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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 | 1-Bromo-3-chloropropane |
| Product number | W611166 |
| Brand | 3ASenrise |
| CAS number | 109-70-6 |

### 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

Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 3), H331
Germ cell mutagenicity (Category 2), H341
Carcinogenicity (Category 1B), H350
Reproductive toxicity (Category 1A), H360FD
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Long-term (chronic) aquatic hazard (Category 3), H412

### 2.2 GHS label elements, including precautionary statements

**Pictogram**

**Signal word: Danger**

**Hazard statement(s)**

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.

H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H371 May cause damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure.
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.
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.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response**

P301+P312+P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P304+P340+P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.
P308+P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
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.
P405 Store locked up.

**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

H302 Harmful if swallowed.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H371 May cause damage to organs.

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

### 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 | 1-Bromo-3-chloropropane |
| Formula | C3H6BrCl |
| Molecular Weight | 157.44 |
| CAS | 109-70-6 |
| Concentration | 99%, Extra Dry, with molecular sieves, Water≤50ppm(byK.F.), Energyseal |

## 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

Water Foam Carbon dioxide (CO2) Dry powder

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

Carbon oxides Hydrogen chloride gas Hydrogen bromide gas Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event

### 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 | characteristic |
| c) pH | No data available |
| d) Melting point/freezing point | -58.90 ° C |
| e) Initial boiling point and boiling range | 144 - 145 ° C |
| f) Upper/lower flammability or explosive limits | Upper explosion limit: 8.6 %(V) Lower explosion limit: 3.2 %(V) |
| g) Flash point | > 140 ° C - open cup |
| h) Evaporation rate | No data available |

| | |
|---|---|
| i) Vapor pressure | 7.5 hPa at 20 ° C |
| j) Vapor density | No data available |
| k) Density | 1.592 g/cm3 at 25 ° C |
| l) Water solubility | 2.240 g/l at 25 ° C |
| m) Partition coefficient: n-octanol/water | No data available |
| n) Autoignition temperature | ≥ 550 ° C not auto-flammable |
| 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, Strong oxidizing agents, Magnesium

### 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 - 1,100 mg/kg

LC50 Inhalation

- Rat - male - 4 h - 6.5 mg/l - vapor

LD50 Dermal

- Rat - male and female - ≥ 2,000 mg/kg

### 11.2 Skin corrosion/irritation

Skin - Rabbit Result: No skin irritation - 4 h

### 11.3 Serious eye damage/eye irritation

Eyes - Rabbit Result: No eye irritation

### 11.4 Respiratory or skin sensitization

Maximization Test - Guinea pig Result: negative

### 11.5 Germ cell mutagenicity

Suspected of causing genetic defects. Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: positive Test Type: dominant lethal test Species: Rat Applic

### 11.6 Carcinogenicity

Presumed to have carcinogenic potential for humans

### 11.7 Reproductive toxicity

May damage the unborn child. Positive evidence from human epidemiological studies. May damage fertility. Positive evidence from human epidemiological studies.

### 11.8 Specific target organ toxicity - single exposure

May cause respiratory irritation.

### 11.9 Specific target organ toxicity - repeated exposure

No data available

### 11.10 Aspiration hazard

no data available.

### 11.11 Additional Information

RTECS: TX4113000 prolonged or repeated exposure can cause: Nausea, Dizziness, Headache, 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:

No data available

Toxicity to daphnia and other aquatic:

EC50 - Daphnia magna (Water flea) - 55.9 mg/l - 48 h

Toxicity to algae:

static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 847 mg/l - 72 h

Toxicity to bacteria:

No data available

### 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: 36 % - Not inherently biodegradable.

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Other adverse effects

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: 2688 IMDG: 2688 IATA: 2688

### 14.2 UN proper shipping name

ADR/RID：1BROMO3CHLOROPROPANE

IMDG：1BROMO3CHLOROPROPANE

IATA-DGR：1BROMO3CHLOROPROPANE

### 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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