Eastman Licenses FDCA Technology to Origin Materials

Eastman Chemical has agreed to license its proprietary 2,5-furandicarboxylic acid (FDCA) and derivatives process to Origin Materials (formerly Micromidas) under a non-exclusive arrangement. Eastman has also recently sold an oxidation plant to Origin, which will use the facility to demonstrate the FDCA technology. Financial details of both deals were not revealed.

The Kingsport, Tennessee-based company said it has developed flexible technologies that can competitively and efficiently convert 5-(hydroxymethyl) furfural (5-HMF) and its derivatives to both crude and polymer-grade FDCA as well as polymer-grade dimethylfuran-2,5-dicarboxylate (DMF).

The US Department of Energy has identified FDCA as one of the top 12 bio-based building blocks that can be converted into a variety of high-value chemicals or materials. FDCA can be used to make polymer resins, films, fibers and plasticizers. The largest initial applications for FDCA are expected to be bio-based plastics such as polyethylene furanoate (PEF).

“This technology will enable us to produce FDCA monomer, which can then be used by our customers to develop PEF bottles, films and other plastics from our intermediate chemicals,” said John Bissell, CEO of Origin Materials. The California company uses lignocellulosic raw materials to make bio-based intermediates from which it can produce polymers, surfactants and carbon blacks.

Eastman’s senior vice president of corporate development and chemical intermediates, Damon Warmack, added that the agreement leverages the world-class FDCA technologies that it has developed over the last several years. The company said it was actively pursuing a broad intellectual property strategy with “dozens” of US and foreign patents awarded or pending.
Elaine Burridge, freelance journalist