

PERSONAL PROTECTIVE EQUIPMENT (PPE)

THE LAST LINE OF DEFENCE

The use of personal protective equipment (PPE) is important, but it shouldn't be the only risk control relied on to keep you safe. PPE is often used in combination with other risk controls, e.g. working in a fume cupboard. We like to think of PPE as the last line of defence. The standard PPE for handling chemicals are:

- Safety glasses
- Disposable gloves
- Enclosed and non-absorbent shoes
- Laboratory coat or gown.



MUST DO'S

PPE must be:

- **Suitable for the nature of the work**
- **The proper size and fit for the person using it**
- **Properly stored and maintained.**

PPE should be designed to meet the requirements of relevant Australian Standards and visually inspected before each use to make sure it's in good condition.

EYE PROTECTION

Hazards to the eyes include exposure to vapours and fumes, irritation from particulates, splashes and impact from flying debris. There are three common types of eye protection.

Safety glasses

There are numerous types of safety glasses. They are usually scratch resistant, ultra-light weight, anti-fog, impact-resistant and either wrap around or fitted with side shields. They offer basic protection and are suitable for low risk work.



Medium impact



All round protection



'Overspecs'



Prescription

Safety goggles

Goggles completely cover the eyes and surrounding area providing superior protection from splashes. They are suitable for work with larger volumes of concentrated hazardous chemicals where splashing is more likely.



Face shield

Face shields provide full face protection and are recommended when transferring liquid nitrogen, or handling large quantities of chemicals, particularly corrosive liquids. They do NOT provide adequate protection against high impact projectile hazards. Appropriate goggles or safety glasses should also be used if there is a risk of impact from flying debris.



HAND PROTECTION

Gloves are used to protect your hands from chemical or thermal burns, absorption of hazardous chemicals through the skin, bruises and abrasions, cuts or punctures. When selecting gloves you need to consider the type of chemicals being used, the volumes being handled and dexterity requirements of the task.



Disposable nitrile gloves



Neoprene



Butyl



PVC



Cryo

Disposable nitrile gloves are a good general purpose glove, but thicker gloves made from specific materials may be more suitable for certain activities. For example, butyl, viton, neoprene or PVC gloves may provide a higher level of protection in some applications. Refer to the relevant Safety Data Sheet (SDS) for the best choice of gloves for a specific chemical.

RESPIRATORY PROTECTION

At the University we usually use fume cupboards or other local exhaust ventilation (e.g. a Nederman arm) to prevent us from inhaling dust, vapour or fumes from hazardous chemicals. In biological laboratories we use Class II Biosafety Cabinets to protect us from biological aerosols. When these engineering risk controls are not available or impractical to use for a specific task or activity you may need to consider using a respirator in combination with other risk controls. There are various types that provide very different types of protection.

- **Disposable P1 respirators** provide protection from particulates with relatively large particle size. These provide no protection from vapour or fumes and are only appropriate for work with non-hazardous nuisance dusts.
- **Disposable P2 respirators** provide protection from smaller particles including aerosols and are often used when dealing with biological spills outside of a biosafety cabinet. P2 respirators provide no protection from vapour or fumes.
- **Reusable air purifying respirators** can be used to provide protection from a variety of particulates, vapours or fumes. The level of protection depends on the type of filter cartridges chosen. There are a variety of options (e.g. organic vapour, acid gas or various combinations). You need to talk to the supplier about the most appropriate choice of cartridges and the required frequency of cartridge replacement.



Half-face



Full face

Remember - training in the correct fit, use and maintenance is essential.

FOOT PROTECTION

<p>✓ These shoes provide adequate cover and are considered to be fully enclosed</p>						
<p>✓ Leather shoes are ideal. They are impermeable and fully enclosed</p>						
<p>⊘ Not appropriate for a laboratory setting and do not protect the top of the foot</p>						
<p>⊘ Liquids can penetrate these shoes. They should not be worn when using hazardous chemicals.</p>						

PROTECTIVE CLOTHING

Long sleeve laboratory coats or gowns must be used when working all laboratories where work involves hazardous materials are used. These must be fire resistant and easy to remove quickly. Long trousers are recommended to help protect your legs from accidental exposure.

Laboratory coats and gowns must stay in the laboratory and be professionally cleaned. Never wear it outside of the laboratory or take it home to wash it. We use professional cleaning services.



Lab coat



Lab gown