

Understanding Personal Protective Equipment

Masks And Respirators

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What is the difference between a mask and a respirator?

There are several different types of masks and respirators. Dependent upon the type of procedure, either a mask or respirator will be indicated.

Medical Face Masks

Help prevent biological particles (e.g. saliva and mucus) from being expelled by the wearer into the environment. Many medical face masks are also designed to be fluid resistant to splash and splatter of blood and other bodily fluids. Masks are not necessarily designed to seal tightly to the face therefore, air may leak around the edges.

Examples of medical face masks include surgical masks, procedure masks, isolation masks, laser masks, dental masks, and patient care masks.

Based on ASTM Standard F2100 test criteria, a mask may be classified as Level 1, 2, or 3.

Respirators are designed to reduce the wearer's exposure to airborne particles. They are designed to fit tightly creating a seal between the face and the respirator.

Respirators are available in many different styles, such as cup-style or preformed, flat-fold or duckbill, and may or may not have an exhalation valve.

What is a N95 Filtering Facepiece Respirator?

An N95 Filtering Facepiece Respirator or FFR is a disposable respirator capable of filtering out all types of particles, including bacteria and viruses. Airborne particles are captured from the air on the filter media by interception, inertial impaction, diffusion and electrostatic attraction. The filter is certified to capture at least 95% of particles at a diameter of 0.3 microns; the most penetrating particle size. Particles of smaller and larger sizes are collected with greater efficiency. The "N" indicates a respirator that is not oil-resistant or oil-proof.

N95 Respirators are certified by the U.S. National Institute for Occupational Safety and Health (NIOSH).

How to tell if a respirator is NIOSH-approved?

The U.S. National Institute for Occupational Safety and Health (NIOSH) evaluates, tests and certifies all respirators including N95 respirators. Respirators must pass minimum performance requirements, such as filter efficiency and breathing resistance. All N95 respirators certified by NIOSH must have an approval number stamped on the mask, represented as TC-84A-xxxx.

The NIOSH approval number and approval label are key to identifying NIOSH-approved respirators. The NIOSH approval label can be found on or within the packaging of the respirator or sometimes on the respirator itself. The required labelling of NIOSH-approved N95 filtering facepiece respirators includes the NIOSH name, the approval number, filter designations, lot number and model number to be printed on the respirator. You can verify that your respirator approvals are valid by checking the NIOSH Certified Equipment List (CEL).

What is the difference between Commercial (Standard) versus Surgical N95 Respirators?

An N95 Filtering Facepiece Respirator may be referred to as Commercial (Standard) and Surgical N95 respirators. Both are similar with respect to design, filtration, fit, performance, and material standards.

Standard N95 respirators are commonly referred to as commercial (or commercial grade) respirators, industrial respirators, as well as non-surgical or non-medical respirators.

Surgical N95 respirators are both approved by NIOSH as an N95 respirator and classified as Class I medical devices in Canada (cleared for sale by U.S. Food and Drug Administration (FDA) as a surgical mask). These products are frequently referred to as medical (or medical grade) respirators or healthcare respirators.

When is fluid resistance necessary?

Many tasks performed by healthcare professionals – such as patient intake and non-emergency patient evaluation – pose little risk of generating high-pressure streams of liquid and are not conducted in a sterile field. For healthcare professionals performing these tasks, a primary potential hazard to consider is airborne droplet containing viruses and bacteria, such as those generated by coughs and sneezes, which can be effectively filtered by a properly selected and worn N95 respirator. Fluid resistance is important when the healthcare professionals may be exposed to high velocity splashes, sprays, or splatters of blood or body fluids.



What are KN95 and FFP2 Respirators?

Filtering Facepiece Respirators are subject to various standards and guidelines globally. During the COVID-19 response, Health Canada has expanded the availability of N95 respirators to equivalent alternate standards that are similar to NIOSH-approved N95 respirators. This includes KN95 respirators regulated by the Chinese government and FFP2 respirators certified by the European Union (EN 149:2001 standard).

As with N95s, KN95 respirators are available in Commercial (GB 2626-2006*) and Surgical (GB 19083-2010) specifications based on filtration criteria and intended use.

*standard to be replaced with GB 2626-2019 on July 1, 2020

KN95s that meet the filtration criteria of 95% may be sold in Canada as respirators under the Interim Order pathway.

Additional information

The Government of Canada has provided detailed specifications for personal protective equipment such as medical face masks and N95 respirators. For more information, please consult Specifications for COVID-19 Products.

DIAC Recommendations	Helpful Links
<ul style="list-style-type: none">• Purchase medical face masks, surgical N95 respirators and other personal protective equipment from companies which hold a Medical Device Establishment License (MDEL) by consulting Health Canada's MDEL Listing database and encourage healthcare professionals to verify all products to ensure they meet specifications prior to use. [Note: Commercial (Standard) respirators do not qualify as medical devices therefore a MDEL is not required.]• Stay informed. Testing performed by US CDC resulted in concerns with several models of respirators which failed to meet the filtration criteria of 95%. For more information and the list of models, visit https://www.cdc.gov/niosh/npptl/respirators/testing/NonNIOSHresults.html• Report any problems with masks, respirators and other personal protective equipment to Health Canada Hotline at 1-800-267-9675 (toll-free in Canada) or via Health Canada's voluntary complaint process.	<ul style="list-style-type: none">• COVID-19 medical masks and N95 respirators: Overview, Government of Canada.• List of non-diagnostic medical devices authorized for sale and import in Canada under the Interim Order, Government of Canada.• Specifications for COVID-19 Products, Government of Canada.• Understanding the Difference, U.S. Centers for Disease Control and Prevention• NIOSH Certified Equipment List (CEL), U.S. Centers for Disease Control and Prevention (Content source: National Institute for Occupational Safety and Health)• NPPTL Respirator Assessments to Support COVID-19 Response, International Assessment Results – Not NIOSH-approved, Testing conducted by the National Institute for Occupational Safety and Health (NIOSH) - National Personal Protective Technology Laboratory (NPPTL) of the Centers for Disease Control and Prevention (CDC)• Frequently Asked Questions about Personal Protective Equipment