

## SAFETY DATA SHEET

Version 6.2  
Revision Date 10/30/2021  
Print Date 05/28/2022

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Bromoacetic acid

Product Number : B56307

Brand : Aldrich

Index-No. : 607-065-00-X

CAS-No. : 79-08-3

**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 STATES

Telephone : +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)**

Acute toxicity, Oral (Category 3), H301  
Acute toxicity, Inhalation (Category 3), H331  
Acute toxicity, Dermal (Category 3), H311  
Skin corrosion (Category 1A), H314  
Serious eye damage (Category 1), H318  
Skin sensitization (Category 1), H317  
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)

H301 + H311 + H331

H314

H317

H400

Toxic if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Very toxic to aquatic life.

Precautionary statement(s)

P260

Do not breathe dusts or mists.

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.

P272

Contaminated work clothing must not be allowed out of the workplace.

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.

P333 + P313

If skin irritation or rash occurs: Get medical advice/ attention.

P362

Take off contaminated clothing and wash before reuse.

P391

Collect spillage.

P403 + P233

Store in a well-ventilated place. Keep container tightly closed.

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

Lachrymator.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula :  $C_2H_3BrO_2$   
Molecular weight : 138.95 g/mol  
CAS-No. : 79-08-3  
EC-No. : 201-175-8  
Index-No. : 607-065-00-X

| Component               | Classification           | Concentration |
|-------------------------|--------------------------|---------------|
| <b>bromoacetic acid</b> |                          |               |
|                         | Acute Tox. 3; Skin Corr. | <= 100 %      |

Aldrich - B56307

Page 2 of 11

|  |                                                                                         |  |
|--|-----------------------------------------------------------------------------------------|--|
|  | 1A; Eye Dam. 1; Skin Sens. 1; Aquatic Acute 1; H301, H331, H311, H314, H318, H317, H400 |  |
|--|-----------------------------------------------------------------------------------------|--|

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

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 of fire.

### **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**

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: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. 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.

### **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. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### **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.

#### **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**

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Light sensitive. hygroscopic Handle and store under inert gas.

#### **Storage class**

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

### **7.3 Specific end use(s)**

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

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

### 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

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatrill® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatrill® L

##### Body Protection

protective clothing

##### Respiratory protection

required when dusts 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.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance                      Form: crystalline

Aldrich - B56307

Page 5 of 11

|                                                 |                                                                                               |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------|
|                                                 | Color: colorless                                                                              |
| b) Odor                                         | No data available                                                                             |
| c) Odor Threshold                               | No data available                                                                             |
| d) pH                                           | No data available                                                                             |
| e) Melting point/freezing point                 | Melting point/range: 47 - 49 °C (117 - 120 °F) - lit.                                         |
| f) Initial boiling point and boiling range      | 208 °C 406 °F - lit.                                                                          |
| g) Flash point                                  | 113 °C (235 °F) - closed cup                                                                  |
| h) Evaporation rate                             | No data available                                                                             |
| i) Flammability (solid, gas)                    | The product is not flammable. - Flammability (solids)                                         |
| j) Upper/lower flammability or explosive limits | No data available                                                                             |
| k) Vapor pressure                               | 0.21 hPa at 25 °C (77 °F) - Regulation (EC) No. 440/2008, Annex, A.4                          |
| l) Vapor density                                | No data available                                                                             |
| m) Density                                      | 1.934 g/cm <sup>3</sup>                                                                       |
| Relative density                                | No data available                                                                             |
| n) Water solubility                             | 1,000 g/l at 20 °C (68 °F) - OECD Test Guideline 105 - soluble                                |
| o) Partition coefficient: n-octanol/water       | log Pow: < -2.3 at 22 °C (72 °F) - OECD Test Guideline 107 - Bioaccumulation is not expected. |
| p) Autoignition temperature                     | No data available                                                                             |
| q) Decomposition temperature                    | No data available                                                                             |
| r) Viscosity                                    | No data available                                                                             |
| s) Explosive properties                         | No data available                                                                             |
| t) Oxidizing properties                         | none                                                                                          |

## 9.2 Other safety information

|                 |                                                          |
|-----------------|----------------------------------------------------------|
| Surface tension | ca.67.86 mN/m at 20 °C (68 °F) - OECD Test Guideline 115 |
|-----------------|----------------------------------------------------------|

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Forms explosive mixtures with air on intense heating.  
A range from approx. 15 Kelvin below the flash point is to be rated as critical.  
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Aldrich - B56307

Page 6 of 11

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:  
Oxidizing agents  
alkalines  
Reducing agents  
Aluminum  
acids

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

rubber, various metals

### 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

LD50 Oral - Rat - 50 mg/kg

Remarks: (RTECS)

Behavioral: Somnolence (general depressed activity).

Behavioral: Rigidity (includes catalepsy).

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Acute toxicity estimate Oral - 100.1 mg/kg

(Expert judgment)

Acute toxicity estimate Inhalation - 4 h - 3.1 mg/l - vapor

(Expert judgment)

Inhalation: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Acute toxicity estimate Dermal - 300.1 mg/kg

(Expert judgment)

Dermal: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

No data available

#### Skin corrosion/irritation

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

#### Serious eye damage/eye irritation

Eyes - Chicken eye

Result: Causes serious eye damage.

(OECD Test Guideline 438)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

#### Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: Causes sensitization.

May cause allergic skin reaction.

(OECD Test Guideline 406)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

#### Germ cell mutagenicity

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: positive  
Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
Test Type: Ames test  
Test system: *S. typhimurium*  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Test Type: Chromosome aberration test in vitro  
Species: Rat  
Cell type: Bone marrow  
Application Route: Oral  
Method: OECD Test Guideline 475  
Result: negative

### **Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
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**

Repeated dose toxicity - Rat - female - Oral - 13 Weeks - NOAEL (No observed adverse effect level) - 14.1 mg/kg - LOAEL (Lowest observed adverse effect level) - 24.2 mg/kg

RTECS: AF5950000

Cough, Shortness of breath, Headache, Nausea, Vomiting

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

Chronic intoxication:

muscular weakness

Damage to:

Liver  
Kidney  
Cardiac

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                                    | semi-static test LC50 - Danio rerio (zebra fish) - 103 mg/l - 96 h<br>(OECD Test Guideline 203)                                                        |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 - Daphnia magna (Water flea) - 42 mg/l - 48 h<br>(OECD Test Guideline 202)                                                            |
| Toxicity to algae                                   | static test EC50 - Pseudokirchneriella subcapitata - 0.29 mg/l - 96 h<br>(OECD Test Guideline 201)                                                     |
| Toxicity to bacteria                                | EC50 - activated sludge - > 1,000 mg/l - 3 h<br>(OECD Test Guideline 209)<br><br>NOEC - activated sludge - 320 mg/l - 3 h<br>(OECD Test Guideline 209) |

### 12.2 Persistence and degradability

|                  |                                                                                                     |
|------------------|-----------------------------------------------------------------------------------------------------|
| Biodegradability | aerobic - Exposure time 28 d<br>Result: 81 % - Readily biodegradable.<br>(OECD Test Guideline 301B) |
|------------------|-----------------------------------------------------------------------------------------------------|

### 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

No data available

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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. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

#### DOT (US)

UN number: 3425    Class: 8    Packing group: II  
Proper shipping name: Bromoacetic acid, solid  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

#### IMDG

UN number: 3425    Class: 8    Packing group: II    EMS-No: F-A, S-B  
Proper shipping name: BROMOACETIC ACID, SOLID  
Marine pollutant : yes

#### IATA

UN number: 3425    Class: 8    Packing group: II  
Proper shipping name: Bromoacetic acid, solid

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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

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

#### Massachusetts Right To Know Components

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

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

#### Pennsylvania Right To Know Components

|                  |                    |                             |
|------------------|--------------------|-----------------------------|
| bromoacetic acid | CAS-No.<br>79-08-3 | Revision Date<br>2007-03-01 |
|------------------|--------------------|-----------------------------|

#### New Jersey Right To Know Components

|                  |                    |                             |
|------------------|--------------------|-----------------------------|
| bromoacetic acid | CAS-No.<br>79-08-3 | Revision Date<br>2007-03-01 |
|------------------|--------------------|-----------------------------|

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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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