



### BioPur biodiesel production, use

To ensure proper engine performance, BioPur B99 or B100 fuel-grade biodiesel must meet the strict ASTM industry specifications for biodiesel. To meet ASTM D 6751 standards, some compounds created or removed during the fuel manufacturing process must be modified to produce engine-quality fuel.

1. Feedstock reacts with methanol in the presence of a catalyst (KOH).
2. The reaction separates the glycerol from the fatty acids to create methyl esters (biodiesel).
3. Excess methanol is removed from the biodiesel using vacuum and low heat (165 °F).
4. The biodiesel is dry-washed (removing excess water) with magnesium silicate or diatoms, or diatomaceous earth.
5. After dry washing, biodiesel passes through the ion exchanger to bind and remove ionic salts, trace catalysts, soaps, glycerin, and trace water.
6. A chemical additive (antioxidant) is added to biodiesel and tested to ensure that the fuel meets the ASTM standard. The antioxidant adjusts oxidation levels and cold-flow fuel levels, depending on the feedstock.