Eastman adds insoluble sulfur to aid tire makers

By Bruce Meyer
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KINGSPOINT, Tenn.—Eastman Chemical Co. has unveiled a new insoluble sulfur that it said will help tire manufacturers improve the productivity of their compounding operations.

The Crystex-brand Cure Pro was introduced during the ACS Rubber Division International Elastomer Conference in Cleveland. The Crystex family of products is a polymeric form of sulfur that is a non-blooming vulcanizing agent for rubber, preventing migration and bloom that interferes with the tire-building process.

Compared to traditional insoluble sulfur materials, Eastman said the Crystex Cure Pro line offers superior dispersion, improved thermal stability, enhanced flow, less oil and more sulfur.

“It’s a unique insoluble sulfur vulcanization aid that has been demonstrated to have the potential to enhance the productivity of tire plants in reducing the number of mixing steps,” said Lucrece Foufopoulos, vice president and general manager for Eastman’s rubber additives. “In shortening the time on the calender unit, it generates productivity improvements and cost savings as a result of that.”

Eastman has worked closely with a group of customers on the new material, and she said there are some that already have converted or are converting to Cure Pro. “We’re very optimistic about the outlook,” she said.

As a corporation, Eastman has a high concentration of business in the transportation and automotive industry, and tires are a piece of that. Productivity is one area of emphasis, with changes in automotive coming faster than ever. “We have a number of regulatory drivers in emissions and fuel efficiency that are putting particular targets on the automotive producers, with a spillover effect on tire producers,” she said.

Focus on innovation

Kingsport-based Eastman’s rubber additives portfolio—built on a combination of in-house technology and acquisitions—has two legs, according to Foufopoulos. The Crystex insoluble fibers are part of the vulcanization aides aimed at enhancing tire manufacturing.

The second family of products focuses on improving such tire properties as wet grip, dry traction and rolling resistance, “catering to the growing need for more safe, fuel-efficient tires.”

“At the heart of Eastman’s strategy, as well as the rubber additives strategy, is innovation,” she said.

Foufopoulos said during the last 10 years the company believes there has been a lack of innovation across the industry. Compounding that with the number of new competitors from Asia entering the market that can copy technology faster and better than ever, it forces Eastman to have more focus on innovation and differentiation.

To do that, the company has to listen better to the market and work closer with customers to identify specific unmet needs. For example, the Crystex Cure Pro Line reflects the desire of all tire producers to find operational savings. “It’s not unique to tire producers,” she said. “It’s a top-of-mind agenda item for most companies, but definitely in the tire industry as well.”

Eastman also is looking to increase the percentage of its portfolio that falls under specialty chemicals, and to do that it must continue investing in technology. “The way we do that is first starting by better understanding the trends in the market,” Foufopoulos said. “By working more closely with our customers, we then leverage a very broad range of technology platforms we have in-house in which we are leaders, then leverage the insights across a variety of downstream markets.”

In the middle, the company makes sure it has application know-how in sectors such as tires. In fact, Eastman has a Technology Center of Excellence for tires in Akron, with the capability for application development and research; process and product development; and analytical development.

The staff there includes compounding and analytical technicians; organic and inorganic chemists; analytical chemists; chemical and application engineers; materials scientists; and polymer scientists and chemists.

The vast majority of Eastman’s rubber additives business falls under the specialty area. “There is not one piece of the portfolio today in which we are not investing in next-generation materials,” Foufopoulos said. “Eighty percent of the business we have today in the labs, we have three generations of products in the works. There’s only 20 percent where we’re only working one generation out.”

Reliability of material supply

Besides product differentiation, Eastman also wants to ensure a reliability of supply around the globe. To that end, the firm is on track to open a new factory in Kuantan, Malaysia, that it claims will be the world’s largest producer of insoluble sulfur.

“We take that reliability of supply very seriously,” she said. “I think we’ve been a reliable source of supply across the entire portfolio for a long time. It’s also why we continue investing and expanding to be able to serve our customer base in a reliable and comfortable way.”

Eastman didn’t disclose details on the Malaysian project, but expects to open in during 2018’s first quarter. The plant is on the site of an existing Eastman facility, and rubber additives is one of three company businesses that are expanding there.

“The company has a strong commitment to the tire and transportation industry, and the degree of technology investment and asset investment are proof of that,” Foufopoulos said.

She added that it will be one of two places to manufacture the new Cure Pro technology, with the other in Europe. “That doesn’t mean it won’t be produced elsewhere later, but that depends first on market success.”

Eastman has four rubber chemicals factories in the U.S., two in Europe, two main locations in Asia and one plant in Latin America.

The firm posted revenues of $9 billion in 2016, employs about 14,000 and has more than 50 global manufacturing sites.