

NOISE EXPOSURE

Consult the **Ontario Occupational Health and Safety Act and its Regulations, more specifically the Noise Regulation – Regulation 381/15**, as well as the relevant **CSA Standard (Z94.2-02 (R2011))** for detailed information on hearing protection.

A **decibel (dB(A))** is a unit of measurement of sound pressure level that is equal to 20 times the logarithm to the base 10 of the ratio of the pressure of a sound, divided by the reference pressure of 20 micropascals.

The **exchange rate** is the amount by which the permitted sound level may increase if the exposure time is halved (Please see the “*Table of Equivalent Noise Exposures*” below). Currently, the exchange rate in use in Ontario is 3 dB(A). *

A **competent person** is defined by the Ontario Occupational Health & Safety Act as a person who (i) is qualified because of knowledge, training and experience to organize the work and its performance; (ii) is familiar with this Act and the regulations that apply to the work and (iii) has knowledge of any potential or actual danger to health & safety in the workplace.

Where a worker’s noise exposure can be easily split into discrete activities during which sound levels are steady, the following Table may be used to calculate the L_{eq} for the shift.

Table of Equivalent Noise Exposures	
Steady Sound Level (dBA)	Duration
82	16 hours
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 minutes
100	15 minutes
103	7.5 minutes
106	3.75 minutes
109	1.88 minutes

* adapted from [Ministry of Labour](#) (accessed 30-Mar-2015)

*As noted, should the time exposure value decrease by half (for example from eight hours to four hours) then the maximum allowable exposure limit increases by 3 dB(A).

Where applicable, employers must take “all measures reasonably necessary in the circumstances to protect workers from exposure to hazardous sound levels” (O. Reg. 381 s. 2(1)). There are three main ways to accommodate this requirement:

- **Engineering Controls** – this involves the physical change of something on / around the equipment; the noise level is controlled at the source; this is the preferred method
- **Administrative Controls** – this method involves limiting the time that the worker(s) is exposed (such as shorter shifts, worker rotation etc.)
- **Personal Protective Equipment** – the worker(s) wears protective devices such as ear plugs, ear muffs etc. This is the last resort to protecting the worker(s). Users shall be fully trained in the selection, use and care of any such equipment.

SAFETY SHEET #14

Office of Risk Management



If the noise level of an operation be at, or in excess of 85 dB(A), a clearly visible warning sign shall be posted at every approach to the area.

Should you have any questions or concerns about the noise level at your workspace, please feel free to contact the Office of Risk Management at 613-562-5892 or at safety@uottawa.ca.