

## BioMask™



According to pandemic experts, an effective face mask, like the germ-killing BioMask™, could reduce the number of cases from one million to just six, in the first months of a pandemic. To date, the new strain of swine flu has killed more than 81 people in Mexico and spread to the United States and, by air travel, to New Zealand. Containment is critical. "We need to buy people time in order for anti-viral or vaccines to be delivered or, in the case of drug resistance, to be developed," says Filligent's CEO. The CE-certified BioMask™, which kills 99.9% of bacteria and viruses on contact, is a powerful weapon to contain the spread of the swine flu, a strain of Influenza A.

The Influenza A virus can stay alive on hands and surfaces for hours if not days. Human-to-human transfer also occurs by touching contaminated surfaces. The self-sanitizing BioMask reduces the risk of cross-contamination by continuously killing germs. Since it remains germ-free after being touched, the BioMask™ is especially suitable for use by children, who tend to be both careless and fidgety when wearing a face mask.

Filligent designed the BioMask™ to withstand the rigours of pandemic logistics. Apart from being as affordable as standard masks, it is resistant to fungal contamination and extreme conditions, including humidity, heat or cold. It is flat-packed and can be surge manufactured. "We are working with retailers and humanitarian organizations to get the BioMask™ and our other anti-infective products out to people as soon as possible."

### **About the BioMask™**

The BioMask™ is based on an "intelligent filtration" technology and is fabricated from a scientifically designed and tested multilayer material which has in its internal structure a unique active layer which has highly targeted anti-microbial properties. This active layer aggressively detects, traps, and then rapidly kills pathogens, within minutes of contact.

This patented BioFriend™ textile layer CAPTURES pathogens by mimicking the sites on human cells to which they normally attach, then DESTROYS them by disrupting their surfaces (viruses) and cell walls (bacteria). Many viruses, including influenza viruses, are known to bind to a terminal sialic acid residue on the surface of the human cell membrane. The binding agent in the BioFriend textile mimics the binding action of sialic acid on influenza viruses.

Typical face masks (including standard surgical masks and N95s) do not kill airborne pathogens. They are based on a passive mechanical filtration design only. Thus, microbes on or inside the mask can stay alive for many hours, greatly increasing the likelihood of cross-contamination. When compared to the tight-fitting N95 face mask, the BioMask™ is far superior in terms of efficacy, comfort and breathability.

As part of the CE testing process, the BioMask™ was sprayed with live aerosolized Influenza A virus equivalent to 50 times the amount contained in a normal sneeze. (The Mexican swine flu is a strain of the Influenza A virus.) More than 99.9% of the viruses were killed after less than one minute. Similar tests were conducted on other key pathogens, with similar results. When the BioMask was tested in terms of all the major routes of exposure, oral and dermal, it showed no harmful effects on humans. The BioMask™ has been tested for dermal biocompatibility following internationally recognized standards set out in ISO10933: Biological Evaluation of Medical Devices. Tests were conducted to evaluate cytotoxicity to cells, skin irritation on contact, and skin sensitization after repeated contact. No cytotoxicity, irritation or incidence of sensitization was observed.

The BioMask™ is the first in a series of new products in Filligent's anti-microbial personal care range, BioFriend™, launching this year. By complying with the European Community's Medical Devices Directive 93/42/EEC, Filligent has met the stringent EU requirements for design, efficacy and safety of its innovative, germ-killing BioMask™.