: S. typhimurium  
Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene  
mutation test Test system: mouse lymphoma cells Metabolic activation: with an

## 11.6 Carcinogenicity

Possible human carcinogen

## 11.7 Reproductive toxicity

No data available

## 11.8 Specific target organ toxicity - single exposure

May cause drowsiness or dizziness. - 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

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea,  
Vomiting, Exposure to and/or consumption of alcohol may increase toxic effects.

Gastrointestinal disturbance, Kidney injury may occur. narcosis 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 - Jordanella floridae - 28.3 mg/l - 96 h

Toxicity to daphnia and other aquatic:

No data available

Toxicity to algae:

ErC50 - Chlamydomonas reinhardtii (green algae) - 36.5 mg/l - 72 h (trichloroethylene)

Toxicity to bacteria:

No data available

### **12.2 Persistence and degradability**

Biodegradability aerobic - Exposure time 28 d Result: 19 % - Not readily biodegradable.

### **12.3 Bioaccumulative potential**

Bioaccumulation Lepomis macrochirus - 14 d (trichloroethylene) Bioconcentration factor (BCF): 17

### **12.4 Mobility in soil**

No data available

### **12.5 Other adverse effects**

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## **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: 1710 IMDG: 1710 IATA: 1710

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

ADR/RID: TRICHLOROETHYLENE

IMDG: TRICHLOROETHYLENE

IATA-DGR: TRICHLOROETHYLENE

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

ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1

### **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.

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