

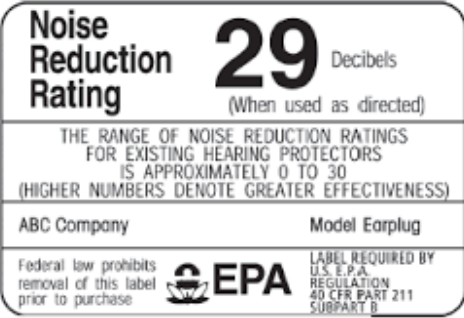


Noise-Cancelling Headphones/Earbuds versus Hearing Protection Devices

You may be considering using noise-cancelling headphones or earbuds in your labs or shops to listen to music during work, but please remember that noise-cancelling headphones and earbuds are not hearing protection devices, although they may look similar in some cases. Using noise-cancelling earbuds or headphones in place of hearing protection may cause permanent hearing impairment because these devices do not protect against occupational noise exposure. Using noise-cancelling earbuds or headphones may also distract you and lead to potential incidents. In addition, use of earbuds or headphones is not permitted in lab spaces at UMass Amherst as stipulated in the Chemical Hygiene Plan.

	Hearing Protection Devices	Noise-Cancelling Headphones/earbuds
Appearance	 <p>Earmuffs:</p> <p>Earplugs(foam, pre-molded, molded)</p>	 <p>Headphones:</p> <p>Earbuds:</p>
Noise Reduction Rating (NRR)?	 <p>NRR marked products are tested by accredited laboratories. Each model of hearing protection devices (earmuffs and earplugs) receive a NRR that indicates the level of noise exposure that can be mitigated. Higher NRR values indicate higher levels of noise protection. The package of the hearing protection devices must display the NRR with the label above. This label is required by EPA.</p>	<p>None.</p> <p>They are not designed for hearing protection. New noise-cancelling earbuds and headphones are designed to block unwanted ambient sounds using active noise control for low frequency sound and using soundproofing for higher frequency sound. Passive noise-cancelling earbuds and headphones use soundproofing only. They are not effective for controlling occupational noise exposure.</p>
Music?	<p>Some of the hearing protection devices, earmuffs or earplugs, may allow you to listen to music while working. These types of hearing protection devices usually have lower NRR which may not provide sufficient protection. Most of these hearing protection devices do not allow music to go over 85 dBA. Please note that use of these devices to listen to music in labs is not permitted as specified in the University's Chemical Hygiene Plan.</p>	<p>While noise-cancelling headphones and earbuds may allow you to listen to music at lower volumes without ambient disturbances, they have no controls to limit noise levels of the music. If the noise level is over 85 dBA, it may be capable of damaging your hearing. Levels as high as 110 dBA can be produced by these devices.</p>
Use in labs?	<p>Recommended/required (depending on noise level) when operating noisy equipment.</p>	<p>Do not use in labs.</p>

For more information please visit <https://ehs.umass.edu/hearing-conservation-program> or e-mail [Xingmei \(Sherry\) Liu](mailto:Xingmei.Liu@umass.edu).