

## SAFETY DATA SHEET

Version 6.4  
Revision Date 11/22/2022  
Print Date 01/15/2023**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Allyl bromide

Product Number : A29585  
Brand : Aldrich  
CAS-No. : 106-95-6**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATESTelephone : +1 314 771-5765  
Fax : +1 800 325-5052**1.4 Emergency telephone**Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**Flammable liquids (Category 2), H225  
Acute toxicity, Oral (Category 3), H301  
Acute toxicity, Inhalation (Category 3), H331  
Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318  
Germ cell mutagenicity (Category 1B), H340  
Carcinogenicity (Category 1B), H350  
Short-term (acute) aquatic hazard (Category 1), H400

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal Word

Danger

Hazard statement(s)

H225 Highly flammable liquid and vapor.  
H301 + H331 Toxic if swallowed or if inhaled.  
H314 Causes severe skin burns and eye damage.  
H340 May cause genetic defects.  
H350 May cause cancer.  
H400 Very toxic to aquatic life.

Precautionary statement(s)

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.  
P261 Avoid breathing mist or vapors.  
P264 Wash skin 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.  
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately 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.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P363 Wash contaminated clothing before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P391 Collect spillage.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : 3-Bromo-1-propene

Formula : C<sub>3</sub>H<sub>5</sub>Br

Molecular weight : 120.98 g/mol

CAS-No. : 106-95-6

EC-No. : 203-446-6

Component	Classification	Concentration
<b>3-bromo-1-propene</b>		
	Flam. Liq. 2; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; H225, H301, H331, H314, H318, H400 M-Factor - Aquatic Acute: 10	<= 100 %

<b>propylene oxide</b>		
	Flam. Liq. 1; Acute Tox. 4; Acute Tox. 3; Eye Irrit. 2A; Muta. 1B; Carc. 1B; STOT SE 3; Aquatic Acute 3; H224, H302, H331, H311, H319, H340, H350, H335, H402	<= 0.1 %

<b>3-bromo-1-propene</b>		
	Flam. Liq. 2; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; H225, H301, H331, H314, H318, H400 M-Factor - Aquatic Acute: 10	<= 100 %

<b>propylene oxide</b>		
	Flam. Liq. 1; Acute Tox. 4; Acute Tox. 3; Eye Irrit. 2A; Muta. 1B; Carc. 1B; STOT SE 3; Aquatic Acute 3; H224, H302, H331, H311, H319, H340, H350, H335, H402	>= 0.1 - < 1 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

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

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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

Carbon oxides

Hydrogen bromide gas

Flash back possible over considerable distance., Container explosion may occur under fire conditions.

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### 5.4 Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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### SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

#### 6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

#### 6.4 Reference to other sections

For disposal see section 13.

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### SECTION 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

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

#### 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. Keep locked up or in an area accessible only to qualified or authorized persons.

##### Storage stability

Recommended storage temperature  
2 - 8 °C

Moisture sensitive. Light sensitive.

##### Storage class

Storage class (TRGS 510): 3: Flammable liquids

#### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
3-bromo-1-propene	106-95-6	TWA	0.1 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Not classifiable as a human carcinogen Danger of cutaneous absorption		
		STEL	0.2 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Not classifiable as a human carcinogen Danger of cutaneous absorption		
propylene oxide	75-56-9	TWA	2 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Dermal Sensitization Confirmed animal carcinogen with unknown relevance to humans		
		Potential Occupational Carcinogen		
		TWA	100 ppm 240 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		PEL	2 ppm 4.75 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

### 8.2 Exposure controls

#### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### 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). Tightly fitting safety goggles

##### 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. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Splash contact

Material: Fluorinated rubber  
Minimum layer thickness: 0.7 mm  
Break through time: 480 min  
Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### **Body Protection**

Flame retardant antistatic protective clothing.

### **Respiratory protection**

required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

### **Control of environmental exposure**

Do not let product enter drains. Risk of explosion.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |   |  |
|---|--|
| a) Appearance                                   | Form: liquid   |
| b) Odor   | No data available  |
| c) Odor Threshold                               | No data available  |
| d) pH   | No data available  |
| e) Melting point/freezing point                 | Melting point/range: -119 °C (-182 °F)                             |
| f) Initial boiling point and boiling range      | 70 - 71 °C 158 - 160 °F  |
| g) Flash point                                  | -1 °C (30 °F) - c.c.   |
| h) Evaporation rate                             | No data available  |
| i) Flammability (solid, gas)                    | No data available  |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 7.3 %(V)<br>Lower explosion limit: 4.4 %(V) |
| k) Vapor pressure                               | No data available  |
| l) Vapor density                                | No data available  |
| m) Density                                      | 1.398 g/mL at 25 °C (77 °F)  |
| Relative density                                | No data available  |
| n) Water solubility                             | 0.382 g/l at 25 °C (77 °F) - soluble                               |

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- o) Partition coefficient: No data available  
n-octanol/water
- p) Autoignition No data available  
temperature
- q) Decomposition No data available  
temperature
- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties none

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapors may form explosive mixture with air.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .  
Contains the following stabilizer(s):  
propylene oxide (<=0.1 %)

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:  
Exothermic reaction with:  
Oxidizing agents  
Alkali metals  
Alkaline earth metals  
Light metals  
amides  
Amines  
Powdered metals

### 10.4 Conditions to avoid

May polymerize on exposure to light. Exposure to moisture. Exposure to air.  
Warming.

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5



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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Acute toxicity estimate Oral - 200 mg/kg

(Calculation method)

LD50 Oral - Rat - male and female - 200 mg/kg

(OECD Test Guideline 401)

Acute toxicity estimate Inhalation - 4 h - 2.41 mg/l - vapor (Calculation method)

LC50 Inhalation - Rat - male and female - 4 h - 2.41 mg/l - vapor

(OECD Test Guideline 403)

Inhalation: Corrosive to respiratory system.

Acute toxicity estimate Dermal - > 5,000 mg/kg

(Calculation method)

#### Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns.

(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

#### Respiratory or skin sensitization

Freund's complete adjuvant test - Guinea pig

Result: negative

(OECD Test Guideline 406)

#### Germ cell mutagenicity

Test Type: Ames test

Test system: *S. typhimurium*

Metabolic activation: with and without metabolic activation

Method: US-EPA

Result: positive

Test Type: Micronucleus test

Species: Mouse

Application Route: Oral

Method: US-EPA

Result: negative

#### Carcinogenicity

IARC: 2B - Group 2B: Possibly carcinogenic to humans (propylene oxide)

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

RTECS: UC7090000

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

Headache

Drowsiness

Unconsciousness

cardiovascular disorders

narcosis

Absorption may result in damage of the following:

Liver

Kidney

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

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**SECTION 12: Ecological information****12.1 Toxicity**

Toxicity to fish                      static test LC50 - Carassius auratus (goldfish) - 0.8 mg/l - 24 h  
Remarks: (ECHA)

Toxicity to algae                      static test EC50 - Pseudokirchneriella subcapitata - 0.087 mg/l - 72  
h  
(OECD Test Guideline 201)

**12.2 Persistence and degradability**

Biodegradability                      Result: - Readily biodegradable.  
Remarks: (External MSDS)

**12.3 Bioaccumulative potential**

No data available

#### 12.4 Mobility in soil

No data available

#### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

#### 12.6 Endocrine disrupting properties

No data available

#### 12.7 Other adverse effects

Biological effects:

Forms toxic mixtures in water, dilution measures notwithstanding.

Discharge into the environment must be avoided.

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

##### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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### SECTION 14: Transport information

#### DOT (US)

UN number: 1099 Class: 3 (6.1) Packing group: I  
Proper shipping name: Allyl bromide  
Reportable Quantity (RQ):  
Marine pollutant: yes Poison Inhalation Hazard: No

#### IMDG

UN number: 1099 Class: 3 (6.1) Packing group: I EMS-No: F-E, S-D  
Proper shipping name: ALLYL BROMIDE  
Marine pollutant : yes  
Marine pollutant : yes

#### IATA

UN number: 1099 Class: 3 (6.1) Packing group: I  
Proper shipping name: Allyl bromide  
IATA Passenger: Not permitted for transport  
IATA Cargo: Not permitted for transport

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### SECTION 15: Regulatory information

#### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

#### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

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**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

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**SECTION 16: Other information****Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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