

# SIGMA-ALDRICH

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## Material Safety Data Sheet

Version 4.1  
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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Ethidium bromide  
Product Number : E8751  
Brand : Sigma-Aldrich  
Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # : (314) 776-6555

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

#### OSHA Hazards

Highly toxic by inhalation, Harmful by ingestion., Mutagen

#### GHS Label elements, including precautionary statements

#### Pictogram



#### Signal word

Danger

#### Hazard statement(s)

H302 Harmful if swallowed.

H330 Fatal if inhaled.

H341 Suspected of causing genetic defects.

#### Precautionary statement(s)

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P281 Use personal protective equipment as required.

P284 Wear respiratory protection.

P310 Immediately call a POISON CENTER or doctor/physician.

#### HMS Classification

Health hazard:

Chronic Health Hazard:

Flammability:

Physical hazards:

#### NFPA Rating

Health hazard:

Fire:

Reactivity Hazard:

#### Potential Health Effects

#### Inhalation

May be fatal if inhaled. May cause respiratory tract irritation.

#### Skin

May be harmful if absorbed through skin. May cause skin irritation. May be fatal if absorbed through skin.

#### Eyes

#### Ingestion

Harmful if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Synonyms

: EIBr  
3,8-Diamino-5-ethyl-6-phenylphenanthridinium bromide  
Homidium bromide

#### Formula

: C<sub>21</sub>H<sub>20</sub>BrN<sub>3</sub>

#### Molecular Weight

: 394.31 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
3,8-Diamino-1-ethyl-6-phenylphenanthridinium bromide			
1239-45-8	214-984-6	612-278-00-6	-

### 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

#### 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

Wear respiratory protection. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

#### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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

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

### 7. HANDLING AND STORAGE

#### Precautions for safe handling

Avoid formation of dust and aerosols.

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

#### Conditions for safe storage

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

Keep in a dry place.

00001033

## 8. EXPOSURE CONTROL/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 full-face 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).

#### Hand protection

Handle with gloves.

#### Eye protection

Face shield and 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

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form powder

Colour dark red

### Safety data

pH 4 - 7 at 25 °C (77 °F)

Melting point 260 - 262 °C (500 - 504 °F) - dec.

Boiling point no data available

Flash point no data available

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Water solubility no data available

## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Conditions to avoid

no data available

### Materials to avoid

no data available

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Hydrogen bromide gas

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LD50 Oral - rat - 1,503 - 2,177 mg/kg

LC50 Inhalation - rat - 1 h - 11.8 - 134 mg/l

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LD50 Subcutaneous - mouse - 110 mg/kg  
LD50 Intravenous - rat - 16 mg/kg

### Skin corrosion/irritation

no data available

### Serious eye damage/eye irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

In vitro tests showed mutagenic effects

### Carcinogenicity

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

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component 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 identified as a carcinogen or potential carcinogen by OSHA.

### Reproductive toxicity

no data available

### Specific target organ toxicity - single exposure (GHS)

no data available

### Specific target organ toxicity - repeated exposure (GHS)

no data available

### Aspiration hazard

no data available

### Potential health effects

**Inhalation** May be fatal if inhaled. May cause respiratory tract irritation.

**Ingestion** Harmful if swallowed.

**Skin** May be harmful if absorbed through skin. May cause skin irritation. May be fatal if absorbed through skin.

**Eyes** May cause eye irritation.

### Additional information

RTECS: SF7950000

## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

### Other adverse effects

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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: 2811 Class: 6.1 Packing group: I

Proper shipping name: Toxic solids, organic, n.o.s. (3,8-Diamino-1-ethyl-6-phenylphenanthridinium bromide)

Marine pollutant: No

Poison Inhalation Hazard: No

**IMDG**

UN-Number: 2811 Class: 6.1 Packing group: I EMS-No: F-A, S-A

Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (3,8-Diamino-1-ethyl-6-phenylphenanthridinium bromide)

Marine pollutant: No

**IATA**

UN-Number: 2811 Class: 6.1 Packing group: I

Proper shipping name: Toxic solid, organic, n.o.s. (3,8-Diamino-1-ethyl-6-phenylphenanthridinium bromide)

IATA Passenger: Not permitted for transport

### 15. REGULATORY INFORMATION

**OSHA Hazards**

Highly toxic by inhalation, Harmful by ingestion, Mutagen

**DSL Status**

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

3,8-Diamino-1-ethyl-6-phenylphenanthridinium bromide

CAS-No.  
1239-45-8

**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, Chronic Health Hazard

**Massachusetts Right To Know Components**

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

**Pennsylvania Right To Know Components**

3,8-Diamino-1-ethyl-6-phenylphenanthridinium bromide

CAS-No.  
1239-45-8

Revision Date

**New Jersey Right To Know Components**

3,8-Diamino-1-ethyl-6-phenylphenanthridinium bromide

CAS-No.  
1239-45-8

Revision Date

**California Prop. 65 Components**

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

### 16. OTHER INFORMATION

**Further Information**

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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 Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.