

—Diesel vehicles comprise only 2% of on-road vehicles yet contribute 40% of nitrogen oxide emissions and 63% of particulate matter in Pennsylvania.

—Philadelphia ranked 5th worst in the nation for greatest public health risk associated with air toxics.

— In 1912, Rudolf Diesel said, “The use of vegetable oils for engine fuels may seem insignificant today. But such oils may become in course of time as important as petroleum and the coal tar products of the present time.”



Biodiesel Fact Sheet Biodiesel Basics

What is Biodiesel? What is it made from? How is it made?

Biodiesel is a domestically produced, renewable fuel for diesel engines derived from natural oils like soybean oil. The chemical process for producing biodiesel is called transesterification and involves separating glycerin from the vegetable oil.

Today in Philadelphia, biodiesel is manufactured by chemically reacting recycled cooking grease with alcohol. Biodiesel can be used in pure form (B100) or blended with petroleum-based diesel fuel. The most common blend is B20 (20% biodiesel, 80% petroleum diesel). Biodiesel is simple to use, biodegradable and nontoxic.

What is the difference between biodiesel, ethanol and straight veggie oil?

Fuel-grade biodiesel is produced to strict industry specifications (ASTM D6751) in order to insure proper performance. Biodiesel that meets ASTM D6751 and is legally registered with the Environmental Protection Agency is a legal motor fuel for sale and distribution. Straight vegetable oil cannot meet biodiesel fuel specifications, it is not registered with the EPA, and it is not a legal motor fuel. Ethanol is an alternative fuel, like biodiesel, but can only be used in gasoline engines. Ethanol is an alcohol based fuel, not an oil based fuel.

Who can use biodiesel?

Biodiesel can be used to fuel any diesel engine with little or no modification to the engine or the fuel system. Biodiesel is registered as a fuel and fuel additive with the EPA, has been designated as an alternative fuel by Department of Energy and the Department of Transportation. Running a vehicle on biodiesel does not mean it

can't still use regular petroleum diesel. If a truck running on biodiesel needs to fill up and can't find a source of biodiesel, the truck can go to any regular diesel pump to fuel, even if there is still biodiesel left in the tank. Once that truck has access to biodiesel again, it can be filled up without the tank being emptied of petro-diesel.

How much energy does it take to make biodiesel?

A study co-sponsored by the U.S. Department of Energy and the U.S. Department of Agriculture found that “biodiesel yields 3.2 units of fuel product energy for every unit of fossil energy consumed in its life cycle. By contrast, petroleum diesel’s life cycle yields only 0.83 units of fuel energy per unit of fossil energy consumed.” According to this analysis, the energy yield of biodiesel is 280% greater than petroleum diesel fuel — the greatest energy balance of any fuel.

How do I buy biodiesel for my fleet?

To learn more about local producers and distributors please visit www.phillycleancities.org or www.biodiesel.org.

Biodiesel
Made from transesterifying vegetable oil
Used in place of diesel or can be used as a diesel fuel additive for lubricity
Used in existing engines
Diesel vehicles (light to heavy duty)