

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : **Hexadecyltrimethylammonium bromide**

Product Number : H6269  
Brand : Sigma

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

Telephone : +1 800-325-5832  
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Emergency Phone # : (314) 776-6555

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : CTAB  
Cetrimide  
Cetrimonium bromide  
Cetyltrimethylammonium bromide  
Palmityltrimethylammonium bromide

Formula : C<sub>19</sub>H<sub>42</sub>N.Br  
Molecular Weight : 364.46 g/mol

| CAS-No.                    | EC-No.    | Index-No. | Concentration [%] |
|----------------------------|-----------|-----------|-------------------|
| <b>Cetrimonium bromide</b> |           |           |                   |
| 57-09-0                    | 200-311-3 | -         | -                 |

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview

#### OSHA Hazards

Toxic by ingestion  
Irritant

#### HMIS Classification

Health Hazard: 2  
Flammability: 1  
Physical hazards: 0

#### NFPA Rating

Health Hazard: 3  
Fire : 1  
Reactivity Hazard: 0

## Potential Health Effects

|                   |   |
|-------------------|---|
| <b>Inhalation</b> | May be harmful if inhaled. May cause respiratory tract irritation.  |
| <b>Skin</b>       | May be harmful if absorbed through skin. May cause skin irritation. |
| <b>Eyes</b>       | May cause eye irritation.   |
| <b>Ingestion</b>  | Toxic if swallowed.   |

## 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

Wash off with soap and plenty of water. Consult a physician.

### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## 5. FIRE-FIGHTING MEASURES

### Flammable properties

Flash point 244 °C (471 °F) - closed cup

Ignition temperature no data available

### Suitable extinguishing media

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

### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

### 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 for cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

### Handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

### Storage

Keep container tightly closed in a dry and well-ventilated place.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves.

#### Eye protection

Safety glasses

#### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### Hygiene measures

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

|        |                   |
|--------|-------------------|
| Form   | solid             |
| Colour | no data available |

### Safety data

|   |  |
|---|--|
| pH  | 5.0 - 7 at 36.4 g/l at 25 °C (77 °F)           |
| Melting point                             | 230 °C (446 °F)                                |
| Boiling point                             | no data available                              |
| Flash point                               | 244 °C (471 °F) - closed cup                   |
| Ignition temperature                      | no data available                              |
| Lower explosion limit                     | no data available                              |
| Upper explosion limit                     | no data available                              |
| Water solubility                          | 36.4 g/l at 20 °C (68 °F) - completely soluble |
| Partition coefficient:<br>n-octanol/water | log Pow: 3.18                                  |

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

#### Hazardous decomposition products formed under fire conditions.

Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Hydrogen bromide gas

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LD50 Oral - rat - 410 mg/kg

### Irritation and corrosion

Eyes - rabbit - Severe eye irritation

### Sensitisation

no data available

### Chronic exposure

no data available

### Signs and Symptoms of Exposure

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

### Potential Health Effects

|                   |   |
|-------------------|---|
| <b>Inhalation</b> | May be harmful if inhaled. May cause respiratory tract irritation.  |
| <b>Skin</b>       | May be harmful if absorbed through skin. May cause skin irritation. |
| <b>Eyes</b>       | May cause eye irritation.   |
| <b>Ingestion</b>  | Toxic if swallowed.   |

## 12. ECOLOGICAL INFORMATION

### Elimination information (persistence and degradability)

Biodegradability

### Ecotoxicity effects

Toxicity to fish LC50 - Brachydanio rerio (zebra fish) - 0.3 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia magna (Water flea) - 0.03 mg/l - 48 h

### Further information on ecology

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

Very toxic to aquatic organisms.

no data available

## 13. DISPOSAL CONSIDERATIONS

### Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

### Contaminated packaging

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### DOT (US)

UN-Number: 3077 Class: 9

Packing group: III

Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Cetrimonium bromide)

**IMDG**

UN-Number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cetrimonium bromide)  
Marine pollutant: No

**IATA**

UN-Number: 3077 Class: 9 Packing group: III  
Proper shipping name: Environmentally hazardous substance, solid n.o.s. (Cetrimonium bromide)

**15. REGULATORY INFORMATION**

**OSHA Hazards**

Toxic by ingestion, Irritant

**TSCA Status**

On TSCA Inventory

**DSL Status**

All components of this product are on the Canadian DSL list.

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: 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

**Massachusetts Right To Know Components**

No Components Listed

**Pennsylvania Right To Know Components**

|                     | CAS-No. | Revision Date |
|---------------------|---------|---------------|
| Cetrimonium bromide | 57-09-0 |               |

**New Jersey Right To Know Components**

|                     | CAS-No. | Revision Date |
|---------------------|---------|---------------|
| Cetrimonium bromide | 57-09-0 |               |

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

**16. OTHER INFORMATION**

**Further information**

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