

Gel Box Ethidium Bromide Collection and Disposal

Introduction:

Ethidium Bromide is a DNA intercalating agent and therefore a hazardous chemical that is regulated by the Case Western University Department of Occupational and Environmental Safety (DOES). This procedure is maintained in the lab to protect the safety of all employees in the laboratory and ensure laboratory compliance with DOES requirements. When the running buffer in the gel box is re-used multiple times the (EtBr) concentration gradually increases. Although it is usually adequate to add EtBr to the gel **OR** the running buffer to visualize the nucleic acid bands; adding a small amount to both is a common practice. One sign that the EtBr concentration is getting high is that the gel will be increasingly white behind the bands due to a high diffuse level of EtBr. Rather than an indication that more EtBr should be added to make the bands brighter than the gel, it is an indicator that the running buffer needs to be replaced with fresh buffer.

Materials:

Whatman EXTRACTOR Ethidium Bromide Trap, Filter Set

1L Glass Vacuum Beaker

Latex or Non-Latex Gloves, Glasses and Lab Coat per lab safety requirements

Procedure:

[Put on gloves, glasses and lab coat]

1. Attach filter assembly to top of beaker and attach hose to vacuum and beaker.
(If not already connected)
2. Insert a fresh glass filter pad from the EtBr trap set into the Activated Charcoal Filter top.
(This filter keeps bit of agarose from clogging the carbon filter)
3. Pour EtBr containing buffer into the filter reservoir to just below the top and replace lid.
4. Turn vacuum on and filter buffer through to beaker.
(Stop vacuum if beaker needs emptying)
5. Empty the contents of the beaker into the sink when filled to 1L, then mark off each liter on the filter label with the date.
6. When the maximum filtration volume has been reached (10 L), dispose of the filter assembly in the autoclave waste box and put a new filter assembly on the beaker.