

How Safe is Your Mask?



During these trying times it is amazing seeing people having a genuine attitude toward protecting themselves and those around them by wearing a mask. But, have you ever stopped to ask yourself: "HOW SAFE IS MY MASK?"

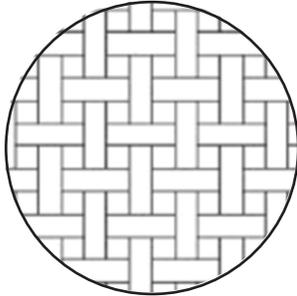
Germless Products is working to help medical professionals spread awareness about which masks and materials offer the greatest protection against airborne particles.

The following information has been researched extensively and cited from leading health organizations (e.g. World Health Organization (WHO), Center for Disease Control (CDC), Washington University of St. Louis) to provide the public with knowledge regarding the best quality mask to fight against COVID-19.

Woven VS Non-Woven Fabrics & Fibers

• Woven Fabrics & Fibers

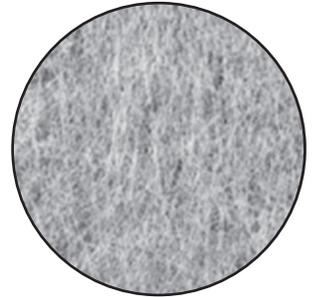
Woven fabrics are comprised of strands of fibers that are woven together. The weaving process leaves holes that do not block out airborne particles.



examples of woven fabrics & fibers: Cotton, Jersey, Twill

• Non-Woven Fabrics & Fibers

Non-Woven fabrics are comprised of heat bonded fibers that are fused together creating a superior barrier against airborne particles.



examples of non-woven fabrics and fibers: Polypropylene, Felt

The N95 is constructed of non-woven 3/4 layered polypropylene Respirator

The size of the COVID-19 has been determined under Transmission Electron Microscope (TEM) to be 60–140 nm, which averages to 100 nm. 1000 nm (nanometer) equals 1 μ m (micrometers).

When talking about Non-Woven Masks

Considering the aerosol capture mechanisms, diffusion works well for aerosols less than approximately 100 nm, interception for aerosols greater than approximately 100 nm and less than 1 μ m, and inertial impaction for aerosols larger than 1 μ m. It is advantageous to have small fiber diameters that offer large specific surface to enhance these mechanisms.¹

Woven Masks

Peer reviewed studies have found that while wearing any mask is better than no mask that tests comparing the proportion of particles greater than 4.7 μ m (4700 nm) in diameter and particles less than 4.7 μ m (4700 nm) in diameter found that the homemade mask did not significantly reduce the number of particles emitted.² A quick reminder from above COVID-19 particles are an average of 100 nm, that is 47 times smaller! Woven masks just don't do the job.

1 Woon Fong Leung W, Sun Q. Electrostatic Charged Nanofiber Filter for Filtering Airborne Novel Coronavirus (COVID-19) and Nano-aerosols [published online ahead of print, 2020 Apr 22]. Sep Purif Technol. 2020;250:116886. doi:10.1016/j.seppur.2020.116886

2 Davies A, Thompson KA, Giri K, Kafatos G, Walker J, Bennett A. Testing the efficacy of homemade masks: would they protect in an influenza pandemic?. Disaster Med Public Health Prep. 2013;7(4):413-418. doi:10.1017/dmp.2013.43



How Safe is Your Mask?

Surgical VS Respirator

- Surgical Mask

The role of facemasks is for patient source control, to prevent contamination of the surrounding area when a person coughs or sneezes. Patients with confirmed or suspected COVID-19 should wear a face mask until they are isolated in a hospital or at home. The patient does not need to wear a facemask while isolated.³

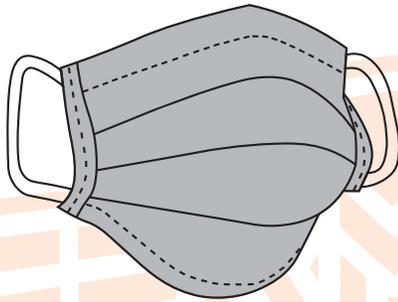
- Respirator Mask

A respirator is a personal protective device that is worn on the face or head and covers at least the nose and mouth. A respirator is used to reduce the wearer's risk of inhaling hazardous airborne particles (including infectious agents), gases or vapors. Respirators, including those intended for use in healthcare settings, are certified by the CDC/NIOSH.³

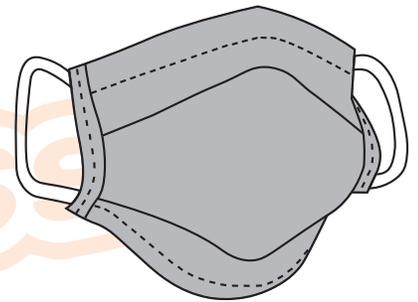
A Surgical Mask Protects OTHERS. A Respirator Protects YOU!

N95 is a non-woven 3/4 layered polypropylene Respirator

i.e. A nurse wears a surgical mask while in an operation room to prevent contaminating the patient from large droplets that may be released from the nurse's nose and mouth onto the patient's exposed wounds.

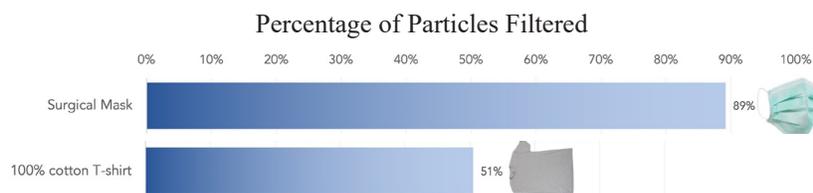


i.e. A surgeon wears a respirator mask while in an operation room to prevent contaminating the patient but also ensure to that no contaminants from the patient are inhaled.



The World Health Organization states

“The outer layer of a mask needs to be water resistant”.



3. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirator-use-faq.html> 6/19/2020