



Get the Facts: **Ethidium Bromide Disposal (Liquids & Gels)**

Disposal

- Ethidium bromide (EtBr) is a potentially mutagenic compound. Emory requires appropriate disposal procedures to be followed.
- The following should be disposed of via submitting an online waste collection with EHSO: **Unused stock EtBr solutions, buffered EtBr solutions, unfiltered EtBr solutions, used or unused charcoal filters/disks, agar gels contaminated with EtBr, and paper towels, tips, etc. contaminated with EtBr solutions,**
- For agar gels, allow excess free liquid to drip into an EtBr liquid waste container or absorb with a paper towel prior to packaging. Please double bag gels in a thick, clear, plastic bag. Do not use a biohazard or autoclave bag. Bags of ethidium bromide gels should be stored in a sturdy, leak proof secondary container in the lab. Please attach EHSO's Hazardous Waste Label to both the bag and secondary container and fill it out appropriately. The secondary container will be used to transport the gels to EHSO, but the container will be returned upon removing the gels.
- Paper towels, tips, etc. contaminated with EtBr solutions may be combined with agar gel waste.

Storage & Labeling

- Buffered solutions and unfiltered solutions must be poured into a sturdy container that is compatible with the solutions. The container must be labeled with a completed EHSO Hazardous Waste label. If the container is stored on the floor, it must be in secondary containment.

Filtering & Drain Disposal

- EHSO recommends that labs filter solutions with a commercially available EtBr filter kit. Users must verify that filtration was effective by using UV light. If the solution does not fluoresce, the filtered solution may be disposed of down the drain. Two filtration systems are commercially available, charcoal filtration and Green Bag filtration.
- Aqueous solutions containing <10 ug/ml ethidium bromide can be released to the drain.
- Aqueous solutions containing >10 ug/ml ethidium bromide should be filtered or deactivated using one of the methods described below.
- EHSO recommends charcoal filtration. Filtering the aqueous ethidium bromide waste solutions, free of other contaminants, through a bed of activated charcoal is a relatively simple and effective method for removal of ethidium bromide. The filtrate may be poured down the drain. There are two simple kits available for charcoal filtration.

Charcoal Filtration (Funnel Kit)

Schleicher and Schuell supply a commercial filter funnel kit that uses a packaged charcoal disk that is graduated for easily tracking the amount of aqueous solution calculated for fixed quantities of ethidium bromide residue. This is particularly useful for labs that generate large amounts of solutions at a time. The kit is available through Schleicher and Schuell or VWR.

Filter the ethidium bromide solution through the charcoal filter. Pour filtrate down the drain. Place charcoal filter in a sealed bag (e.g., zip-lock) and dispose as solid chemical waste.



Charcoal Filtration (The Green Bag)

Another simple charcoal filtration method is the Green Bag, manufactured by BIO 101. The Green Bag® Kit allows rapid and trouble-free concentration of ethidium bromide from large volumes of solutions into a small "tea" bag containing activated carbon which is then conveniently disposed along with other solid hazardous wastes. One kit has the capacity to remove 500 mg of ethidium bromide from solutions (10mg EtBr/bag).

- Place the Green Bag into the ethidium bromide solution.
- Allow to sit for the allotted time.
- Pour filtrate down the drain.
- Dispose of the Green bag by visiting www.ehso.emory.edu and selecting "Waste Collection".

