

# BioSmart™

## Binds EPA-Registered Chlorine Bleach to Kill Germs

*Controlling the risk of cross-contamination sparks collaboration and a smart solution*



*Laundering BioSmart fabrics, like the ones shown above, in EPA-registered chlorine bleach binds the chlorine molecules to the fabric. Then, should microorganisms come in contact with the fabric, they consume the bleach and die. BioSmart fabrics have multiple applications in hospitals, food processing plants, restaurants and other institutions where preventing the spread of germs that cause diseases is a high priority.*

By Ruth Davis

**W**hile textile service operators strive to optimize safety, cleanliness and productivity in their laundering processes, cross-contamination of hygienically clean textiles nonetheless can occur, especially if they come into contact with harmful microorganisms in the food, healthcare or other workplace settings.

To reduce this risk, Milliken & Co., Spartanburg, SC, and G&K Services, Inc., Minnetonka, MN, have worked together to introduce BioSmart™ technology. This product locks chlorine bleach onto the fabric surface, which kills common bacteria and viruses—for up to 75 washes! Take a closer look at how this meeting of minds spurred the development of an important new product.

### Innovation station

BioSmart is a new fabric technology that harnesses the sanitizing power of EPA-registered chlorine bleach to help kill infection-

## Textile Innovation



*While the initial group of BioSmart textiles are white due to the requirement for chlorine bleach in washing, bleach-resistant color fabrics are also in the works. A color apron for the food-service industry was recently launched and more BioSmart color-fast textiles could follow, including school uniforms and hospital scrubs.*

causing bacteria and viruses. BioSmart technology is a unique binding system. When BioSmart-treated fabrics are laundered with EPA-registered chlorine bleach according to care instructions, the fabric is recharged and kills many common bacteria and viruses—including salmonella choleraesuis, escherichia coli, staphylococcus aureus, hepatitis A and klebsiella pneumonia. Milliken's patent-pending fabric, coupled with G&K's expertise in wash chemistry and industrial laundry protocols, together play a key role in consistently delivering the effectiveness of BioSmart. BioSmart recharges in every industrial wash, and a single charge will maintain its efficacy for up to 12 weeks before being put into service.

What's more, BioSmart technology doesn't leave a bleach-like odor on clothing, table linens or other fabrics, whether wet or dry.

Fabrics treated with BioSmart also are gentle to the touch and have passed ISO skin-irritation and skin-sensitivity tests. Brenda Burris-Drake, merchandising director for Milliken says, "The magic of BioSmart is that it binds chlorine to a fabric on the molecular level to keep the chlorine from evaporating. The bacteria and viruses consume the chlorine molecules and die."

### Market demand

This antibacterial capability is important because cross-contamination from bacteria and viruses can cause illness and even deaths among those who come into contact with them. "Food outbreaks, hospital- and community-acquired infections caused by cross-contamination have been reported extensively in the news, which has



*BioSmart fabrics are user friendly because they don't have a chlorine odor, even when wet. They also have a soft hand and have passed ISO tests for sensitive skin.*

increased awareness of the problem with the general public,” says Burris-Drake. Hospital-acquired infections have spurred major increases in healthcare costs, due to extended hospital stays and the need for aggressive treatment to combat these infections. For example, staph infections are increasingly common in competitive sports, schools, daycare facilities, health clubs and prisons. The Centers for Disease Control and Prevention says that staph bacteria are one of the most common causes of skin infection in the United States. They also are a common cause of hospital-acquired infections, like pneumonia, surgical wound and bloodstream infections. Some of the most-recognized food brands have issued product recalls due to contamination.

Over the last two years, Milliken and G&K have conducted

extensive interviews and research with customers and end users to validate the need for a chlorine binding solution that helps prevent fabric contamination. Results showed that the food, healthcare and public safety industries run the greatest risk of cross-contamination, while the consumer apparel market could also benefit from BioSmart.

#### Collaboration with a cause

Milliken and G&K have a long history of doing business together. G&K's patent-pending ProSura™ food safety solution program was the perfect fit for BioSmart technology. ProSura mitigates the risk of cross-contamination on the textile goods that G&K delivers daily to food processors, restaurants and grocers. “The need for BioSmart on

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garments and towels in the food industry led to the partnership between G&K Services and textile manufacturer Milliken & Company,” says Burris-Drake. BioSmart goods are available for the food industry, exclusively through G&K Services ProSura Food Safety Solutions program.

### Currently, the BioSmart product line includes:

- White 100% spun-poly butcher coats
- White 100% spun-poly aprons
- White 65/35 poly-cotton shirt
- White 65/35 poly-cotton pants
- BioSmart 17-by-20-inch white terry towel
- Color aprons
- Blue butcher coats

Travis Greer, senior technologist for Milliken’s Apparel and Specialty Fabrics division touted the benefits of this new partnership with G&K, “BioSmart extends the capabilities of EPA-registered chlorine-based sanitizers—proven hygienic agents that do not promote resistant microbes—to maintain an effective barrier against contamination.”

### Rollout and release

The process of taking a technology from development to commercialization is challenging and energizing. Oftentimes, the introduction of a new product to the industry draws skepticism and caution. In this case, most of the target industries face cost pressures, so trying to position value at a premium price is never easy. G&K was the first to introduce BioSmart into the food industry, and end users have responded positively. In the healthcare market, Peaches Uniforms just introduced a line of BioSmart lab coats for doctors,

clinicians and nurses called Medcouture and the initial response from retailers has been strong.

Successfully marketing a new product to the industry takes an extensive promotional effort through various channels, Burris-Drake says. “We are working jointly with our launch partners to coordinate our marketing efforts—Web sites, direct mail, trade advertising, trade shows, customer promotion programs and hang-tags are all part of our communication strategy.”

Since laundries need to wash BioSmart garments in EPA-registered chlorine bleach, product opportunities initially were limited to white textiles—but that has begun to change. “Recently, we have been able to leverage our textile and color development expertise to create a class of chlorine-resistant colors,” says Burris-Drake. G&K is now launching color aprons to appeal to the retail food market. “School uniforms, nurses scrubs, public safety apparel and aprons all have the potential to be BioSmart-treated products.”

### Passing the torch

The bottom line of Milliken’s collaborative strategy with G&K is to maximize customer value. “One of the key ingredients in creating a successful partnership is that both parties understand the market opportunity and what the product brings to the end user in order to realize and capture the value.” TR



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**Editor’s note:** For more information on BioSmart Technology, contact Milliken Workwear at 800/828-3034 or Bob Pestrak at [Bob.Pesttrak@milliken.com](mailto:Bob.Pesttrak@milliken.com).



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