

COVID-19 INFORMATION

Occupational Health and Safety (OH&S) Respiratory Personal Protective Equipment (N95 masks)

OH&S legislation

Employers, supervisors and workers all have responsibilities under OH&S legislation. Alberta OH&S legislation includes a number of provisions that can apply when respiratory viruses are in the workplace. Specifically, this includes:

Obligations of employers, workers (OH&S Act)

3(1) Every employer shall ensure, as far as it is reasonably practicable for the employer to do so,

- (a) the health and safety and welfare of
 - (i) workers engaged in the work of that employer,
 - (ii) those workers not engaged in the work of that employer but present at the work site at which that work is being carried out, and

5 Every worker shall, while engaged in an occupation,

- (a) take reasonable care to protect the health and safety of the worker and of other persons at or in the vicinity of the work site while the worker is working,
- (b) cooperate with the worker's supervisor or employer or any other person for the purposes of protecting the health and safety of
 - (i) the worker,
 - (ii) other workers engaged in the work of the employer, and
 - (iii) other workers not engaged in the work of that employer but present at the work site at which that work is being carried out,
- (c) at all times, when the nature of the work requires, use all devices and wear all personal protective equipment designated and provided for the worker's protection by the worker's employer or required to be used when worn by the worker by this Act, the regulations or the OHS code,

Safety training (OH&S Regulation)

15(3) If a worker may be exposed to a harmful substance at a work site, an employer must

- (a) establish procedures that minimize the worker's exposure to the harmful substance, and
- (b) ensure that a worker who may be exposed to the harmful substance
 - (i) is trained in the procedures,
 - (ii) applies the training, and
 - (iii) is informed of the health hazards associated with exposure to the harmful substance.

(4) A worker must participate in the training provided by an employer.

(5) A worker must apply the training

Personal Protective Equipment (OH&S Code)

Duty to use personal protective equipment

228(1) If the hazard assessment indicates the need for personal protective equipment, an employer must ensure that

- (a) workers wear personal protective equipment that is correct for the hazard and protects workers,
- (b) workers properly use and wear the personal protective equipment,
- (c) the personal protective equipment is in a condition to perform the function for which

it was designed, and

(d) workers are trained in the correct use, care, limitations and assigned maintenance of the personal protective equipment.

228(2) A worker must

(a) use and wear properly the appropriate personal protective equipment specified in this Code in accordance with the training and instruction received,

(b) inspect the personal protective equipment before using it, and

(c) not use personal protective equipment that is unable to perform the function for which it is designed.

228(3) An employer must ensure that the use of personal protective equipment does not itself endanger the worker.

Approval, Selection of equipment (OH&S Code)

246 An employer must ensure that respiratory protective equipment required at a work site is approved

(a) by NIOSH, or

(b) by another standards setting and equipment testing organization, or combination of organizations, approved by a Director of Occupational Hygiene.

Hazardous Substances and Hazards Management

There are four major routes of entry hazardous substances can follow to make their way into the body. These are ingestion (substances being accidentally swallowed if hands, food, or cigarettes are contaminated), absorption (contaminants are absorbed through the skin or eyes), injection (can occur when a sharp object such as a sliver or needle punctures the skin and injects a hazardous substance into the bloodstream), and inhalation (the most common way substances enter the body - inhalation presents the quickest, most common and direct route of entry, as, through breathing, many airborne particles are small enough to enter the body through the respiratory system).

Bio-aerosols are known to be airborne particles, large molecules, or volatile compounds that are either living, contain living organisms, or were released from a living organism. For example, a liquid droplet may be generated from a cough or sneeze, causing the particles to suspend in the air or rest on a surface.

Hazard Management

Employers may need a mix of engineering, administrative and personal protective equipment (PPE) controls of hazard to protect workers from workplace hazards. Effective controls for workplace hazards depend on site and task-specific factors. While it is always preferred that workplace hazards are eliminated or minimized, instances may arise where workers must also rely on personal protective equipment to help ensure their health and safety.

PPE controls the hazard at the worker. At work sites where workers have a high risk of exposure to infectious droplets and/or airborne hazards, respiratory protective equipment is typically part of the control mix. Employers must ensure that workers are trained in the PPE they are expected to use, and that PPE is maintained and in good condition to perform the functions for which it was designed.

When working in air containing hazardous substances, properly fitting respiratory protection helps ensure workers are protected. Choosing the proper equipment and using it correctly is critical. If the respiratory protection used fits poorly, it can be as hazardous as using nothing at all.

Respiratory Protective Equipment (RPE)

When it comes to respiratory PPE, there are a few general points to consider.

- They must fit properly in order to provide adequate protection
- One size may not fit all
- In some cases, sizes from one manufacturer may fit a worker and a different brand may be necessary
- A person should never use respiratory PPE without completing a seal check and achieving an adequate seal

The respiratory PPE user must:

- Inspect the condition of component parts (e.g. face piece, straps) of their PPE for any signs of damage and ensure it is clean and in good working condition prior to use
- Perform a user seal check after donning their PPE
- Remove any defective PPE from service and inform supervisor immediately
- Use their PPE as per instructions and training
- Immediately ask their supervisor or manager for guidance if they have not received instruction in fitting of their PPE, are not clear on how to use or maintain their PPE correctly, or feel it is not fitting properly or working as expected

Employers of individuals wearing respiratory PPE must:

- Provide the necessary PPE training for their workers
- Verifying that users can demonstrate competency in the use of the PPE
- Ensure PPE is used in accordance with instructions, training received, and safety procedures

Particulate Respiratory PPE

One of the most frequently used types of particulate respiratory PPE is the N95. There are different styles of N95 respirators, including a) molded cup, b) duckbill, c) flat-fold and d) v-fold. N95's filter 95% of particulates and are typically worn to reduce exposure to bio-aerosols or droplets produced by coughing and sneezing. They may also help reduce exposure of your saliva and respiratory secretions to others. Particulate respirators are not to be shared.

If an N95 respirator is required, a facial seal is needed for the respirator to work effectively. The worker must be clean-shaven and the worker must be fit-tested.

It is important that the user knows how to properly use their mask; including how to safely put on (don), seal check, and take off (doff) their masks. This will help ensure effective protection during use and removal.

Donning and Doffing Respiratory PPE

For users of respiratory PPE, it is important that appropriate steps are taken when both donning (putting on) and doffing (removing) your PPE. All styles of N95 respirators have the same basic steps for donning and doffing. Refer to the manufacturer for any specific donning instructions.

To properly don (put on) your respiratory PPE:

- a) Before donning, make sure you wash your hands and also inspect your PPEs components, including the shell, strap(s), and metal nose-clip for any signs of damage.
- b) Pre-stretch strap(s) before placing your PPE on your face.
- c) Cup the PPE in your hand with the nosepiece at fingertips, allowing the strap(s) to hang freely below hands.
- d) Position the PPE under your chin with the nose piece up and place the nose piece over the bridge of your nose.
- e) Secure the elastic band(s) around your head so the PPE stays in place. If it has two straps, first pull the top

- strap over your head so it rests high on the crown of the back of your head above your ears, then pull the bottom strap over your head and position it around your neck until it rests just below your ears.
- f) Using both hands, mould the metal band of the respirator around the bridge of your nose by pushing inward while moving fingertips down both sides of the nosepiece.
 - g) The PPE's seal must be checked before each use. To check the fit, place both hands over the respirator and exhale. The respirator should bulge slightly. If air leaks around your nose, readjust the nosepiece as previously described.
 - h) After donning your PPE, make sure you wash your hands.

To properly doff (remove) your respiratory PPE:

Bend forward slightly and carefully remove the mask from your face by touching only the straps or elastic bands;

- a) Pull the bottom strap over your head first.
- b) With your alternate hand, pull the top strap over your head.
- c) Holding only the straps, dispose of the respirator by throwing it in the garbage.
- d) After doffing your respirator, make sure you wash your hands.

Final Word

Using damaged or poor-fitting respiratory PPE can be as bad as using nothing at all. Do not let ineffective PPE put you at unnecessary risk – make sure it is in good condition and fits properly every time you use it.

Additional Resources;

AHS- Donning Poster - <https://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ipc-donning-ppe-poster.pdf>

AHS Doffing Poster - <https://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ipc-doffing-ppe-poster.pdf>

Labour Bulletin; Respiratory viruses and the workplace - <https://ohs-pubstore.labour.alberta.ca/bh022>