

Interesting Facts about Biodiesel...

Biodiesel operates in conventional engines. Just like petroleum diesel, biodiesel operates in combustion-ignition engines. Essentially no engine modifications are required, and biodiesel maintains the payload capacity and range of diesel. Pure biodiesel is not compatible with natural rubber, sometimes found in pre-1994 vehicles. Because it is a solvent, it can degrade natural rubber hoses and gaskets. This is not a problem with B20 blends (20 percent biodiesel/80 percent diesel) and below.

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Biodiesel does not require special storage. In fact, in its pure form or in blends, biodiesel can be stored wherever petroleum diesel is stored, except in concrete-lined tanks. It handles like diesel and uses the same infrastructure for transport, storage and use. At higher blend levels, biodiesel may deteriorate natural rubber or polyurethane foam materials.

Biodiesel exhaust is less offensive. The use of biodiesel and biodiesel blends results in a noticeable, less offensive change in exhaust odor, which can be a real benefit in confined spaces. In fact, equipment operators have compared it to the smell of French fries. Users also report having no eye irritation. Since biodiesel is oxygenated, diesel engines have more complete combustion with biodiesel than with petroleum.

Biodiesel is safer to use than petroleum diesel. The flash point (the point at which fuel ignites) for biodiesel in its pure form is a minimum of 200 degrees versus about 125 degrees Fahrenheit for regular No. 2 diesel. This makes biodiesel one of the safest fuels to use, handle and store.

Biodiesel reduces emissions significantly. Biodiesel is the first alternative fuel to have fully completed the Health Effects testing requirements of the Clean Air Act. The use of biodiesel in a conventional diesel engine results in substantial reduction of unburned hydrocarbons, carbon monoxide, and particulate matter. Emissions of nitrogen oxides are either slightly reduced or slightly increased depending on the duty cycle and testing methods. The use of biodiesel decreases the solid carbon fraction of particulate matter (since the oxygen in biodiesel enables more complete combustion to CO₂), eliminates the sulfate fraction (as there is no sulfur in the fuel), while the soluble, or hydrocarbon, fraction stays the same or is increased. Biodiesel works well with new technologies such as catalysts, particulate traps, and exhaust gas recirculation. Soy biodiesel reduces carbon dioxide by 78% on a life cycle basis.