



Environmental Health and Safety Department & Chemical Hygiene

Ethidium Bromide (EtBr) Handling and Disposal

Ethidium Bromide is a mutagenic chemical via **Ames test** and poses a great threat to humans due to their ability to alter genetic materials that may extend to future generations. Emerging stain such as **NOVEL JUICE** proves to be a better alternative to Ethidium Bromide.

Active Ethidium Bromide wastes may not be disposed via sanitary sewer without first being deactivated. **Ethidium Bromide waste that don't fluoresce are inactive and can be disposed via drain or trash but depending on chemical constituents of the dye.**

Degradation/Deactivation

Ethidium Bromide can be deactivated chemically. Common practice is to treat Ethidium Bromide with Sodium Hypochlorite (Bleach) or Activated Carbon before disposal.

- Dry Ethidium Bromide waste, gels, liquids (non-flammable and flammable), gloves, papers that do not fluoresce under UV light may be disposed of directly in the trash
- Absorb the Ethidium Bromide waste on filter media (Activated Carbon) and dispose media as Hazardous Waste.
- Deactivate Ethidium Bromide via Household Bleach
 - Wear proper Personal Protective Equipment PPE (lab coat, safety and gloves)
 - Stir a solution of approximately 34mg of Ethidium Bromide in 100ml of water with 300ml of Household Bleach for 2 hours.
 - Or add 10ml of Household Bleach for every mg of Ethidium Bromide
 - Check the extent of completion of process with Ultra-Violet (UV) lamp
 - Ethidium Bromide will glow bright orange under UV

- If no orange fluorescence under required wavelength of UV, then material effectively degraded.

References:

- Network News, Volume 8 No.2, September 1994

Chemical Hygiene: 01/20/17