



Ethidium Bromide Hazards

If a spill of any size of EtBr enters a sink or floor drain, immediately notify ~~BAF 182~~ TmC2 s x (n)1(He

Approved Filter Methods for Buffer solutions.

Charcoal Filtration:

Filtering the aqueous EtBr waste solutions (free of other contaminants) through a bed of activated charcoal is a relatively simple and effective method for removal of EtBr. The filtrate may be poured down the drain. There are two kits available for charcoal filtration.

1. Funnel Kit

Commercial filter funnel kits are available that use a packaged charcoal disk that is graduated for easily tracking the amount of aqueous solution that can be run through it. This is particularly useful for labs that generate large amounts of solutions.

- Filter the EtBr solution through the charcoal filter.
- Pour filtrate down the drain.
- Place charcoal filter in a sealed container (mayonnaise jar) and label as a hazardous waste.

2. Greenbag Kit:

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

- Place the Green Bag into the EtBr solution.
- Allow to sit for the allotted time.
- Pour filtrate down the drain.
- Dispose of the Green Bag in a sealed container

Alternatives to Ethidium Bromide

GelRed and GelGreen are nucleic acid gel stains from the company Biotium which offer cell membrane impermeability, high sensitivity, instrument compatibility, stability, compatibility with all downstream manipulations. Concentrations less than 750 mg/L (750 ppm) may be disposed of in the sink if they have been neutralized with sodium bicarbonate first. Biotium, the manufacturer of GelRed and GelGreen produced a safety and an overview of the dye, which can be viewed here. Visit Biotium's website to learn more http://www.biotium.com/product/product_info/Newproduct/GelStains.asp

SYBR Safe comes from the company Invitrogen and claims that Sybr safe is less mutagenic, non-genotoxic and non-hazardous for waste disposal. Full details of this product including a downloadable version of a report, compiled by Molecular Probes, on the genetic and environmental safety of the product, from the test results of two independent organizations, can be accessed at: <http://probes.invitrogen.com/products/sybrsafe>. SYBR Safe in particular might be less mutagenic than ethidium bromide, but should be treated like ethidium bromide before disposal.