## Standard Operating Procedure

# **Ethidium Bromide**

## Overview

Ethidium bromide is acutely toxic. Although toxicity by ingestion is only moderate, toxicity by inhalation is quite high. It is also irritating to the eyes, skin and mucous membranes. Ethidium bromide has been shown to be strongly mutagenic *in vitro*. It should therefore be assumed to be a carcinogen and a reproductive toxin.


## Special Handling and Storage Concerns

**Personal Protective Equipment**

* Traditional lab coat.
* Nitrile gloves. Use proper glove removal technique to ensure no skin contact.
* ANSI Z87.1-compliant safety glasses. Safety goggles if a large splash hazard is present.

**Engineering Controls**

Ethidium bromide is a significant inhalation hazards. If your protocol does not permit the handling of this material in a **fume hood**, contact EH&S for an assessment of alternate ventilation options.

**Special Handling Considerations**

Avoid forming dusts or aerosols. Handle solid form only in a fume hood to reduce inhalation risk. This includes the weighing process.

**Decontamination**

Deactivation with hypophosphorous acid solution is the most-effective means of decontamination. See Lunn, G. and Sansone, E.B. *Appl Ind Hyg* **1989**, *4* (9), 234-237.

## Waste Management

Gels, filters, and other solids containing ethidium bromide must be managed as a hazardous chemical waste and disposed of through EH&S. [Charcoal filtration treatment](https://www.ehs.ucsb.edu/files/docs/hw/ethidium_bromide.pdf) is an effective way to remove ethidium bromide from electrophoresis buffers.

## First Aid and Emergencies

**Personnel Exposure**

*Skin or eye contact:* Immediately remove contaminated clothing. Flush skin/eyes with water for at least 15 minutes. Get medical attention. Immediately.

*Inhalation:* Move person into fresh air. Get medical attention immediately.

*Ingestion:* Get medical attention immediately.

## Laboratory Specific Information

**Prior Approval Required**

[ ]  **NO**

[ ]  **YES (describe):**

**Designated Area**

[ ]  **Entire Laboratory Area**

[ ]  **Other (describe):**

**Experimental Conditions of Use**

**Temperature Range:**

**Pressure Range:**

**Scale Range:**

**Other Relevant Details:**