

**FACT SHEET**

## NOISE IN MANUFACTURING

Many manufacturing processes, machinery and equipment produce high noise levels, which can lead to hearing problems.

This fact sheet outlines ways you can manage noise at your workplace.

### HOW DO YOU KNOW WHEN NOISE IS A PROBLEM AT YOUR WORKPLACE?

If you have to raise your voice to have a normal conversation when standing about a metre apart, for at least part of the day, then noise levels on the site could damage hearing. There could also be a problem if there are sudden extremely loud noises at the workplace, or if at the end of the day you notice that your hearing is muffled or your ears are ringing.

### WHAT IS THE BEST WAY TO MANAGE NOISE AT YOUR WORKPLACE?

Protection is best achieved by controlling noise at the source. Some practical examples of how you can control and reduce noise are:

- > When purchasing machinery or plant, obtain noise data from the supplier to inform your decision. The noise levels should be relevant to where workers will actually be.
- > Move noisy machinery or plant into areas where there are no workers, or few workers (eg into an outbuilding or dedicated room)
- > Where noisy machinery/plant has to remain in the working area, enclose it within a sound-insulating enclosure if possible (eg a screen or barrier). Anti-vibration machine mountings may also be required.
- > Where enclosure is not possible, reduce noise by other engineering means such as:
  - lining guards/panels with noise dampening material
  - providing acoustic screens
  - lining the inside of hoppers with impact-deadening material
  - fitting anti-vibration mountings
  - fitting silencers to exhaust systems
  - ensuring good maintenance to stop rattles and prevent noise from wear.
- > Where noise levels still exceed 85 decibels (dB) ensure workers wear hearing protection (earplugs or earmuffs) within the designated and clearly marked zones.
- > Duration of exposure can be reduced by job rotation or providing a noise refuge (eg limit the time workers spend in noisy areas and/ or design and layout the workplace to create quiet workstations).
- > Consider implementing improved working techniques to reduce noise levels.
- > Make sure there is proper and regular maintenance of machinery and equipment that takes account of noise.
- > Where your noise-control measures require actions from workers to be effective (eg making proper use of noise enclosures or following approved low-noise working methods), you should make sure workers do what is required. Make sure that workers



have appropriate information, instruction and training, and supervision. Workers have a duty to make use of any noise-control measures provided.

### **CAN YOU RELY ON HEARING PROTECTION ALONE WHEN CARRYING OUT NOISY WORK?**

It is not acceptable to rely on hearing protection alone to control noise exposure. Hearing protection should only be used when extra protection is needed after using noise control techniques (such as elimination of noisy tasks, substituting quieter processes, removing people from noisy areas and selection of quiet equipment).

If, after taking these measures, hearing protection is still required:

- > make sure the protectors provided give enough protection – aim at least to get below 85 dB(A) at the ear, but don't provide excessive protection as protectors which cut out too much noise can cause isolation or lead to an unwillingness to wear them
- > target the use of protectors to the noisy tasks and jobs in a working day
- > select protectors which are suitable for the working environment – consider how comfortable and hygienic they are
- > think about how they will be worn with other protective equipment (eg hard hats and eye protection)
- > provide a range of protectors so that employees can choose ones which suit them
- > make sure your workers are educated about noise and trained in how and when to use the hearing protectors
- > make sure your workers have their hearing tested regularly (ie baseline and annual audiometry exam and questionnaire).

### **IS IT NECESSARY TO MEASURE NOISE LEVELS AT YOUR WORKPLACE?**

In many cases a hazard assessment for noise at your workplace can be prepared without using equipment to measure the noise levels.

The assessment must be based on reliable information and should include a realistic estimate of worker exposure.

You may find it useful to observe work activities, measure the exposure time over part of the day and use this to estimate exposure during a full shift. If an employee is exposed to noise from more than one tool or work process during a typical day, you will need to collect information about the likely noise level(s) and exposure time for each source.

Information from manufacturers or suppliers about noise levels produced by the equipment can be used to calculate the daily exposure unless there is reason to believe it is not valid, for example if machinery or equipment is being used in a way not specified by the manufacturer or supplier, or in other circumstances where the noise exposure may be increased or altered.

There are also noise measurement phone apps available. They are usually limited in accuracy but can give an indication of the noise emission levels.

You can use the following checklist to identify if noise is a hazard at your workplace.

#### **Further information**

This fact sheet has been developed using the following resources:

- > UK Health and Safety Executive's FAQ page on [Noise in Manufacturing](#)<sup>1</sup>.
- > Safe Work Australia's [Managing Noise and Preventing Hearing Loss at Work Code of Practice](#)<sup>2</sup>.

Further information can also be found in the following resources:

- > WorkSafe New Zealand's [ACOP for the Management of Noise in the Workplace](#).
- > ACC's Guide to [Noise Control](#).

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<sup>1</sup> UK Health and Safety Executive. Manufacturing – Noise. Retrieved from [www.hse.gov.uk](http://www.hse.gov.uk)

<sup>2</sup> Safe Work Australia. (2011). Managing Noise and Preventing Hearing Loss at Work. Retrieved from [www.safeworkaustralia.gov.au](http://www.safeworkaustralia.gov.au)

# NOISE HAZARD IDENTIFICATION CHECKLIST

Description of work location:

Activities at workstation:

Assessed by:

Date: DD / MM / YEAR

'Yes' to any of the following indicates the need to carry out a noise assessment if exposure to the noise cannot be immediately controlled.

## HAZARD IDENTIFICATION QUESTIONS

1. Do you need to raise your voice to communicate with someone about one metre away?	<input type="checkbox"/> yes	<input type="checkbox"/> no
2. Do your workers notice a reduction in hearing over the course of the day? (This may only become noticeable after work, for example, needing to turn up the radio on the way home)	<input type="checkbox"/> yes	<input type="checkbox"/> no
3. Are your workers using noisy machinery?	<input type="checkbox"/> yes	<input type="checkbox"/> no
4. Are there noises due to impacts or explosive sources?	<input type="checkbox"/> yes	<input type="checkbox"/> no
5. Are personal hearing protectors used for some work?	<input type="checkbox"/> yes	<input type="checkbox"/> no
6. Do your workers complain that there is too much noise or that they can't clearly hear instructions or warning signals?	<input type="checkbox"/> yes	<input type="checkbox"/> no
7. Do your workers experience ringing in the ears or a noise sounding different in each ear?	<input type="checkbox"/> yes	<input type="checkbox"/> no
8. Do any long-term workers appear to be hard of hearing?	<input type="checkbox"/> yes	<input type="checkbox"/> no
9. Have there been any workers' compensation claims for noise-induced hearing loss?	<input type="checkbox"/> yes	<input type="checkbox"/> no
10. Does any equipment have manufacturer's information (including labels) indicating noise levels equal or greater than any of the following:		
a. 85 dB(A) LAeq,T (T= time period over which noise is measured)?	<input type="checkbox"/> yes	<input type="checkbox"/> no
b. 130 dB(C) peak noise level?	<input type="checkbox"/> yes	<input type="checkbox"/> no
11. Do the results of audiometry tests indicate that past or present workers have hearing loss?	<input type="checkbox"/> yes	<input type="checkbox"/> no
12. Are any workers exposed to noise and ototoxins in the workplace?	<input type="checkbox"/> yes	<input type="checkbox"/> no
13. Are any workers exposed to noise and hand-arm vibration?	<input type="checkbox"/> yes	<input type="checkbox"/> no