

Principal Investigator: _____

Date Approved: _____

This document covers basic chemical safety information for ethidium bromide and supplements the laboratory Chemical Hygiene Plan as appropriate. The use of ethidium bromide is subject to pre-approval by the Principal Investigator (PI) and/or designated Laboratory Responsible Safety Person. DO NOT USE ETHIDIUM BROMIDE UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.

Ethidium Bromide

Ethidium bromide is a commonly used chemical for the visualization of DNA in gel electrophoresis. It is known to intercalate into DNA and thought to cause reproductive harm and possibly act as a mutagen. Ethidium bromide powder is also highly toxic by inhalation.



Personal Protective Equipment & Personnel Monitoring

**Lab Coat**

Traditional lab coat or flame-resistant lab coat when working with flammable materials.

**Gloves**

Nitrile gloves.

**Eye Protection**

ANSI Z87.1-compliant safety glasses or safety goggles if a splash hazard is present.

Labeling & Storage

Store in secondary containment away from other materials that are not particularly hazardous or which may be chemically incompatible. Labels identifying the material as Reproductive Toxicant must appear on the bottles and secondary containers. Ethidium bromide powder must also be identified as an Acute Toxicant. Also, if not plainly visible (e.g., through a cabinet window), labelling must be applied to storage locations where these are stored to avoid an inadvertent encounter.

Engineering Controls, Equipment & Materials

Fume Hood

Use a fume hood when working with materials which are toxic by inhalation. If your protocol does not permit the handling of such materials in a fume hood, contact the Department of Environmental Health, Safety and Sustainability (EHSS) to determine whether additional respiratory protection is warranted.

Housekeeping

Spills

Notify others in the area of the spill, including your PI/Responsible Safety Person. If it is a small spill that you can easily handle, use the contents of your lab spill kit to clean it up. If it is a large spill, then evacuate the area where the spill occurred. Call Vanderbilt University Public Safety (VUPS) at 615-421-1911 or use the VandySafe app on your smart phone. Report any exposure through Risk and Insurance Management's Origami portal and mark that it occurred in research when prompted. Both VUPS and the

Origami system will notify EHSS of the incident. Remain on site at a safe distance to provide detailed information to first responders.

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

Refer to the laboratory *Chemical Hygiene Plan* (Section 6.7) for information on proper chemical waste disposal procedures.

First Aid & Emergencies

Skin Contact

Immediately remove contaminated clothing and shoes; flush skin with water for at least 15 minutes. Get medical attention immediately.

Eye Contact

Check for and remove contact lenses. Immediately flush 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.

Name	Signature	Date