

# NOISE

## INFORMATION AND RESOURCES ON THE DANGERS OF NOISE IN THE WORKPLACE

Exposure to high noise levels over an extended time or exposure to high volume impact sounds can cause hearing loss that exceeds the normal rate of hearing loss due to aging.

The combination of exposure to high noise levels and exposure to some chemicals, like toluene, a component of gasoline, and lead, can significantly increase the rate of hearing loss progression.



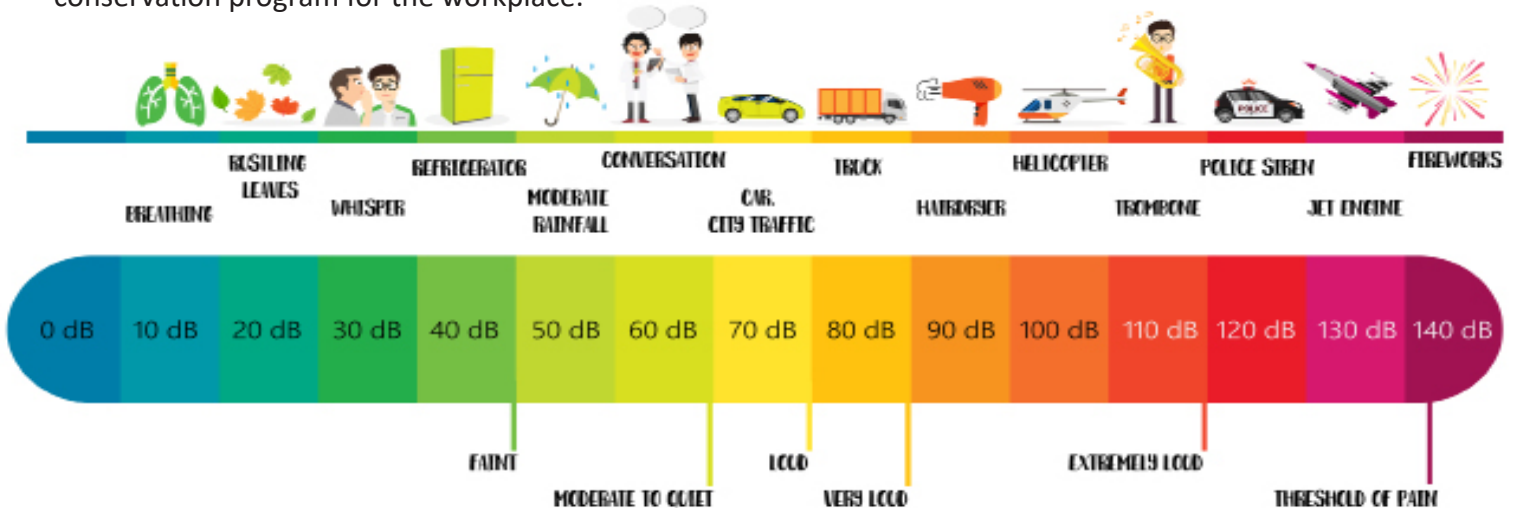
Due to the wide range of noise volumes, noise is reported out on a logarithmic scale called decibels or dB. There are three weighing scales used, which are A, B and C.

The A scale weights sound frequencies to mimic the way human hearing responds to those frequencies and is the scale, designated as dBA, used to report noise exposures in the workplace.

There are two noise exposure limits, the action level (AL), 85 dBA, where the employer is required to start taking actions to protect employee hearing, and the permissible (noise) exposure limit (PEL), which is 90 dBA, where the employer must put measures in place to protect employee hearing. These limits are 8-hour time weighted averages, meaning they are averaged over the workday.

The action level of 85 dBA is half the PEL of 90 dBA, because on the logarithmic scale, the noise level doubles for every noise volume increase of 5 dBA. Sound causes pain, depending on the individual between 120 and 140 dBA. Impact noises above 130 dBA must be addressed separately.

Use the “field rule” for high noise levels, which is the noise level is likely near or above the action level if you have to move near to an individual and raise your voice for them to hear you clearly. If this is the case, leadership should be notified so they can begin discussions with management about establishing a hearing conservation program for the workplace.



# EMPLOYER REQUIREMENTS

The OSHA/PESH Occupational Noise Exposure regulation is found at Title 29 of the Code of Federal Regulations (CFR) Part 1910 Section 95 or 29 CFR 1910.95.

That regulation requires employers, whose workplaces may generate noise levels in excess of the AL, 85 dBA, to implement a workplace noise monitoring program, and to determine the actual noise levels in the workplace over the workday.

Employees must be offered the opportunity to observe the monitoring and be notified of the results of the testing.

If the monitoring results in levels exceeding the AL, then employers must take these initial actions:

- Develop and implement an ongoing and effective, written, hearing conservation program.
- Provide annual audiometric testing for employees.
- Provide properly rated hearing protectors for employees to use in areas where the noise levels exceed the AL but not the PEL.
- Provide training on the effects of noise on hearing and measures to prevent occupational hearing loss.
- Maintain records of the sound measurements, audiometric testing and training provided and provide required access to those records to employees and their authorized employee representatives.
- Provide a copy of the regulation, on request, post a copy in the workplace, and provide access to the program and training materials.

If the monitoring results in levels exceeding the PEL, then employers must:

- Review the workplace to see if there are ways to reduce the workplace noise levels through engineering controls and using lower noise generating equipment.
- Require the wearing of hearing protectors in areas where the PEL is exceeded.
- Provide additional protection for employees who experience an excessive hearing loss referred to as a standard threshold shift (STS).

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