

DGN Ethidium Bromide

Ethidium Bromide (EB) is a potent mutagen used as a nucleic acid stain. Typically Ethidium Bromide is purchased in powder or solution form and is soluble in water. The crystal or powder form is odourless and appears dark red in colour. Although Ethidium Bromide is an effective stain, it possesses high hazard properties that dictate that high level control measures be implemented in order to manage the health, safety and environmental risks, also special waste disposal measures are required.

Risk Phrases

- R22 - Harmful in contact with skin and if swallowed
- R23 - Very toxic by inhalation
- R68 - Possible risk of irreversible effects

Labelling

Ethidium bromide: TOXIC H5, H6 and H11

EWC Code: 18 02 05

Disposal

1. Unwanted chemical stocks of ethidium bromide are classified as Hazardous Waste.

For appropriate disposal contact:

Senior Technical Support – Chemistry

Senior Technical Support – Biology and Environmental Science

Senior Technical Support – Biochemistry

Senior Technical Support – Genome Damage Stability Centre

Senior Technical Support – Brighton and Sussex Medical School

2. Aqueous solutions of ethidium bromide (>1.0µg/ml) may be disposed of in one of two ways:

- i) The ethidium bromide can be adsorbed onto an ion exchange column specifically for this purpose. These columns will adsorb at least 300mg of ethidium bromide; the waste liquid may then be discarded to drain. When expended, the columns should be double-bagged in plastic bags and disposed of as for solid waste, as in disposal route 1. above.
- ii) The ethidium bromide may be adsorbed onto activated charcoal at a rate of 100mg charcoal to 50mg ethidium bromide. This mixture should be left overnight before filtering off the solid, which should then be double-bagged in plastic bags, then disposed of as for solid waste as in 1. above. The waste liquid can be discarded to drain.

3. Solid wastes

Low level solid ethidium bromide waste (e.g. gels, contaminated paper towels, gloves etc) should be placed into a suitable, leak-tight container and then into a yellow bag and treated as clinical waste for incineration. Liquid waste(<1.0 µg/ml in no more than 200ml total volume) dispose of by sink with copious washing.

COSHH assessments and Material Safety Data Sheets (MSDS) should be kept in each laboratory.