

Evonik optimizes the production of plasticizer alcohols

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In the future, Evonik Industries will be able to produce the plasticizer alcohol 2-propyl heptanol (2-PH) much more efficiently at the Marl site. This is made possible by the development of the new ligand OxoPhos 64i; ligands are important components of catalysts and essential for many large-scale processes. The new ligand makes the process more efficient and enables longer plant operation and less maintenance. With this innovation Evonik strengthens its technology position in the attractive growth market for plasticizer alcohols.

Plasticizer alcohols have a volume of 5 million metric tons per year and represent an interesting, continuously growing market for Evonik. Besides 2-PH, the company also produces the plasticizer alcohol isononanol (INA) on a world-scale level. With a capacity for both alcohols of more than 400,000 metric tons annually, Evonik is the largest manufacturer of C9/C10 plasticizer alcohols in Europe.

The plasticizer alcohol 2-PH is produced using the so-called oxo reaction. An alkene is transformed using a mixture of carbon monoxide and hydrogen as well as a catalyst system, which is made of a metal and a ligand. Because this key step is one of the most cost intensive process steps, Evonik has developed OxoPhos 64i using cutting-edge methods such as computational chemistry. The improved process started at the end of 2014.

The process improvement is sustainably impacting the whole C4 integrated production network of Evonik at the Marl site. With this production network Evonik converts C4 crack generated in crude oil processing to high-quality precursors and products such as butadiene, MTBE or plasticizer alcohols.

Source: Evonik Resource Efficiency GmbH