## MASKS FILTERING, FACE PIECE, AND FABRIC COVERINGS RESOURCE

<table>
<thead>
<tr>
<th>FILTERING FACEPIECE RESPIRATOR</th>
<th>SURGICAL MASK</th>
<th>KN95</th>
<th>NON-MEDICAL MASK</th>
<th>NON-MEDICAL MASK</th>
<th>FACE SHIELDS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PERSONAL PROTECTIVE EQUIPMENT</strong></td>
<td><strong>SOURCE CONTROL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Common Name(s)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N95 respirator, Respiratory Protection, FFR</td>
<td>Mask (Medical mask, Procedure mask)</td>
<td>Respirator</td>
<td>Disposable Mask, daily protective mask</td>
<td>Fabric Face Covering or cloth mask, Source Control</td>
<td>Face Shields, transparent visor,</td>
</tr>
<tr>
<td><strong>Who is this designed to protect?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wearer, from exposure to aerosols</td>
<td>Wearer, from direct blood sprayed from a patient</td>
<td>Wearer, from exposure to aerosols</td>
<td>Others, from saliva droplets generated by the wearer, to a limited degree for wearer</td>
<td>Others, from saliva droplets generated by the wearer, to a limited degree for wearer</td>
<td>Others, from saliva droplets generated by the wearer, to a limited degree for wearer</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Health Canada - Medical Device Bureau of the Therapeutic Products Directorate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Depending on the device CSA 94.3:20, eye and face protectors</td>
</tr>
<tr>
<td><strong>What is the classification?</strong></td>
<td>N – non-oil E.g. N95, N 99 and N100</td>
<td>Level 1, 2, or 3</td>
<td>KN95 and as Non-Medical. Seek guidance from the US FDA on list of approved suppliers and verification by supplier by NIOSH</td>
<td>Non-Medical Tested to PM 2.5 um environmental pollutant</td>
<td>No classification</td>
</tr>
<tr>
<td></td>
<td>R – oil resistant</td>
<td>3.0 um &gt;95%</td>
<td>0.1 um &gt;95%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P – oil proof</td>
<td>Note: 95, 99 and 100 refer to efficiency of particulate filtration &lt;0.3 um</td>
<td></td>
<td></td>
<td>Class 1 - Medical Device OR Class 1 to 6 – CSA</td>
</tr>
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# Masks Filtering, Face Piece, and Fabric Coverings Resource

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<td><strong>SOURCE CONTROL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fitting</strong></td>
<td>Tight fitting and is verified through a fit test and daily user seal check.</td>
<td>Loose fitted, no verification. No mention of beard</td>
<td>Tight fitting and is verified through a fit test and daily user seal check.</td>
<td>Loose fitted, no verification. No mention of beard</td>
<td>Loose fitted, no verification. No mention of beard</td>
</tr>
<tr>
<td>Must not have facial hair</td>
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<td>Must not have facial hair</td>
<td>Must not have facial hair</td>
</tr>
<tr>
<td><strong>Air leakage when inhaling or exhaling?</strong></td>
<td>No air leakage, if fitted correctly, with no facial hair</td>
<td>Does leak. Not intended to prevent air leakage</td>
<td>If fitted correctly, for user wearing correctly, with no facial hair, should be no air leakage</td>
<td>Does leak. Not intended to prevent air leakage</td>
<td>Does leak. Not intended to prevent air leakage</td>
</tr>
<tr>
<td><strong>Washable?</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Major concern</strong></td>
<td>Not currently available. Very expensive, and counterfeit product in market</td>
<td>Limited availability. Very expensive, poor understanding on fit and use by general public</td>
<td>Available. Ear loop style may not provide good fit for all users. Counterfeit products on market</td>
<td>Available. Ear loop style may not provide good fit for all users. Counterfeit products on market</td>
<td>Available. Anyone can make them with any material. Not tested nor approved. Too many variables</td>
</tr>
</tbody>
</table>

**NOTE:** Prior to using this table as a resource for controls, a workplace risk assessment must be conducted and the Hierarchy of Control must be followed. Protective Equipment of any kind is not the sole method of control.

**CAUTION:** There are currently a variety of protective equipment on the market. Buyers should be aware that there are counterfeit products as well as non-certified products that are currently being sold. There are also products manufactured and certified by organizations outside of North America and may be effective in providing protection. Always use reputable sources for purchasing protective equipment. Wearers with pre-existing breathing conditions should consult their physician before using respiratory protective equipment.
General Guidance:

1. **Face coverings** is a generic term used to describe a variety of styles and designs that resemble, but do not follow any written standard or protocol for manufacturing and are not tested or rated. The variability is introduced with the fabric being used, the density of the weave, the fibre blend, number of layers, design etc. The second factor is the fit and use by the wearer, as there is no concern for beards, facial structures or user training. People below the age of 2 or those with breathing difficulty should consider other options for protection.

2. **Surgical masks** and **filtering face piece respirators** are designed, manufactured and meet the certification and testing for efficiency and performance requirements from a body like ASTM or NIOSH in the United States of America.

3. **Always start with a risk assessment to determine the level of risk and hazard posed by the work environment. Employ the Hierarchy of Controls to ensure all other methods of controls have been considered or not feasible before resorting to the use of PPE.**

4. Irrespective of the protective equipment used, there should be some level of user training or knowledge to ensure the item is worn, cleaned and stored to avoid cross contamination or a false sense of protection.

5. Physical (Social) distancing and other measures must always be considered as options before proceeding with protective equipment.

6. If you feel compelled to wear a fabric face covering, it’s for situations when physical distancing is not possible (i.e. grocery store). The secondary benefit is that it acts as a reminder not to touch your face, and the psychological comfort of others and yourself. This will all work if self-screening and physical distancing are used diligently and consistently.

7. The value of hand washing or hand sanitizing along with sneezing and coughing etiquette should not be underestimated in its effectiveness in controlling the spread of SARS-CoV-2.

Other Questions Posed:

**Q. How long can one covering (is this mask or cloth face covering?) be worn for (how often should it be changed in an 8 hour shift)?**

- The length of use must be based on the type of protective equipment, the contaminant in question, the availability of the equipment, and the potential risk to the wearer. No single guidance can be applied across the board for the variety of protective equipment currently available.

- Surgical masks and disposable masks are normally not intended to be used more than once. If your mask is damaged or soiled, or if breathing through the mask becomes difficult, you should remove the face mask, discard it safely, and replace it with a new one.
Seek guidance for your industry or trade on current advice during the shortage of protective equipment during the pandemic. The CDC has provided directions for the health care sector on this matter for length of use and re-use of surgical masks. The current guidance during the pandemic is quite different due to the shortage of equipment and its availability.

The worker must take care not to touch their facemask. If they touch or adjust their facemask they must immediately perform hand hygiene.

Be advised that non-medical face coverings are not designed or manufactured or tested to any standard and no single guidance can be applied across the board.

Typically filtering facepiece respirators have and continue to be used in industry for extended timeframes to protect the wearer from industrial contaminants, without noted adverse effects from extended use over a work shift.

Q. What is the risk of bacteria accumulation on the coverings and the risk related to that to the worker?

The risk of bacteria is ever present in our environment, the current pandemic is based on the virus SARS-CoV-2.

The risk arises if the wearer touches surfaces or their face covering, and do not wash or sanitizing their hands. Hence, the secondary benefit of face covering to act as a barrier or reminder to those who inadvertently or habitually touch their face, mouth, nose or eyes.

The reusable non-medical fabric face coverings should be washed with soap and water and follow the manufacturer’s direction and dried. Inspect for damage or wear and tear prior to re-use. Discard if damaged.

Q. What is the risk of reduced oxygen due to the face covering over an 8 hour shift?

Hypoxia is defined as the lack of oxygen. Hypoxia is not a known or observed issue with the use of filtering face pieces or surgical masks in the literature. Hence, it could be extrapolated that fabric face coverings would not cause hypoxia. It’s not a leap in faith that the user is wearing a permeable fabric face covering.

It is commonly misunderstood that discomfort during the use of any face covering etc. leads to heat build-up and varying degree of breathing resistance and does not constitute hypoxia condition. The micro climate within the mask can become uncomfortable with moisture building up inside of the mask. Exercise caution when wearing masks in hot, humid environments, or during physically demanding work, to avoid the effects of added heat strain on the wearer.

Q. Can a KN95 mask be fit tested?

Yes, as it is considered a tight fitting respirator. The actually pass rate may vary compared to N95 mask due to the ear loop design. Ensure you purchase your masks from the approved manufacturers list published by the FDA.
Masks Filtering, Face Piece, and Fabric Coverings Resource

Resources

Legislation:

OHS Standards:

Guidance Documents:


We want to use a respirator or mask at our workplace

Conduct a risk assessment for your workplace exposure to chemical biological agents

Does chemical exposure exceed the action limit or limit in Reg. 833? Or are bioaerosols generated.

- NO
  - No limit exceeded. Or Reg. 833 does not apply. No aerosol generating procedures. Use Hierarchy of Controls.
  - Consider as last option, a loose fitting mask or respirator. Involve IRS
  - Loose fitting masks or face covering. Can not be fit tested. Can be supplied by employer or brought in by worker. They should not interfere or introduce a safety hazard around machinery or equipment.

- YES
  - Exposure limit is exceeded or aerosol generating procedures. Or. Reg. 833 does apply
  - Use Hierarchy of Control for methods to control exposure.
  - Filtered Face Piece respirator. Use CSA standard Z94.4 for proper selection, fit, care, use and limitations of respirators. Medically fit to wear.
  - Develop policy and procedure for selecting, fitting, caring for respirator.
  - Provide Fit Test and training for employees.

LEGEND
Reg. 833 - Control of Exposure to Chemical and Biological Agents, made under the Occupational Health and Safety Act in Ontario
CSA Z94.4 - Canadian Standards Association Selection, use and care of respirators.
NIOSH - National Institute for Occupational Safety and Health in the USA
IRS - Internal Responsibility System
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