

DISPOSAL OF ETHIDIUM BROMIDE WASTE

1. Ethidium bromide solutions may be collected and manifested for pick-up by HMF personnel. The waste code for ethidium bromide is 10TX.
2. Commercially available filters designed to remove ethidium bromide from solutions may be used. The filtered buffer solution may be poured down the drain.
3. Ethidium bromide may be neutralized using the Lunn and Sansone method below. Neutralization with bleach is not recommended since mutagenic by-products may remain in the solution.

Spent filters and gels containing ethidium bromide should be disposed of in burn boxes or Chemogators® for incineration or manifested as hazardous chemical waste. Regular red biohazard bags should not be used.

Destruction of Ethidium Bromide

Required reagents:

5% hypophosphorous acid
0.5M sodium nitrate solution
Sodium bicarbonate
pH paper

The following steps should be carried out in a fume hood by personnel observing general laboratory safety precautions and wearing appropriate personal protective clothing.

1. Dilute solutions containing ethidium bromide to a concentration of less than 0.05% w/v (50 mg/100 ml).
2. For each 100 ml of ethidium bromide solution add 20 ml of fresh 5% hypophosphorous acid and 12 ml of fresh 0.5 M sodium nitrate solution. Check the pH of the solution to make sure it is less than 3.0. Stir briefly.
3. Allow the solution to react for at least 20 hours, neutralize with sodium bicarbonate, and rinse down the sanitary sewer.

(Lunn, G, and Sansone, E. 1994. Destruction of Hazardous Chemicals in the Laboratory. John Wiley & Sons, Inc., pp. 185.)