



Alternative Fuels

B20 biodiesel fact sheet

What is Biodiesel?

Biodiesel is an alternative fuel created by mixing regular petroleum diesel refined from crude oil with a biofuel produced from agricultural products such as soy beans, rape seeds, mustard seeds, waste cooking oils, and other organic products. The B number indicates the percentage of biofuel. For example, B20 biodiesel is 20% biofuel and 80% petroleum diesel. Although biofuels can be used at any mixture including 100% biofuel, the B20 mixture is considered the best blend for everyday use in conventional diesel engines.

Why use B20?

Help America gain energy independence.

Biodiesel can help reduce our dependence on crude oil from foreign countries. Every 5 gallons of B20 used in diesel vehicles replaces .75 gallon of crude oil. Idahoans burn approximately 360 million gallons of petroleum diesel each year. By using B20, we could cut the need for imported crude oil by about 54 million gallons per year. In addition, biodiesel fosters excellent economic development opportunities for America's farmers by creating markets for crops used to produce biodiesel.

B20 biodiesel helps clean the air we breathe.

B20 biodiesel burns cleaner than regular petroleum diesel. This means that vehicles using B20 fuel will produce significantly fewer harmful exhaust emissions. This is particularly beneficial to children who are more susceptible to the health impacts of air pollution. The higher the percentage of biofuel used, the greater the reduction in dangerous emissions. B20 biofuel can reduce air pollutants by the following amounts:

- Carbon monoxide: 12 - 13%
- Hydrocarbons: 11%
- Particulates: 18 - 20%
- Air toxics: 12 - 20%
- Sulfur: 20%

It can be good for the life of your engine.

Biodiesel can extend the life of diesel engines because it is more lubricating than petroleum diesel fuel. This can decrease maintenance costs and reduce engine wear. Biodiesel is 11% oxygen, which means that even in a blend such as B20, combustion of hydrocarbons is aided. Biodiesel also has a higher cetane number than U.S. diesel fuel, which increases the engine's performance.

B20 in Idaho

Currently, three public pumps service the region:

- Twin Falls, Idaho: Olde Towne Chevron, 513 Minidoka Ave
- Shoshone, Idaho: The Southside Market, 605 South Greenwood
- Vale, Oregon: Fletcher Chevron, 151 Smith St. North

Where a public fueling site is not available, fleets may be able to install private fueling pumps. Fuel suppliers can assist school districts in evaluating this option.

Common Questions About B20

Can I use biodiesel in my engine?

Yes. Using B20 biodiesel requires no engine modification. However, because biodiesel is a form of solvent, it loosens engine deposits. This may necessitate a fuel filter change after the first tank. Pure biodiesel (B100) may affect seals, gaskets, adhesives, and parts made from natural or nitrile rubber, particularly in vehicles made before 1993. This is less of a problem with B20 or other biodiesel blends. Most diesel engines made after 1994 have been constructed with gaskets and seals that are generally biodiesel resistant. Users should be aware of potential concerns and consult manufacturer recommendations before using biodiesel.

Does B20 perform as well as standard diesel?

One of the major advantages of biodiesel is that it can be used in existing diesel engines and fuel injection equipment with little impact on operating performance. In more than 30 million miles of in-field demonstrations, B20 showed similar fuel consumption, horsepower, torque, and haulage rates as conventional diesel fuel. Biodiesel also has superior lubricity and the highest BTU content of any alternative fuel (falling in the range between #1 and #2 diesel fuel). Most users see no difference in fuel economy, although some tests have shown a one percent reduction.

Biodiesel vehicles can have cold start problems relative to petrodiesel, but this is more of an issue for B100 than B20 fuels. For example, B20 fuels have been used during -25°F weather with no reported problems. Vehicle owners can solve cold start problems with biodiesel as they would with conventionally fueled vehicles (i.e. using engine block or fuel filter heaters or storing the vehicles near or in a building).

Is biodiesel safe?

Yes. Biodiesel is made from cooking oils and alcohol, so if it is spilled on the ground, it will quickly degrade into natural organic residues. In biodiesel blends such as B20, the petrodiesel still poses a problem in spills, but less so than with 100% petrodiesel. Biodiesel is nontoxic and safe to handle. Mechanics who use biodiesel notice that their hands don't crack and dry out the way they do with diesel fuel. Biodiesel has a high flashpoint and low volatility so it does not ignite as easily as petrodiesel, increasing the margin of safety in fuel handling.

For More Information

Idaho Department of Water Resources
Idaho B20 Biodiesel Program
www.idahobiofuel.org/

Environmental Protection Agency
Alternative Fuels
www.epa.gov/otaq/consumer/fuels/altfuels/altfuels.htm