

Occupational Hearing Loss and Hearing Conservation

Did you know?

- Noise - is unwanted sound judged to be unpleasant, loud or disruptive to hearing. From a physics standpoint, noise is indistinguishable from sound, as both are vibrations through a medium, such as air or water. The difference arises when the brain receives and perceives a sound.¹
- A Hearing Conservation Program is designed and used to prevent the start of Occupational Hearing Loss (OHL). These programs will also preserve the employees remaining hearing and give workers the knowledge to protect themselves at work and at home.⁵
- You should always use the Hierarchy of Controls when looking at any safety hazard. First try and eliminate the hazard then use engineering, substitution, or administrative controls to protect the employee. Only after those solutions have proved to be unsuccessful at reducing the noise exposure should you use Personal Protective Equipment (PPE) to protect employees.



ENVIRONMENTAL NOISE LEVELS

	170 dB	Rocket Launch
	160 dB	Firearm, Fireworks
Painful	150 dB	
	140 dB	Jet Engine, Dynamite Blast
	130 dB	
	120 dB	Sandblasting, Hammer Hitting Nail
Extremely Loud	110 dB	Crying Baby, Ambulance Siren
	100 dB	Power Tools, Bulldozer
	90 dB	Lawn Mower, Compressor
Loud	85 dB	Hand Saw, Conveyor
	75 dB	Vacuum Cleaner, Alarm Clock
Moderate	60 dB	Normal Conversation, Dishwasher
	50 dB	Paper Rustling
	40 dB	Quiet Office Space, Refrigerator
Faint	30 dB	
	20 dB	
	10 dB	Normal Breathing

Is My Work Place Too Loud?

If you answer yes to any of the questions below, you may have a noise problem.

- 1. Do you have to raise your voice at work?**
- 2. Do you have ringing in your ears at the end of your shift?**
- 3. Do you find that when you leave work you have to increase the volume on your car radio more than when you went to work?**

If there is a noise problem in the workplace, then a noise assessment or survey should be undertaken to determine the sources of noise, the amount of noise, who is exposed and for how long.⁵

The Federal Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) is 90 dBA based on a worker's time weighted average over an 8 hour day.²

OSHA requires employers in general industry to establish an effective hearing conservation program – including audiometric testing – when worker noise exposure is equal to or greater than 85 dBA for an eight-hour period or 90 dBA over eight hours in the construction industry. Standards vary in some states.²

**Approximately
22 million workers are
exposed to hazardous
noise each year.**



**More than 10 million
workers are exposed to
solvents and exposed to
other ototoxicants.¹**

Some Key Elements of an Effective Hearing Conservation Program Include:

- Workplace noise sampling including personal noise monitoring
- Informing workers at risk from hazardous levels of noise exposure
- Maintaining a worker audiometric testing program (hearing tests) which is a professional evaluation of the health effects of noise upon individual worker's hearing
- Proper selection of hearing protection based upon individual fit and manufacturer's quality testing indicating the likely protection that they will provide to a properly trained wearer
- Evaluate the hearing protectors effectiveness for the specific workplace noise
- Training and information that ensures the workers are aware of the hazard from excessive noise exposures and how to properly use the protective equipment that has been provided ^{2,3}



**3M Peltor
Optime Over the
Head Earmuff
NRR 27 dB**

**Model No.
B966448**



**Hard Hat
Mounted MSA
Safety Sound
Control HPE
Ear Muff
NRR 27 dB**

**Model No.
B2279002**



**Moldex
Banded Ear
Plugs, Tapered
NRR 25 dB**

**Model No.
B310815**



**Howard Leight
Trustfitpod-30
Reusable Corded
Ear Plug, 100
pairs per box
NRR 28 dB**

**Model No.
B2282447**



**Plug E-A-RSoft
Neon Blasts
Disposable Ear
NRR 33 dB**

**Model No.
B311350**



**Moldex
Dispenser
Station
6648 Camo
NRR 33dB**

**Model No.
B311647**

¹ <https://www.cdc.gov/niosh/topics/ohl/>

² 29 CFR 1910.95, Occupation Noise Exposure.

³ Hearing Conservation, OSHA Document 3074, 2002

⁴ <https://en.wikipedia.org/wiki/Noise>

⁵ <https://www.osha.gov/SLTC/noisehearingconservation/hearingprograms.html>