

# How effective are these masks?

The Sunday Times selected nine types of common surgical and reusable masks from neighbourhood shops and heartland malls and conducted a filtration efficiency test on them. Here are the results:

## Particle Filtration Efficiency (PFE)

The PFE test measures how well the mask is able to filter one's respiratory droplets, at the particle size of 0.1 micron.

For instance, a PFE of 95 per cent would mean that 95 per cent of droplets are prevented from being released into the environment.

The test was chosen because the average size of a virus is about 0.1 micron, and studies of cough aerosols in the exhaled breath of patients with respiratory infections have shown that most pathogens have a small particle size of less than five microns.\*

\*Note: If the mask can filter particles about 0.1 micron in size, it is likely that it will be able to filter particles that are larger, which may also contain the Sars-CoV-2 virus. However, a total of five different tests have to be conducted to get a conclusive result of the mask's overall effectiveness.

## SURGICAL MASKS



PFE: **100%**



**99.11%**



**98.61%**

These come in a pack of 10. Three packs sold at \$10, or around \$3.30 per pack from a neighbourhood shop.

## REUSABLE MASKS



**88.51%**

**Triple-layered mask in black**  
\$14.90 for three pieces, or around \$5 per piece from a clothing store



**20.62%**

**Double-layered mask with prints and patterns**  
\$3 from a neighbourhood shop



**20.44%**

**Double-layered mask with sequins**  
\$1.95 from Value Dollar



**3.48%**

**Double-layered mask with valve**  
\$1.95 from Value Dollar



**0%**

**Single-layered mask in solid colours**  
\$2.50 from a neighbourhood shop



**0%**

**Double-layered mask in solid colours**  
\$3.50 from a neighbourhood shop

**A PFE of 0 per cent means that the mask is unable to filter particles of 0.1 micron. However, the mask could still be effective in preventing larger particles from being released.**