

ONGOING FOCUS: Titanium Dioxide

It's Really All About TiO₂

Titanium dioxide, the pigment that makes everything from plastics to sunscreens and paints white, has often been the subject of articles in *Paints Raw Materials Facts*. TiO₂ will remain in the spotlight in the coming year as prices continue to rise.

TiO₂ certainly isn't the only raw material that goes into a can of paint. But since early 2010, the effect of the dramatic climb in TiO₂ prices has increasingly overwhelmed the cost impact of many other paint raw materials. This means that even though the cost of many paint raw materials may have begun to stabilize, the price of paint continues to move higher.

Throughout much of the downturn, previous decisions by the TiO₂ industry were largely blamed for the price escalation. Because the industry had barely turned a profit in years, reinvestment in capacity was not a priority. Then, during the recession, the industry shut down almost a tenth of existing capacity to better manage costs. The problem is that demand didn't fall off as much as the industry anticipated. Demand slowed dramatically in the U.S. and Europe but grew in other regions of the world. The result was tightened supply, sold-out suppliers and rapidly increasing prices.



That scenario hasn't changed. Supply remains tight and prices high. Now, additional cost pressure is coming from further up the supply chain: from suppliers that mine titanium ore for the TiO₂ pigment industry. And it's accelerating the rate of price inflation.

As explained in the accompanying letter from George Triana, AkzoNobel's purchasing manager responsible for TiO₂, low prices in the 1990s and 2000s limited investment in new sources of titanium ore, depleting resources and inventories, and setting the stage for the current TiO₂ supply problems. There is no quick fix for the ore shortage.

Even with flat economic growth, TiO₂ markets will remain tight for several years and prices, unfortunately, will continue to rise. TiO₂ pigment prices are up almost 50% already in 2011 and suppliers have announced several rounds of additional price increases.

The industry is forecasting more of the same for next year. Until new capacity comes online, which won't be before 2014, prices will maintain current high levels. If demand starts to pick up in western countries, the picture will get much worse. ■

A LETTER FROM GEORGE TRIANA

Dear Paint Customers,

From paint to plastics to paper, every market that relies on titanium dioxide is being challenged with managing huge price increases in the pigment—and there's no apparent end to the inflation in sight. Now, the availability of titanium ore, the feedstock for TiO₂ pigment, is further exacerbating the price pressure.

The titanium ore industry has been financially underperforming for years. Because of this poor performance, reinvestment in new equipment and investment in the development of new ore mines have been limited. Existing mines are becoming depleted, which has reduced the quantity of ore to the market. Dwindling resources along with the lack of new mines have now created a significant supply issue for the downstream markets that utilize titanium ore, including the paint industry.

Industry experts are forecasting an ore shortage that will keep upward pressure on TiO₂ prices in 2012 through 2014. With titanium ore supply tight, the market expects titanium ore producers to continue their aggressive push for price inflation. Ore prices have already doubled and even tripled in price this year. There is a strong indication of an additional 70% increase in ore feedstock prices in the first quarter of 2012. The magnitude of these ore increases will translate into future large price increases for titanium dioxide. This will exert price pressure on our paint products early next year.

At AkzoNobel, we are actively exploring a number of technical alternatives to temper the large TiO₂ price inflation we have already received. Some of the alternate solutions include the increased use of extender pigments and the use of synthetic polymers in our paint products. However, if these don't maintain or improve our paint quality—the key technical challenge with any potential alternative solution—we must reject them and look for other, better alternatives.

AkzoNobel has a long history of consistently providing our customers with top quality paint products. Delighting our customers with our superior quality, without compromise will never change. The Glidden Professional Paint Center Team values the confidence our customers place in our products and service. We work hard every day to build and strengthen that trust.

George Triana,
Purchasing Manager
AkzoNobel

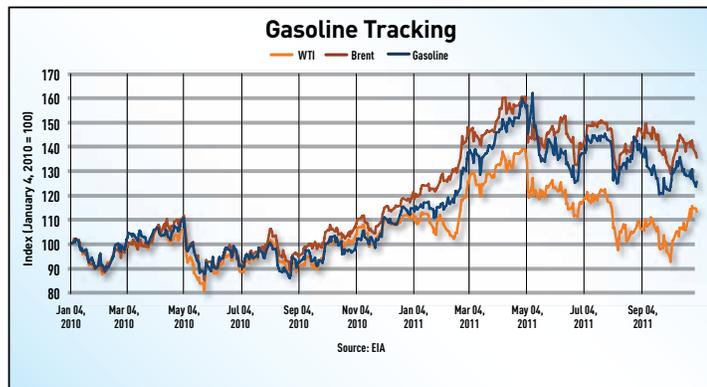
Gasoline's Confusing Ride

The price of gasoline is a constantly moving target. Forget to fill up your tank one day and more often than not the next time you remember the price has gone up by five cents a gallon. In the past, changes in the price of crude oil were a reliable indicator of where gas prices were going next—when crude climbed, gasoline was sure to follow. That relationship fell apart this year. By early November, crude prices were moving higher and gasoline prices were dropping. What gives?

It's not so much that gasoline has stopped tracking crude. It's that it has switched to a different kind of crude.

Here's how it works: Crude oil is not the same the world over. Around the globe, different oil fields produce a variety of grades of oil—from the light, sweet crude of Texas to the heavier, sulfur-rich sour crudes of the Middle East. Different crude qualities result in different refinery yields and are therefore priced accordingly but always in relation to a global benchmark.

For the last three decades, West Texas Intermediate (WTI),



In 2011, gasoline prices have closely tracked the price of Brent crude oil.

a blend of crude oil produced in the fields of Texas, New Mexico, Kansas and Oklahoma, has been the most widely traded benchmark in the world. Anytime crude is mentioned in North America, WTI is the crude in question.

In the past, gasoline prices rose and fell in response to movements in WTI price. But in February, that relationship broke down. Gasoline prices began to move to the beat of a different drummer. They started tracking the price of Brent, a basket of several crude grades produced in the North Sea.

A crude bottleneck in Oklahoma is largely to blame for the switch. The crude oil that makes up WTI is transported to Cushing, Oklahoma where it is mixed and priced for sale to refineries. The problem is that Cushing is largely landlocked and this year more oil has moved into the hub than has moved out. As a result, crude stocks have grown and this has kept a lid on the price of WTI.

How tight of a lid? In the past, WTI always traded about \$1.50 per barrel below Brent. By early October, Brent was \$27 per barrel more expensive than WTI.

The imported crude oil that arrives by ship on the shores of the U.S. and is refined into everything from gasoline to polyester roller covers, trays and buckets is now being priced on Brent. This means that the price of gasoline and other products now reflect Brent pricing rather than that of WTI. Even if gasoline producers are refining WTI, and some of them do, there's no reason to pass the cost savings from the spread between cheaper WTI and more expensive Brent on to customers. That windfall is going straight to the producers' bottom line.

All of this is making for a wild, and at times confusing, ride for consumers. And it goes a long way towards explaining why by the beginning of November gasoline prices had climbed almost 10% for the year while WTI prices were barely up 1%. It's because U.S. gasoline prices are now reflecting a much more global picture of supply-demand dynamics. ■

UPDATE: Pigments

From Frosted Pine to Spring Bluebell, Mustard Seed and Red Geranium, color brings homes, offices and other structures to life. Pigments are the secret to great paint color.

A little goes a long way when it comes to pigments. Even though they may represent a small proportion of the raw materials that go into a can of paint, they pack a huge punch. Lately, shortages in the supply of a number of pigments are causing paint formulators to see the future in black and white.

That's because many of the pigments responsible for the world's favorite colors are manufactured in India. The country produces about two thirds of the world's blue and green pigments. Making pigments, especially green, which requires the addition of chlorine to blue pigment, can take a heavy toll on the environment. Recently, the Indian government implemented stricter environmental regulations, placing restrictions on the discharge of waste water into rivers and dumping in landfills. This has forced a number of important suppliers to run plants at reduced rates and has added significant costs as producers must now clean up their operations.

Green pigments have been especially hard hit. Many producers are sold out and have placed customers on allocations. Prices have shot up in response to the tightened supply. Other pigments, including blues and reds, are also in increasingly tighter supply.



China supplies the world with yellows and reds, which are produced from derivatives of the petrochemicals benzene and toluene. In recent years, the Chinese government has also imposed more stringent environmental regulations on polluting industries, including pigment manufacturers. At the same time, it removed export incentives on pigments. This increased the cost of running a pigment business, driving many smaller suppliers out of business, reducing the supply base and adding to the cost inflation for the paint and other industries that require pigments.

The future of pigment supply is not rosy at all. Margins are not sufficient to attract new investment and more industry consolidation is likely. Unfortunately, consumers will be faced with higher prices to surround themselves with Deep Blue Shadow, Bright Black Raspberry and Soft Green Mint. ■