

BIODIESEL MYTHS & FACTS

MYTH: Biodiesel is ethanol (or vice versa).

FACT: Ethanol and Biodiesel are completely different. Ethanol is a fermentation product, primarily made from corn grain and sugarcane. Biodiesel is chemically-converted fat or oil. Ethanol is blended into petrol (gasoline). Biodiesel is blended into diesel fuel (distillate).

MYTH: You must convert your vehicle to run biodiesel.

FACT: The conversion process is very simple: Drive to the nearest biodiesel pump, put the spout in the side of the car, and pump the biodiesel into your fuel tank (provided it's diesel). That's it. You can use biodiesel in any diesel engine without modification. In fact, if you own a diesel vehicle you can fill it up today with 100% biodiesel (B100) and should experience no problems whatsoever. Let me repeat this: you can use ANY amount of biodiesel, from B2 to B100, in a diesel engine with NO modification to the engine. This myth is commonly perpetuated by the hypothetical possibility that biodiesel will clean out diesel sludge that has accumulated in older fuel lines. If you drive an old diesel vehicle, this hypothetically could happen and your fuel filter could subsequently clog. This can easily be avoided by switching out the fuel filter after a few tanks of biodiesel.

MYTH: Biodiesel will wreck your engine.

FACT: This is completely false. Engine manufacturers are especially cautious about new fuels, but some of the biggest names in the diesel world (like Cummings) have cleared B20 from doing any harm. Biodiesel and diesel fuel are similar in chemical structure and have similar properties, so they burn similarly in diesel engines. But biodiesel has some specific advantages. Biodiesel adds significant lubricity to the fuel (something that sulfur formally did in diesel fuel, but has since been reduced, hence low-sulfur diesel), reducing engine wear and reportedly extending engine life. Biodiesel has a higher cetane number (higher ignitability) and combusts more completely. Biodiesel is also a good solvent and will clean out diesel fuel residue left in the fuel tank and lines. Over time, because it's such a good solvent, biodiesel can degrade rubber fuel lines and gaskets. Most post-1990 vehicles don't have rubber lines and gaskets, but some older vehicles do.

MYTH: Biodiesel use will void your warranty.

FACT: Some manufacturers have approached biodiesel cautiously, but now almost everyone recognizes B20 as a viable fuel, and it should not void warranties. According to the US's National Biodiesel Board (NBB), "The use of biodiesel in existing diesel engines does not void parts and materials workmanship warranties of any major US engine manufacturer." Warranties generally don't cover problems caused by external sources, i.e. bad fuel, but can't be voided if the problem was unrelated. Most manufacturers support B5 or B20, but that doesn't mean they prohibit higher blends. Double-check with your manufacturer. Some manufacturers have explicitly stated they won't support higher biodiesel blends.

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MYTH: Biodiesel will cause a noticeable power decrease.

FACT: Biodiesel contains about 8% less energy per litre than petroleum diesel. For someone using B20, this means a 1-2% loss in power, torque, and fuel efficiency. Millions of kilometers of onroad tests by trucking fleets have shown that B20 and diesel are practically indistinguishable. B100 users may notice a slight drop in fuel mileage, but torque and power are usually comparable.

MYTH: Biodiesel doesn't work in cold weather.

FACT: It's true that biodiesel clouds up (starts to freeze) at higher temperatures when compared to regular diesel, but the cold-flow properties vary depending on what the biodiesel is made from (feedstocks with more saturated fat, like coconut oil or animal fat tend to freeze earlier). Depending on your source of biodiesel it may be necessary to change from B100 to B50 or less, or the manufacturer may alter the feedstock blend to suit the climate.

MYTH: Biodiesel is hard to find.

FACT: Biodiesel is available both as B100 and as B20 blends in the Perth metro area. Many Gull retail outlets sell Bio-D, a B20 blend. B100 is available from many local biodiesel producers.

MYTH: Biodiesel is too expensive.

FACT: The price of biodiesel is linked to the feedstock cost, not the price of crude oil. This means there are different factors that affect the price, such as droughts and the demand for feedstock's other uses, such as cooking oil. Current feedstock prices compared to current crude oil prices mean that most biodiesel can be sold at a small discount to the normal diesel price.

MYTH: Diesel engines are more polluting than petrol engines, so selling my car and buying a diesel is a bad idea.

FACT: It's true that traditional diesel engines are 10-100x more polluting than their petrol counterparts. This was also due to higher sulfur levels in old diesel. New model diesel engines, however, are more efficient and have advanced catalytic converters allowing them to approach the emissions of comparable petrol models. When combined with biodiesel newer engines offer significant emissions reductions. Additionally, older diesels are currently in use and will continue to be used (due to long engine life). Switching these vehicles to biodiesel still provides tangible benefits. While local air pollution is an important consideration, so are greenhouse gas emissions. Biodiesel offers a significant reduction in CO₂ emissions.

MYTH: Biodiesel exhaust produces more harmful emissions than diesel.

FACT: Biodiesel is the only alternative fuel that has completed all the testing requirements of the US Clean Air Act. Biodiesel contains oxygen and burns more completely than diesel fuel, hence reduced emissions. All major pollutants are reduced dramatically in biodiesel exhaust (most of them at least

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50% for B100), except one (NO_x), and that's only for blends over B20. B20 reduces air toxics (the most damaging pollutants for human health) by 20-40%, while B100 reduces them by as much as 90%. Sulfur oxides and sulfates (major contributors to acid rain) are almost completely eliminated. The only caveat is that nitrogen oxide (NO_x) emissions can increase up to 10% with B100. New diesel technology has the potential to eliminate this problem.

MYTH: Biodiesel requires more energy to produce than is provided by the fuel.

FACT: The vast majority of literature out there shows a positive energy balance, meaning that more energy is produced in the fuel than is used to grow the crop, press the seeds, process the oil into biodiesel, and distribute the product. The most common numbers say about 2-3x more energy is produced, or 1 unit of energy in equals 2-3 units of energy out.

MYTH: Biodiesel increases net emissions when the entire production process is taken into account (farming, distribution, etc).

FACT: According to the University of Minnesota in 2006, the production and use of soybean biodiesel decreases life-cycle greenhouse gas (GHG) emissions by 41% over regular diesel, and also decreases other pollutants like carbon monoxide, particulates, and SO_x.

MYTH: Biodiesel causes deforestation of the rain forest.

FACT: Irresponsible farming of palm trees for fuel crops is not inherent in the production of fuel oil but is a result of lack of environmental safeguards/enforcement and unrestrained development. The growth of the biofuels industry will put pressure on natural resources but with proper safeguards the impact can be minimised. Biodiesel can be made from many other feedstocks, like canola, mustard, soy, coconuts and tallow. Like any other crops, these can be produced sustainably or unsustainably.