

# Risk Assessment: Staining Procedure

## 1. Identify Task:

Staining biological samples, which are mounted on glass or quartz slides, by passing them through a series of baths containing solutions including Congo red, haematoxylin, potassium hydroxide solution, very dilute sodium hydroxide, ethanol and xylene. The slides will then have DPX mount applied before being cover slipped.

## 2. Identify Hazards:

Exposure to chemicals involved. Cuts due to sharps if the slides were to break and exposure to biohazard material.

## 3. Identify people affected:

Staff and students working in the lab.  
Anyone with shared access to the lab area.

## 4. Evaluate the Risks:

Harmful levels of exposure any of these chemicals is unlikely due to the small quantities being used, apart from xylene which gives off harmful fumes.

The risk of a cut is small as the slides are unlikely to be broken if handled with care, though a cut would be serious as it increases exposure to chemical and biohazard.

The biohazard risk is small as all the tissue has been tested and is not known or suspected to contain any pathogens. The volumes of tissue are also tiny and become fixed during the staining process after exposure to ethanol.

## 5. Control Measures:

i) Appropriate PPE will be used:

- Gloves
- Lab coat
- Glasses if there is a risk of splash in the eye.
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ii) Working volumes will be limited by only decanted what is needed and all chemicals will be stored appropriately between use. Ethanol, xylene and potassium hydroxide solution must be stored as flammable liquids – in a cool, well ventilated space.

iii) The stains and tissues will be handled in the biohazard cupboard to reduce the risk of exposure to biohazardous material, except the xylene steps which will be in the adjacent fume cupboard, unless a biohazard cabinet provides equivalent fume capture.

iv) Solutions that have been in contact with biohazard material should not be used for other purposes. When the solution is water based it should be made up with bleach or ~~virkon~~ chemgene to disinfectant concentrations prior to disposal.

### RECORD OF PERSONNEL INVOLVED

Name	Position and Qualifications	Experience	Start Date	Finish Date
Mary Finnegan	PhD Student	3 years lab experience	June 2010	Jan 2013
Jake Brooks	PDRA	6 year's lab experience	Oct 2016	-

#### Reviewed 11/05/2021:

1. Dr Finnegan is no longer in the laboratory. Newer members of the laboratory will need to become familiar with the content so that they can be formally added to this approval by Prof. Collingwood before performing the procedure.
2. Instead of virkon, chemegene is now the preferred disinfectant and this is stocked in the cupboard below the sink in F012b, the room where this procedure would be carried out.



11<sup>th</sup> May 2021