



Business

Cristal Clear

Titanium dioxide's new number two player gives its view of the market

by **Patricia Short**

December 17, 2007 • 5 min read

A version of this story appeared in **Volume 85, Issue 51**

SAVE

New Owner



Saudi Arabia's Cristal now runs this TiO₂ plant in Ashtabula, Ohio. | Credit: Lyondell Chemical

MILLENNIUM INORGANIC Chemicals' first annual sales meeting since it was acquired by the Saudi Arabian firm [Cristal](#) gave the merged titanium dioxide company the opportunity to show off its new global presence.

In the acquisition, announced in February, Cristal acquired [Millennium Inorganic](#) from [Lyondell Chemical](#) for about \$1.2 billion. Legally known as National Titanium Dioxide, Cristal was the world's ninth largest producer of the white pigment, and Millennium was number two,

giving the deal a little-fish-swallows-big-fish quality. Manufacturers use the pigment in a myriad of products, among them paint, paper, plastics, inks, and sunscreen.

At a press briefing that preceded the sales gathering, John E. Hall, Millennium's vice president of sales and marketing, explained why he and his colleagues were happy to be gobbled up. "We now have a strategic owner that cares about and is committed to our industry," he pointed out. "Their success depends completely on titanium dioxide's success. Before we were acquired by Cristal, we were only 4% of Lyondell's business."

The deal was completed in mid-May, and now, he said, "we are merging marketing and other functions to form one customer-facing organization." Cristal's corporate headquarters will be in Jeddah, Saudi Arabia, and its operations headquarters will be in the Baltimore suburb of Hunt Valley, where Millennium is based.

Some restructuring decisions have already been made. For example, Millennium has decided to close its money-losing sulfate-process TiO_2 plant in Le Havre, France, provided it can reach an agreement with the local workforce.

It's a necessary step to take out some of the excess sulfate-process capacity, Hall said, but it won't be the last step in the industry, he predicted. "Looking around Europe, we see that there are probably other industry assets—not just Millennium's—in the same situation," he said. "Our belief is that we will see further rationalization in sulfate capacity over the long term."

The industry has been moving to chloride-process technology, which yields higher quality material and less production waste than the older sulfate process. In the U.S., it is virtually the only production technology found. Hall predicted, however, that a niche role for the process in Europe will probably continue to exist because the sulfate process can produce some TiO_2 grades that the chloride process cannot.

Despite the planned closure of the Le Havre plant, Cristal is also investing, pointed out President Jamal H. A. Nahas. Cristal is spending roughly \$250 million to almost double the size of its plant in Yanbu, Saudi Arabia; total capacity is expected to reach 180,000 metric tons per year by the end of 2008. That output, he said, would offset the loss of the Le Havre capacity.

Cristal also plans to upgrade its facilities in Thann, France, dedicating output to its ultrafine grade of TiO_2 , which is used for a growing slate of catalyst applications, Nahas said. And its

Baltimore plant is working to develop new markets for specialty titanium tetrachloride and related products.

On the other hand, Nahas emphasized, Cristal has no current plans to invest in new capacity in the Asia-Pacific region. He argued that the company's production in Saudi Arabia and Australia, where it is back-integrated with its own ore supplies, will be adequate to supply its customers in the region, including the hot markets in China and India.

Asian production notwithstanding, Hall pointed out that the merger helps the combined company tighten its grip on the number two spot in the global TiO_2 market. [DuPont](#) retains its number one spot. As Hall noted, Cristal had operations and a base in the Middle East, and Millennium had none before the merger. Filling the voids, he said, renders the new company "large-scale around the world. We're big in the big markets and well-positioned to serve the growing markets."

The global market for TiO_2 is currently about 5.5 million metric tons per year and growing about 3% annually. At the top of the growth markets sits China, where consumption of the white pigment is growing 9% per year. Markets in South America and the Middle East are showing growth of about 4% per year. In contrast, growth is 2% per year in the U.S. and about 3% in Europe.

"Everybody would love to have a facility in China," Hall said. "But it has been a challenge to actually have a physical operation there." In 2005, DuPont announced that it would build a \$1 billion chloride-process TiO_2 plant in China. "We want to see how they do, from a distance," Hall said. "We want to let them blaze a trail." DuPont announced that its 200,000-metric-ton plant would come onstream in 2010, but industry consultants predict that the plant will not be completed until 2011.

Hall conceded that, as part of the integration of the two companies' operations, the Millennium name will undoubtedly be abandoned. But the history of the two companies encompasses a litany of names already—some still in existence and some long gone.

Cristal, for example, was formed 15 years ago with a technology license from Kerr-McGee, and the Saudi company still pays a royalty to Tronox, successor to the Kerr-McGee TiO_2 business. Millennium's technology includes contributions over the years from previous owners and licensors Sherwin-Williams, DuPont, Rhône-Poulenc, and Laporte. "It's a rich platform to draw from," Hall said.

[Send the reporter feedback](#)

[Submit a Letter to the Editor for publication](#)

Chemical & Engineering News

ISSN 0009-2347

Copyright © 2026 American Chemical Society
