

Green Car Congress

Energy, Technologies, Issues and Policies for Sustainable Mobility

Companies to Build 10M Gallon Biodiesel Plant Featuring Solid Catalyst

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[Benefuel](#), Inc., in partnership with Seymour Biofuels, [plans](#) to build a 10 million gallon per year biodiesel plant that uses Benefuel's solid catalyst process. The plant, planned to be located in Seymour, Ind., eliminates the need for water in the production process and delivers a market-ready glycerin by-product.

Benefuel was formed from the merger of Gripp Industries and New Century Lubricants (NCL). NCL had entered into an exclusive worldwide agreement with National Chemical Laboratory (NCL-India) to demonstrate and commercialize a new NCL-India transesterification catalyst and process for the production of biodiesel fuels and bio-lubricants. ([Earlier post.](#))

Conventional biodiesel processes use sodium or potassium hydroxides as catalysts to transesterify oils and fats into biodiesel. These hydroxides are consumed during the production process, and must be washed from the product.

Benefuel uses a dual metal solid catalyst (DMC) that is not consumed during transesterification, thereby eliminating the need for fuel washing and subsequent wastewater treatment. The DMC effectively refines a wide range of oil feedstocks, including both vegetable oils and animal fats up to 100% free fatty acids (FFA). In addition to high-quality biodiesel, the Benefuel process delivers a 98 to 99% pure, technical-grade glycerin.

An operator choosing to use long-chain alcohols (octane) in the transesterification process will be able to make bio-lubricant base oils—all within the same refinery—which can be blended with petroleum base oils to make biodegradable lubricants.

The DMC enables the use of a continuous-flow fixed-fixed reactor in the production process, rather than traditional stirred tank reactors. bed fuel-processing model that is not possible in traditional stirred tank reactors (STRs).

Officials with both companies expect to begin production later in 2008.