



3.25 Personal Protective Equipment (PPE)

Hearing Protection Information Sheet

Purpose

The purpose of this information sheet is to provide information on personal protective equipment (PPE) which may be required to minimise a hearing risk at work.

Specific requirements may be outlined in the [Work Health and Safety \(WHS\) Regulations 2012 \(SA\)](#) and [Approved Codes of Practice](#). The references to the standards and resources have been included in this information sheet.

This Information Sheet should be read in conjunction with the HSW Handbook Chapters [Hazard Management](#) & [Noise and Sound Safety Management](#).

Personal Protective Equipment is the **least effective** control measure. This is because users have to remember to wear it, and it does nothing to minimise the underlying hazard. For these reasons, higher level controls must first be considered.

Q1 When should hearing protection be considered as a control measure?

Where a risk of injury or illness still remains after all other control measures have been applied, a School/Branch may be able to further minimise the remaining risk, by the provision and use of suitable PPE to prevent damage to hearing. Refer [WHS Regulations 2012 \(SA\) \[36\]](#).

Generally this would be applied as a result of:

- the School/Branch mandating the use of hearing protection upon entry to the area as a general precaution such as in a workshop or laboratory, based on a reasonable assessment of the hazards in the area.
- a risk assessment for a task or process, e.g. the use of hazardous chemicals where specific PPE would be prescribed to manage the hazard e.g. type of goggles, gloves, face shield, hood or helmet, screens or exhaust systems. This risk assessment should take into account the environment that the worker is in e.g. communicating with others in the area who may also need to wear PPE.

Where hearing protection is mandatory in an area, appropriate signage complying with [AS 1319 \(1994\) "Safety signs for the occupational environment"](#) must be displayed. Examples of approved signage appear in [Appendix A](#).

Q2 When is audiometric testing required?

Where workers are frequently required to wear hearing protection as an identified control, audiometric testing will be required. See [HSW Handbook Chapter Noise and Sound Safety Management](#) for more information.

Q2 Are there noise volume limits?

Yes. In accordance with the [WHS Regulations 2012 \(SA\) \[56\]](#) the exposure standards to noise, measured in decibels (dB), are as follows:

1. Limit of 85dB(A) over an 8 hour working day;
(Exposures will vary based on the location and activity, however as a guide consider that the limit of 85dB(A) over 8 hrs is also the equivalent of a continuous exposure of 88dB(A) over 4 hours, 91 dB(A) over 2 hours, 94dB(A) over 1 hr, 97dB(A) over 30 minutes, 100dB(A) over 15 minutes.); and
2. Peak of 140dB(C) sound pressure. (The impulse noise should not exceed 140dB(C) at any instant in time).

If you believe that you are approaching these levels, please refer to [HSW Handbook Chapter Noise and Sound Safety Management](#).

HSW Handbook	3.25 Personal Protective Equipment Information Sheet	Effective Date:	1 March 2016	V1.0
Authorised by	Associate Director, HR Compliance and Improvement Services	Review Date:	1 March 2019	Page 1 of 4
Warning	This process is uncontrolled when printed. The current version of this document is available on the HSW Website			

Q3 What types of hearing protection are available?

Earplugs

Earplugs are available in three types

- Disposable, which are for single use and the cheapest option.
- Pre-shaped, which cover or insert into the auditory canal. These are reusable and washable.
- Custom moulded earplugs, which are made-to-measure and are the most effective.

Advantages of disposable and pre-shaped earplugs:

- Easily available and fit most users.
- No additional load on the head (such as with earmuffs).
- More comfortable in a warm environment than earmuffs.
- Minimal or no interference with other PPE.
- Directional hearing is not affected.

Disadvantages of disposable and pre-shaped earplugs:

- Level of protection is very dependent on correct fitting.
- Can come loose slowly, so regular re-fitting is needed.
- Can be uncomfortable due to the pressure in the ear canal.
- Limited choice in noise reduction levels.
- Proper function can be dependent on ear canal geometry.

Custom-moulded earplugs

Advantages of custom-moulded earplugs:

- Maximal wearing comfort.
- Easy and safe to fit.
- Provide a high level of protection.
- Availability of materials to achieve the best level of noise reduction and sound perception.
- Practical in dirty environments.

Disadvantages of custom-moulded earplugs:

- Require a production time before they are available for use.
- Are specific to a person.

Earmuffs

Earmuffs enclose the ear and seal to the head with soft cushions. An acoustic foam inside provides the majority of the noise reduction. A head band connects the cups and provides the necessary sealing force. This band can be over the head, neck, or chin, and can also be part of a helmet.

Advantages:

- Simple to use.
- Easily available and fit most users.
- Minimises auditory canal problems (no insertion of objects, and protection from dirt ingress).
- Effective reduction of high frequency sounds.
- Available in a range of specifications to achieve the most appropriate level of frequency and noise level attenuation.

Disadvantages:

- Adds weight and pressure to the head.
- Uncomfortable in warm climates or work areas.
- Less effective with low frequency noises.
- Loss of "directional hearing".
- Some compatibility issues with other PPE such as safety glasses.

Q4 What effects can noise have at the workplace?

- Auditory effects of noise (e.g. tinnitus or hearing loss);
- Prolonged constriction of blood vessels;
- Increased stress levels; and
- Reduced performance in work requiring thought and sustained intellectual effort.



Disposable earplugs



Pre-shaped earplugs



Custom-moulded earplug

HSW Handbook	3.25 Personal Protective Equipment Information Sheet	Effective Date:	1 March 2016	V1.0
Authorised by	Associate Director HR Compliance and Improvement Services	Review Date:	1 March 2019	Page 2 of 4
Warning	This process is uncontrolled when printed. The current version of this document is available on the HSW Website			

Q5 What should I do if I have concerns about noise exposure?

In the first instance, please refer to the [HSW Handbook Chapter Noise and Sound Safety Management](#). If there are any concerns about noise exposure in the University, your supervisor/manager or Health and Safety Officer should be contacted to organise a noise level assessment of the area.

Q6 What should I consider when selecting hearing protection?

The following factors should be considered when choosing hearing protection:

- the level of noise reduction required;
- the working conditions (heat, dust etc);
- suitability of the hearing protection with the task;
- the clamping force (of earmuff cushions) where relevant; and/or
- suitability for use with other forms of PPE.

Q7 What instruction may be needed for hearing protection?

Where a risk assessment control measure includes the requirement to wear or use hearing protection, it is important that workers are instructed by their Manager/Supervisor or the person who is directing the work, on the nature of the work and how to implement the control measures. This will also include the selection of a suitable size, fit and comfort for the individual, prior to commencing the activity.

Instruction could be provided either:

- during the local induction if the task/activity is conducted on a regular basis; or
- prior to conducting the activity if it is a new task/activity.

Q8 What are the maintenance requirements for hearing protection?

Where workers are required to wear hearing protection, the School/Branch is required under WHS Regulation 44 to ensure that the equipment is maintained, repaired and/or replaced so that it continues to minimise the risk to the worker who uses it. This includes ensuring that the PPE is clean and hygienic.

Where a maintenance regime for any PPE exists, refer to [HSW Chapter Schedule of Programmable Events](#). A pre-use inspection should always be conducted to ensure that the PPE is in good working order.

Q9 Where can I obtain further information about hearing protection?

- The University's [HSW Handbook Chapter Hazard Management](#) which outlines the application of the hierarchy of control measures (i.e. Elimination, Substitution, Engineering/Isolation, Administration and PPE);
- [WHS Regulations 2012 \(SA\)](#)
- [Code of Practice for Managing Noise and Preventing Hearing Loss at Work \(December 2011\)](#)
- [AS/NZS 1269.0 \(2005\) "Occupational noise management – overview and general requirements"](#)
- [AS/NZS 1269.2 \(2005\) "Occupational noise management – noise control management"](#)
- [AS/NZS 1269.3 \(2005\) "Occupational noise management - Hearing protector program"](#)
- [AS/NZS 1270 \(2002\) "Acoustics - Hearing protectors"](#)
- [HSW Handbook Chapter 3.36 "Noise and Sound Safety Management"](#)

HSW Handbook	3.25 Personal Protective Equipment Information Sheet	Effective Date:	1 March 2016	V1.0
Authorised by	Associate Director HR Compliance and Improvement Services	Review Date:	1 March 2019	Page 3 of 4
Warning	This process is uncontrolled when printed. The current version of this document is available on the HSW Website			

Appendix A – Examples of approved safety signs

This is a sample of some approved safety signs under [AS 1319 \(1994\) "Safety signs for the occupational environment"](#).

You must ensure any signage you purchase or install meet this standard.

Please consult AS1319 or [Human Resources](#) if you require any advice on selecting approved signage.



Gloves Required



Safety Goggles Required



Half-face Respirator Required



HSW Handbook	3.25 Personal Protective Equipment Information Sheet	Effective Date:	1 March 2016	V1.0
Authorised by	Associate Director HR Compliance and Improvement Services	Review Date:	1 March 2019	Page 4 of 4
Warning	This process is uncontrolled when printed. The current version of this document is available on the HSW Website			