

Material Safety Data Sheet

Version 4.6

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Allyl bromide

Product Number : A29585

Brand : Aldrich

Supplier : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832

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Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Flammable liquid, Carcinogen, Target Organ Effect, Toxic by ingestion, Corrosive

Target Organs

Liver, Kidney

GHS Classification

Flammable liquids (Category 2)

Acute toxicity, Oral (Category 3)

Skin corrosion (Category 1B)

Serious eye damage (Category 1)

Germ cell mutagenicity (Category 1B)

Carcinogenicity (Category 1B)

Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapour.

H301

Toxic if swallowed.

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.

P210

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P273

Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.

HMIS Classification

Health hazard: 3
Chronic Health Hazard: *
Flammability: 3
Physical hazards: 0

NFPA Rating

Health hazard: 3
Fire: 3
Reactivity Hazard: 0

Potential Health Effects

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin May be harmful if absorbed through skin. Causes skin burns.
Eyes Causes eye burns.
Ingestion Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 3-Bromo-1-propene

Formula : C₃H₅Br

Molecular Weight : 120.98 g/mol

Component		Concentration
3-Bromopropene		
CAS-No.	106-95-6	-
EC-No.	203-446-6	
Methyloxirane		
CAS-No.	75-56-9	0.1 - 1 %
EC-No.	200-879-2	
Index-No.	603-055-00-4	
Registration number	01-2119480483-35-XXXX	

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical

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

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen bromide gas

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

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

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 (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature: 2 - 8 °C

Moisture sensitive. Light sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Remarks	Potential Occupational Carcinogen See Appendix A			
Methyloxirane	75-56-9	TWA	2 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Eye & Upper Respiratory Tract irritation Confirmed animal carcinogen with unknown relevance to humans Sensitizer			
		TWA	20 ppm 50 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	100 ppm 240 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
The value in mg/m3 is approximate.				

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand 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.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	clear, liquid
Colour	colourless

Safety data

pH	no data available
Melting point/freezing point	Melting point/range: -119 °C (-182 °F)
Boiling point	70 - 71 °C (158 - 160 °F)
Flash point	-1 °C (30 °F) - closed cup
Ignition temperature	290 °C (554 °F)
Autoignition temperature	no data available
Lower explosion limit	4.3 %(V)
Upper explosion limit	7.3 %(V)
Vapour pressure	no data available
Density	1.398 g/mL at 25 °C (77 °F)
Water solubility	3.83 g/l at 25 °C (77 °F)
Partition coefficient: n-octanol/water	log Pow: 1.79 at 20 °C (68 °F)
Relative vapour density	no data available
Odour	unpleasant
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid

May polymerize on exposure to light. Exposure to moisture. Exposure to air. Heat, flames and sparks. Extremes of temperature and direct sunlight.

Materials to avoid

Oxidizing agents, Alkali metals, Alkaline earth metals, Light metals, Amides, Amines, Powdered metals

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen bromide gas
Other decomposition products - no data available

Contains the following stabiliser(s):

Methyloxirane ($\leq 0.1\%$)

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral - rat - 120 mg/kg

Inhalation LC50

LC50 Inhalation - rat - 30 min - 10,000 mg/l

Dermal LD50

no data available

Other information on acute toxicity

LD50 Intraperitoneal - rat - 48 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

Genotoxicity in vitro - S. typhimurium - positive

Other mutation test systems

Carcinogenicity

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

NTP: Reasonably anticipated to be a human carcinogen (Methyloxirane)

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion	Toxic if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin burns.
Eyes	Causes eye burns.

Signs and Symptoms of Exposure

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.

Synergistic effects

no data available

Additional Information

RTECS: UC7090000

12. ECOLOGICAL INFORMATION**Toxicity**

Toxicity to fish mortality LC50 - Carassius auratus (goldfish) - < 0.8 mg/l - 24.0 h

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

Biochemical Oxygen Demand (BOD)	0.82 mg/g
Chemical Oxygen Demand (COD)	0.82 mg/g

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS**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. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN number: 1099 Class: 3 (6.1) Packing group: I
Proper shipping name: Allyl bromide
Marine pollutant: No
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: Marine pollutant

IATA

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

15. REGULATORY INFORMATION

OSHA Hazards

Flammable liquid, Carcinogen, Target Organ Effect, Toxic by ingestion, Corrosive

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

	CAS-No.	Revision Date
Methyloxirane	75-56-9	1994-04-01

SARA 313 Components

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

	CAS-No.	Revision Date
Methyloxirane	75-56-9	1994-04-01

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Methyloxirane	75-56-9	1994-04-01
3-Bromopropene	106-95-6	2007-03-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Methyloxirane	75-56-9	1994-04-01
3-Bromopropene	106-95-6	2007-03-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Methyloxirane	75-56-9	1994-04-01
3-Bromopropene	106-95-6	2007-03-01

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer.	75-56-9	2007-09-28
Methyloxirane		

16. OTHER INFORMATION

Further information

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