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|   | **Duke OESO Guidelines for Safe Use of****Ethidium Bromide*****AKA EtBr: Commonly used as a fluorescent marker in electrophoresis******Complete Lab-Specific Safety Information on page 2.*** |  |
| **Hazards** | **Potential Hazards** | * Ethidium Bromide, an odorless solid, is **fatal if inhaled**. It is therefore **Particularly Hazardous**.
* Ethidium bromide is a **mutagen** and is harmful if swallowed.
* Consult the Safety Data Sheet (SDS) and [Laboratory Chemical Safety Summary.](https://pubchem.ncbi.nlm.nih.gov/compound/ethidium_bromide#datasheet=lcss&section=Top)
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| **Hazard Controls** | **Selection & Purchase** | * Use a [**safer alternative**](https://www.safety.duke.edu/laboratory-safety/work-practices-ppe/safer-alternatives) when possible.
* Purchase the smallest containers at the lowest concentration practical.
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| **Storage & Transportation** | * 03-439, 03-439AStore/transport powder and solutions in sealed **shatter-resistant** containers.
* **Secondary containment** is advised for transport.
* Store away from strong oxidizing agents in a cool, dry place.
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| **Engineering Controls** | * Work in a chemical fume hood (or other exhausted enclosure) if aerosols could be created, including for:
* **Open** containers of **dry powder**
* Open or **pressurized** manipulations of suspensions/solutions.
 | Chemical Fume Hood Flow Diagram | * An **eyewash** or eyewash/drench hose is strongly recommendedin the immediate work area.
 | Eye Shower, Eye Wash, Rinse Eyes, First Aid, Sign |
| **Work Practice Controls** | * Label **designated work area** “Ethidium Bromide in use. Mutagen and toxic.” Post this Guideline nearby.
* Line the work area with a disposable plastic-backed absorbent pad.
* Keep **containers closed** as much as possible.

**Ethidium Bromide Work Area**Danger! Toxic! Mutagen!* If weighing dry powders, **place balance in hood** **OR**
	+ ***Tare*** *(pre-weigh) an empty container with a lid.*
	+ *Go to* ***hood****, add* ***powder*** *to container,* ***close*** *lid.*
	+ *Go to balance to weigh.*
	+ ***Return to hood*** *to make solution or manipulate powder.*
* Check the work area for contamination using a UV light. If decontamination is needed, wipe up any excess liquid with paper towels then use either of the methods below.
 |
| * Wipe surface six times with wet paper towels.

**OR** | * Wet surface with ethanol. Sprinkle activated charcoal on top. Wipe up paste with paper towel.
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| * **All** decontamination materials must be disposed of as hazardous waste.
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| **Personal Protective Equipment** | Image result for safety glasses**Minimum PPE:** * **Safety glasses**
* **Nitrile gloves** (Change Immediately if contaminated & every 2 hours. Wash hands at time of change)
* Fully buttoned **lab coat** with sleeves extending to the wrists.
 | lab coat2nitrile gloves |
| gogglesnitrile gloves**Risk of splash/large amounts:** (in addition to the above, wear)* **Goggles** and a **face shield**.
* A 2nd pair of nitrile gloves
* **Sleeves** or **gown** impermeable to powders
 | Image result for protective gownhttps://uk.vwr.com/stibo/web/std.lang.all/93/90/17789390.jpg |
| *Check the manufacturer’s glove guide for glove effectiveness if using a solvent other than water.* |
| **Other** | **Emergencies** | See Emergency Response Flip Chart and/or lab specific chemical hygiene plan. |
| **Waste** | See the [Information Sheet on Disposal of Ethidium Bromide Waste](https://www.safety.duke.edu/sites/default/files/EthidiumBromideDisposalInfoSheet.pdf). |
| **Training** | Sign signature page in lab-specific plan to indicate review. |
| **Questions** | Contact OESO Lab Safety at 919-684-8822. |

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|   | **Lab-Specific Safety Information for** **Ethidium Bromide*****Supplements the Guidelines for Safe Use of Ethidium Bromide*** |  |
| **Lab** | **PI Name** | Click or tap here to enter PI Name |
| **Location** | Enter building(s) and room(s) where lab is located |
| **Lab-Specific Hazard Controls** | **Purchase****Details** | Maximum container size | Enter maximum container sized purchased |
| Maximum concentration | Enter maximum concentration purchased |
| Container type | Enter the container material |
| Specific product information | Enter supplier name/product number or purity/grade to purchase |
| **Storage**  | Specific location | Enter rooms and areas designated for use |
| **Use Information** | Designated work area (specific room(s) and area(s)) | Enter rooms and areas designated for use |
| Maximum quantity  | Enter maximum quantity to be used at a time |
| Decontamination method | [ ] Wipe surface six times with wet paper towels OR[ ] (Remove hot surfaces & sources of sparks/flame.) Wet surface with ethanol. Sprinkle activated charcoal on top. Wipe up paste with paper towel. **Dispose of used decontamination** **materials** **as** **chemical** **waste**. |
| Location of supplies for decontamination (or spill clean-up) | Enter location of decontamination supplies |
| **Details of Process** | 1. Enter steps used in lab process(es) or experiment(s)
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