

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

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## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** 3-bromopropyne

### 1.2 Other means of identification

**Product number** -  
**Other names** 1-Propyne, 3-bromo-; 3-bromoprop-1-yne; 3-Bromo-1-propyne

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses** Industrial and scientific research use.  
**Uses advised against** no data available

### 1.4 Supplier's details

**Company** Shanghai Yien Chemical Technology Co., Ltd  
**Address** Building 6, 28 Yingong Road, Fengxian District, Shanghai  
Chemical Industry Zone, Shanghai, 201400, China  
**Telephone** +86-400-133-2688

### 1.5 Emergency phone number

**Emergency phone number** +86-400-133-2688  
**Service hours** Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

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## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Flammable liquids, Category 2  
Acute toxicity - Category 3, Oral  
Skin corrosion, Sub-category 1C  
Serious eye damage, Category 1  
Specific target organ toxicity – single exposure, Category 3

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Danger  
**Hazard statement(s)** H225 Highly flammable liquid and vapour

H301 Toxic if swallowed  
H314 Causes severe skin burns and eye damage  
H335 May cause respiratory irritation

**Precautionary statement(s)**

**Prevention**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P240 Ground and bond container and receiving equipment.  
P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.  
P242 Use non-sparking tools.  
P243 Take action to prevent static discharges.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P271 Use only outdoors or in a well-ventilated area.

**Response**

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].  
P370+P378 In case of fire: Use ... to extinguish.  
P301+P316 IF SWALLOWED: Get emergency medical help immediately.  
P321 Specific treatment (see ... on this label).  
P330 Rinse mouth.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P363 Wash contaminated clothing before reuse.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P316 Get emergency medical help immediately.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P317 Get medical help.  
P319 Get medical help if you feel unwell.

**Storage**

P403+P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

**Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### 2.3 Other hazards which do not result in classification

no data available

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
3-bromopropyne	3-bromopropyne	106-96-7	203-447-1	100%

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

**Following skin contact**

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

**Following eye contact**

Rinse with pure water for at least 15 minutes. Consult a doctor.

**Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

**4.2 Most important symptoms/effects, acute and delayed**

This material is very toxic via the oral route. If inhaled, may be harmful; contact may cause burns to skin and eyes. (EPA, 1998)

**4.3 Indication of immediate medical attention and special treatment needed, if necessary**

no data available

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**SECTION 5: Fire-fighting measures**

**5.1 Suitable extinguishing media**

Fire Fighting Procedure: Use water spray, dry chemical, foam, or carbon dioxide. Use fine spray or fog to control fire by preventing its spread and absorbing some of its heat. Application of a water blanket may be effective for extinguishment. Use water spray to keep fire-exposed containers cool. Fight fire from protected location or maximum possible distance. Approach fire from upwind to avoid hazardous vapors and toxic decomposition.

**5.2 Specific hazards arising from the chemical**

This material detonates at 428F or more; ignites by impact. Emits highly toxic fumes of bromides when heated to decomposition. Reacts vigorously with oxidizing materials. Becomes shock-sensitive when mixed with chloropicrin. Unstable, avoid heat, flame, shock, and other chemicals (EPA, 1998)

**5.3 Special protective actions for fire-fighters**

Wear self-contained breathing apparatus for firefighting if necessary.

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**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**6.2 Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Absorb the spill with paper towels. ... Place in hood to evaporate material.

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

## 7.2 Conditions for safe storage, including any incompatibilities

Unstabilized material should be stored like an explosive. If diluted, material should be stored like a flammable material. Store in a cool, dry, well-ventilated location. Outside or detached storage is preferred. Separate from oxidizing materials. Inside storage should be in a standard flammable liquids storage warehouse, room, or cabinet.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure limit values

no data available

#### Biological limit values

no data available

### 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flare resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties and safety characteristics

<b>Physical state</b>	3-bromopropyne is a colorless to light yellow liquid substance with a sharp odor. Flash point 65°F. Denser than water and insoluble in water. Vapors are heavier than air. May be irritating to skin and eyes. Used to make other chemicals. It may decompose explosively with mild shock.
<b>Colour</b>	Liquid
<b>Odour</b>	Sharp odor
<b>Melting point/freezing point</b>	276°C(lit.)
<b>Boiling point or initial boiling point and boiling range</b>	88-90°C
<b>Flammability</b>	no data available
<b>Lower and upper explosion limit/flammability limit</b>	Lower flammable limit: 3.0%

<b>Flash point</b>	18°C
<b>Auto-ignition temperature</b>	615 deg F (324 deg C)
<b>Decomposition temperature</b>	no data available
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	Soluble in ethanol, ether, benzene, carbon tetrachloride, and chloroform
<b>Partition coefficient n-octanol/water</b>	log Kow = 1.39 (est)
<b>Vapour pressure</b>	64.6mmHg at 25°C
<b>Density and/or relative density</b>	1.335g/mL at 25°C
<b>Relative vapour density</b>	4.1 (EPA, 1998) (Relative to Air)
<b>Particle characteristics</b>	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Highly flammable. Insoluble in water.

### 10.2 Chemical stability

When /propargyl bromide/ is ... diluted, ... with 20-30% by weight of toluene, its explosive properties are practically eliminated.

### 10.3 Possibility of hazardous reactions

Fire and Explosion Hazards: Flammable liquid. Combustion may produce irritants and toxic gases. Closed containers may rupture violently when heated. May be decomposed by mild shock. Decomposes when heated; if diluted with toluene, its explosive properties are practically eliminated. 3-BROMOPROPYNE is soluble in alcohol, ether, chloroform, carbon tetrachloride and carbon disulfide. It is highly flammable and a dangerous fire risk, sensitive to shock. It is used in organic syntheses, preparation of resins and perfume intermediates [Hawley]. There is a high danger of formation of explosive metal acetylides, when this compound comes in contact with copper, high-copper alloys, mercury, or silver.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

The aerated liquid may be ignited by pressure.

### 10.6 Hazardous decomposition products

May be decomposed by mild shock. Decomposes when heated under confinement. Dilution with toluene reduces the explosive tendency of the material.

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Rabbit oral 168 mg/kg
- Inhalation: no data available
- Dermal: no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

no data available

**STOT-repeated exposure**

no data available

**Aspiration hazard**

no data available

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

### **12.2 Persistence and degradability**

AEROBIC: Biodegradation of 3-bromo-1-propyne is not expected to compete with chemical degradation processes based on similar half-lives measured for this substance in sterile soil (0.37-11 days) and nonsterile soil (0.046-12 days)(1-3).

### **12.3 Bioaccumulative potential**

An estimated BCF of 3 was calculated for 3-bromo-1-propyne(SRC), using a water solubility of  $1.49 \times 10^{-4}$  mg/L(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

### **12.4 Mobility in soil**

Koc values of 1.1 and 5.3 were determined for 3-bromo-1-propyne in Linne clay loam ( $K_d = 0.033$ , 2.99% organic matter) and Arlington sandy loam ( $K_d = 0.049$ , 0.93% organic matter), respectively(1). According to a classification scheme(2), these Koc values suggest that 3-bromo-1-propyne is expected to have very high mobility in soil.

### **12.5 Other adverse effects**

no data available

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## **SECTION 13: Disposal considerations**

### **13.1 Disposal methods**

**Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

**Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and

then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: UN2345 (For reference only, please check.)      IMDG: UN2345 (For reference only, please check.)      IATA: UN2345 (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: 3-BROMOPROPYNE (For reference only, please check.)      IMDG: 3-BROMOPROPYNE (For reference only, please check.)      IATA: 3-BROMOPROPYNE (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)      IMDG: 3 (For reference only, please check.)      IATA: 3 (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: II (For reference only, please check.)      IMDG: II (For reference only, please check.)      IATA: II (For reference only, please check.)

### 14.5 Environmental hazards

ADR/RID: No      IMDG: No      IATA: No

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
3-bromopropyne	3-bromopropyne	106-96-7	203-447-1
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Not Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Not Listed.

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## SECTION 16: Other information

### Information on revision

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### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

## References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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