**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: Central Drug House (P) Ltd
7/28 Vardaan House
New Delhi-10002
INDIA

Telephone: +91 11 49404040
Email: care@cdhfinechemical.com

1.4 **Emergency telephone number**
Emergency Phone #: +91 11 49404040 (9:00am - 6:00 pm) [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  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
3,8-Diamino-5-ethyl-6-phenylphenantridinium bromide
Homidium bromide

Formula: C21H20BrN3
Molecular weight: 394,31 g/mol

Hazardous ingredients according to Regulation (EC) No 1272/2008
Component Classification Concentration
3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide
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
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.

Further information
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. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.