

WHS OP026 Hazardous Chemical Personal Protective Equipment (PPE) Procedure

Section 1 - Overview

- (1) Personal Protective Equipment (PPE) is widely recognised as a means of protection for individuals working in an environment where all other methods of hazard control are in place and there is still a risk of injury.
- (2) PPE is the last barrier or line of defence between workers/students and the hazardous chemical being worked with.

Section 2 - Scope

- (3) This procedure provides recommendations on requirements for PPE. It applies to all Workers and students that may work with, or come into contact with hazardous chemicals in the workplace.

Section 3 - Procedure

- (4) The minimum PPE required when working in University Laboratories is specified as follows:

Enclosed Footwear

- (5) The type of footwear should be risk assessed e.g. if working with large volumes of chemicals - impervious footwear may be recommended. The minimum requirements are:

- a. Must cover the entire foot including the upper and lower foot, including toes and heel - no open-toe, no open-heel, with no perforations or 'holes' (i.e. no sandals);
- b. Sole and upper parts of footwear must be made from high quality, durable material that will sufficiently protect from hazardous chemicals;
- c. Preferably flat with no heel (or low heel with adequate traction) - no 'kitten' heels or 'stiletto', 'platforms' or 'high' heels; and
- d. No bare-feet, thongs, or sandals.

Lab Gown or Lab Coat

- (6) Lab gowns or coats must be worn at all times when working with hazardous chemicals in the lab, removed before leaving the lab and laundered regularly and when contamination is suspected. The minimum requirements are:

- a. Long-sleeved lab coat / lab gown;
- b. Preferable side-fastening or back-fastening, of a type that is fire-retardant (e.g. cotton preferred rather than synthetic); and
- c. Must offer full protection to the front of the body from knees to chest.

Eye Protection

- (7) At minimum, safety glasses that meet Australian AS/NZS 1338.1, are mandatory. These are normally chemical resistant and offer some level of impact resistance.

Gloves

- (8) During the course of work workers and students may be exposed to a range of hazards with the potential to affect hands/arms. Where other means of control are not practical or unsuitable the use of PPE such as gloves may need to be used. In order for the most suitable glove to be provided the following should be considered:

- a. Identified hazards;
- b. Requirements or recommendation in safety data sheets;
- c. Level of manual dexterity required;
- d. Consultation with employees;
- e. Sizing and style of glove;
- f. Most suitable material to give the required protection;
- g. Does the glove need to be liquid proof;
- h. What is the minimum breakthrough time required;
- i. Are gloves being considered readily degraded by the chemical; and
- j. Glove selection services and permeation guides available from manufacturer websites.

(9) Gloves must be cleaned of all contaminants before storage. They are to be stored away from direct sunlight and extremes of temperature and in accordance with the manufacturer's recommendations. Moisture and artificial lighting may also have a detrimental effect on some gloves.

(10) Cleaning of gloves should be undertaken in accordance with the manufacturers' recommendations.

(11) Gloves used for handling chemicals or cleaning should be rinsed in warm water prior to being taken off to remove any contaminants and dried prior to storage.

(12) Gloves must be removed before leaving the laboratory to reduce the risk of contamination to non-laboratory users.

(13) Gloves showing signs of defects are to be withdrawn from use and discarded.

(14) Gloves are to be inspected before and after use for signs of defects or wear such as:

- a. Wear between the fingers;
- b. Swelling or shrinking;
- c. Cracking, bubbling or pinholes;
- d. Seam failure; and/or
- e. Rips or tears.

Respirator

(15) Consideration to the availability of respirators should be made. If the chemicals are emitting fumes a fume cupboard should be used. However if cleaning up spills, a respirator may be required.

Face Shield

(16) A face shield may be required where the protection of safety glasses is not adequate e.g. when decanting liquid nitrogen.

PVC Apron

(17) A PVC apron may be required where a lab-coat would not offer adequate protection e.g. when working with large volumes of liquid or decanting liquid nitrogen.

Hearing Protection

(18) Hearing protection may be required for certain processes such as vortexing samples.

Safety Shower and Eye Wash Stations

(19) Emergency drench showers and eyewash stations must be available at a distance of no more than 15 metres or within approximately 10 seconds travel time from any position in the laboratory.

Fume Control Equipment

(20) Fume cupboards or local exhaust ventilation must be used when working with volatile chemicals in an open process unless the risk assessment indicates it is not necessary. The Safety Data Sheet (SDS) should be consulted for all chemicals prior to use, however as a rule of thumb, the following chemical types should be used in a fume cupboard:

- a. Toxic;
- b. Organic peroxides;
- c. Respiratory sensitizer;
- d. Aspiration hazard; and
- e. Or where route of exposure may be via inhalation.

(21) Fume cupboards must comply with NATA testing, and have a label to indicate that they have been tested within the last 12 months.

(22) Fume cupboards must be of the appropriate type e.g. a fume cupboard with a scrubber should be used for certain processes involving acids (e.g. perchloric acid, hydrofluoric acid, triple-acid digests etc.).

Authority and Compliance

(23) The Procedure Administrator, pursuant to the University's Work Health and Safety Rule, makes these procedures.

(24) University Representatives and Students must observe these Procedures in relation to University matters.

(25) These Procedures operate as and from the Effective Date.

(26) Previous Procedures relating to WHS OP013 (Interim) Hazardous Chemicals Procedure are replaced and have no further operation from the Effective Date of this new Procedure.

Section 4 - Definitions

(27) Effective Date means takes effect on the day on which it is published or on such later day as may be specified in the procedure.

(28) Hazard means a situation or thing that has the potential to harm a person, property or the environment.

(29) Hazardous Chemical means any substance, mixture or article that satisfies the criteria for a hazard class in the Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

(30) University Representative means a University employee (casual, fixed term and permanent) contractor, agent, appointee, UNE Council member, adjunct, visiting academic and any other person engaged by the University to undertake some activity for or on behalf of the University. It includes corporations and other bodies falling into one or more of these categories

(31) Risk: A risk is the consequence and likelihood of harm occurring when exposed to a hazard.

(32) Student means an Admitted Student or an Enrolled Student, at the relevant time.

- a. Admitted student means a student who has been admitted to a UNE course of study and who is entitled to enrol in a unit of study or who has completed all of the units in the UNE course of study.
- b. Enrolled student means a student who is enrolled in a unit of study at UNE.

(33) UNE Act means the University of New England Act 1993 No 68 (NSW).

(34) A Worker, as defined by the WHS Act, is a person that carries out work in any capacity for a person conducting a business or undertaking, including work as:

- a. An employee;
- b. A contractor or subcontractor;
- c. An employee of a contractor or subcontractor;
- d. An employee of a labour hire company who has been assigned to work in the person's business or undertaking;
- e. An outworker;
- f. An apprentice or trainee;
- g. A student gaining work experience;
- h. A volunteer; or
- i. Person of a prescribed class.