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## Ethylene Glycol Poised to Tighten As Demand Rebounds

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FOLLOWING THE abatement of the SARS crisis in China, the market for ethylene glycol (EG) appears poised to reach earlier projections that called for a sold-out situation this year and next. Strong demand from Asia Pacific, and China in particular, and a lack of new capacity should tighten up the market and have all producers operating at almost 100 percent.

Early this year, producers and consultants were expecting the market for EG to tighten considerably in the face of historical growth rates and a lack of new capacity. In addition, several North American producers had shut down or decided not to rebuild plants, further reducing available supply. However, as the SARS crisis spread throughout China, demand for polyester, and its feedstock EG, fell precipitously.

"The impact of SARS was very significant. There really was a dramatic slowdown, both in terms of Chinese supply to export markets, but primarily a slowdown in demand to domestic markets," says Dan Scheid, business vice president of EO/EG for Dow Chemical Company.

"Downstream polyester manufacturers cut operating rates during the SARS epidemic and maintained fairly low inventory levels of raw materials because their derivative plants were running at reduced rates," adds George West, director of Houston-based Chemical Intelligence.

As demand fell off in China and elsewhere, glycol producers in North America cut production rates. "We saw our demand go away, and we reduced production to meet demand and others took a similar action," says Dow's Mr. Scheid. Operating rates for glycol feedstock ethylene oxide (EO) were 71 percent in June, according to Doug Rightler, director of Guildford, UK-based PCI Xylenes and Polyester Ltd. North American glycol production was roughly 50 percent of capacity, according to PCI. "That was the lowest ethylene glycol production month in the 12 years I've been tracking it," notes Mr. Rightler.

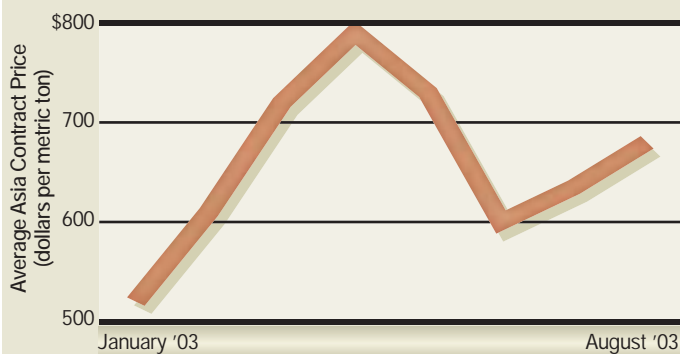
Since June, demand for glycol has increased significantly. Mr. Rightler estimates EG operating rates at 86 percent, while EO rates are almost 98 percent. "The glycol industry is operating at full capacity. That capacity is required to meet market demand, and product is still tight," says Dow's Mr. Scheid. "Demand has improved. The market is particularly strong in Asia, especially China," he notes. "We are also seeing very strong demand in Latin America and South America."

Jim Bryan, president of Old World Industries Inc., is just back from China and reports that production rates at continuous process polyester plants are currently in the 85 to 90 percent range.

As Chinese buyers reentered the glycol market following the all-clear signal from the World Health Organization, there has not been a buying frenzy. Instead, buyers have entered and exited the market as prices have suited them. "Buyers are jumping in and out, trying to accumulate product and then jumping out, hoping prices will go down," says Mr. West. "What you have seen in China's buying behavior is it will buy very strongly perhaps building up some inventory and then stop buying for a while with the objective of reducing the price," says Mr. Scheid.

How successful that tactic is remains to be seen, though, as North America is the only source of available glycol supplies. "Ultimately, if the supply/demand balance is tight, then the market will determine what

### Ethylene Glycol



the price ought to be so its ability to negotiate price will become more and more difficult. I don't think it is a tactic it [China] can apply in a tight overall supply/demand picture," says Mr. Scheid. "Buyers in China seem to accept the fact that business will get tight. There is only one place additional glycol can come from, and that is North America," says Mr. Bryan.

China's demand for additional glycol should be significant as up to 6 million tons of new polyester capacity is slated to come on stream by the end of 2004. "Chinese polymer production expansions between now and the end of the year will be 2 million tons," says Mr. Bryan. "There have been announcements by the big guys of another 4 million tons of polymer production capacity for next year. That equals 6 million tons and that means 1.8 million tons of glycol they will require, which represents five world-scale plants. Even if only half of that occurs, the industry will be net short."

"If you look at the Chinese market, there is major new investment in polyester production capacity so the long-term trend line is strongly up. The majority of that is to supply the domestic market although on the way to that they will also participate in export markets," says Dow's Mr. Scheid.

"We know China is putting in millions of tons of polyester capacity and it is going to try and run it. It is not going to find enough EG to do it, and then really comes down to how much it can afford to pay," says Mr. Rightler.

Presently, August contracts to Asia are \$670 and \$690 per metric ton. Spot prices are currently in the same range, although the spot market is reportedly quiet. Dow has nominated \$720 for September Asian contract.

Despite strong demand, September will see a couple of plant turnarounds in Canada. Shell is slated to take down a plant for the entire month, while Dow will undertake a turnaround at its Prentiss II facility in Alberta. Those two plants represent 55,000 tons of capacity that will be off line in September. Meanwhile, in Taiwan, Nan Ya is expected to bring on a 300,000 ton glycol unit. "Even if Nan Ya starts up in mid-September, global production still goes down," notes Mr. Rightler.

Another factor expected to impact the glycol market is the automotive antifreeze business. Although not as big a factor as it used to be, antifreeze buyers still have an effect on the market. Traditionally, antifreeze

buyers enter the glycol market in August or September to be able to have product on the shelves for the winter driving season. This year, buyers have yet to enter the market. "Blenders have not bought as much of their requirements as we would have thought they would have by now," says Mr. Scheid. Typically, blenders will buy product based on where market prices are and which way they are moving. "Blenders should start accumulating by the end of the month," says Mr. West. "When antifreeze blending season does pick up, if blenders do need extra product that will help support prices in the US Gulf and limit export opportunities as

well," he adds. "From here through December or January, the [antifreeze] business will be pretty strong," notes Mr. Bryan.

Between growing demand in China and the domestic antifreeze business, the outlook for glycol for the remainder of 2003 and 2004 is pretty bright. "We think demand will be strong and supply tight so we expect the balance of the year to be quite strong," says Mr. Scheid. "We are really optimistic, based on today's conditions, we are looking at a phenomenal market driven by Asian demand," adds Mr. Bryan. "This should be a balanced to tight market through 2004," says Mr. West. 