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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 Boron tribromide  
Product number W610964  
Brand 3ASenrise  
CAS number 10294-33-4

#### 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 2), H300  
Acute toxicity, Inhalation (Category 2), H330  
Skin corrosion/irritation (Category 1A), H314  
Serious eye damage/eye irritation (Category 1), H318  
Reproductive toxicity (Category 2), H361  
Specific target organ toxicity - single exposure (Category 3), Narcotic effects, H336  
Specific target organ toxicity - repeated exposure (Category 2), H373  
Specific target organ toxicity - repeated exposure, Inhalation (Category 2), Nervous system, H373  
Aspiration hazard (Category 1), H304  
Short-term (acute) aquatic hazard (Category 2), H401  
Long-term (chronic) aquatic hazard (Category 2), H411

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

##### Pictogram



**Signal word: Danger**

**Hazard statement(s)**

H314 Causes severe skin burns and eye damage.

H225 Highly Flammable liquid and vapour.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

H300+H330 Fatal if swallowed or if inhaled.

**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.

P273 Avoid release to the environment.

P284 Wear respiratory protection.

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

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

**Response**

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

P391 Collect spillage. Hazardous to the aquatic environment

P363 Wash contaminated clothing before reuse.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

P301+P310+P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.

P308+P311 IF exposed or concerned: 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.

P304+P340+P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

**Storage**

P405 Store locked up.

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

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

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H336 May cause drowsiness or dizziness.

H330 Fatal if inhaled.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

H300 Fatal if swallowed.

## 2.5 Environmental hazards Code

H411 Toxic to aquatic life with long lasting effects.

H401 Toxic to aquatic life.

## 2.6 Other hazards

No data available

# 3 COMPOSITION/INFORMATION ON INGREDIENTS

## Substance / Mixture: Mixture

### 3.1 Substance

Name	Boron tribromide
Formula	BBr <sub>3</sub>
Molecular Weight	250.52
CAS	10294-33-4
Concentration	1.0mol/L in Hexanes, Energysel

# 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>) Dry powder

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

Carbon oxides Hydrogen bromide gas Borane/boron oxides

## **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	Light yellow to yellow liquid (with little precipitate)
b) Odor	No data available
c) pH	No data available
d) Melting point/freezing point	No data available
e) Initial boiling point and boiling range	No data available
f) Upper/lower flammability or explosive limits	No data available
g) Flash point	-17 ° C – closed cup
h) Evaporation rate	No data available
i) Vapor pressure	No data available
j) Vapor density	No data available
k) Density	0.859 g/cm <sup>3</sup>
l) Water solubility	No data available
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

Strong bases, Oxidizing agents, Strong oxidizing agents, Potassium, Metals, Alcohols, Sodium/sodium oxides

### 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

– 4 h – 1.46 mg/l – vapor

LD50 Dermal

No data available

### 11.2 Skin corrosion/irritation

Mixture causes severe burns.

### 11.3 Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage. Risk of blindness!

### 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**

Suspected of damaging the unborn child. Suspected of damaging fertility.

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

Mixture may cause drowsiness or dizziness.

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

Mixture causes damage to organs through prolonged or repeated exposure. – Nervous system

### **11.10 Aspiration hazard**

no data available.

### **11.11 Additional Information**

Lung irritation, chest pain, Lung edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

## **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: 3489 IMDG: 3489 IATA: 3489

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

ADR/RID: BORON TRIBROMIDE

IMDG: BORON TRIBROMIDE

IATA-DGR: Boron tribromide

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

ADR/RID: 6.1(3/8) IMDG: 6.1(3/8) IATA: 6.1(3)(8)

#### 14.4 Packaging group

ADR/RID: I IMDG: I IATA: -

#### 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

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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