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Process removes allergy-inducing proteins from latex, positions rubber to take on some plastics

By *PlasticsToday Staff*
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A new multi-patented process produces a natural rubber latex material with virtually undetectable levels of the antigenic proteins that can cause latex allergy, with the natural material also taking aim at "synthetic" alternatives, including vinyl, styrene, nitrile, choloroprene, and polyurethane. Vystar Corp. (Duluth, GA) was granted U.S. Food and Drug Administration 510(k) clearances for the use of its Vytex natural rubber latex (NRL) by Alatech Healthcare (Eufaula, AL) in condoms and exam gloves. Vystar's Vytex is produced commercially under a toll manufacturing agreement with Revertex Malaysia, and the company recently reached a licensing agreement with a Guatemalan latex processor that Vystar president and CEO, Bill Doyle, hopes will create market opportunities in North and Latin America. "That agreement is significant since it opens up Latin America for us," Doyle told **MPW**. "[The partner] has a strong presence down there. It also gives me a very clear line right into North America from Guatemala."

Bill Doyle, Vystar president and CEO, is positioning the company's Vytex allergen-free latex for a number of different

applications. Developed in response to the latex allergies a segment of the population has, Vystar's technology specifically removes antigenic proteins from the rubber which lead to allergic reactions. Assessing the market, Doyle and Vystar concluded that just the raw materials segment could be worth $3 billion. After some trial and error, the company isolated aluminum hydroxide as a chemical, when mixed with latex in the proper ratios and in the proper slurry, could attract the proteins, which could then be separated out in the centrifuging phase of NRL production.

"So, we took what was a very naturally occurring green raw material and applied green chemistry to it," Doyle said, "and created Vytex that then could be used in mattresses and pillows, threads, adhesives, balloons, gloves, condoms-all those different products."

Of the more than 200 proteins in latex, around 13 are known to cause potential allergies, with five or six that actually act as the antigenic proteins. According to Doyle in the material's liquid format, Vystar has shown that it can remove between 98-99% of the proteins from latex.

Vystar has identified more than 40,000 products where Vytex NRL can be substituted for traditional latex or synthetic substitutes. At this time, there are more than 55 manufacturing trials worldwide underway using Vytex NRL for products ranging from surgical and exam gloves, condoms, catheters, bandages, adhesives, and foam mattress/bedding products.

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