

There are two types of standardized filter masks which are popular in the US. There are also many more types popular in other countries. The shape and color of the mask, and the means of attachment vary. Each mask shape is useful in different contexts and fits differently shaped people. Ear loops, duck face, beak face, flat faced, these are all different shapes of the same class of n95 mask. The mask may or may not have a raised plastic valve to release exhaled breath. The only requirement is that the mask perform to a particular standard, which is to remove 95% of PM 2.5 particles. For this reason, there is a class of masks called n95. Other countries (particularly China with kn95) have adopted the n95 standard or have a modified version of the standard.

### **How do I know if a mask is fake?**

If it is a fabric mask, or a surgical mask, then there is no standard. Anyone can make a fabric mask, and it could perhaps be of poor quality. These kinds of masks will not protect all that much from viral contamination. It is just to provide some filtration for your inhalation and exhaled breath.

### **n95 masks**

These adhere to a US standard, and filter material and final masks product must pass a set of US standard tests for each batch produced. n95 masks should have an FDA registration number, which can be verified on the FDA's website, and by emailing or phoning the manufacturer.

The mask's filter material for each batch is tested with a test machine. The data from the tests is kept and should be available to you, if not online then by email. The results of the test list air flow, particle filtration for different substances. The batch number of the mask will tell you which test number. The price of these should be between \$1 and \$5 USD each, depending where when and how you buy it. They are not always sterile, and sometimes come in a re-sealable pack of 5 which dubiously satisfies considerations of contamination (3M for example).

### **kn95 masks**

kn95 is a Chinese standard. Until the Covid-19 pandemic, this type of mask would not be sold outside of China. Technically the masks have the same requirements as n95 but the certification authority is a Chinese standards organization, and the local and provincial government. kn95 are used in Chinese hospitals as n95 are use in hospitals in the USA.

These are often copies of n95 masks though some are original designs. They must satisfy the provincial government's requirements and tests if they bear the kn95 mark. As with the n95 masks, filter material for each batch is tested with a test machine. The results of the test list air flow, particle filtration for different substances. The batch number of the mask will tell you which test number.

Very few kn95 masks are US FDA registered with a product number, although the FDA has give Emergency Use Authorization for kn95 masks. The factories which manufacture these masks are producing for the local Chinese market. When they are exported it is because there is emergency demand.

The kn95 approval comes from the Chinese standards body, so the manufacturers don't pay for a US FDA approval number, and so they are about 1/3 the price of n95.

### **n99 masks**

This type of mask is tested to ensure that it filters out 99% of PM 2.5 sized particles. In general this is the best type of mask available.