





 Brock University	Human Resources and Environment, Health & Safety	Health & Safety Communication
	Audio Devices and Headphone Safety	Issued: 06/24/09
		Page 1 of 2

This communication was developed to inform people of the potential health and safety hazards while using portable audio devices with headphones. Headphones may also be known as earphones, ear-buds or headsets.

Five (5) potential health and safety hazards related to their use have been identified:

1. Reduced Situational Awareness: Headphones placed on or in the ear impairs your ability to hear sounds in your immediate surroundings. The person can be distracted from the task being performed or may be unable to hear audible warning alarms (e.g. fire alarms, alarms on equipment or calls for help).	
2. Entanglement: Injuries can occur if the headphones and/or the wiring connecting the headphones to the audio device get entangled into equipment or machinery in close proximity to the person.	
3. Permanent Hearing Impairment: Permanent noise induced hearing loss can occur to the audio device user from exposure to high noise levels (85db or higher) for extended periods of time.	
4. Hazardous Materials Exposure: Injury or illness can occur to the audio device user by contaminating or introducing hazardous materials into their ear canal (e.g. by re-adjusting ear-buds). Handling or being in close proximity to hazardous materials such as chemicals and bio-hazardous substances can increase the likelihood of exposure.	
5. Electrical Shock: The Electrical Safety Authority (ESA) warns the Ontario public that unapproved electrical products present a high-risk of potential electrical shock and fire hazards. When purchasing electrical products always look for the recognized certification agency marks.	

Please consider your safety and the safety of others and avoid the circumstances identified above.

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		Page 2 of 2

The chart below identifies potential mitigating steps that could be taken to control potential hazards identified.

Hazard(s)	Circumstance	Potential Control(s)
1. Reduced Situational Awareness	Unable to hear warning alarms (e.g. fire alarms, warning alarms on equipment or calls for help). Distracted from work task (e.g. unable to hear people near by who may be impacted by work task).	At the Source: Restrict/eliminate the use of audio devices with earphones/ear-plugs. Along the Path: Work practices that only allow the use of portable audio devices with earphones/earplugs during periods that would not pose a risk (e.g. break, lunch time). At the Person: i) Ensure that person has one ear free from earphone/ear-plug use. ii) Instruct person to reduce volume of audio device.
2. Entanglement	Injury from being in close proximity to machinery or equipment which could get entangled in the wiring connecting the earphone/earplug to the audio device.	At the Source: Restrict/eliminate the use of audio devices with earphones/ear-plugs. At the Person: Ensure person uses "wireless" earphones/earplugs.
3. Permanent Hearing Impairment	Permanent noise induced hearing loss from exposure to high noise levels (85db or higher) for extended periods of time.	At the Source: Restrict/eliminate the use of audio devices with earphones/ear-plugs. Along the Path: Work practices that only allow the use of portable audio devices with earphones/earplugs during periods that would not pose a risk (e.g. break, lunch time). At the Person: Instruct person to reduce volume of audio device.
4. Hazardous Material Exposure	Injury/illness from being exposed to hazardous materials (biological, chemical, etc.) while placing/removing in-ear headphones into the ear. Potential cross contamination while working with hazardous substances in workshops, labs.	At the Source: Restrict/eliminate the use of audio devices with earphones/ear-plugs Along the Path: Work practices that only allow the use of portable audio devices with earphones/earplugs during periods that would not pose a risk (e.g. break, lunch time). At the Person: Ensure users follow proper hygiene techniques when using audio devices to reduce contamination to the ear-canal.
5. Electrical Shock	Low electrical shock risk from battery power, higher risk if the device is plugged to an electrical outlet (e.g. listening to the device while charging).	When purchasing electrical products always look for the recognized certification agency marks.