



Procedure for Clean-Up of Laboratory Surfaces Contaminated With Ethidium Bromide

Introduction

Ethidium Bromide is a very common fluorescent intercalating agent used for visualization of nucleic acids. It is sometimes the cause of health and safety concerns for workers charged with using it during the course of their work. Its toxicological properties are not fully determined. There is no evidence supporting or refuting carcinogenicity in humans. Ethidium bromide has been used as a anti-tumorigenic agent in rats and is considered to be non-carcinogenic in rats and mice. It has been found to be mutagenic and genotoxic in various short term in vitro tests such as the Ames test. The precautionary principle suggests that Ethidium bromide be treated as a carcinogen despite the lack of conclusive evidence.

Ethidium bromide is toxic with a fairly low LD50 of 50-110mg/kg.

Clean up Procedure

1. PPE – nitrile gloves, lab coat, closed toe shoes, UV filtering eyewear (for use with UV light).
2. Using ethanol, wipe down surfaces with a rag or disposable cloth.
3. To test for removal, use a UV lamp (black light) to find ethidium bromide that has not been removed. The ethidium bromide will fluoresce the characteristic orange colour. Re-clean areas that were initially missed.
4. Dispose all wipes and gloves used for removal as chemical waste (8-7000).
5. Wash hands and any other area that may have contacted ethidium bromide. Wash lab coat after completion of cleanup.

References

National Toxicology Program (August 15 2005), Executive Summary Ethidium Bromide: Evidence for Possible Carcinogenic Activity, <http://ntp.niehs.nih.gov/?objectid=6F5F63F6-F1F6-975E-79965F7EE68AE7C0>. Viewed October 2009

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