## BioTrap TM

It contains very high salt concentration. If any microbe is able to penetrate through Layer-1, then it will come in contact of salts, which will absorb all the water from the microorganism and Responsible for Osmatic imbalance for cell lysis further will inactivate/kill it.

Salt Layer (2<sup>nd</sup>)

This is similar to Layer 2. When infected person wears the mask, layer 4 will absorb all the water from the microorganism and Responsible for Osmatic imbalance for cell lysis further will inactivate/kill it.

Salt Layer (4<sup>th</sup>)

## Nonwoven Outer layer (1<sup>st</sup>)

It is water repelling layer, and it will not allow to enter any arerosol/mist to be penetrated, as major respiratory viral diseases are spread through the sneezing and coughing by the infected person.

## Activated Layer (3<sup>rd</sup>)

It contains the same fabric used in N95 masks, and additionally It contains Vitamin-E and Curcumin from Turmeric. The Enveloped virus and bacteria which contains lipid bi-layer at their periphery which is oily in nature. Vitamin – E being oily in nature will enable hydrophobic adsorption of the microbes, and it will kill/inactivate them based on anti-oxidant activity of Vitamin-E. Additionally it contains dissolved Curcumin, which possess broad-spectrum anti-bacterial and antiviral activity, which will again ensure killing of the microbes.

## Nonwoven Inner layer (5<sup>th</sup>)

These are similar to Layer 1. When infected person wears the mask, layer 5 will not allow aerosol/sneeze/mist of the infected person to pass through the barrier to outside.

- In addition to filtration, this mask works on the principle of <u>Filtration + Adsorption + Killing/inactivation</u> of the contacting microbes, while normal masks like N95 works only on the principle of filtration of microbes.
- Since normal N95 masks works on filtration principle, it will have active microbes on the surface after usage, while in case of Biotrap they will be inactivated due to salt, curcumin (turmeric) and vitamin E, by the known mechanisms of osmolysis, microbicidal activities.
- Filtration efficiency as same as N95 and it can be use up to 5 days.