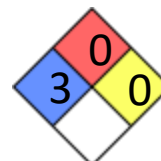


Safe Use of Ethidium bromide

Ethidium bromide (EtBr) is commonly used as a non-radioactive DNA stain to identify and visualize nucleic acid bands. EtBr is a dark red, crystalline, non-volatile powder that is moderately soluble in water. EtBr is a potent mutagen, highly toxic by inhalation and toxic after ingestion. EtBr can be absorbed through skin, so it is important to avoid any direct contact with the chemical. EtBr is an irritant to the skin, eyes, mouth, and upper respiratory tract

**SIGNAL WORD:
DANGER**



- Ethidium bromide is toxic if inhaled, swallowed or absorbed through skin and may be carcinogenic and teratogenic
- **AVOID INHALATION.** Perform all operations in a certified chemical fume hood, wet bench or other approved ventilated enclosure
- **AVOID CONTACT.** Wear appropriate PPE including:
 - Lab coat worn over long pants covering to the ankles and closed-toed non-woven footwear
 - Chemical protective goggles
 - Wear a UV-protective face shield when viewing EtBr-stained material under UV light.
 - Doubled nitrile gloves are recommended and change outer gloves whenever contamination is suspected.
- EtBr should be added to molten agarose solutions only after the agarose has been allowed to cool to below 50°C (122°F) to prevent the possible release of EtBr in vapor.
- When possible, work with premixed solutions or tablets to avoid inhalation exposure.

After completing the work:

- After removing gloves and any other PPE, wash hands and forearms thoroughly with soap and water.
- Keep all containers tightly closed when not in use and during transport.
- Store EtBr solutions in the dark and the cold in a secondary container.
- Store away from strong oxidizing agents (e.g. nitric acid).
- Dispose of EtBr waste following WWU Hazardous Waste Procedures
 - Hazardous Waste Classification: Carcinogen/Toxic
 - Release of EtBr solutions into a sanitary sewer or sink drains is **NOT** permitted,
 - Collect solid EtBr-contaminated material in a plastic jar, bucket lined with a plastic bag or a thick double bag.
 - EtBr-containing solutions are disposed as follows:
 - Pass the solution through an activated charcoal filter into a vessel.
 - Add a Biotium Activated Charcoal Decontamination bag to the vessel and let stand for at least four hours with stirring or overnight without stirring.
 - Remove the pouch and charcoal filter and dispose of as hazardous waste.
 - The decontaminated liquid may be released to a sanitary sewer.
 - Clearly mark the container/bags with EHS Hazardous Waste Label and request a waste collection.