

11 Most Frequently Asked Questions on Converting Your Car to Biodiesel

Read before you decide to convert your car into biodiesel.



1. OK, So what do I need to do to convert my car to biodiesel?

First and foremost, you need to have a diesel engine car. Biodiesel CAN NOT be used in a gasoline engine. Having said that, any engine that runs on #2 diesel can also be run on biodiesel. This means, home furnaces, generators, semi-trucks, farm equipment, fishing boats, etc. There is really nothing you need to do and nothing you need to convert. Just use it the same as any other fuel. ?Conversion? becomes necessary when you want to run your diesel engine on Straight Vegetable Oil (SVO) For some pre-1994 model vehicles it is said that you need to replace your rubber hoses with synthetic ones. But truthfully, unless you have a leak, I wouldn't bother.

2. How much money will I save?

It really depends on you, and how you decide to make your own biodiesel. For example, if you are using waste vegetable oil from restaurants, (free feedstock) and buying other ingredients in bulk, your savings are going to be substantial. Say, around \$2.00 or more per gallon.

3. Is it true that a gradually increasing the amount of biodiesel in my diesel fuel is the best way to start using biodiesel in my vehicle?

Not necessary. There is no mechanical reason that I know of to support this. Any blend of biodiesel, from 100% biodiesel (B100) to 100% diesel can be used in any diesel engine.

4. Should I replace my fuel filter before using biodiesel?

Not necessary. Biodiesel is a solvent and as such will also start cleaning your diesel engine and your fuel system. What it is going to clean is the sludge left behind from regular diesel fuel. Over time, this sludge can clog your filters. The truth is, biodiesel will keep your car's fuel system very, very, clean. The degreaser cleaning properties of biodiesel will clean the system of the accumulated diesel sludge/debris first. It might take weeks, months or years, who knows? Engines are funny. After a while, you may need to change your fuel filter, but you'll need to change them anyway as a normal maintenance procedure. If it clogs up, or you are having a problem (loss of power, smoking, coughing, trouble starting, etc.) and you suspect it could be related to the fuel filter, then by all means, switch it out, they are fairly cheap anyway. Simply change out the filter and chances are your problems will go away. It's not a bad idea to keep an extra fuel filter on hand anyway.!

..just in case. The good news is, once your engine's fuel system has been cleaned, it will stay incredibly clean from then on.

5. I have heard that biodiesel will eat or degrade the rubber in my fuel system?

Biodiesel is a solvent and a degreaser (a good one) and as a solvent, yes, it will eat rubber over time. The truth is, petroleum diesel with a high sulfur content does this too, only slower. Biodiesel acts a lot like Ultra Low Sulfur Diesel (ULSD) that is now fast becoming the diesel standard. Also, since 1993, diesel engines and equipment have

been reworked and redesigned, using synthetic rubber with ULSD in mind. The auto makers have been phasing out rubber from the fuel systems themselves. This is resulting in fewer fuel leaks for diesel and biodiesel users alike. If you have a pre-1994 vehicle with rubber fuel hoses and are experiencing leaking problems, then yes, you should replace them with ULSD compatible hoses.

6. If I switch to biodiesel and don't like it, are there any problems with switching back to diesel again?

No problems at all. You can switch back and forth as much as you like.

7. How are automobile makers, and specifically their warranties, responding to biodiesel usage?

It's kind of interesting to watch, truthfully. As the biodiesel industry gets older and wiser, more and more OEMs (Original engine Manufactures) are warming up to this idea and making positive statement about 100% biodiesel and this is reflected in their warranties. The truth is, it's kind of tough for them to argue the fact. The diesel engine, after all, was designed for this. Caterpillar, John Deere, and New Holland all accept and explicitly warrant B100 biodiesel in their engines. Others are taking a more "wait and see" attitude. They are warranting blends like B20, or B5 but stop short of wholeheartedly endorsing the idea. Other say they "neither oppose nor endorse" the use of bio-fuels.

This is where it gets interesting; Mercedes and Volkswagen both sell cars in Europe and the USA with diesel engines and there is no problem with warranty issues in Europe, but here in the good ol USA, they don't/won't support the use of biodiesel or the biodiesel industry. So bottom line? One, check your warranty. Two, if a OEM wants to deny a warranty based on biodiesel use, they can. But legally, they have to show a compelling reason that biodiesel hurt the engine. Which would be very hard to do. This is a very good reason to use ASTM (Commercial biodiesel) fuels, especially in newer cars or trucks.

8. What is biodiesel made from, besides vegetable oil?

Because modern diesel engines have been modified to meet diesel #2 viscosity standards, straight vegetable oil like the kind Rudolf Diesel used in 1912, is much thicker. This is the thing which kept biodiesel out of the energy/fuel playing field for so long. What has happened recently is a process called "transesterification." This process is used to thin the vegetable oil and remove the glycerol molecule from the vegetable oil and replaces it with methyl alcohol , or methanol. In order to do this, the methanol is mixed with sodium or potassium hydroxide (Lye) before being mixed with the vegetable oil. This is the basic process. Commercial production requires more ingredients and more refining processes, but you get the picture.

9. Should I worry about residual methanol, lye, or glycerol?

For home-brewers, the possibility of residual ingredients or by-products in the brewed biodiesel is a compelling reason to "wash" then test the biodiesel. Biodiesel that is commercially sold, is regulated and made to the ASTM standard, does not allow for residuals to be present. Therefore, you should have little worry with commercial biodiesel .

10. I'm thinking about converting my car/truck to run on straight vegetable oil (SVO) because it does not involve all the chemicals, and is cheaper. Why doesn't everyone just convert to SVO?

As we have said, just because the first diesel engines were designed to burn vegetable oil, a lot has changed in the engine world since 1912. Biodiesel fuel, to work efficiently in a modern diesel, we need to lower the viscosity (thickness) of the vegetable oil. we accomplish this through the biodiesel production process. It can also be accomplished by modifying the engine with a SVO Conversion kit. But additionally, there are other reasons not to use straight vegetable oil. One, it still contains glycerol which doesn't burn as cleanly as biodiesel and can leave deposits behind in the injection chambers. Two, SVO still needs to be de-watered, filtered and heated prior to introducing it into your tank. Also, filtering SVO can be very tedious to say the least, needing lots of time and energy, not to mention equipment and tools

11. Will biodiesel work in kerosene heaters and/or oil furnaces?

The short answer is...yes. Biodiesel is 100% compatible with diesel #2. There are no worries in that regard. One of the compelling reasons to buy a biodiesel kit in my opinion is to get rid of that financial albatross, called "heating oil" in colder climates. A biodiesel kit can pay for itself in a matter of months, one winter definitely. Kerosene, which is also known as diesel #1, or heating oil #1, is thinner than diesel #2. This, of course, requires a bit more experimentation, but generally, if a heater is designed for kerosene, then it will work with a biodiesel blend. (meaning a higher percentage of kerosene and a lower percentage of biodiesel)

Short note about the author

David Sieg is the Managing Director of Global Biotechnology Solutions, an American Company based in Vietnam. He is also the author of the popular <http://www.making-biodiesel-at-home.com> web site where you can find all the information you need to start saving money of sky-rocketing fuel costs.

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