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Startup Company Shuts Out Bacteria in Sports

Two athletes with business degrees are improving the lives of pro and amateur athletes through their new athletic cleaning solutions—and the CLS has helped get their product launched.

Chad Fischl, co-founder of Shutout Solutions, says, "My business partner, Dan Robinson, and I have played sports all our lives. We were aware that there are no cleaning products that really work, and Dan was extremely sensitive to harsh chemicals. We decided to try to make a product that worked and which was as natural as possible."

In their research of ingredients that would help their product meet their goals, "we stumbled across nano-silver as a potential key ingredient. We also spoke with the (CLS) synchrotron about the potential of

working with them to get our product off the ground."

Their research led them to a company overseas that had patented the specific form of nano-silver that would work best for their application. They have since worked with this partner to create the product they envisioned, eliminating chemicals and replacing them with such natural ingredients as *Camellia sinensis*, *Ginkgo biloba* and D-limonene, a derivative of citrus oils. The detergent works just as effectively in cold water because silver does not need heat to activate and kill bacteria. This will reduce the need for harsh chemical disinfectants, extend the life of washed items, and save a significant amount of energy, since 90 percent of the energy spent in washing clothes is used to heat water.

The first sample products that Shutout received from their supplier were tested on the CLS Hard X-ray MicroAnalysis (HXMA) beamline to confirm the quality of the nano-silver. Jeff Warner, CLS

Industry Liaison Scientist, explains, "The work we are doing for Shutout centres around quality control and quality assurance. The active ingredient can exist in different chemical forms. The synchrotron can identify these forms and provide information on relative ratios and chemical speciation. We can also study their product both before and after its use to spot changes and measure efficacy."

Fischl is excited about developing an ongoing relationship with the CLS. "We have conducted a series of tests, and we plan to continue testing to ensure quality control, such as shelf-life and other aspects."

"We look forward to working with Shutout," confirms Warner. "We believe we can provide cradle-to-grave, value-added information, from product characterization to details on its efficacy during use and information on the environmental end product. We welcome working with a company that is concerned with all aspects of its product's development, use and disposal."

While Shutout and the CLS are focusing on big ideas like 'cradle to grave' production, the users of Shutout's athletic cleaning solutions will be enjoying improved bacteria and odour control in their athletic gear—and the list of devoted customers will keep growing.

Chad Fischl and Dan Robinson

