



# MATERIAL SAFETY DATA SHEET SDS/MSDS

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

### 1.1 Product identifiers

Product name : **Ethidium Bromide Solution**

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

Identified uses : Laboratory chemicals, Industrial & for professional use only.

### 1.3 Details of the supplier of the safety data sheet

Company : Bio-Chem Chemicals  
5455 Nicholson Road, Science Market  
Ambala Cantt, 133001 - Haryana  
+91 82952 41953  
info@biofinechemical.com - www.biofinechemical.com

### 1.4 Emergency telephone number

Emergency Phone # : +91 99921 51495 (10.00am - 06.30pm) (Office Hours)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Inhalation (Category 3), H331

Germ cell mutagenicity (Category 2), H341

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

Pictogram

|                            |                                                                   |
|----------------------------|-------------------------------------------------------------------|
| Signal word                | Danger                                                            |
| Hazard statement(s)        |                                                                   |
| H331                       | Toxic if inhaled.                                                 |
| H341                       | Suspected of causing genetic defects.                             |
| Precautionary statement(s) |                                                                   |
| P261                       | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.            |
| P280                       | Wear protective gloves/ protective clothing/ eye protection/ face |

|                                |                                                                                                                                      |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| P304 + P340 + P311             | protection.<br>IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician. |
| P403 + P233                    | Store in a well-ventilated place. Keep container tightly closed.                                                                     |
| 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

### 3.2 Mixtures

|                  |   |                                                                                  |
|------------------|---|----------------------------------------------------------------------------------|
| Synonyms         | : | EtBr<br>3,8-Diamino-5-ethyl-6-phenylphenanthridinium bromide<br>Homidium bromide |
| Formula          | : | C <sub>21</sub> H <sub>20</sub> BrN <sub>3</sub>                                 |
| Molecular weight | : | 394,31 g/mol                                                                     |

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

| Component                                                   |              | Classification              | Concentration |
|-------------------------------------------------------------|--------------|-----------------------------|---------------|
| <b>3,8-Diamino-1-ethyl-6-phenylphenanthridinium bromide</b> |              |                             |               |
| CAS-No.                                                     | 1239-45-8    | Acute Tox. 4; Acute Tox. 2; | >= 1 - < 10 % |
| EC-No.                                                      | 214-984-6    | Muta. 2; H302, H330, H341   |               |
| Index-No.                                                   | 612-278-00-6 |                             |               |

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

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### 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. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

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

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

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

Carbon oxides, Nitrogen oxides (NOx), Hydrogen bromide gas

### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

### **5.4 Further information**

No data available

## **SECTION 6: Accidental release measures**

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

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas.

For personal protection see section 8.

### **6.2 Environmental precautions**

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

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

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For disposal see section 13.

## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.

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

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature 2 - 8 °C

Storage class (TRGS 510): 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

## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Components with workplace control parameters**

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

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

#### **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 EN 166(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.

**Body Protection**

Complete suit protecting against chemicals, 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 full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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**

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

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

|                                                 |                   |
|-------------------------------------------------|-------------------|
| a) Appearance                                   | Form: liquid      |
| b) Odour                                        | No data available |
| c) Odour Threshold                              | No data available |
| d) pH                                           | 4,0 - 7,0         |
| e) Melting point/freezing point                 | No data available |
| f) Initial boiling point and boiling range      | No data available |
| g) Flash point                                  | Not applicable    |
| 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                             | No data available |
| 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                         | No data available |
| t) Oxidizing properties                         | No data available |

**9.2 Other safety information**

No data available

## 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

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 1.503 - 2.177 mg/kg (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

LC50 Inhalation - Rat - 1 h - 0,0118 - 0,134 mg/l (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

LD50 Subcutaneous - Mouse - 110 mg/kg (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

LD50 Intravenous - Rat - 16 mg/kg (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

#### Skin corrosion/irritation

No data available (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

#### Serious eye damage/eye irritation

No data available (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

#### Respiratory or skin sensitisation

No data available (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

#### Germ cell mutagenicity

In vitro tests showed mutagenic effects (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

#### 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.

#### Reproductive toxicity

No data available (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

#### Specific target organ toxicity - single exposure

No data available (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

#### Additional Information

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

## 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 (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

**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 Other adverse effects**

No data available

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information****14.1 UN number**

ADR/RID: 2810

IMDG: 2810

IATA: 2810

**14.2 UN proper shipping name**

ADR/RID: TOXIC LIQUID, ORGANIC, N.O.S. (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

IMDG: TOXIC LIQUID, ORGANIC, N.O.S. (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

IATA: Toxic liquid, organic, n.o.s. (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)

**14.3 Transport hazard class(es)**

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

**14.4 Packaging group**

ADR/RID: III

IMDG: III

IATA: III

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

**14.6 Special precautions for user**

No data available

**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****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.**

|      |                                       |
|------|---------------------------------------|
| H302 | Harmful if swallowed.                 |
| H330 | Fatal if inhaled.                     |
| H331 | Toxic if inhaled.                     |
| H341 | Suspected of causing genetic defects. |