

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/13/2023

Reviewed on 01/13/2023

1 Identification

- **Product identifier**
- **Trade name:** Ethidium bromide aqueous solution 1 % w/v
- **Article number:** 21251
- **CAS Number:**
7732-18-5
- **EC number:**
231-791-2
- **Application of the substance / the mixture:** Laboratory chemicals
- **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
- **Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)

SERVA
serving scientists

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06

Acute Toxicity - Inhalation 3 H331 Toxic if inhaled.



GHS08

Germ Cell Mutagenicity 2 H341 Suspected of causing genetic defects.

- **Label elements**
- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:** GHS06, GHS08
- **Signal word:** Danger
- **Hazard-determining components of labeling:**
ethidium bromide
- **Hazard statements:**
Toxic if inhaled.
Suspected of causing genetic defects.
- **Precautionary statements**
Obtain special instructions before use.
Avoid breathing mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
Store locked up.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 01/13/2023

Trade name: Ethidium bromide aqueous solution 1 % w/v

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 0
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 2
Fire = 0
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment:**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description:**
7732-18-5 water, distilled, conductivity or of similar purity
- **Identification number(s):**
- **EC number:** 231-791-2
- **Description:** aqueous solution
- **Dangerous components:**
the product contains no further substances which shall be indicated according to Regulation (EC) No. 1907/2006.

1239-45-8 ethidium bromide

0.5-1.5%

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
- **After inhalation:** Supply fresh air or oxygen; call for doctor.
- **After skin contact:**
Immediate wash with copious amounts of water and soap; rinse thoroughly; seek medical advice.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist immediately.
- **After swallowing:**
Wash out mouth. Drink plenty of water and supply fresh air.
Seek medical treatment.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

(Contd. on page 3)

Safety Data Sheet

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Trade name: Ethidium bromide aqueous solution 1 % w/v

(Contd. of page 2)

- **Special hazards arising from the substance or mixture**
Formation of dangerous gases or vapours is possible in case of fire.
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
Hydrogen bromide (HBr)
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
Avoid contact with the eyes and skin.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**
Dispose contaminated material as waste according to item 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Protective Action Criteria for Chemicals**

· PAC-1:

1239-45-8	ethidium bromide	0.16 mg/m ³
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· PAC-2:

1239-45-8	ethidium bromide	1.8 mg/m ³
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· PAC-3:

1239-45-8	ethidium bromide	11 mg/m ³
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- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling:**
Avoid contact with eyes and skin.
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.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Store at +2 to +8 °C
- **Information about storage in one common storage facility:** 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 and store in dry conditions.
- **Specific end use(s):** No further relevant information available.

8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

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Trade name: Ethidium bromide aqueous solution 1 % w/v

(Contd. of page 3)

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Additional information about design of technical systems:** No further data; see item 7.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Store protective clothing separately.
 - Immediately remove all soiled and contaminated clothing.
 - Avoid contact with the eyes and skin.
 - Wash hands before breaks and at the end of work.
- **Breathing equipment:**
 - Short term filter device:
 - Filter ABEK-P2
- **Protection of hands:**
 - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 - Protective gloves
 - 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:**
 - 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.
- **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:**
 - Nitrile rubber, NBR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information:**
- **Color:** Red
- **Odor:** Odorless
- **Odor threshold:** Not determined.
- **Melting point/Melting range:** 0 °C (32 °F)
- **Boiling point/Boiling range:** 100 °C (212 °F)
- **Flammability (solid, gaseous):** no information available
- **Explosion limits:**
- **Lower:** no information available
- **Upper:** no information available
- **Flash point:** no information available
- **Decomposition temperature:** no information available
- **pH-value:** 7
- **Viscosity:**
- **Kinematic viscosity:** no information available
- **Dynamic viscosity at 20 °C (68 °F):** 0.952 mPas
- **Solubility in / Miscibility with:**
- **Water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** no information available
- **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 01/13/2023

Trade name: Ethidium bromide aqueous solution 1 % w/v

(Contd. of page 4)

· Density at 20 °C (68 °F):	1 g/cm ³ (8.345 lbs/gal)
· Relative density:	no information available
· Other information	There are no more data available. Section 9.1: data of the component water, CAS-No. 7732-18-5 (99 %)
· Appearance:	
· Form:	Solution
· Important information on protection of health and environment, and on safety:	
· Danger of explosion:	Product does not present an explosion hazard.
· VOC content:	0.00 %
· Molecular weight	18.02 g/mol

10 Stability and reactivity

- **Reactivity:** No further relevant informations available
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No further relevant informations available.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
No further relevant informations available.
In case of fire: See Section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Toxic if inhaled.
- **Germ cell mutagenicity:** Suspected of causing genetic defects.
- **Additional toxicological information:**
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

(Contd. on page 6)

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(Contd. of page 5)

- **Other adverse effects:**
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 1 (Self-assessment): slightly hazardous for water

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Disposal must be made according to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**
Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN2810
- **UN proper shipping name**
- **DOT** Toxic, liquids, organic, n.o.s. (ethidium bromide solution)
- **ADR** 2810 TOXIC LIQUID, ORGANIC, N.O.S. (ethidium bromide solution)
- **IMDG, IATA** TOXIC LIQUID, ORGANIC, N.O.S. (ethidium bromide solution)
- **Transport hazard class(es)**
- **DOT**
- 
- **Class** 6.1 Toxic substances
- **Label** 6.1
- **ADR, IMDG, IATA**
- 
- **Class:** 6.1 Toxic substances
- **Label:** 6.1
- **Packing group**
- **DOT, ADR, IMDG, IATA** III
- **Environmental hazards**
- **Marine pollutant:** No
- **Special precautions for user** Warning: Toxic substances
- **Hazard identification number (Kemler code):** 60
- **EMS Number:** F-A,S-A

(Contd. on page 7)

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Trade name: Ethidium bromide aqueous solution 1 % w/v

(Contd. of page 6)

· Stowage Category	A
· Stowage Code	SW2 Clear of living quarters.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (ETHIDIUM BROMIDE SOLUTION), 6.1, III

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15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

ACTIVE

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

None of the ingredients is listed.

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

(Contd. on page 8)

US

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(Contd. of page 7)

- **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS06, GHS08
- **Signal word** Danger
- **Hazard-determining components of labeling:**
ethidium bromide
- **Hazard statements**
Toxic if inhaled.
Suspected of causing genetic defects.
- **Precautionary statements**
Obtain special instructions before use.
Avoid breathing mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
- **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.

- **Department issuing SDS:** Product safety department
- **Contact:** +49 6221 13840-35
- **Date of preparation / last revision** 01/13/2023
- **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
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
bw: body weight
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Toxicity - Inhalation 3: Acute toxicity – Category 3
Germ Cell Mutagenicity 2: Germ cell mutagenicity – Category 2

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