

# Material Safety Data Sheet

## Ethidium Bromide Solution

ACC# 45442

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Ethidium Bromide Solution

**Catalog Numbers:** BP1302-10

**Synonyms:** None

**Company Identification:**

Fisher Scientific

1 Reagent Lane

Fair Lawn, NJ 07410

**For information, call:** 201-796-7100

**Emergency Number:** 201-796-7100

**For CHEMTREC assistance, call:** 800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7732-18-5	Water	99	231-791-2
1239-45-8	Ethidium bromide	1	214-984-6

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: red-orange liquid.

**Warning!** Harmful if inhaled. May cause eye, skin, and respiratory tract irritation.

**Target Organs:** No data found.

#### Potential Health Effects

**Eye:** May cause eye irritation.

**Skin:** May cause skin irritation.

**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

**Inhalation:** May cause respiratory tract irritation. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown blood.

Harmful if inhaled. May cause methemoglobinemia.

**Chronic:** May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. May alter genetic material.

### Section 4 - First Aid Measures

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

**Skin:** In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid. Wash clothing before reuse.

**Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

**Flash Point:** Not available.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 0; Instability: 0

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use only with adequate ventilation or respiratory protection.

**Storage:** Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Water	none listed	none listed	none listed
Ethidium bromide	none listed	none listed	none listed

**OSHA Vacated PELs:** Water: No OSHA Vacated PELs are listed for this chemical. Ethidium bromide: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** red-orange

**Odor:** no odor

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:**Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:**Not available.

**Decomposition Temperature:**Not available.

**Solubility:** Not available.

**Specific Gravity/Density:**Not available.

**Molecular Formula:**Solution

**Molecular Weight:**Not available.

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Excess heat.

**Incompatibilities with Other Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Nitrogen oxides, carbon monoxide, carbon dioxide, hydrogen bromide.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

### RTECS#:

**CAS#** 7732-18-5: ZC0110000

**CAS#** 1239-45-8: SF7950000

### LD50/LC50:

**CAS#** 7732-18-5:

Oral, rat: LD50 = >90 mL/kg;

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**CAS#** 1239-45-8:

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Ethidium Bromide: (inhalation, rat): 0.0118 - 0.1340 mg/L/6H. (oral,rat): 1503 mg/kg. sts determined to be toxic based on: LC50 (inhalation rat) 0.0472mg/L/1H \* 100 (dilution rate)=approximately 4.72mg/L/1H.

### Carcinogenicity:

**CAS#** 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 1239-45-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** Possible mutagenic effect in humans. The suspicion is based on proven damage to the genetic material in the somatic cells of man and animals and requires further clarification.

**Neurotoxicity:** No information found

**Other Studies:**

## Section 12 - Ecological Information

No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	TOXIC LIQUIDS, ORGANIC, N.O.S. (Ethidium bromide)	TOXIC LIQUIDS, ORGANIC, N.O.S. (Ethidium bromide)
<b>Hazard Class:</b>	6.1	6.1
<b>UN Number:</b>	UN2810	UN2810
<b>Packing Group:</b>	III	III

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 7732-18-5 is listed on the TSCA inventory.

CAS# 1239-45-8 is not listed on the TSCA inventory. It is for research and development use only.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 1239-45-8: delayed.

#### Section 313

No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 1239-45-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

XN

#### Risk Phrases:

R 20 Harmful by inhalation.

**Safety Phrases:**

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

**WGK (Water Danger/Protection)**

CAS# 7732-18-5: No information available.

CAS# 1239-45-8: 2

**Canada - DSL/NDSL**

CAS# 7732-18-5 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of D1B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

Section 16 - Additional Information
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**MSDS Creation Date:** 4/08/1999

**Revision #9 Date:** 6/25/2004

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*