

What Is Biodiesel?

Biodiesel is a replacement diesel fuel that is made from renewable sources such as animal fats and vegetable oils. It is a liquid fuel that is typically mixed with conventional petroleum diesel fuel for use in diesel engines. Biodiesel exhibits excellent fuel properties for diesel engines and thus offers significant potential as a diesel fuel blending stock.

What Is Biodiesel Made From?

Biodiesel fuel can be made from new or used vegetable oils and animal fats, which are nontoxic, biodegradable, renewable resources. Soybeans are one agricultural product serving as a source for vegetable oil for biodiesel production. Fats and oils are chemically reacted with an alcohol (methanol is the usual choice) to produce chemical compounds known as fatty acid methyl esters. Biodiesel is the name given to these esters when they're intended for use as fuel. Glycerol (used in pharmaceuticals and cosmetics, among other markets) is a coproduct of the process.



What Vehicles Can Use It?

Biodiesel is used like conventional petroleum diesel fuel in compression-ignition (diesel) engines. Blends of up to 20% biodiesel can be used in conventional diesel engine vehicles without modifications to the engine or fuel system: users are cautioned to check their vehicle's warranty statements for references to biodiesel to avoid warranty issues. Biodiesel blends of up to 100% have been used in diesel engines without modification, but these high-level blends are not suitable for use in colder climates, and may have an impact on fuel system durability.

Why Should We Use It?

Because little fossil energy is required to move biodiesel, it is a substitute or extender for traditional petroleum diesel, and special pumps or high pressure equipment for fueling are not needed. In addition, it can be used in conventional diesel engines, so special vehicles or engines to run biodiesel do not need to be purchased.

Scientists believe carbon dioxide is one of the main greenhouse gases contributing to global warming. Neat biodiesel (100% biodiesel) reduces carbon dioxide emissions by more than 75% over petroleum diesel. Using a blend of 20% biodiesel reduces carbon dioxide emissions by 15%.

Biodiesel also produces fewer particulate matter, carbon monoxide, and sulfur dioxide emissions (all air pollutants under the Clean Air Act), according to the U.S. EPA and other sources.

Since biodiesel can be used in conventional diesel engines, the renewable fuel can directly replace petroleum products; reducing the country's dependence on imported oil.



Where Can I Get It in Maryland?

Biodiesel can be obtained from several distributors in Maryland, including locations in Federalsburg, Berlin, and Westminster (a full list can be found from the National Biodiesel Board at <http://www.biodiesel.org/buyingbiodiesel/distributors/showstate.asp?st=MD>). The Berlin refueling station offers retail sale at the pump of a 99% blend of biodiesel (essentially pure biodiesel): consumers desiring lower blends can mix this biodiesel with diesel fuel to achieve the proper blend. The U.S. Department of Energy maintains a database of regional alternative refueling stations (including biodiesel) at <http://www.eere.energy.gov/afdc/infrastructure/locator.html>.

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www.energy.state.md.us

In terms of production, the State of Maryland has a biodiesel plant that began operation in Berlin in June 2006. The biodiesel plant, which is the first in Maryland, is capable of producing 500,000 gallons of biodiesel fuel annually. Information on the facility can be found at <http://www.mdbiodiesel.com/>.

What is the State Doing for Biodiesel Use?

Maryland now has a law requiring that at least 50 percent of Maryland state vehicles must use a minimum biodiesel blend of B5 beginning in fiscal year 2008. (Reference Senate Bill 54, 2006 and Maryland Statutes, State Finance and Procurement Code 14-407).

Under the Renewable Fuels Promotion Act of 2005, ethanol and biodiesel producers may apply to the Renewable Fuels Incentive Board for ethanol and biodiesel production credits. To be eligible for the credits, the producer must first apply to the Board in order to receive certification as a producer. Biodiesel production credits are as follows: a) \$0.20 per gallon of biodiesel produced from soybean oil (the soybean oil must be produced in a facility or through expanded capacity of a facility that began operating after December 31, 2004), and b) \$0.05 per gallon for biodiesel produced from other feedstocks (including soybean oil produced in a facility that began operating on or before December 31, 2004). The Board may not certify biodiesel production credits for more than a total of five million gallons per calendar year, of which at least two million gallons must be from soybean oil produced in a facility as described in section a) above.

Among other duties, the Incentives for Agriculture Task Force is responsible for reviewing and evaluating the overall State tax structure as it impacts agriculture and the feasibility of modifications or alternatives to the current structure that would enhance the profitability of farming. This includes recommendations regarding the creation of tax credits or exemptions applicable to the production of ethanol, biodiesel, or other bio-energy alternatives. (Reference House Bill 2, 2006 and Maryland Statutes, State Finance and Procurement Code 5-408)

What is the Federal Government Doing for Biodiesel Use?



Section 1344 of the Energy Policy Act of 2005 includes tax credits for biodiesel producers through 2008. The credits are \$1.00 per gallon of agri-biodiesel, and \$.50 per gallon of waste-grease biodiesel. If the fuel is used in a mixture, the credit amounts to \$.01 per percentage point of agri-biodiesel used or \$.0050 per percentage point of waste-grease biodiesel. For more information, visit www.irs.gov/publications/p378/ar01.html.

Section 1345 of the Energy Policy Act of 2005 allows a tax credit of \$.10 per gallon to small agri-biodiesel producers for up to 15 million gallons. To be eligible, a producer must make less than 60 million gallons of biodiesel per year.

Where Can I Find More?

For more general information on biodiesel, you can visit the National Biodiesel Board:

<http://www.biodiesel.org>

Or you can visit the U.S. Department of Energy:

<http://www.eere.energy.gov/afdc/altfuel/biodiesel.html>

For more information on the Maryland Clean Cities Program and how you can help:

<http://www.energy.state.md.us/programs/transportation/cleancities/index.html>

