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

1.1 Product identifiers

Product name: Aluminum bromide

Product Number: 449601
Brand: Aldrich
REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.: 7727-15-3

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

Identified uses: Laboratory chemicals, Manufacture 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

Classification according to Regulation (EC) No 1272/2008
Corrosive to Metals (Category 1), H290
Acute toxicity, Oral (Category 4), H302
Skin corrosion (Sub-category 1B), H314
Serious eye damage (Category 1), H318

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
The life science business of Merck operates as MilliporeSigma in the US and Canada.

Pictogram

Signal Word Danger

Hazard statement(s)
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Precautionary statement(s)
P234 Keep only in original packaging.
P260 Do not breathe dust.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements none

Reduced Labeling (<= 125 ml)
Pictogram

Signal Word Danger

Hazard statement(s)
H314 Causes severe skin burns and eye damage.

Precautionary statement(s)
P260 Do not breathe dust.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements none

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
Formula: AlBr₃
Molecular weight : 266.69 g/mol
CAS-No. : 7727-15-3
EC-No. : 231-779-7

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminum bromide</td>
<td>Met. Corr. 1; Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; H290, H302, H314, H318</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

CAS-No. : 7727-15-3
EC-No. : 231-779-7

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

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. Call in physician.

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
After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. 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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media
Foam Water

5.2 Special hazards arising from the substance or mixture
Hydrogen bromide gas
Aluminum oxide
Not combustible.
Ambient fire may liberate hazardous vapours.
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 inhalation of dusts. 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 dry. 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**
For precautions see section 2.2.

7.2 **Conditions for safe storage, including any incompatibilities**

- **Storage conditions**
  - No metal containers.
  - Tightly closed. Dry.

- **Storage class**
  - Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

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**

8.2 **Exposure controls**

- **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).

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® 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).

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® L

**Body Protection**
protective clothing

**Respiratory protection**
Recommended Filter type: Filter B-(P3)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**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) Physical state: powder
- b) Color: light yellow
- c) Odor: stinging
- d) Melting point/freezing point: Melting point/range: 94 - 98 °C - lit.
- e) Initial boiling point and boiling range: 255 °C at ca.1.013 hPa
- f) Flammability (solid, gas): The product is not flammable.
- g) Upper/lower flammability or explosive limits: No data available
- h) Flash point: No data available
i) Autoignition temperature
No data available

j) Decomposition temperature
No data available

k) pH
No data available

l) Viscosity
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available

m) Water solubility
at 20 °C (rigorous decomposition)

n) Partition coefficient: n-octanol/water
No data available

o) Vapor pressure
1.3 hPa at 81 °C

p) Density
3.205 g/cm³ at 25 °C - lit.
Relative density
No data available

q) Relative vapor density
No data available

r) Particle characteristics
No data available

s) Explosive properties
No data available

t) Oxidizing properties
none

9.2 **Other safety information**

Solubility in other solvents
Benzene at ca. 20 °C
- soluble
Toluene at ca. 20 °C
- soluble
xylene at ca. 20 °C
- soluble
Hydrocarbons at ca. 20 °C
- soluble
Ether at ca. 20 °C
- soluble

**SECTION 10: Stability and reactivity**

10.1 **Reactivity**
No data available

10.2 **Chemical stability**
The product is chemically stable under standard ambient conditions (room temperature).

10.3 **Possibility of hazardous reactions**
A risk of explosion and/or of toxic gas formation exists with the following substances:
- Water
dichloromethane
Potassium
sodium
alkalines
Alcohols
Strong oxidizing agents
acids

10.4 Conditions to avoid
Do not allow water to enter container because of violent reaction.
no information available

10.5 Incompatible materials
Metals

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 1.598 mg/kg
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Remarks: (RTECS)
Symptoms: burns of mucous membranes, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, damage of respiratory tract
Dermal: No data available

Skin corrosion/irritation
Remarks: Causes skin burns.

Serious eye damage/eye irritation
Remarks: Causes eye burns.
Remarks: Causes serious eye damage.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available
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

Endocrine disrupting properties

**Product:**

**Assessment:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

RTECS: BD0350000

spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting

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

Decomposition of the substance with tissue moisture.

**Systemic effects:**

Vomiting
Diarrhea
Unconsciousness

**Other information**

The following applies to aluminium compounds in general: After swallowing: only slightly absorbable via the gastrointestinal tract. Serious disorders in man (from about 4000 mg aluminium up): phosphate metabolism, calcium metabolism.

The following applies to inorganic bromides in general: the uptake of large quantities as a result of misuse or improper handling leads to tiredness, agitation, spasms.

**Further data:**

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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**SECTION 12: Ecological information**

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties
**Product:**
**Assessment:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects
We have no quantitative data concerning the ecological effects of this product.
**Biological effects:**
Product reacts with water.
Further information on ecology
Discharge into the environment must be avoided.

**Stability in water**
Remarks: Hydrolyzes on contact with water.

### SECTION 13: Disposal considerations

13.1 Waste treatment methods
No data available

### SECTION 14: Transport information

14.1 UN number
**ADR/RID:** 1725  **IMDG:** 1725  **IATA:** 1725

14.2 UN proper shipping name
**ADR/RID:** ALUMINIUM BROMIDE, ANHYDROUS  
**IMDG:** ALUMINIUM BROMIDE, ANHYDROUS  
**IATA:** Aluminium bromide, anhydrous

14.3 Transport hazard class(es)
**ADR/RID:** 8  **IMDG:** 8  **IATA:** 8

14.4 Packaging group
**ADR/RID:** II  **IMDG:** II  **IATA:** II

14.5 Environmental hazards
**ADR/RID:** no  **IMDG Marine pollutant:** no  **IATA:** no

14.6 Special precautions for user
**Tunnel restriction code:** (E)
**Further information:** No data available
SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Other regulations
Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 May be corrosive to metals.
The life science business of Merck operates as MilliporeSigma in the US and Canada.