

Shanghai Aladdin Biochemical Technology Co., Ltd.  
No. 809, Chuhua Branch Road, Fengxian District, Shanghai

# SAFETY DATA SHEET

Version: v1  
Revision Date: 2025-09-14  
Print Date: 2025-09-21

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

### 1.1 Product identifiers

Product name : Hexadecyl trimethyl ammonium bromide  
Product Number : H108983  
Brand : aladdin  
CAS-No. : 57-09-0

### 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 : Shanghai Aladdin Biochemical Tech Co., Ltd  
Address : 36 Xinjinqiao Road, Shanghai  
Telephone : 400-620-6333  
Fax : no data available

### 1.4 Emergency telephone number

Emergency Phone : 0532-83889090

## 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 4), H302

Acute toxicity, percutaneous (Category 5), H313

Skin corrosion/irritation (Category 2), H315

Serious eye damage/eye irritation (Category 1), H318

Specific target organ systemic toxicity (single exposure) (Category 3), respiratory irritation, H335

Specific target organ systemic toxicity (repeated exposure), oral (Category 2), gastrointestinal, H373

Acute (short-term) aquatic hazard (Category 1), H400

Long term aquatic hazard (Category 1), H410

### 2.2 GHS Label elements, including precautionary statements

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**Pictogram**



Danger

**Signal word**

**Hazard statement(s)**

H302	Harmful if swallowed
H313	May be harmful in contact with skin
H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation
H373	Causes damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] 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.
P321	Specific treatment (see ... on this label).
P330	Rinse mouth.
P391	Collect spillage.
P302+P352	IF ON SKIN: wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal plant.
P264+P265	Wash hands [and ...] thoroughly after handling. Do not touch eyes.
P301+P317	IF SWALLOWED: Get medical help.
P305+P354+P338	IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P317	Get emergency medical help.
P332+P317	If skin irritation occurs: Get medical help.
P319	Get medical help if you feel unwell.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

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Synonyms	: Cetrimonium bromide; Cetyltrimethylammonium bromide; CTAB; Palmityltrimethylammonium bromide; (1-Hexadecyl)trimethylammonium bromide
Formula	: C19H42BrN
Molecular weight	: 364.45
CAS No.	: 57-09-0
EC-NO.	: 200-311-3

Component	Classification	Concentration
<b>Hexadecyl trimethyl ammonium bromide</b>		
	no data available	≥99%

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### In case of skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

#### In case of eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

#### If swallowed

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

### 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

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

#### Unsuitable extinguishing media

no data available

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

Carbon oxides Nitrogen oxides Hydrogen bromide is flammable Steam is heavier than air, so it can spread over the

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ground; Forming explosive mixture with air under sharp heating; Hazardous gases or vapours may be generated in case of fire

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

no data available

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## SECTION 6: Accidental release measures

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

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### 6.2 Environmental precautions

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

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

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

### 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

Operators should be specially trained and strictly abide by the operating procedures. Operation and disposal should be carried out in a place with local ventilation or general ventilation facilities. Avoid eye and skin contact and avoid breathing vapor. See Section 8 for personal protective measures. Keep away from fire and heat sources, and smoking is strictly prohibited in the workplace. Use explosion-proof ventilation systems and equipment. If canning is required, the flow rate should be controlled, and there should be a grounding device to prevent the accumulation of static electricity. Avoid contact with incompatible substances such as oxidizing agents (see section 10 for incompatible substances). When handling, it should be lightly loaded and unloaded to prevent damage to packaging and containers. Empty containers may be harmful residues. Wash hands after use and prohibit eating or drinking in the workplace. Equipped with the corresponding variety and quantity of fire fighting equipment and leakage emer

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

Argon filled storage

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### 7.3 Specific end use(s)

no data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

##### 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. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

##### 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.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) 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).

##### Control of environmental exposure

If safety requires, prevent further leakage or spillage. Do not let the product enter the sewer.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	form: solid color: white
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	248-251°C
f) Initial boiling point and boiling range	no data available
g) Flash point	244 °C

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h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	1.013
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

## 9.2 Other safety information

no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

no data available

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity

LD50 Oral Rat Female 1550 mg/kg

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(OECD Test Guideline 401)

Remarks: (compared with similar products)

Values are specified for the following substances: cetyltrimethylammonium chloride

Inhalation: no data

LD50 Transdermal - Rabbit - Male and Female - 2150 mg/kg

Remarks: (compared with similar products)

(ECHA)

Values are specified for the following substances: cetyltrimethylammonium chloride

#### **Skin corrosion/irritation**

Skin - Rabbit Result: Irritating to skin- 24 h Remarks: (ECHA)

#### **Serious eye damage/eye irritation**

Eyes - Rabbit Results: Serious eye injuries were caused. (OECD Test Guideline 405) Remarks: (compared with similar products)

#### **Respiratory or skin sensitisation**

Maximum reaction test - guinea pigs Result: Negative (OECD Test Guideline 406) Remarks: aqueous solution

#### **Germ cell mutagenicity**

no data available

#### **Carcinogenicity**

no data available

#### **Reproductive toxicity**

no data available

#### **Specific target organ toxicity - single exposure**

Inhalation - May cause respiratory irritation- respiratory system

#### **Specific target organ toxicity - repeated exposure**

Oral - Prolonged or repeated exposure may damage organs- gastrointestinal tract

#### **Aspiration hazard**

no data available

#### **Additional Information**

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

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Toxicity to fish Semi static test LC50 - Danio rerio (zebrafish) - 0.2 mg/l - 96 h

(OECD Test Guideline 203)

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Toxicity to *Daphnia magna* and other aquatic invertebrates

Semi static test EC50 - *Daphnia magna* - 0.037 mg/l - 48 h

(OECD Test Guideline 202)

Static toxicity test on algae ErC50 - *Pseudokirchneriella subcapitata* (green algae) - 0.00411 mg/l - 72h

(OECD Test Guideline 201)

Static test NOEC - *Desmodesmus subspicatus* (green algae) - 0.001 mg/l - 72 h

(OECD Test Guideline 201)

Toxicity to bacteria EC50 - activated sludge - 19 mg/l

Remarks: (ECHA)

## 12.2 Persistence and degradability

Aerobic chemical oxygen demand - exposure time 11 days Results: 100% - fast biodegradable. (OECD Test Guideline 301E)

## 12.3 Bioaccumulative potential

*Cyprinus carpio* - 8 weeks -0.05 mg/l (N, N, N-trimethyl-1-hexadecyl ammonium bromide) BCF: 407 - 741

## 12.4 Mobility in soil

no data available

## 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment is not available because chemical safety assessment is not required/carried out

## 12.6 Other adverse effects

no data available

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## SECTION 13:

### 13.1 Disposal considerations

#### Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur. Observe all federal, state and local regulations when disposing of the substance.

#### Contaminated packaging

Dispose of as unused product.



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## SECTION 14: Transport information

### DOT (US)

UN number: 3077	Packing group: III	Class: 9
Proper shipping name: Solid substances harmful to the environment, not otherwise listed (N, N, N-trimethyl-1-hexadecyl ammonium bromide)	Reportable Quantity(RQ): no data available	Poison Inhalation Hazard: no data available
Environmental Hazards: yes		

### IMDG

UN number: 3077	Packing group: III	EMS-No: no data available
Proper shipping name: Solid substances harmful to the environment, not otherwise listed (N, N, N-trimethyl-1-hexadecyl ammonium bromide)		

### IATA

UN number: 3077	Packing group: III	Class: 9
Proper shipping name: Solid substances harmful to the environment, not otherwise listed (N, N, N-trimethyl-1-hexadecyl ammonium bromide)		

## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

## SECTION 16: Other information

### Further information

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