

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 24.11.2011

Version number 1

Revision: 18.10.2011

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

- 1.1. **Product identifier**
- **Trade name:** Ethidium bromide aqueous solution 1 %
- **Article number:** 21251
- 1.2. **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** Laboratory chemicals
- 1.3. **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
SERVA Electrophoresis GmbH  
Carl-Benz-Str. 7  
D-69115 Heidelberg  
Tel.: +49 6221 13840-0  
FAX: +49 6221 13840-10  
msds.info@serva.de
- **Information department:** Product Safety department Tel.: +49 6221 13840-35
- 1.4. **Emergency telephone number:** +49 6131 19240 (university hospital Mainz)

**SERVA**  
Electrophoresis

## 2 Hazards identification

- 2.1. **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS06

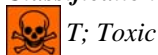
Acute Tox. 2 H330 Fatal if inhaled.



GHS08

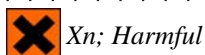
Muta. 2 H341 Suspected of causing genetic defects.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T; Toxic

R23: Toxic by inhalation.



Xn; Harmful

R68: Possible risk of irreversible effects.

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

- **Classification system:**

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

- 2.2. **Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

- **Hazard pictograms** GHS06, GHS08
- **Signal word** Danger

- **Hazard-determining components of labelling:**

ethidium bromide

- **Hazard statements**

H330 Fatal if inhaled.

H341 Suspected of causing genetic defects.

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· **Precautionary statements**

P201 Obtain special instructions before use.

P281 Use personal protective equipment as required.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

· **2.3. Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** PBT - assessment not available.






· **vPvB:** vPvB - assessment not available.

### 3 Composition/information on ingredients

· **3.2. Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with harmless additions.

· **Dangerous components:**

CAS: 1239-45-8	ethidium bromide	0.5-1.5%
EINECS: 214-984-6	 T+ R26;  Xn R22-68 Muta. Cat. 3	
 Acute Tox. 2, H330;  Muta. 2, H341;  Acute Tox. 4, H302		

· **Additional information** For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

· **4.1. Description of first aid measures**

· **General information**

Remove contaminated clothing.

Remove breathing apparatus only after contaminated clothing have been completely removed.

· **After inhalation** Supply fresh air and to be sure call for a doctor.

· **After skin contact** Immediately rinse with water.

· **After eye contact**

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing.

· **After swallowing** Drink copious amounts of water and provide fresh air. Call for doctor immediately.

· **Information for doctor**

· **4.2. Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **4.3. Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Firefighting measures

· **5.1. Extinguishing media**

· **Suitable extinguishing agents**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **5.2. Special hazards arising from the substance or mixture** No further relevant information available.

· **5.3. Advice for firefighters**

· **Protective equipment:** Wear self-contained respiratory protective device.

### 6 Accidental release measures

· **6.1. Personal precautions, protective equipment and emergency procedures** Wear protective clothing.

· **6.2. Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

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- **6.3. Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4. Reference to other sections**  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Handling**
- **7.1. Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **7.2. Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store at +2 to +8 °C
- **Information about storage in one common storage facility:**  
Store away from flammable substances.  
Do not store together with oxidizing materials.
- **Further information about storage conditions:**  
Store under lock and key and with access restricted to technical experts or their assistants only.  
Keep receptacle tightly sealed.
- **7.3. Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **8.1. Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **8.2. Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.
- **Breathing equipment:**  
Short term filter device:  
Filter P2.
- **Protection of hands:**  
Protective gloves.  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**

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The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Natural rubber, NR

Nitrile rubber, NBR

· **Eye protection:** Tightly sealed goggles.

· **Body protection:** Protective work clothing.

**9 Physical and chemical properties**

· **9.1. Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Colour: Dark red

· **Odour:** Odourless

· **Change in condition**

Melting point/Melting range: undetermined

Boiling point/Boiling range: 100°C

· **Flash point:** Not applicable

· **Self igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density:** Not determined

· **Solubility in / Miscibility with**

Water: Fully miscible

· **Solvent content:**

Organic solvents: 0.0 %

· **VOC %:** 0.00 %

· **Solids content:** 1.0 %

· **9.2. Other information** There are no more data available.

**10 Stability and reactivity**

· **10.1. Reactivity** No further relevant informations available

· **10.2. Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **10.3. Possibility of hazardous reactions** No dangerous reactions known

· **10.4. Conditions to avoid** No further relevant information available.

· **10.5. Incompatible materials:** No further relevant information available.

· **10.6. Hazardous decomposition products:** No dangerous decomposition products known

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### 11 Toxicological information

· **11.1. Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**1239-45-8 ethidium bromide**

Oral	LD50	1503 mg/kg (rat)
Dermal	LD50	90 mg/kg (rat)
Inhalative	LC50/4h	0.018 mg/l (rat)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Toxic

### 12 Ecological information

· **12.1. Toxicity**

· **Acquatic toxicity:** No further relevant information available.

· **12.2. Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **12.3. Bioaccumulative potential** No further relevant information available.

· **12.4. Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:** Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

· **12.5. Results of PBT and vPvB assessment**

· **PBT:** PBT - assessment not available.

· **vPvB:** vPvB - assessment not available.

· **12.6. Other adverse effects** No further relevant information available.

### 13 Disposal considerations

· **13.1. Waste treatment methods**

· **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

· **14.1. UN-Number**

· **ADR, IMDG, IATA**

UN2810

· **14.2. UN proper shipping name**

· **ADR**

2810 TOXIC LIQUID, ORGANIC, N.O.S. (3,8-diamino-1-ethyl-6-phenylphenantridiniumbromide)

· **IMDG**

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

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· IATA	Toxic liquid, organic, n.o.s. (3,8-Diamino-1-ethyl-6-phenylphenantridinium bromide)
· 14.3. Transport hazard class(es)	
· ADR	
	
· Class	6.1 Toxic substances.
· Label	6.1
· IMDG, IATA	
	
· Class	6.1 Toxic substances.
· Label	6.1
· 14.4. Packing group	
· ADR, IMDG, IATA	III
· 14.5. Environmental hazards:	
· Marine pollutant:	No
· 14.6. Special precautions for user	Warning: Toxic substances.
· Danger code (Kemler):	60
· EMS Number:	F-A,S-A
· 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Tunnel restriction code	E
· UN "Model Regulation":	UN2810, TOXIC LIQUID, ORGANIC, N.O.S., 6.1, III

### 15 Regulatory information

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

· National regulations

· Technical instructions (air):

Class	Share in %
I	0,5-1,5

· Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

· 15.2. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H302 Harmful if swallowed.

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*H330 Fatal if inhaled.**H341 Suspected of causing genetic defects.**R22 Harmful if swallowed.**R26 Very toxic by inhalation.**R68 Possible risk of irreversible effects.***· Department issuing MSDS: Product safety department****· Contact: +49 6221 13840-35****· Abbreviations and acronyms:***PBT: persistent, bioaccumulative, toxic substance (REACH)**vPvB: very persistent, very bioaccumulative substance (REACH)**REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals**CLP: Regulation on classification, labelling and packaging of substances and mixtures**ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**ICAO: International Civil Aviation Organization**GHS: Globally Harmonized System of Classification and Labelling of Chemicals**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent***· \* Data compared to the previous version altered.**

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