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## **Formaldehyde, Formalin, Fixative – Use, Safety and Spillage**

### **1.0 Purpose and scope, applications.**

Immersion of tissue specimens in a fixative stops decomposition and allows further laboratory techniques to be performed on it. However, these chemicals are TOXIC and IRRITANTS.

### **2.0 COSHH / Health & Safety**

Department COSHH and BioCOSHH forms should be completed

#### **HAZARD ASSESSMENT:**

Toxic by inhalation, in contact with skin and if swallowed. Causes burns, may cause sensitisation by skin contact. Highly flammable.

#### **TOXICITY:**

Can cause sensitisation of skin and allergic respiratory reaction.

#### **STORAGE:**

Store in flammable bin. Keep away from heat, sparks and open flame.  
Do not breathe vapour.

#### **RECOMMENDED PROCEDURE:**

Fix in 10% neutral buffered formalin for 12-36 hrs depending on size of tissue. Process fixed tissues to paraffin wax .

#### **PROTECTIVE CLOTHING:**

Wear suitable protective clothing, chemical resistant gloves such as nitrile.

#### **FIRST AID:**

In case of contact with skin or eyes, wash with copious amounts of water. Remove contaminated clothing. If swallowed, wash out mouth with water provided individual is conscious. If inhaled, remove to fresh air. If breathing becomes difficult, seek medical advice.

#### **SPILLAGE:**

Isolate contaminated area, absorb into dry earth or sand. Ventilate area and wash spill site with copious amounts of water. Wear self contained breathing apparatus.

#### **WASTE DISPOSAL:**

Place in designated drum, dispose of via registered contractor.

#### **TRAINING:**

Ensure that all staff are familiar with safe handling procedures and have read and understood the COSHH assessment

### 3.0 Personnel

Trained personnel only

### 4.0 Equipment / reagents

Spillage Kit, see below.

### 5.0 References

5.1 HTA

5.2 University/Faculty policy

5.3 Department of Cellular Pathology, Royal Victoria Infirmary

### 6.0 Procedure

1. These chemicals are TOXIC and IRRITANTS
2. ALWAYS WEAR GLOVES AND GOGGLES and work in a well-ventilated area when handling and preparing fixatives.  
When handling formaldehyde 37-41% ALWAYS WEAR A RESPIRATOR.
3. Every effort should be made to avoid skin contact or inhalation of the powders or solutions.  
***You have a responsibility for the safety of those people around you.***
4. Tissues may be immersed in fixative for varying lengths of time depending on their size, the temperature of fixative and presence or absence of pressure/vacuum.
5. Following appropriate fixation, tissues may be processed to paraffin wax.

**If split on skin or clothing**, rinse immediately with running water.

**For eye splashes**, there are eye wash stations located in each laboratory.

## **SMALL SPILLAGES**

Small spillages can be mopped up with paper towels. Ensure there is adequate ventilation, if not – WEAR A RESPIRATOR.

## **Large Spillages** - Refer to Page 5 of this document

All staff except those dealing with the spillage must vacate the area until the spillage has been cleared and the area ventilated

Inform a senior technician.

Wearing a respirator and suitable protective clothing, cover the spillage with absorption granules. Each Dissection Room has a respirator with fresh filters and a pack of spillage.

A large box of granules together with a dustpan and brush are should be located in each laboratory.

Once the formalin has been absorbed place the granules in a double yellow plastic bag for incineration.

**(Detailing on the Use Of The Fixative Spillage Kit are on the following pages)**

## FIXATIVE SPILLAGE KIT FOR LABORATORY AREAS

### Contents

(ordering information – for lab.use only)

Instructions

Flow chart

Formaldehyde Hazard Data Sheet

Assembly of respirator

Respirator manual

Pencil

**FCG Formalin Control Granules**

00752 Case of 6

**D-Formalizer Pads 11x14**

007531114 packs of 25

Surgipath

**Full face mask 3M – 6800M Medium**

222/0805/22

**Formaldehyde filters - 2 for each mask**

6075A1 pack of 8

VWR

**Small Nitrile gloves** (in Zip-seal bags)

VWR

**Medium Nitrile gloves**

**Large Nitrile gloves**

**Extra Large Nitrile gloves**

**Green aprons**

**Yellow clinical waste bags** ( for used granules NOT tissue)

**Dustpan**

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## ***Fixative Spillage Kit for Laboratories***

In the event of a spill of fixative containing formaldehyde:-

### **The Spill**

1. The formalin fixative used routinely for tissue fixation prior to processing contains **FORMALDEHYDE**  
This a **HARMFUL** chemical with possible risk of irreversible effects. May cause sensitisation by skin contact. In case of contact with eyes rinse immediately with water and seek medical advice. Use only in well ventilated areas. Wear suitable protective clothing and gloves.  
In case of accident or if you feel unwell seek medical advice immediately.
2. **ASSESS the DANGER, if you feel it is too large a volume to deal with, evacuate the area and call the Fire Service.**  
If you require advice, telephone Histopathology at the RVI 0191 282 4565.
3. Isolate the area if necessary – you don't want the public walking through a spill
4. Ventilate the area – open doors / windows
5. In a safe place, open seal on Fixative Spillage Kit  
(If seal is broken report to nearest specimen reception as soon as possible)
6. Put on apron and correct sized gloves
7. Assemble the respirator by plugging in two filter units and put on
8. Cover spill with Formalin Control Granules (FCG) or D-Formalizer pads to absorb and neutralise
9. Scoop or mop up into yellow bag, tie with yellow cable tie (use red cable tie if request form indicates 'DANGER OF INFECTION' ) and give to staff at nearest specimen reception.

Every six months, the kit will be recalled to check use by dates on the fixative and the respirator filters

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### ***Fixative Spillage Kit for Laboratories***

