**Ethidium bromide**

Ethidium bromide (EtBr) is a DNA intercalating agent that is commonly used as a nonradioactive marker for visualizing nucleic acid bands in electrophoresis and other gel-based separations. EtBr is a potent mutagen, toxic after acute exposure, and is an irritant to the skin, eyes, mouth and the upper respiratory tract.

* Handle pure EtBr in a chemical fume hood because the powder can easily contaminate the entire laboratory.
* Designate an area where EtBr work is going to be performed, and use EtBr solutions only in that area.
* Cover surfaces within the designated area with a plastic-lined absorbent pad. Replace the pad on a scheduled basis or when it becomes contaminated.
* Use PPE, including laboratory coat, eye protection and gloves when handling EtBr solutions and gels.   
  ***Note:* Latex gloves provide little protection against EtBr. Nitrile gloves provide an effective short-term barrier. Double-gloving provides increased protection.**
* Wash hands thoroughly after removing gloves.
* Application of sodium hypochlorite solutions to spent solutions of EtBr will deactivate the ethidium bromide, but the reaction products are mutagenic, according to the Ames test. Use an alternative deactivation method, use or a permitted hazardous waste treatment facility to dispose of these spent solutions.
* Use of sodium hypochlorite solutions in work areas of EtBr use is also not recommended.
* **EtBr waste management**   
  — Collect and manage even small volumes or concentrations of EtBr waste as hazardous waste.  
  — Bag materials coming into contact with EtBr, and dispose of as hazardous chemical waste.  
  — Minimize EtBr solution volumes by adding activated charcoal. The charcoal can be collected by filtration and placed into leak-resistant containers for hazardous waste disposal.  
  — Place agarose gels containing EtBr into a leak-resistant plastic container and dispose as hazardous waste.

<https://www.cdc.gov/mmwr/preview/mmwrhtml/su6101a1.htm>