

SP3-COVID FILTER: The Novel Mask With Filter Surface Anti-Virus.

A novel pocket mask and interchangeable filter combination, made of antibacterial and superhydrophobic N95 material, provides enhanced, less resource-intensive protection against respiratory disease spread compared to typical cotton masks.

COVID-19 and other respiratory diseases spread through small aerosolized droplets produced by infected individuals. These small droplets stay suspended in the air for hours and can be inhaled by the non-infected populace leading to spread of the disease. Typical cotton masks/face coverings are not effective at stopping droplets from being inhaled or potentially spread by infected individuals. Purdue University researchers have developed a pocket containing mask/interchangeable filter combination which when used together provide more protection than cotton masks alone. The pocket functions as an insert location for the filter placed over the mouth of the wearer. These filters can be easily attached to other cotton masks/face coverings as well via provided tape or Velcro. The filter is made of antibacterial and superhydrophobic N95 material and provides a simple alternative to the N95 masks while using less resources to produce.

Advantages:

- Less Resource Intensive
- Increased Protection from Respiratory Diseases

Potential Applications:

- COVID-19 Pandemic
- Respiratory Diseases
- Healthcare System
- Preventing Infection Spread

TRL: 3

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Category

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Aerospace & Defense/Advanced
Protective Materials & Wearable
PPE

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