



**LaTrobe University,
School of Pharmacy & Applied Science**

**Occupational Health and Safety
Guidelines 2009**

For Undergraduate Students

Your Safety and Compliance with Occupational Health and Safety legislation

All Staff and Students working in the School of Pharmacy and Applied Science must be informed of potential hazards in the workplace and have access to information and training to reduce those risks as far as practicable. It is the University's responsibility to provide an environment which is "safe and without risk to health" and the responsibility of all persons who enter the workplace to comply with the safety rules and procedures explained to them.

Safety Information will be provided in two ways.

- 1) General information is provided in this booklet. You will be asked to sign to acknowledge that you have received this booklet and agree to conduct your work in accordance with these rules and procedures.
- 2) Specific information on particular experiments will be covered in your prac notes. Lab specific training will be recorded in some instances in the classes themselves.

Your cooperation in understanding and helping to maintain the high standard of safe work practice achieved by the school is essential. Failure to do so can lead to accidents and /or the University being liable for prosecution.

BASIC ESSENTIALS

- **Safety spectacles are compulsory at all times when working with chemicals or potentially infectious materials. Contact lenses are not recommended due to the complications of bathing eyes if splashes occur. See your supervisor if wearing safety glasses presents with special problems.**
- **A laboratory coat and appropriate (enclosed) footwear must be worn during all laboratory work.**
- **Students must supply their own safety glasses and lab coats and bring them to every class. You will generally not be admitted to the lab without this protective equipment, unless the Supervisor makes a special exemption. Spares will not be supplied by the technical staff.**
- **Before commencing work in any laboratory, familiarise yourself with evacuation procedures (see below), the location of the nearest fire blankets, safety showers, and eyewash fountains and be sure you know how to use them.**
- Correct labelling of all containers is essential and should include full chemical/substance name, user's name and date of preparation.
- Eating and drinking are prohibited in all laboratories, except when required for special classes where special safety measures are applied. Do not apply cosmetics in the laboratory.
- Long hair must be tied back.
- Gloves will be provided for use when necessary. Do NOT pick up pens, pencils, turn on instruments, answer phones etc. while contaminated gloves are being worn. Remove gloves once handling of contaminated articles is complete. If it is necessary to rehandle infective/contaminated articles, use a new pair of gloves. Gloves must be discarded in the appropriate waste bin immediately they are no longer needed.
- Bags and jackets should be kept out of the way to prevent falls. Store in the compartments provided. If you bring a mobile phone into the class it must be turned off at all times ie no receiving or sending text messages during class please.
- Do not attend long laboratory classes after fasting (eg big night out, no breakfast) as the likelihood of fainting presents a danger to yourself and others.

MATERIAL SAFETY DATA SHEETS (MSDS)

Suppliers of hazardous materials are required by law to provide adequate information to ensure that their products will be safe and without risks to health when properly used. The MSDS is the commonly accepted format of this information. An MSDS for all "Dangerous Goods" and hazardous substances will be accessible in the lab where the chemical is used or nearby. For subjects where chemicals are used, you will be shown how to read an MSDS, usually in the first lab class.

RISK ASSESSMENT (RA).

University staff are required to assess the degree of risk associated with any activity they undertake or supervise to ensure that all potential hazards are identified and controlled as far as practicable. In some cases a formal documentation of the Risk Assessment process is required. You may be asked to read and /or prepare a Risk Assessment, to gain an appreciation of the principles involved.



Because the legislation covering MSDSs and RAs applies to all Australian workplaces, a sound understanding of good practice in these areas will not only alert you to potential hazards but be useful in a wide variety of employment situations!

WASTE DISPOSAL:

Proper waste disposal is most important to protect the health and safety of humans and the environment. Please follow your lab notes and the Technician in charge's instructions accurately.

- Never tip waste down sinks unless specifically instructed to do so.
- Read labels on waste bottles carefully to avoid accidental reaction mixtures and explosions

Emergency procedures

EVACUATION

If the building alarm system is activated, all personnel are expected to leave the building immediately. Follow the instructions of your Supervisor or Demonstrator. Building Floor Wardens (wearing fluorescent safety vests) control the overall evacuation- please follow their instructions.

- Stay calm and do not run
- Leave bags where they are stored (in the lab or corridor recesses) as these can seriously impede an evacuation. (Personal valuables such as keys and phones should not be left in unattended bags)
- Proceed to the assembly point (the northern end of the sports oval near the sports centre) until all persons are accounted for or until notified by the emergency authority that it is safe to return.

ACCIDENTS AND FIRST AID

Injuries of any type must be reported straight away to the supervisor or demonstrator for assessment and treatment. Trained first aid staff or the campus nurse may need to be consulted. An incident report form must also be completed and submitted by the relevant staff member within 24 hours of the accident and immediately in the event of a serious accident.

Chemical Aspects of Laboratory Safety



HANDLING OF CHEMICALS

Follow all the recommendations for safe handling

Correct labelling of all containers is essential and should include full chemical/substance name, user's name and date of preparation.

FIRE AND EXPLOSION PRECAUTIONS

Sources of ignition most common in undergraduate labs are burners, power and light switches, electric heaters and static electricity which can accumulate on a person wearing man-made fibre clothing or rubber-soled shoes.

Flash point is defined as the minimum temperature at which the vapour of a liquid can give rise to an explosive mixture with air. The flash points of some widely used organic liquids are: Ethyl alcohol (+13°C), Acetone (-8°C), Diethyl ether (-43°C). These solvents can produce a flammable atmosphere inside an ordinary refrigerator or closed container.

SPILL TREATMENT

All laboratories are provided with a SPILL KIT adequate to cope with most spills that might occur in that laboratory. If any spill occurs, please notify your demonstrator or a lab technician immediately. Should any chemical be spilled on your skin, notify your demonstrator immediately. Wash the area with copious amounts of water and consult the MSDS for further treatment details.

TIPS

- Flammable or explosive materials should never be stored in a domestic refrigerator. A purpose built solvent refrigerator must be used instead.
- Always add ACID TO WATER when diluting strong acids.
- Do not pipette by mouth. Use the pipette filler, which is provided.
- Never pour corrosive liquids at or above eye level.
- Damaged glass apparatus should be rejected; even a scratch and particularly a "star" crack, can cause failure under vacuum.

Biological aspects of Laboratory Safety



- Treat all microbial cultures as potential pathogens which may be hazardous to health.
- All cultures must be correctly labelled with the name of the organism, date and incubation temperature and name of the person inoculating the culture.
- All instruments used for transfer or subculturing of microbes must be sterilised before and after use.
- Dispose of all waste materials, cultures and contaminated glassware as directed. If unsure consult your demonstrator.
- Sharp waste generated in laboratories should be placed in labelled 'sharps containers'.
- Disposable needles should never be removed from syringes. Do not re-cap needles

AVOIDANCE OF AIRBORNE CONTAMINATION.

- Use the correct procedures for pipetting, flame sterilisation and sub-culturing to minimise creation of aerosols.
- Do not leave cultures of heavily sporulating fungi uncovered.
- Microbiological loops must be completely closed and not more than 6 cm in length. Where there is a risk of infectious material splattering in a bunsen flame, use a Bactincinerator or plastic disposable loops.

HANDLING HUMAN BLOOD AND OTHER POTENTIALLY CONTAGIOUS PRODUCTS

Certain classes may require the use of body fluids from human and animal sources. You will be provided with detailed information on the correct procedures for handling and disposing of such products.

Good Housekeeping practices

- Undergraduate students may not work in any laboratory outside normal timetabled laboratory sessions without the express permission of a member of academic staff.
- Students with equipment lockers should check locker contents at the beginning of each session and report any missing, damaged or unclean items to the technical staff. Chipped or cracked glassware will be replaced to avoid accidental breakage. Missing equipment will be debited to the person responsible for equipment immediately prior to the notification of the loss.
- Unclean glassware must not be used in case of unintentional chemical reactions. Wash all glassware at the end of each session using the detergent or other solvent provided, three rinses of tap water followed by one rinse in Reverse Osmosis (or distilled) water available on tap in most laboratories.
- Minor spillages must be wiped up promptly especially on balances and bench tops. Extensive or dangerous spillages must be reported immediately to the academic or technical staff.
- Wash and/or disinfect your hands before leaving a laboratory.
- Laboratory coats should be removed before leaving the laboratory and should be washed regularly.