

COVID-19

On Guard!

New antiviral technologies are ready to take on the novel coronavirus.

By **JUDY LEAND**

When it comes to defeating viruses, most everyone is familiar with disinfectants such as bleach and alcohol. Other innovations, such as UV light and ozone, are also popular. But now there are new breakthroughs to consider: a potent disinfectant that kills viruses on surfaces for up to 90 days, and two textile treatments that are effective against human coronavirus. These developments are generating interest across many product sectors, including sporting goods, and could soon enter the tennis market.

The antiviral disinfectant coating,

called MAP-1, was in development for 10 years by Hong Kong University of Science & Technology, and Chiaphua Industries Ltd. The MAP-1 spray uses a blend of antimicrobial polymers that are claimed to kill up to 99.99 percent of bacteria and viruses through contact killing and anti-adhesion technology.

While regular disinfectants with alcohol and bleach lose their function as the liquids evaporate, MAP-1 lasts much longer. The spray carries millions of polymer nanocapsules that adhere to surfaces and remain there after the carrier liquid has dried. These non-toxic capsules contain a disinfectant

that remains in suspension until touched. The heat from a hand or moisture activates the capsules, releasing disinfectant onto the surface. Although the longevity of MAP-1 will vary based on how often it's touched, it can last for up to 90 days. The coating works on metal, concrete, wood, glass and plastic surfaces as well as fabric, leather and textiles, according to the researchers.

MAP-1 has already been used in more than 150 daycare centers, nursing homes and schools around Hong Kong, as well as at the Fo Tan Hong Kong Sports Institute, which houses 200 elite athletes, coaches and staff. The coating, which is being marketed under the Germagic brand name, was approved in Hong Kong for official and mass consumer use in February and recently hit retail shelves there. Individual bottles range in size from 50ml to 200ml and cost between \$9 and \$32.

In other developments, Canadian biotech firm Intelligent Fabric Technologies North America has created PROTX2 AV (pronounced *pro-tex*), an antiviral chemical the company claims destroys 99.9 percent of COVID-19 bacteria within 10 minutes, with residual killing power for 24 hours. The chemical can be applied to the textile finishing process without requiring additional machinery or steps. The company's manufacturing partners include consumer brands such as The North Face, which plans to introduce a PROTX2 AV-treated collection this fall.

Meanwhile, Swiss textile innovator HeiQ recently launched its HeiQ Viroblock NPJ03 antimicrobial textile treatment, which is a combination of vesicle and silver technologies designed to inhibit viruses and kill bacteria upon contact. The HeiQ vesicle technology targets lipid-enveloped viruses, such as coronavirus, providing rapid virus deactivation, while the HeiQ silver technology inhibits the reception of both bacteria and viruses. The treatment can be applied to a wide spectrum of textile surfaces, including face masks, apparel and home textiles. ■

