



Biosynthesis of Biodiesel without Glycerin By-Product

IP Status: Issued US Patent; **Application #:** 12/199,439

Biosynthesis of Glycerin-Free Biodiesel

A process that biologically synthesizes biodiesel directly from feedstock without glycerin by-products uses a special enzyme that breaks down phytol and starches. This enzyme is biologically produced using a genetically engineered bacterium. Because there is no glycerin produced as a by-product, the biodiesel purity is greatly improved and costs can be reduced. The enzyme also has 150 times the activity of any other wax synthase which decreases reaction time. This technology may use waste cellulosic-based feedstock such as leaves, or stalks.

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Biodiesel: an Attractive Renewable Energy Source

Biodiesel is an attractive renewable energy source because it can be derived from renewable feedstocks and has a higher energy concentration than ethanol. Biodiesel production is expected to grow worldwide to 37 billion gallons by 2016 with an average annual growth rate of 42%.

FEATURES AND BENEFITS OF BIODIESEL MADE WITHOUT GLYCERIN

- Glycerin-free biodiesel production
- Faster conversion to biodiesel from feedstock compared to other bio-based methods
- No toxic chemicals produced
- Can be produced without using vegetable-derived oils using cellulose-based feedstocks such as grass.

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Life Sciences/Industrial Biotech

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