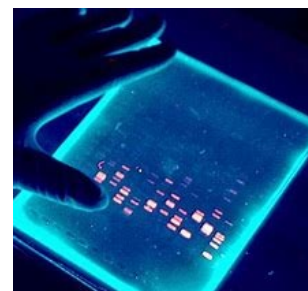


ETHIDIUM BROMIDE HANDLING and DISPOSAL

Ethidium bromide (EtBr) is an intercalating agent commonly used as a fluorescent tag in molecular biology laboratories for techniques such as agarose gel electrophoresis.

Ethidium bromide is thought to act as a mutagen because it intercalates double-stranded DNA (i.e., inserts itself between the strands), deforming the DNA. This could potentially affect DNA biological processes, like DNA replication and transcription.



SAFE HANDLING OF EtBr

When handling EtBr, follow these safety precautions:

- Wear proper personal protective equipment: gloves, lab coat, safety glasses – Use UV light protection when reading your DNA gels
- Wash your hands with soap and water after removing your gloves
- Clean-up EtBr spills immediately
 - Using paper towels **dry up** the area and then **wipe** the area down with absorbents dipped in tap water. Repeat this process until the area is **clean**. Using a UV light, check the area to ensure that all the **ethidium bromide** has been removed. Repeat the decontamination procedure as necessary.

SAFE DISPOSAL OF EtBr

Buffers and liquids containing EtBr: Collect all liquids in a dedicated EtBr waste bottle and store in your chemical waste accumulation area – bottles should be tagged and labeled accordingly.

Electrophoresis gels and other solids containing EtBr should be placed in a dedicated container lined with a clear bag (Provided by EHS). Containers should be hard walled and leak proof, with proper labeling.

**Liquid and Solid EtBr waste is
picked-up by EHS
(submit an [Facility Service
Request](#))**



Waste



Lab and Safety Equip.



Equipment Decon.



EHS Other

ALTERNATIVES to EtBr

Dyes such as SYBR®Safe, GelRed™, GelGreen™, and EvaGreen® that have been advertised as “safer alternatives” to EtBr can also be used to stain DNA. It is still recommended to wear proper personal protective equipment when using these compounds and always refer to the specific SDS for the material you are using.

The Caltech Waste Management Program considers that drain disposal is not an appropriate method of disposal for any of these compounds and asks that you follow the disposal procedures described above for all of your DNA staining alternatives.

Need help? Contact Safety!

Phone: (626) 395-6727

Email: safety@caltech.edu

Website: www.safety.caltech.edu