



Biodiesel - A Genuine Green Fuel

The greening of the nation's fuel supply is advancing across the country as the fuel tanks of diesel trucks, cars, buses, vessels, and generators are filled with renewable, clean-burning biodiesel instead of petroleum diesel. Biodiesel is non-toxic, biodegradable, and contains no sulfur or hazardous aromatics, so it is much friendlier to the environment and public health than petroleum diesel.

Burning biodiesel made from common vegetable oils and recycled restaurant greases generates far less air pollution and global warming gases than fossil fuels. Biodiesel smells better than diesel fuel, too, like French fries or donuts. Switching to biodiesel is easy, since any diesel engine can operate on this plant-based (biomass) fuel without modification.

Benefits of 100 percent biodiesel compared to petroleum diesel:

- ▶ Renewable fuel made from soybean, canola, and other vegetable oils or recycled restaurant grease.
- ▶ Significantly reduces most forms of air pollution and greenhouse gases.
- ▶ Safe to handle because it is nontoxic, about as toxic as table salt.
- ▶ Smells better than diesel fuel, more like French fries or donuts.
- ▶ Life-cycle carbon dioxide emissions reduced 78 percent (by growing renewable fuel crops).
- ▶ Reduces air toxic emissions by 60 to 90 percent or more.
- ▶ Contains no sulfur, so eliminates sulfur oxide emissions that contribute to acid rain.
- ▶ Nitrogen oxide emissions are about the same or slightly higher than diesel, but can be reduced with fuel and exhaust treatments (5 percent increase with no controls).
- ▶ Reduces hydrocarbon emissions by 56 percent and dramatically lowers soot deposits.
- ▶ Tailpipe emissions of particulate matter reduced by more than 50 percent.
- ▶ An oxygenated fuel that achieves more complete combustion, 43 percent lower carbon monoxide.

Biodiesel Facts

- ▶ Rudolph Diesel ran his first demonstration engines in Paris in 1904 using peanut oil.
- ▶ Can be used in any diesel-powered truck, car, vessel, generator, or other diesel engine.
- ▶ Prices are falling as local market availability and public acceptance increases.
- ▶ Produced by a chemical process called transesterification that converts vegetable oils into separated esters, hydrocarbons (biodiesel) and glycerines, a by-product used in other industries.
- ▶ Diesel engines were first invented to run on vegetable-based fuels, not petroleum diesel.
- ▶ Biodiesel is available in "neat" 100 percent concentration or in blends with petroleum diesel (20 percent biodiesel/80 percent petroleum is most common, called B20).
- ▶ Engines run smoother on biodiesel, particularly at idle.
- ▶ Filter gaskets and rubber hoses on older engines may need to be replaced (pre-1986).
- ▶ Greater lubricity means less wear and tear on engine components, longer engine life span.