

New technology produces acrylic acid from renewable raw materials

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BASF, Cargill and Novozymes announced the achievement of a major milestone in their joint development of technologies to produce acrylic acid from renewable raw materials. The team has demonstrated the successful conversion of 3-hydroxypropionic acid (3-HP), to glacial acrylic acid and superabsorbent polymers. Moreover, they have selected the process for further scaleup. BASF initially plans to use the bio-based acrylic acid to manufacture superabsorbent polymers. Currently, acrylic acid is produced by the oxidation of propylene derived mainly from the refining of crude oil. "After just 18 months we have selected the preferred process to convert 3-HP into glacial acrylic acid. Now we are working full force on the set-up of a small integrated pilot plant until the end of this year," said Teresa Szelest, Senior Vice President Global Hygiene Business at BASF.

Together with the pilot plant for 3-HP, operated by Cargill and supported by Novozymes, this will further support BASF's plans for fast market entry of superabsorbent polymers derived from bio-based acrylic acid.

"We are refining and pursuing options on how to move quickly towards commercial scale production of 3-HP to acrylic acid to meet market demands for consumer goods based on renewable raw materials. Meanwhile, strain and fermentation optimization towards commercial scale requirements is progressing steadily," said Kristian Bjoerneboe, Vice President Business Creation and Acquisition at Novozymes. Superabsorbent polymers and other products derived from bio-based acrylic acid will be an innovative offer to the market and will meet consumer and industry demand for consumer goods based on renewable raw materials and sustainable supply chains. BASF is the world's largest producer of acrylic acid, a high-volume chemical that feeds into a broad range of products, including superabsorbent polymers that can soak up large amounts of liquid, used primarily for diapers and other hygiene products.

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