



Transesterification chemistry

Biodiesel is a diesel fuel made from vegetable oil, from canola to soybeans, and/or waste cooking oil – feedstock. The feedstock must undergo a chemical process called transesterification where processed oil is separated into two products – biodiesel (methyl esters) and glycerol. These oils (triglycerides) are primarily composed of three carbon chain fatty acids (ethyl stearate, ethyl oleate, and ethyl linolenate) connected by a glycerin molecule.

During transesterification, methanol (an alcohol) and potassium hydroxide (KOH) separate glycerol from the feedstock. The feedstock is heated to separate fatty acids from the oil. The resulting biodiesel is blended with diesel fuel to use in an internal combustion diesel engine.