

## Chemical Safety Data Sheet MSDS / SDS

**BROMOACETONE**Revision Date:2024-11-09 Revision Number:1

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name : BROMOACETONE  
CBnumber : CB4301956  
CAS : 598-31-2  
EINECS Number : 209-928-2  
Synonyms : bromoacetone, 1-bromoacetone

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

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**SECTION 2: Hazards identification****Classification of the substance or mixture**

Flammable liquids, Category 3

**Label elements****Pictogram(s)**

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Signal word : Warning

**Hazard statement(s)**

H226 Flammable liquid and vapour

**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/...

#### 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.

#### Storage

P403+P235 Store in a well-ventilated place. Keep cool.

#### 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.

#### Other hazards

no data available

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## SECTION 3: Composition/information on ingredients

#### Substance

Product name	: BROMOACETONE
Synonyms	: bromoacetone, 1-bromoacetone
CAS	: 598-31-2
EC number	: 209-928-2
MF	: C <sub>3</sub> H <sub>5</sub> BrO
MW	: 136.98

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## SECTION 4: First aid measures

#### Description of first aid measures

##### If inhaled

Fresh air, rest. Half-upright position. Refer for medical attention.

##### Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower.

##### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

##### Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention .

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

Very powerful lachrymator and upper respiratory tract irritant. Intensely irritating to the eyes, nose, throat, and lungs. Corrosive to the skin.  
(USCG, 1999)

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

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration,

preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Ketones and related compounds

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## SECTION 5: Firefighting measures

### Extinguishing media

If material on fire or involved in fire: Do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Solid streams of water may be ineffective. Use "alcohol" foam, dry chemical, or carbon dioxide.

### Specific Hazards Arising from the Chemical

Special Hazards of Combustion Products: Toxic fumes of Bromine (USCG, 1999)

### Advice for firefighters

Use water spray, powder.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Evacuate danger area! Personal protection: complete protective clothing including self-contained breathing apparatus. Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water.

### Environmental precautions

Evacuate danger area! Personal protection: complete protective clothing including self-contained breathing apparatus. Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water.

### Methods and materials for containment and cleaning up

Evacuate danger area! Personal protection: complete protective clothing including self-contained breathing apparatus. Collect leaking liquid in sealable containers. Wash away remainder with plenty of water.

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## SECTION 7: Handling and storage

### Precautions for safe handling

NO open flames, NO sparks and NO smoking. 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.

### Conditions for safe storage, including any incompatibilities

Separated from strong oxidants and food and feedstuffs. Well closed. Keep in a well-ventilated room. Separated from strong oxidants, food, and feedstuffs. Well closed. Keep in a well-ventilated room.

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## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Occupational Exposure limit values

no data available

#### Biological limit values

no data available

### Exposure controls

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

### Individual protection measures

#### Eye/face protection

Wear safety goggles or eye protection in combination with breathing protection.

#### Skin protection

Protective gloves.

#### Respiratory protection

Use local exhaust or breathing protection.

#### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Physical state	Bromoacetone is a clear colorless liquid turning violet on standing, even in the absence of air, and decomposing to a black resinous mass on long standing. Denser than water and poorly soluble in water. Hence sinks in water. A violent lachrymator--low concentrations are very irritating to the eyes; high concentrations or prolonged exposure at lower concentrations may have adverse health effects. Very toxic by inhalation. Contact with the liquid causes painful burns. Used as a chemical war gas.
Colour	Colorless liquid; rapidly becomes violet even in absence of air
Odour	PUNGENT ODOR
Melting point/freezing point	-37°C(lit.)
Boiling point or initial boiling point and boiling range	163°C/1mmHg(lit.)
Flammability	Flammable. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit	no data available
Flash point	51°C(lit.)
Auto-ignition temperature	no data available
Decomposition temperature	no data available

pH	no data available
Kinematic viscosity	no data available
Solubility	Soluble in ethanol, ether, and acetone
Partition coefficient n-octanol/water	log Kow = 0.11 (est)
Vapour pressure	9 mm Hg at 20 deg C
Density and/or relative density	1.63 (0°C)
Relative vapour density	1.63 (0°C)
Particle characteristics	no data available

## SECTION 10: Stability and reactivity

### Reactivity

Decomposes on burning. This produces toxic fumes including hydrogen bromide. Reacts with oxidants.

### Chemical stability

Turns violet rapidly even in absence of air.

### Possibility of hazardous reactions

FlammableBROMOACETONE decomposes on standing.

### Conditions to avoid

no data available

### Incompatible materials

Reacts with oxidants.

### Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /hydrogen bromide/.

## SECTION 11: Toxicological information

### Acute toxicity

- Oral: no data available
- 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**

Lachrymation. The substance is severely irritating to the eyes, skin and respiratory tract.

### **STOT-repeated exposure**

See Notes.

### **Aspiration hazard**

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

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## **SECTION 12: Ecological information**

### **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

### **Persistence and degradability**

no data available

### **Bioaccumulative potential**

An estimated BCF of 3 was calculated in fish for bromoacetone(SRC), using an estimated log Kow of 0.11(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).

### **Mobility in soil**

Using a structure estimation method based on molecular connectivity indices(1), the Koc of bromoacetone can be estimated to be 5(SRC). According to a classification scheme(2), this estimated Koc value suggests that bromoacetone is expected to have very high mobility in soil.

### **Other adverse effects**

no data available

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## **SECTION 13: Disposal considerations**

## 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

### UN Number

ADR/RID: UN1569 (For reference only, please check.)

IMDG: UN1569 (For reference only, please check.)

IATA: UN1569 (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: BROMOACETONE (For reference only, please check.)

IMDG: BROMOACETONE (For reference only, please check.)

IATA: BROMOACETONE (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)

IMDG: 6.1 (For reference only, please check.)

IATA: 6.1 (For reference only, please check.)

### 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.)

### Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### Special precautions for user

no data available

### Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

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

### **European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

### **EC Inventory**

Listed.

### **United States Toxic Substances Control Act (TSCA) Inventory**

Not Listed.

### **China Catalog of Hazardous chemicals 2015**

Listed.

### **New Zealand Inventory of Chemicals (NZIoC)**

Not Listed.

### **PICCS**

Listed.

### **Vietnam National Chemical Inventory**

Not Listed.

### **IECSC**

Not Listed.

### **Korea Existing Chemicals List (KECL)**

Listed.

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## **SECTION 16: Other information**

### **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/>

## **Other Information**

Health effects of exposure to the substance have not been investigated adequately.

### **Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.