

Material Safety Data Sheet

Section 1 Chemical Product and Company Identification

MSDS Name: Ethidium bromide
Product Code: 30-31
Synonyms: Homidium bromide; dromilac; 3,8-diamino-5-ethyl-6-phenyl
phenanthridinium bromide
Company identification: Severn Biotech Limited
Unit 2 Park Lane Industrial Estate
Kidderminster
Worcestershire
DY11 6TJ
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Section 2 - Composition, Information on Ingredients

CAS: 1239-45-8
Chemical Name: Ethidium bromide
%: 95+
EINECS: 214-984-6
Risk Phrases: 21/22 26 36/37/38 68

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Possible risks of irreversible effects. May be fatal if inhaled. Harmful in contact with skin and if swallowed. Causes eye, skin, and respiratory tract irritation.

Potential Health Effects

Eye: Causes eye irritation.
Skin: Causes skin irritation. Harmful if absorbed through the skin.
Ingestion: Harmful if swallowed. May cause irritation of the digestive tract.
Inhalation: May be fatal if inhaled. Causes respiratory tract irritation. Inhalation of vapors will cause coughing or breathing difficulty.
Chronic: Laboratory experiments have resulted in mutagenic effects. Possible risk of irreversible effects.

Section 4 - First Aid Measures

Eye: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control centre.
Inhalation: Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Chronic: POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Fire: As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Explosion: Not an explosion hazard under normal conditions of storage and use, but fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Sensitive to static discharge.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

Section 6 - Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

Section 7 - Handling and Storage

Avoid dust formation and control ignition sources. Employ grounding, venting and explosion relief provisions in accord with accepted engineering practices in any process capable of generating dust and/or static electricity. Empty only into inert or non-flammable atmosphere. Emptying contents into a non-inert atmosphere where flammable vapors may be present could cause a flash fire or explosion due to electrostatic discharge. Contact will stain the skin purple. Wash gloves before removing them from the hands. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Section 8 - Exposure Controls, Personal Protection

Airborne Exposure Limits: None established.

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Respirators (NIOSH Approved): For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection: Wear protective gloves and clean body-covering clothing.

Eye Protection: Safety glasses. Maintain eye wash fountain and quick-drench facilities in work area.

Section 9 - Physical and Chemical Properties

Physical State:	Crystalline powder
Colour:	Dark red
Odour:	Low odour
pH:	4.0 - 7.0 (2% aqueous solution)
Vapour Pressure:	Not available
Vapour Density:	Not available
Evaporation Rate:	Not available
Viscosity:	Not available
Boiling Point:	Not available
Freezing/Melting Point:	260-262 deg C (decom)

Decomposition Temperature: Not available
Solubility in water: Soluble
Specific Gravity/Density: Not available
Molecular Formula: C₂₁H₂₀BrN₃
Molecular Weight: 394.3

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, dust generation, excess heat.
Incompatibilities with Other Materials: Not available.
Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide, hydrogen bromide.
Hazardous Polymerization Will not occur.

Section 11 - Toxicological Information

CAS: 1239-45-8
LD50/LC50: LC50 (inhalation, rat): 0.0118 - 0.1340 mg/L/6H; LD50 (oral, rat): 1503 mg/kg.
Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: Ethidium bromide is genotoxic in a number of test systems, including Ames, cell mutation, cell transformation and cytogenetics assays. See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Do not empty into drains.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

Shipping Name: TOXIC SOLID, ORGANIC, N.O.S.* (Ethidium bromide)
Hazard Class: 6.1
UN Number: UN2811
Packing Group: I

Section 15 - Regulatory Information

European/International Regulations
European Labelling in Accordance with EC Directives
Hazard Symbols: T+
Risk Phrases:
R 21/22 Harmful in contact with skin and if swallowed.
R 26 Very toxic by inhalation.
R 36/37/38 Irritating to eyes, respiratory system and skin.
R 68 Possible risk of irreversible effects.
Safety Phrases:
S 22 Do not breathe dust.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 28A After contact with skin, wash immediately with plenty of water.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
CAS: 1239-45-8

Section 16 - Other Information

MSDS Creation Date: 22/06/2009

Revision number: 0

Revision Date:

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 the company 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 the company has been advised of the possibility of such damages.