

PROTOCOL FOR CLIENT OCCUPATIONAL HEALTH AND SAFETY – MHP-MHTP NODE

MHP-SOP-0034

1. INTRODUCTION

It is the policy of Monash University to regard safety and safe working practices seriously and it is our responsibility under the Occupational Health and Safety Act (2004) to provide a safe working environment to ensure all these practices are followed. It is the responsibility of all staff members to familiarise themselves with the correct procedures, as issued by the Laboratory, and to ensure that they perform their job safely and without injury to themselves, their colleagues or the community. The Occupational Health and Safety Manual is provided for you to read and understand when you begin work in the Histology Laboratory. This may be accessed whenever required. If staff members and/or users are unsure of any procedure, it should be discussed with their supervisor or the Laboratory Safety Officer. Staff will also be asked to sign the Training Records to indicate procedure has been followed.

Monash University has adopted the Occupational Health and Safety Act (2004) with standards AS/NZS 4801:2001 Occupational Health and Safety Management Systems – Specifications with guidance for use and OHSAS 18001:2007 Occupational Health and Safety Management Systems – Requirements.

1.1. Purpose

To describe a broad overview of the Safety requirements of MHP.

This SOP is not meant to be a comprehensive guide to laboratory safety but a summary of some elementary safe practices and a collection of the procedures required by MHP. More detailed information can be found at <http://www.policy.monash.edu.au/policy-bank/management/student-comm-serv/ohse/occupational-health-safety-policy.html>

1.2. Scope

This protocol is applicable for all procedures carried out in MHP.

1.3. Competency

Staff must have the necessary level of knowledge and skills acquired through training, qualification, or experiences to ensure that safe practices are carried out as described herein.

2. RESPONSIBILITIES

It is the responsibility of staff employed in MHP to follow this protocol and if unsure of processes to consult with the Platform Manager. It is also staff responsibility to report to occurrence of any unsafe work practices that contravene those policies implemented by MHP.

It is the responsibility of all Clients utilizing MHP to ensure that this protocol is read, understood and followed. Any Incident occurring in MHP must be reported to the supervising staff member or Platform Manager.

It is the responsibility of the Platform Manager to take appropriate action if any unsafe work practices are undertaken, and if necessary to report any OHS issues by Monash University procedures.

3. DEFINITIONS

DEFINITION	BRIEF EXPLANATION
Biohazard	A risk to human health or the environment arising from biological work

Decontamination	Process of cleansing an object or substance to remove contaminants such as micro-organisms or hazardous materials, including chemicals and infectious diseases
Ergonomic Bench	Designed elevating safety bench for microtomy allowing incorporation of safe work practices in relation to human movement
MHNS	Medicine, Health and Nursing Science (Faculty of)
MHP	Monash Histology Platform
MHRP	Monash Health Research Precinct
MHTP	Monash Health Translational Precinct
MHP-MHTP node	MHTP Histology node governed by Monash Histology Platform
MMC	Monash Medical Centre
MSDS	Material Safety and Data Sheet
OHS	Occupational Health and Safety
SARAH	Safety and Risk Analysis Hub – OHS on-line reporting system
SOBS	School of Biomedical Sciences

4. HEALTH AND SAFETY CONSIDERATIONS

As detailed in this protocol.

Refer also to Monash University OH&S policies and procedures

As detailed in this protocol. Refer also to Monash University OH&S policies and procedures
<https://www.monash.edu/policy-bank/ohs>

Refer to Risk Assessments 385, 387, 394, 395, 396, 399, 402, 406, 408, 409, 413, 414, 503, 504, 505, 507, 509, 510, 511, 512, 513, 514, 520, 521, 522, 523, 524, 526, 527, 533, 534, 542, 543, 544, 545, 546, 547, 563, 3000, 3017, 3033, 3379 for information relevant to MHP risks and associated controls in SARAH.

In addition please read the Hudson Institute's OH&S policies

<https://sites.google.com/a/hudson.org.au/hudson/ohse/ohs-policies-procedures> and
<https://sites.google.com/a/hudson.org.au/hudson/ohse/ohs-manual>

5. PROTOCOL

5.1 General Information

5.1.1 Emergency Procedures MHP-MHTP node

Refer to OH&S noticeboard in tearooms on each level of MHTP research precinct buildings for Emergency Procedures. The MHTP research institutes run across four buildings; Block

E (MMC), MIMR/Hudson (Monash University), MHRP (Monash University) and TRF (Monash University). Please note the security numbers below:

- Hudson Institute / MHRP / MIMR / TRF (Monash University)
 - Emergency x**000**
- B & E Blocks, MMC Buildings (Monash Health)
 - Emergency x**999**

Note: In case of an emergency, call Emergency number 0000 from an internal Monash phone (MMC) / research precinct phone OR 000 from a mobile phone. For Monash Medical Centre Clayton Emergency Department dial 9594 6666.

5.1.2 Safety Officer

The Safety Officer is a person appointed to act as a focal point of all OHS matters within a Unit. The appointed Safety Officer for Level 1 of the Monash/AMREP building is responsible for providing advice, information, instruction and training on local OHS issues. The Safety Officer will also investigate and report all accidents, injuries and hazards.

For a full list of Safety Officers' responsibilities, refer to:

<http://www.monash.edu.au/ohs/safety-roles/safety-officers-role.html>.

Contact the OHSE Officer for details of the nominated Safety Officer or refer to the OHSE board in tearooms throughout the MHTP research institutes for a list of Safety Officers.

5.1.3 First Aid Coordinator and First Aider

The First Aid Coordinator is a person appointed to coordinate communication between First Aiders in a given work area, and helps to allocate duties to First Aiders and maintain first aid kits, supplies and equipment required for a work area.

The First Aider will provide first aid as needed in a particular area, working within their skill level. They will also report and record all treatment irrespective of the severity of the injury.

For a full listing of all responsibilities of both First Aid Coordinator and First Aider, refer to <http://www.monash.edu.au/ohs/safety-roles/first-aiders.html>.

Level 3 of Block E has an assigned First Aid Coordinator/First Aider. First Aiders for every floor of the Hudson Institute's buildings are listed on the OHSE board in every tearoom or floor.

Please contact the Senior Histology Officer for any further queries.

5.1.4 Pregnancy Policy

A reproductive health hazard is a chemical, physical or biological agent that can cause reproductive impairment in adults and development impairment in the embryo/foetus or child e.g. Cellosolve used for Gram staining.

It is important that staff and Clients inform the Platform Manger (or delegate) of pregnancy as early as possible so any potentially adverse risks can be discussed and averted, and alternative arrangements made if necessary.

Refer to <https://publicpolicydms.monash.edu/Monash/documents/1935638>

5.1.5 Immunisation Policy

Clients who handle fresh specimens and may be exposed to blood, body fluids, or blood samples should be immunised against Hepatitis B virus and Q fever.

Please notify your supervisor if you are working with fresh tissue and require information regarding immunisation. All adults in Australia are recommended to take responsibility for maintaining their immunity to tetanus, diphtheria, pertussis, polio, measles and mumps.

MHP staff must be notified if you are submitting, or working with fresh human tissue within MHP.

For further information, refer also to:

<https://www.monash.edu/medicine/spahc/ot/current-students/policies/health-and-immunisation-requirements>

5.1.6 Visitor Policy

Access to MHP-MHTP is restricted to registered users and staff. Visitors to the Platform must have pre-arranged appointments, must be admitted by the person they have come to see, and remain their host's responsibility until they leave. The Visitors Register is located in reception Level 1 of the Hudson Institute and must be signed in on arrival and signed out on departure.

5.1.7 Children in the Laboratories

Children are not permitted in the laboratories. There is never justification for exposing children to the hazards of a laboratory.

5.1.8 After Hours Work

Use of the laboratory out of hours is usually not available. Consult the Platform Manager or Senior Histology Officer if you have any queries.

<https://publicpolicydms.monash.edu/Monash/documents/1935601>

5.1.9 Security

Any member of staff observing a person/persons behaving in a suspicious manner or a person/persons with no obvious legitimate reason to be on the premises is to report the matter to a MHP staff member, or to their Supervisor. The MHP staff member or supervisor will report to Management during normal hours, who will investigate and act accordingly.

To contact security in Block E dial extension 333.

In an emergency ring local police (or 000).

5.2 General Laboratory Practices

5.2.1 Laboratory Safety Guidelines

These basic rules are to be followed in MHP:

- Before entering the laboratory, you should familiarise yourself with the hazards in that particular area and the precautionary measures that need to be taken.
- Never run, and always take care when entering or leaving a laboratory.
- Do not consume or store food or drink in the laboratory area. Do not use laboratory equipment to prepare food.
- Wear suitable footwear. Thongs and similar loose sandals are not permitted, and open-toed shoes do not provide sufficient protection.
- Smoking is prohibited in the Laboratory and its surrounds.
- Latex gloves are not permitted in this Laboratory – nitrile gloves are provided.

- Laboratory gowns/coats, should be worn at all times when working in the laboratory. They should be removed or hung on coat hooks before leaving the laboratory area.
- Disposable latex-free gloves (Nitrile) must be worn when handling hazardous material.
- Discard gloves and wash hands before handling things that may be used by people not wearing gloves.
- Wear safety glasses or goggles during all procedures where there is a risk of splashing or spraying liquids.
- Long hair should be tied back or otherwise restrained.
- Always wash your hands before leaving the laboratory area.
- Work areas should be kept clean and tidy. One section of the work area should be reserved for workbooks and other similar items so that they do not become contaminated with chemicals material.
- Never start a procedure if you are uncertain about any aspect of it, including disposal of waste products. Consult the Platform Manager or staff member before proceeding.
- Never use a stool or chair to reach a high level; always use a ladder on solid footing.
- Consider the nature of any chemical in the Laboratory before altering its usual state e.g. heating, etc. Check the MSDS if unsure or consult staff.
- Leave the sink uncluttered: you might need it in a hurry to wash off a spilt chemical.
- Open wounds should be covered by an adhesive strip and gloves should be worn if the wound is to the hand. Other wounds should be covered by clothing where possible.
- Broken/damaged glassware should be disposed of/removed from use immediately.

5.2.2 Microtomy and Cryotomy Comfort

Make sure your chair is fully and easily adjustable (seat height, backrest height, backrest angle) from a seated position. Adjust the height so that your hands and lower arms are parallel to the desk. If necessary, use a footrest to ensure comfort. Where possible sit facing the bench with the microtome facing you. This will prevent the excessive use of one side of the body when using the microtome, and is the recommended method of use when sitting cutting at the microtome. Ensure that the height of the chair is adjusted to suit the level of the bench. Adjust the footrest to suit if you are using it.

Ergonomic benches have been provided for your comfort when using the microtome. They may be elevated to suit your sitting or standing requirements. Refer to MHP staff for instructions on usage.

5.3 Biological Hazards

5.3.1 General

The wide range of biological materials handled in the Laboratory presents varying degrees of hazard. The Platform Manager/Senior Histology Officer will be aware of the hazards involved, and shall ensure that all staff are adequately trained, and Clients are aware of potential hazards. Consult Platform staff members for details of decontamination procedures.

All unprocessed specimens and biological materials should be treated as potentially infectious, but it is imperative that the utmost caution be used when dealing with fresh tissue specimens and unfixed smears. These should always be handled under the fume hood or fume extraction system.

As with any substance of human origin, **all unprocessed specimens must be treated as potential biohazards**. Safety precautions must be observed at all times. It is mandatory to control hazardous and noxious agents, particularly during dissection procedures. The following equipment allows this to occur:

- a fume exhaust system
- adequate chemical and specimen storage
- easily cleaned facilities
- appropriate illumination
- sink within the dissection area

Gloves and gowns must be worn at all times during the cut-up procedure, while each sample must be treated independently of others and with a large degree of respect.

Masks, goggles or eye protection must be used where splashing of blood or other body fluids may occur.

Laboratory gowns/coats shall be worn at all times in the laboratory and shall be removed on leaving.

Gloves are provided and must be removed and disposed of appropriately when leaving the laboratory bench area before handling anything communal (e.g. door handles, telephones etc.). It is recommended that if protection (either for the user or the samples) is required away from the bench, and common equipment or door handles must be used, then use one gloved hand instead of two, or use a tray to carry items.

Before leaving the laboratory, always wash your hands, and use disposable paper towels to dry them.

If you are using cut-up tools, consult staff for correct decontamination procedures.

Paperwork, including specimen slips, books and reports, must be physically separated from contaminated areas.

Decontaminate work surfaces immediately following any biological spills (wipe with 70% ethanol). Cleanliness is imperative. The cut-up area and all utensils are to be thoroughly washed at the conclusion of cut-up using hot water and detergent, and then wiped over with disinfectant (a hospital grade antibacterial is used: EXP Kleen – spray with the solution, allow to stand 30-60 seconds, then wipe over). 70% alcohol is then sprayed over the clean board, cut-up utensils and benches and wiped over. Blades must be disposed of into the yellow "sharps" container.

5.3.2 Specimens

All specimens should be received in appropriate sealed containers and should not be leaking.

5.3.3 Safe Handling of Needles and Sharps

Extreme care must be practised in handling used needles, blades and other sharp objects. Penetrating injuries due to used, contaminated sharp objects are potential ways of infection by micro-organisms.

It is the responsibility of the person who uses the sharp to safely dispose of it into a sharps container to protect others who may clean up or dispose of rubbish.



Needles, blades and other sharps must be disposed of immediately after use into a puncture proof "sharps" container.

5.3.4 Spill Procedures

Each spill must be assessed as to the risk level of the biological material involved, the amount and concentration of the spill and where the spill occurred. Spill kits are located in appropriate locations through-out the MHTP premises. Refer Appendix 1 Schematic Diagram of MHP-MHTP.

All spills must be reported and a staff member must be alerted immediately.

5.3.5 Biological Waste Disposal

Biological and contaminated waste from the laboratories must be disposed of into biohazard bags. Yellow biohazard bags are located in the Processing room.

5.3.6 Procedures for Fresh Tissue and the Cryostat

Although all specimens are treated as potentially infectious, it is imperative that Laboratory staff are aware of any known infectious samples. Specimens from infectious samples must be left to fix for an additional 24 hours, ensuring complete fixation and no risk to staff members.

Clients are asked to clearly identify any such samples on the worksheet and the specimen container.

Frozen sections will not be performed on fresh human tissue without prior consultation with the Platform Manager or Senior Histology Officer.

5.4 Chemical Hazards

5.4.1 General

All chemicals should be regarded as hazardous and exposure to them kept to a minimum.

Hazards can be divided into two categories: acute and chronic. Acute hazards are usually obvious, for example dropping a bottle of concentrated acid. Long term hazards are often insidious, such as exposure to mercury vapour.

Possible routes of entry are absorption through the eyes, skin or open wounds; ingestion through the mouth; and inhalation through the respiratory tract. Many organic chemicals, especially those that are fat-soluble, are very rapidly absorbed through the skin, and distributed throughout the body by blood stream and lymphatic system.

It is every staff member and Clients responsibility to ensure that chemicals being used are properly stored, and disposed of correctly. If you are unsure direct your queries to a MHP staff member.

All fixatives are toxic and must be handled with care. Most are also irritants and corrosive. Formaldehyde, formalin, paraformaldehyde, glutaraldehyde, and osmium tetroxide should always be handled with gloves, and preferably safety glasses, under a fume extraction system (as should any of the above-mentioned fixatives). In addition, fixatives such as those mentioned above, Bouin's fluid, osmium tetroxide and B5 fixative (if ever used) should always be disposed of in an appropriate manner (into an appropriate waste container), and never down the sink.

An inventory of all chemicals used in the laboratory is kept and maintained. Requirements for storage, handling and disposal of hazardous materials are checked prior to initial purchase.

Hard copies of material safety data sheets (MSDS) relevant to any hazardous substance in use, indicating the type of hazard, treatment required for spills, burns and other injuries, proper storage procedures, and safe handling are readily accessible and located in room 3.23. These are reviewed each year and are current to within 5 years of release date. MSDS's are also available online on Chemwatch. (<http://www.monash.edu.au/ohs/topics/chemwatch.html>).

Always use a bottle carrier when transporting Winchester bottles: never carry them by the neck of the bottle alone.

The laboratory provides ready access to spill kits suitable for dealing with the chemicals contained in the laboratory. The chemical spill kits are in the corridor outside the Block E laboratory (See Appendix 1 Schematic Diagram of MHTP to view the location of this room).

Wear gowns and disposable gloves when handling hazardous chemicals. Masks are also provided for the weighing of toxic powders (which should also be done in a fume hood).

Always pour from a reagent bottle so that any drips running down the outside of the bottle will not damage the label. When liquid is poured from a large bottle, the bottle should be held in both hands, and the operations performed over a bench or sink. Then if the bottle slips, it does not have far to fall.

All reagent bottles are clearly labelled showing the contents and date and where applicable, hazard warnings and risk phrases. If a hazardous substance is decanted and not used immediately, the new container must be labelled with the full product name and where practicable, include risk and safety phrases. Labels are to remain on the container until it has been rinsed out and no longer contain the substance.

All bottles of hazardous waste are clearly labelled showing the contents and date and where applicable, hazard warnings and risk identification. Ensure that you dispose of any reagents you are using correctly and according to the MSDS.

Picric acid should always be well covered with water. On drying out it can become explosive.

Ammonical Silver compounds are also explosive and due care should be exercised. Neutralise with one teaspoon of sodium chloride (salt) prior to disposal.

5.4.2 Solvents

5.4.2.1 General

The flashpoint of a substance is the temperature at which a flammable liquid produces sufficient vapour to be ignited by a spark. If a draught carries vapour from a liquid at room temperature into contact with a surface above the flashpoint of the solvent, the vapour may ignite and burn back to ignite the liquid. Flashpoints can be found in the MSDS file. Any solvent with a flashpoint below ambient temperature must be used in a fume hood.

Keep solvents away from oxidising agents, heat sources, electric switches and electrical apparatus.

Some solvent vapours are heavier than air and will tend to flow along benches and down to the floor, where they can collect in confined areas. Such solvents e.g. chloroform, should only be used in a well-ventilated area or fume cupboard.

5.4.2.2 Solvent waste

Waste Xylene is placed into 20L drums that have clearly been labelled with a Chemical Waste Form.

Please ask staff if you are unsure of what to do with your staining solutions or reagents when you have finished staining.

5.4.3 Acids and Bases

Small quantities of acids are kept in appropriate areas in the laboratory. Larger quantities must be stored in the "Acids Cabinet", located in the Staining Laboratory.

Containers of acids, and other corrosive liquids, should be stored near ground level to minimise the risk of spillage onto personnel. The volumes of acids stored in the laboratory should be kept to a minimum (no more than 2.5 litres of each concentrated acid).

Always add acid to water when diluting a concentrated acid. Additions should be made slowly, with stirring, to prevent the mixture overheating. Similar care is required when dissolving or diluting strong bases.

Chromic acid reacts violently with organic material and is not recommended as a cleaning material. Detergents specifically designed for laboratory use are better e.g. RBS.

Alkaline solutions should be stored in plastic containers because they react chemically with glass. Alkaline materials have a greater potential for damage than strong acid solutions. Whereas acids precipitate a protein barrier in the tissues that stops the material from soaking in deeply, alkaline materials continue to soak into the tissue without causing immediate pain.

5.4.4 Incompatible Chemicals – Some common chemicals

Substances in the left-hand column should be stored and handled so that they cannot come into contact in uncontrolled conditions with the corresponding substances in the right-hand column.

Acetic acid	Nitric acid, alcohols, ethylene glycol, perchloric acid, peroxides, permanganates
Cyanides	Acids (produces toxic hydrogen cyanide)
Formaldehyde	HCl, any chlorine containing chemical
Hydrogen peroxide	Alcohols, acetone, organic substances, flammable substances, copper, iron
Nitric acid (conc.)	Acetic acid, acetone, alcohols, and other flammable substances
Sulphuric acid	Chlorates, perchlorates, permanganates

Refer Appendix 2 Compatibility of Different Dangerous Goods for further explanation.

5.4.5 Spill Procedures

A spill in the laboratory may range from a minor incident to a potentially hazardous situation that may pose a danger to both workers and the environment.

Absorbent material is available in each laboratory for use on minor and/or innocuous spills: Ensure the directions on the MSDS (Material Safety Data Sheet) for the chemical spilt are followed when cleaning up a minor spill. Ensure that the affected area is thoroughly clean after a spill. Wash area well with soap and water to remove residual chemicals.

Chemical spill kits for larger spills are also available in the Laboratory. See Appendix 1 Schematic Diagram of Histology for a map of the laboratory.

If a significant spill of any Formalin or Xylene occurs the laboratory staff and all personnel in the laboratory should be immediately evacuated to a safe location. An emergency must be pronounced and the fire brigade contacted by the Platform Manager or Safety Officer by calling 000. The Duty Controller should be immediately informed of the type of chemical that has spilt; the quantity, and the exact location. The Fire Brigade will be dispatched to clean up the spill using Breathing Apparatus, protective suits, and the appropriate spill kit.

Any acid spill that gives off toxic gases will also require the above response.

Chemical spill kits are available for small spills of acid, base, and solvent spills. The location of the nearest spill kit should be known and collected for immediate use. See Appendix 1 Schematic Diagram of MHTP. Ensure the spill is immediately reported to the Platform

Manager or Senior Histology Officer and that the appropriate clean up procedures are followed. The appropriate Protective Equipment will need to be worn for large spills. If this equipment is not available the Fire Brigade will need to be called.

5.4.6 Carcinogens

A list of carcinogenic and toxic substances is included in Appendix 3 Carcinogenic and Toxic Substances. These substances are identified as toxic or carcinogenic by a square yellow label. Observe all safety precautions when using these substances.

5.5 Equipment

5.5.1 Safety Equipment

On starting work, or transferring to a new area, always learn the location of the fire alarms and extinguishers, fire exits, safety shower, eye drench hose, eye wash bottle and spill kits. See Appendix 1 Schematic Diagram of MHTP for a map.

Eye wash stations and safety showers shall be monitored as required and checked frequently.

The Laboratory shall have ready access to the following items: protective clothing (such as gloves, safety glasses, ear muffs, full face shields) as required for the procedures being performed, the appropriate spill kits, and a stepladder.

Fume cabinets are regularly decontaminated and tested by an accredited testing authority regularly. Functionality testing is carried out every 12 months by Monash Health.

5.5.2 Glassware

Large containers shall be carried with both hands using one underneath for support if required.

Glassware shall never be carried by the neck or rim.

Always use a bottle carrier when transporting Winchester bottles.

Do not use broken, chipped, scored or badly scratched glassware.

5.5.3 Safety in Microtomy

In Histology, safety aspects are most important around the microtome. The user of a microtome must always be aware of his/her actions in order to avoid dangerous practices. The microtome blade is an obvious source of danger. Several important points should always be considered:

- The lock should always be in place when the microtome is not being used.
- Microtome blades should be disposed of immediately; not left lying around. Disposal should occur either into the sharp's container or into the back of the blade dispenser. Glass knives should be disposed of into a recycling bin in the Resin laboratory.

Refer to the Protocol for Client Induction and Training (MHP-SOP-011) for further microtomy instructions relating to safety.

Knives in blade holders should never be left in an unattended microtome. Once the user has finished with this equipment, it should be placed in the special knife holder box.

All microtomes in the Laboratory have knife guards to cover the blade when the microtome is not in use and these should always be used when attention is not focussed on cutting or trimming tissue.

The wax shavings on the floor are currently vacuumed on a daily basis by the cleaning service. All laboratory staff are however requested to be conscious of wax shavings on a daily basis, and to use a dustpan and brush to remove excessive wax.

5.7 Housekeeping

5.7.1 General

Hallways, thoroughfares, entrances and exits shall be kept clear.

Windowsills and the tops of processors, refrigerators etc., shall not be used as storage areas.

Work areas shall be cleaned regularly. Benches and sinks, and equipment such as water baths and fume cabinets shall be decontaminated and cleaned after use or at the conclusion of each day.

5.7.2 Spillages

All spills should be assessed as to the risk level involved, the amount and concentration of the spill and where the spill has occurred.

Spill procedures are detailed in sections 5.4.5 (Chemical), and 5.3.4 (Biological) of this protocol.

Any spills are to be cleaned up immediately. If you have spilt material on yourself call for assistance and attend to this first before cleaning floors and benches. Take care not to contaminate a larger area by rushing around. If necessary, remove contaminated shoes and clothing.

In the Resin laboratory, osmium tetroxide spillage should be deactivated using milk powder, then collected and placed (contained) in the fume hood and Histology Resin staff notified.

5.7.3 Waste Disposal

The waste materials generated from this laboratory can be broken down into five separate categories as follows:

- Non-contaminated solid waste: Includes Laboratory and office rubbish and plastic materials. Discard into laboratory bins placed in various positions throughout the Laboratory. These bins are emptied daily by Monash Cleaning staff.
- Contaminated solid waste: All waste soiled with bio hazardous material (e.g. blood, plasma) is included in this category. These materials, disposable laboratory wares, plastic specimen tubes and such like, should be discarded into biohazard bags. Do not include sharp objects or broken glass. The full biohazard bag is placed into one of the yellow 120L biohazard bins located outside the MHTP door. This waste is removed once a week by Waste contractors.
- Liquid waste: Most liquid wastes can be disposed of by flushing down the drains. The exception is xylene and some other chemicals e.g. Chloroform, Schiff's reagent, Butanol, Osmium Tetroxide, Methanol, etc. These must be placed in the appropriately labelled waste containers kept under the staining fume hoods for correct disposal by Hudson Stores. Ethanol and acetone, which are water miscible, may be poured down the sink if greatly diluted with tap water. Acids and alkalis should also be greatly diluted before being poured into the drainage system.
- Sharp items: This category includes hypodermic needles, blades and smaller items of broken glass e.g. slides. Biological Hazard BIO-CANs are provided in all appropriate areas; when full screw or close the cap tightly and send to Hudson Stores Department for disposal by the appropriate body. Replacement containers can be ordered through stores.

5.8 Reporting of Incidents and Accidents

The reporting and documentation of any given incidents or accidents in the Laboratory is an essential element of Monash Histology's safety program. The Monash University Incident report form must be completed online by all staff members who have an OHS issue while working. In addition, a Hudson Institute Incident Report may be required depending on the unit you are employed with. The Histology Incident Report form is completed when there is any incidences pertaining to preservation of specimen integrity, diagnostic anomalies, etc. which may occur in the Laboratory.

All OHS and Histology incidents which occur on the premises are documented and investigated. The information gained is used to initiate effective accident prevention and QA programs to enable measures to be introduced to eliminate bad and unsafe practices.

The report of any OHS issue may also serve as a permanent record to show that the injured person did in fact have an accident on the day and date in question, and can be referenced for claims of compensation.

5.8.1 SARAH

All incidents occurring in MHP-MHTP node must be documented through Monash University's OHS system called SARAH.

Safety And Risk Analysis Hub (S.A.R.A.H.), the University's online reporting tool provides staff, internal clients, students, contractors and visitors with a user-friendly way to report occupational health and safety (OHS) related hazards, incidents and allegations of unacceptable behavior. A basic overview and instructions for accessing Monash University's on-line OHS reporting is provided below.

Reporting an OHS Hazard or Incident - SARAH:

This reporting tool helps to ensure that all hazards, incidents and near misses involving Monash University staff, students, visitors and contractors are reported, investigated and recorded in accordance with Victorian OHS legislation and Monash University's Hazard and Incident reporting, investigation and recording procedure.

Refer to <https://my.monash/campusm/home#pgitem/500001463> for Sarah Access

What should be reported by S.A.R.A.H?

Hazards that could pose a risk to:

- A person's health or safety, including instances of unsafe work practice
- The environment (e.g. air, water, land)
- Incidents such as University-related injuries, illnesses and near misses to staff, students, contractors and visitors
- Allegations by a staff member of being subjected to unacceptable behavior

You can access the reporting tool from the link above, from the my.monash portal, or from your computer's start menu or dock.

Any staff member OR Client who has encounters a hazard as per above must fill out a Monash University Incident Report on-line – whether medical attention is sought or not – and inform his/her supervisor, as well as the Histology Platform Manager or Supervisor as soon as is practicably possible. Medical attention can be arranged if required and preventative action taken to prevent a recurrence of a similar type of accident.

5.8.2 Hudson Institute Incident Report

In addition to the above procedure, a Hudson Institute Incident report may also be required for any injury, hazard, accident or near miss (depending on the unit by which you are employed). Please discuss with the Platform Manager/Senior Histology staff member to determine if you are required to complete this form.

The Hudson Institute Incident Report is accessed via the intranet or via the link <https://fs8.formsite.com/mimr-phi/form84/index.html?1501218588269>

5.8.3 Reporting a Histology Incident:

Any non-OHS incident must be reported via GRC. This enables direct notification of any incident to the Platform Manager that is **non-medical** and relates to procedures within MHP and not covered under the above S.A.R.A.H reporting e.g. breakage of equipment, suspicious behaviour by persons unknown, loss of specimen etc. The Platform Manager or delegate will review the incident and assign or take appropriate action according to the Non-Conformance Procedure in GRC. The Platform Manager or Senior Histology Officer must record what action has been taken in respect of the incident i.e. the outcome and preventative action.

5.9 First Aid

5.9.1 Emergency Numbers

In case of an emergency, call Emergency number 0000 from an internal Monash phone (MMC) / research precinct phone OR 000 from a mobile phone. For Monash Medical Centre Clayton Emergency Department dial 9594 6666.

Dial the number and state the nature of the emergency and its location.

Check for any dangers to yourself, others and the victim (e.g. live electricity).

Talk to the victim to assess if they are conscious.

Wear gloves where possible before attending to a victim (especially if there is a chance of contact with bodily fluids).

Do not move a seriously injured person unless the location is dangerous or could cause further injury.

In the case of minor injuries which require medical attention the injured person should be transported (if safe to do so) to the nearest Medical Clinic or Emergency Department of the closest Hospital:

Monash Medical Centre Emergency Department 9594 6666

5.9.2 Cardiopulmonary Resuscitation (CPR)

The Platform Manager, Safety Officer and First Aider are well versed in the procedures of CPR. CPR instruction lists are also provided at appropriate places throughout the Laboratory.

5.9.3 The Unconscious Patient

Place an unconscious or near unconscious patient in the coma position (lying on the side with the head tilted backwards and turned slightly downward allowing the tongue to fall forward), open the mouth and check for foreign objects or matter, clear if present.

Note vital signs - breathing, pulse.

Be prepared to administer cardiopulmonary resuscitation and to continue until advised by a physician to stop.

Do not leave the patient unattended.

Never give anything by mouth to an unconscious patient.

Phone 000 and request an Ambulance as soon as possible but do not interrupt the above procedures.

5.9.4 Severe Bleeding

Rapid loss of blood can lead to unconsciousness and death.

Apply direct pressure to the wound with a clean pad. If you do not have a pad, use your hand. Do not use a tourniquet.

Keep pressure on the wound by bandaging the pad firmly in place.

Keep the patient down, and raise the bleeding part higher than the body except in cases of fractures.

If bleeding continues, apply another pad and bandage. Do not remove the first one. Phone 000 and request an Ambulance.

5.9.5 Poisoning/Chemical Reactions

5.9.5.1 General

Remove patient from noxious agent if safe to do so. Follow above directions if patient is unconscious.

Notify 000 and request an Ambulance.

Ring the Poisons Information Centre on 131126.

5.9.5.2 If the poison is taken by mouth

Give 2 to 4 glasses of water, unless the patient is unconscious. Never give anything by mouth to an unconscious patient.

Induce vomiting, except in the case of an unconscious patient or patient who has swallowed a volatile liquid, strong acid or alkali. Have the patient place a finger far back on the tongue and stroke from side to side. (Do this for the patient if necessary).

Save a sample of the vomitus if possible.

Try to identify the poison.

5.9.5.3 If poison is inhaled

The appropriate type of gas mask or the positive pressure breathing apparatus should be worn during the exposed part of the rescue operation. Protective clothing is necessary to prevent absorption through the skin. Phone 000 and request an Ambulance if appropriate breathing apparatus/clothing are not available.

5.9.5.4 If the poison is in contact with the skin

Wash immediately with copious amounts of water. Remove all contaminated clothing including shoes, watches, rings and other jewellery. For large spills on the

body, the subject should be placed under a drenching shower immediately. Irrigation must continue for at least 15 minutes.

If the spill is of a corrosive chemical sparingly soluble in water (e.g. phenol), do not swab the "burn" with ethanol or other organic solvent because this increases the area of skin contact. Use soap and water and wear gloves to protect yourself.

5.9.5.5 Eyes

Eyewash solution and instructions for its use are located in appropriate areas in the laboratory, as well as eye wash stations. Check the "use-by" date of the Eyewash solution regularly, and replace it when necessary.

If a chemical is splashed into the eyes immediately irrigate both eyes with copious amounts of water using an eye drench hose or spray continuously with contents of eyewash solution. Continue for at least 15 minutes.

Material splashed into the eyes can collect behind contact lenses. Since the eyes cannot be adequately irrigated when contact lenses are being worn, the lenses should be removed by the person wearing them.

5.9.6 Electrocutation

Turn off power and disconnect apparatus from mains without endangering yourself.

Remove the person from contact with source of electricity. Note that the person may be electrified until released and take precautions against receiving a shock. That is, when moving the patient away from the source of electricity, or the source of electricity away from the patient, use any type of DRY insulating material such as wood, rope, clothing, rubber or plastic.

Note vital signs - breathing, pulse. Be prepared to administer cardiopulmonary resuscitation.

5.9.7 Burns and Scalds

Remove the casualty from danger and smother burning clothing with blanket or use water.

Remove hot clothing. Do not try to remove clothing that is stuck.

Hold the burnt area under cold, gently running water for up to ten minutes. Do not overcool the area.

Treat a chemical burn as for a heat burn, as above.

Cover with a sterile or clean dressing.

Seek medical help.

5.9.8 Wounds from Broken Glass and Sharp Objects

It is not recommended to remove objects if it is likely to increase the bleeding time.

Bandage and apply pressure to stop bleeding.

Obtain medical help.

5.9.9 Needlestick Injury or Mucous Membrane Exposure to Blood or Secretions

For skin wounds express any blood present and wash with water and antiseptic. For mucous membrane exposures, wash with water or saline.

Report all exposures to the Platform Manager irrespective of how trivial they appear.

In brief, following exposure there is a confidential risk assessment and, if exposure is significant, the staff member and source (if possible) are tested for Hepatitis B and C, and HIV viruses or antibodies. If appropriate a prophylactic treatment program is implemented. Follow-up and retesting may be necessary. Refer to the Platform Manager for further

information. On the main floor of the Monash Medical Centre there is also an infectious disease unit that can be contacted for assessment.

5.9.10 First Aid Kit

Fully equipped First Aid Kits are located in the corridor along the outside walls of the Histology premises between rooms 3.23 and 3.24 for minor injuries. If however, any doubt exists as to the seriousness of an injury then the person should be taken to the nearest Medical Clinic or Emergency Department (Monash Medical Centre Emergency 9594 6666), **or** an ambulance called.

5.10 Fire

Regular periodic fire drills are conducted by Monash University. Any user in the Facility at the time of the drill will be expected to participate. In addition, all users are expected to be aware of the location of safety showers, eyewash stations, fire blankets and fire extinguishers, as well as all emergency exits (refer to signage on Level 3 of Monash MHRP building).

5.10.1 Fire or Chemical Immediate Action and Evacuation Procedures for Clients in the MHP-MHTP node

- The person discovering the fire, smoke or chemical emergency is required to alert staff in the area immediately
- When notified of a fire all users should cease working immediately and (with direction from staff members) evacuate the area immediately
- The staff member will assemble users in a safe area and nominate the evacuation route and assembly point, direct and guide users to the appropriate exit for safe evacuation

6. APPENDICES

Appendix 1 – Schematic diagram of MHTP

Appendix 2 – Dangerous Goods and Combustible Liquids Segregation Chart

Appendix 3 – Carcinogenic and toxic substances

7. REFERENCES

7.1. Internal

MHP-FRM-0019 - Chemical waste disposal form

<http://www.policy.monash.edu.au/policy-bank/management/student-comm-serv/ohse/occupational-health-safety-policy.html>

<https://sites.google.com/a/hudson.org.au/hudson/ohse/ohs-policies-procedures>

<https://sites.google.com/a/hudson.org.au/hudson/ohse/ohs-manual>

<https://www.monash.edu/ohs/OHS-structure-responsibilities/OHS-responsibilities/safety-officers>

<https://www.monash.edu/medicine/spahc/ot/current-students/policies/health-and-immunisation-requirements>

<https://publicpolicydms.monash.edu/Monash/documents/1935601>

<https://monash.intelligencebank.com/profiler-bb7c08136b8b7393f75d8ea831c4594c/profiler/create> - staff access

7.2 External

Australian Standards:

AS 1470 Health and safety at work - principles and practices.

AS 2243 Safety in laboratories (Parts 1 to 10).

AS 2982 Laboratory construction.

Occupational Health and Safety Act 2004.

Dangerous Goods Act 1985.

Dangerous Goods (Storage and Handling) Regulations 2008.

Dangerous Goods (Transport by Road or Rail) 2008.

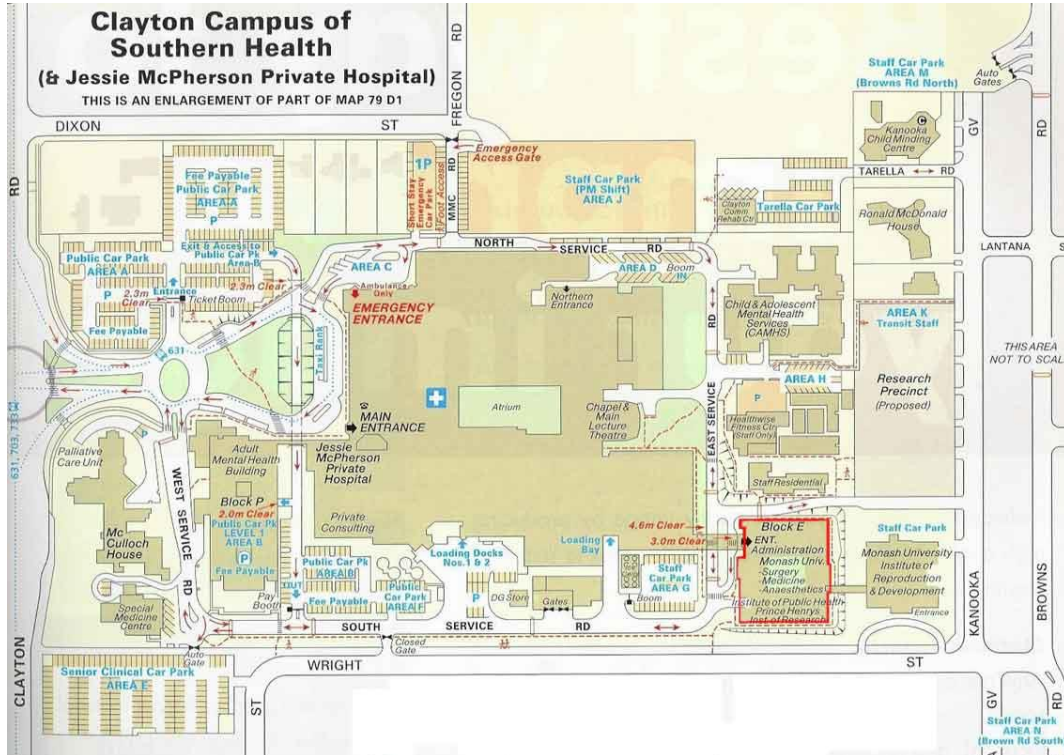
AS/NZS 4801:2001 Occupational Health and Safety Management Systems – Specifications

OHSAS 18001:2007 Occupational Health and Safety Management Systems – Requirements

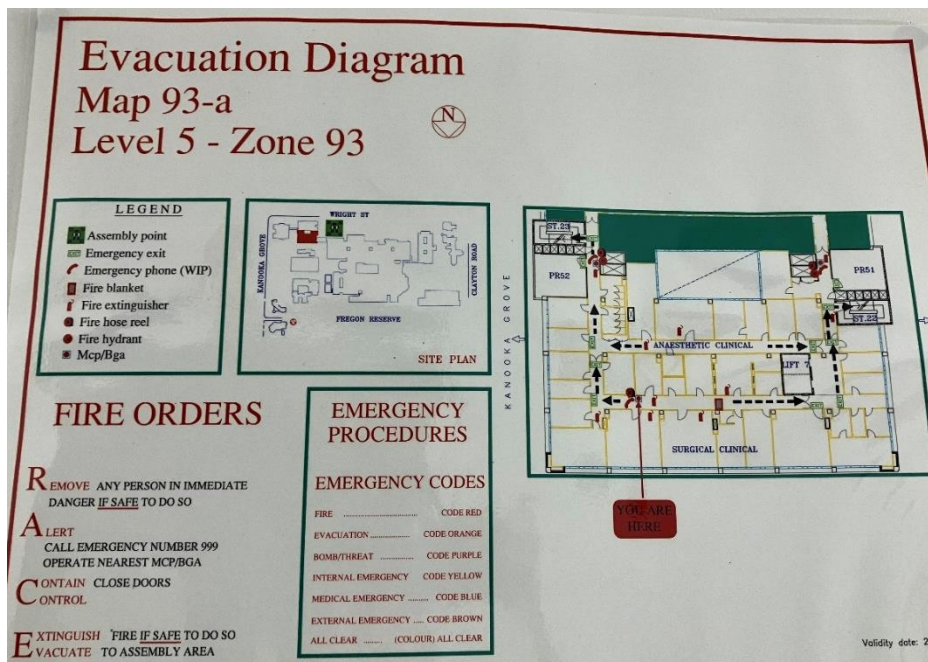
ISO 9001:2015 Quality management systems – Requirements

Appendix 1

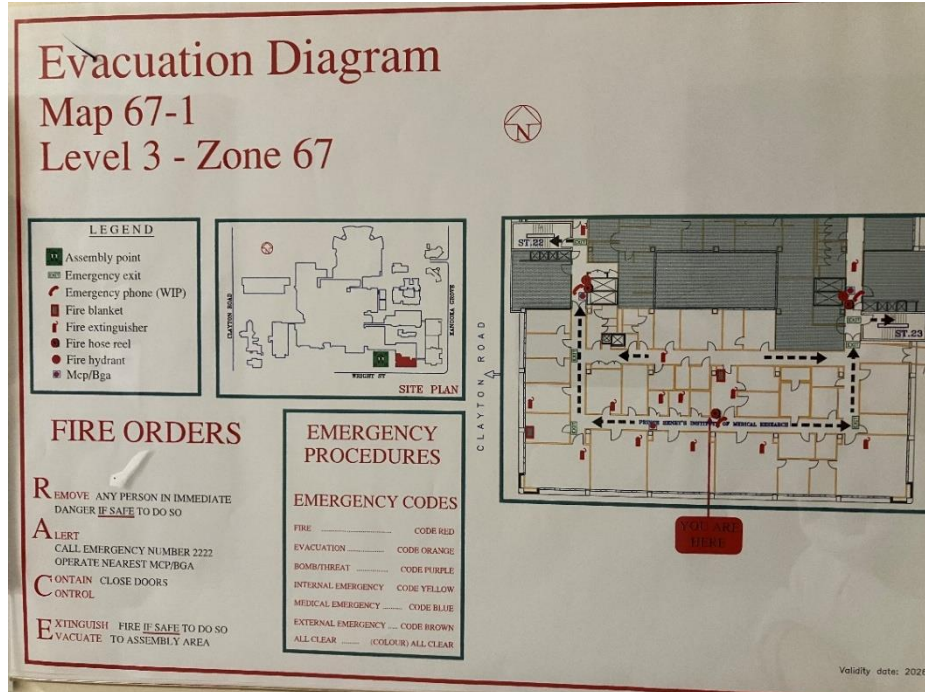
MHTP HISTOLOGY LOCATION



MHP-MHTP L3



MHP-MHTP L5



Appendix 2

Dangerous Goods and Combustible Liquids Segregation Chart –MHP-REF-0020-V



DANGEROUS GOODS AND COMBUSTIBLE LIQUIDS SEGREGATION CHART

Class or Subsidiary Risk												
FLAMMABLE GASES		SUITABLE TO STORE TOGETHER										
NON TOXIC NON FLAMMABLE GASES												
TOXIC GAS				MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES								
OXIDIZING GAS												
FLAMMABLE LIQUIDS + COMBUSTIBLE LIQUIDS												
FLAMMABLE SOLID												MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES
SPONTANEOUSLY COMBUSTIBLE												
DANGEROUS WHEN WET												
OXIDIZING AGENT												
ORGANIC PEROXIDE												
TOXIC SUBSTANCES												
CORROSIVE												MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES

Modified From Source: <http://www.docstoc.com/docs/15930771/DANGEROUS-GOODS-COMBUSTIBLE-LIQUIDS-STORAGE-COMPATIBILITY-CHART>

Dangerous Goods and Combustible Liquids Segregation Chart
Date of Issue: May 2012

Responsible Officer: Manager, OH&S

Date of next review: 2015



GUIDELINES

- In all cases the manufacturers MSDS should be consulted.
 - Dangerous goods of class 9 should be segregated in accordance with the manufacturers MSDS
 - Combustible liquids shall be segregated in the same manner as class 3 flammables.
- * Do not store in areas with water fire suppression systems i.e. Sprinklers
 - # Contact with flammable/combustible substance causes vigorous oxidation reaction resulting in spontaneous heat production and possible fire/explosion.

ISOLATE

This requirement refers to organic peroxides, for which dedicated stores or storage cabinets are recommended. Adequate separation from other laboratories / buildings / boundaries is required.

▲ May not be compatible within own Class. Refer to manufacturers MSDS

SEGREGATE

A distance of >3-5m is required between chemical storage cabinets where the aggregate capacity is less than 250kg or L. If the aggregate capacity is over 250kg or L cabinets must be 10m apart or have a fire rated wall in between them. For other Dangerous Goods external to cabinets, the distance is measured from the edge of the spill catchment area. Consult MSDS for specifications.

Appendix 3
CARCINOGENIC AND TOXIC SUBSTANCES

SUBSTANCE	TYPE	DAMAGE VIA:
Acetylphenylhydrazine	Toxic	Skin and inhalation
Basic Fuchsin	Carcinogenic	Skin, ingestion, inhalation, eyes
Benzidine	Carcinogenic	Skin, ingestion, inhalation, eyes
Butan-1-ol	Toxic	Skin, ingestion, inhalation, eyes
Carbon tetrachloride	Toxic	Skin and inhalation
Cellosolve – 2ethoxyethanol	Toxic	Teratogen
Chloroform	Toxic	Inhalation, ingestion,
Chromic Acid	Toxic/Carcinogen	Inhalation/Ingestion, skin
DBEDMA (BDMA)	Toxic	Skin, ingestion, inhalation, eyes
DDSA	Toxic	Skin, ingestion, inhalation, eyes
o-Diamidisine dihydrochloride	Toxic	Skin, eyes and inhalation
N.N Dimethylformamide	Toxic	Skin, eyes and inhalation
N.Ethyl Maleimide	Toxic	Inhalation
Glutaraldehyde	Toxic	Inhalation
Lead Nitrate	Toxic	Inhalation, skin & ingestion
2-Mercaptoethanol	Toxic	Skin, eyes and inhalation
Mercuric Chloride	Toxic	Skin, eyes and inhalation
NAP Substrate	Toxic	Skin and inhalation
Napthol ASBI	Toxic	Skin and inhalation
Osmium Tetroxide	Toxic	Skin, ingestion, inhalation, eyes
Paraformaldehyde	Toxic	Inhalation, skin & ingestion
Pararosaniline	Toxic, Carcinogenic	Skin, ingestion, inhalation, eyes
Phenyl Mercury Acetate	Toxic	Skin
Potassium Cyanide	Toxic	Ingestion and inhalation
Propylene Oxide	Toxic	Skin, ingestion, inhalation, eyes
Sodium Cacodylate Trihydrate	Toxic	Inhalation, ingestion & skin
Sodium Cyanide	Toxic	Ingestion and inhalation
Technovit Universal Liquid	Toxic	Inhalation, skin, eyes
Thiomersal	Toxic	Skin and inhalation
Trichloroacetic acid	Toxic	Skin, eyes and inhalation
Xylene	Carcinogen	Skin and eyes