

Ethidium Bromide Decontamination

Ethidium bromide (EtBr) is a powerful mutagen and is moderately toxic. Personal Protective Equipment (PPE) to include, at a minimum, lab coat and nitrile gloves should be worn when working with solutions that contain this dye. All work should be done in a fume hood.

Gels and pipette tips containing ethidium bromide may be disposed of as general trash.

While there are acceptable wet chemistry methods available to decontaminate ethidium bromide, many have resultant products that are hazardous; therefore, any remaining liquid shall be decontaminated by the method described below.

For dilute concentrations of ethidium bromide only (*i.e.*: less than 10 mg/L):

1. In a beaker place 100 mg of powdered activated charcoal for each 100 ml of solution
2. Place the solution in the beaker and store for 1 hour at room temperature, shaking it intermittently.
3. Place a No.1 Whatman filter (or equivalent porosity of 11 micron), in a filtering funnel, the funnel into a filtering flask, and connect to a vacuum pump or aspirator.
4. Pour the ethidium bromide solution into the funnel and aspirate. The resultant filtrate may be discarded into the sanitary sewer.
5. Place the filter and activated charcoal in a plastic bag. Seal the bag.
6. Prepare a Hazardous Waste notification through the database and Chemical Safety will pick up the bagged debris the next Wednesday for proper disposal.

EtBr concentrations greater than 10 mg/L must be processed directly through the MCG Hazardous Waste Program. All spills of ethidium bromide must be reported immediately to the Chemical Safety Office.

Chemical Safety will supply your laboratory with activated charcoal for the ethidium bromide decontamination process.