

# How Loud is Too Loud?

Warning Signs Your Workplace May be Too Noisy

Exposure to high levels of noise can cause permanent hearing loss, and each year approximately 30 million people in the United States are exposed to hazardous noise in the workplace. Noise-related hearing loss has been listed as one of the most prevalent occupational health concerns for more than 25 years.

Thousands of workers every year suffer from preventable hearing loss due to high workplace noise levels. In 2009 alone,

BLS reported more than 21,000 hearing loss cases. Neither surgery nor a hearing aid can help correct this type of hearing loss

Short term exposure to loud noise can also cause a temporary change in hearing (your ears may feel stuffed up) or a ringing in your ears (tinnitus). These short-term problems may go away within a few minutes or hours after leaving the noisy area. However, repeated exposures to loud noise can lead to

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permanent tinnitus and/or hearing loss.

The effects of hearing loss can be profound. Noise-induced hearing loss limits your ability to hear high frequency sounds, understand speech, and seriously impairs your ability to communicate.

What are the warning signs that your workplace may be too noisy? Noise may be a problem in your workplace if:

· You hear ringing or humming in your

ears when you leave work;

- You have to shout to be heard by a coworker an arm's length away;
- You experience temporary hearing loss when leaving work.

## **How Loud is Too Loud?**

Noise is measured in units of sound pressure levels called decibels, named after Alexander Graham Bell, using A- weighted sound levels (dBA). The A-weighted sound levels closely match the perception of loudness by the human ear. Decibels are measured on a logarithmic scale which means that a small change in the number of decibels results in a huge change in the amount of noise and the potential damage to a person's hearing.

OSHA sets legal limits on noise exposure in the workplace. These limits are based on a worker's time weighted average over an 8 hour day. With noise, OSHA's permissible exposure limit (PEL) is 90 dBA for all workers for an 8 hour day. The OSHA standard uses a 5 dBA exchange rate. This means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half.

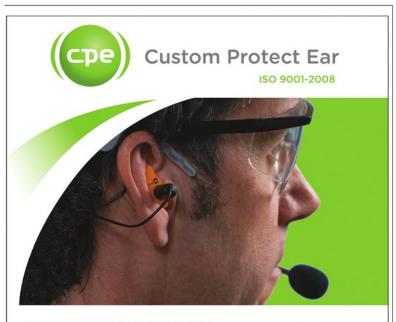
The National Institute for Occupational Safety and Health (NIOSH) has recommended that all worker exposures to noise should be controlled below a level equivalent to 85 dBA for 8 hours to minimize occupational noise induced hearing loss. NIOSH has found that significant noise-induced hearing loss occurs at the exposure levels equivalent to the OSHA PEL based on updated information obtained from literature reviews.

Hearing Conservation Programs require employers to measure noise levels, provide free annual hearing exams and free hearing protection, provide training, and conduct evaluations of the adequacy of the hearing protectors in use unless changes to tools, equipment and schedules are made so that they are less noisy and worker exposure to noise is less than the 85 dBA.

#### **How to Reduce the Hazard from Noise?**

Noise controls are the first line of defense against excessive noise exposure. The use of these controls should aim to reduce the hazardous exposure to the point where the risk to hearing is eliminated or minimized. With the reduction of even a few decibels, the hazard to hearing is reduced, communication is improved, and noise-related annoyance is reduced. There are several ways to control and reduce worker exposure to noise in a workplace.

Engineering controls that reduce sound exposure levels are available and technologically feasible for most noise sources.



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