

Safety Data Sheet acc. to OSHA HCS

Printing date 07/28/2023

Reviewed on 07/28/2023

1 Identification

- **Product identifier**
- **Trade name:** Ethidium Bromide, molecular biology reagent
- **Article number:** 193993
- **CAS Number:**
1239-45-8
- **EC number:**
214-984-6
- **Molecular Formula** C21 H20 Br N3
- **Molecular Weight** 394.3
- **Application of the substance / the mixture For Research or Further Manufacturing Use.**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
MP Biomedicals, LLC
29525 Fountain Parkway
Solon, OH 44139
United States
www.mpbio.com
- **Information department:** Quality Control Department
- **Emergency telephone number:** CHEMTREC: 1-800-424-9300 (1-703-527-3887)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Toxicity - Inhalation 2 H330 Fatal if inhaled.



GHS08 Health hazard

Germ Cell Mutagenicity 2 H341 Suspected of causing genetic defects.



GHS07

Acute Toxicity - Oral 4 H302 Harmful if swallowed.

- **Label elements**

· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS06



GHS08

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· Signal word Danger

· Hazard-determining components of labeling:

Ethidium Bromide

· Hazard statements

Harmful if swallowed.

Fatal if inhaled.

Suspected of causing genetic defects.

· Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

[In case of inadequate ventilation] wear respiratory protection.

If swallowed: Call a poison center/doctor if you feel unwell.

Rinse mouth.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a poison center/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment is urgent (see on this label).

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

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = *4
Fire = 0
Reactivity = 0

· Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Substances

· CAS No. Description

1239-45-8 Ethidium Bromide

· Identification number(s)

· EC number: 214-984-6

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4 First-aid measures

- **Description of first aid measures**
- **General information:**

Consult your Doctor. Show the safety data sheet to the Doctor. Away from the dangerous area. Remove breathing apparatus only after contaminated clothing have been completely removed. In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**

Supply fresh air or oxygen; call for doctor. If breathed in, supply fresh air. If not breathing, give artificial respiration. Consult a Doctor.
- **After skin contact:** Wash off with soap and plenty of water. Consult a Doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**

Never give anything by mouth to an unconscious person. Rinse mouth with water. If symptoms persist consult a Doctor.
- **Information for doctor**
- **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:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
- **Environmental precautions:**

Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Pick up mechanically, dispose contaminated material as waste according to Section 13. Ensure adequate ventilation.
- **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.
- **Protective Action Criteria for Chemicals**

· PAC-1:	0.16 mg/m³
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· PAC-2:	1.8 mg/m³
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· PAC-3:

11 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 - Ensure good ventilation/exhaustion at the workplace. Avoid direct contact with skin and eyes.
 - Open and handle receptacle with care.
 - Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** 15-30°C
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Further information about storage conditions:**
- **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 Section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **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:**
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **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**

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.

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- **Eye protection:** Goggles recommended during refilling.

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9 Physical and chemical properties

· Information on basic physical and chemical properties	
· General Information	
· Appearance:	
Form:	Liquid
Color:	According to product specification
· Odor:	Indeterminate
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Boiling point/Boiling range:	Undetermined.
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Ignition temperature:	Not determined.
· Danger of explosion:	See section 10
· Explosion limits:	
Lower:	Not Applicable
Upper:	Not Applicable
· Vapor pressure:	Not Applicable
· Density:	Not Applicable
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	Not Determined
· Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal
· Solids content:	100.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.

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· Conditions to avoid

No further relevant information available.

Avoid contact with acids. Contact liberates a toxic gas.

· Incompatible materials: No further relevant information available.

· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral	LD50	1,503-2,177 mg/kg (rat)
Inhalative	LC50/4 h	0.05 mg/L

1239-45-8 Ethidium Bromide

Oral	LD50	1,503-2,177 mg/kg (rat)
Inhalative	LC50/4 h	0.05 mg/L (ATE)

· Primary irritant effect:

· on the skin: No irritant effect.

· on the eye: Irritant and potentially harmful

· Sensitization: No sensitizing effects known.

· Additional toxicological information:

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

Substance is not listed.

· NTP (National Toxicology Program)

Substance is not listed.

· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

12 Ecological information

· Toxicity

· Aquatic toxicity: No further relevant information available.

· Persistence and degradability: No further relevant information available.

· Behavior in environmental systems:

· Bioaccumulative potential: No further relevant information available.

· Mobility in soil: No further relevant information available.

· Additional ecological information:

· General notes:

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

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- **Other adverse effects** No further relevant information available.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Can not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Discard must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleaning agents.

14 Transport information

· UN-Number	
· DOT, ADR, IMDG, IATA	UN2810
· UN proper shipping name	
· DOT	Toxic, liquids, organic, n.o.s. (Ethidium Bromide)
· ADR	2810 TOXIC LIQUID, ORGANIC, N.O.S. (Ethidium Bromide)
· IMDG, IATA	TOXIC LIQUID, ORGANIC, N.O.S. (Ethidium Bromide)
· 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	I
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Toxic substances
· Poison inhalation hazard:	Possible
· Hazard identification number (Kemler code):	66
· EMS Number:	F-A,S-A
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

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· Transport/Additional information:

· DOT

· Quantity limitations

On passenger aircraft/rail: 1 L

On cargo aircraft only: 30 L

· ADR

· Excepted quantities (EQ)

Code: E5

Maximum net quantity per inner packaging: 1 ml

Maximum net quantity per outer packaging: 300 ml

· IMDG

· Limited quantities (LQ)

0

Code: E5

Maximum net quantity per inner packaging: 1 ml

Maximum net quantity per outer packaging: 300 ml

· UN "Model Regulation":

UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (ETHIDIUM BROMIDE), 6.1, I

15 Regulatory information

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

No further relevant information available.

· Sara

· Section 355 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

· TSCA (Toxic Substances Control Act):

Substance is not listed.

· Hazardous Air Pollutants

Substance is not listed.

· Proposition 65

· Chemicals known to cause cancer:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

Substance is not listed.

· TLV (Threshold Limit Value)

Substance is not listed.

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

Substance is not listed.

- **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**

Harmful if swallowed.

Fatal if inhaled.

Suspected of causing genetic defects.

- **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

[In case of inadequate ventilation] wear respiratory protection.

If swallowed: Call a poison center/doctor if you feel unwell.

Rinse mouth.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a poison center/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment is urgent (see on this label).

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

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **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:** Quality Control Dept.

- **Contact:**

- **Date of preparation / last revision** 07/28/2023

- **Abbreviations and acronyms:**

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Acute Toxicity - Inhalation 2: Acute toxicity – Category 2

Germ Cell Mutagenicity 2: Germ cell mutagenicity – Category 2