



B20 Biodiesel Fact Sheet

What is biodiesel?

Biodiesel is a clean-burning alternative diesel fuel produced from vegetable oils or animal fats. Blends of up to 20% biodiesel and 80% petroleum diesel, called B20, can be used in most diesel engines with little or no modifications. Biodiesel is simple to use, biodegradable and nontoxic.

Is biodiesel the same as raw vegetable oil?

No. Fuel-grade biodiesel must meet strict industry specifications to ensure proper vehicle performance. The American Society for Testing and Materials (ASTM) has established ASTM D6751 as the national standard for pure biodiesel (B100). Biodiesel that meets ASTM D6751 specifications is registered with the U.S. Environmental Protection Agency (EPA) as a legal motor fuel for sale and distribution. Unprocessed vegetable oil and recycled greases must be transformed into biodiesel. Unprocessed materials cannot meet biodiesel fuel specifications, are not registered with the U.S. Environmental Protection Agency and are not legal motor fuels.

Can I use biodiesel in my existing diesel engine?

Biodiesel can be used in most diesel engines with no modifications to the engine or the fuel system. Biodiesel has a solvent effect that may release deposits from previous diesel fuel usage that accumulate on tank walls and in fuel lines. When you begin using biodiesel, these deposits are cleaned out and may cause fuel filters to clog. After the first tank or two of biodiesel, check and, if needed, change your fuel filter to prevent clogging. This is particularly important for older vehicles.

How do I know the biodiesel I am buying is a good quality fuel?

In Tennessee, fuel providers are required to ensure that only biodiesel fuel meeting the ASTM D6751 standard is used to create biodiesel blends for retail sale. The Tennessee Department of Agriculture's Regulatory Services Division periodically checks samples of B100 being used as blend stock and B20 being sold at the pump.

How do biodiesel air emissions compare to petroleum diesel?

Using biodiesel significantly reduces unburned hydrocarbons, carbon monoxide, and particulate matter compared to emissions when using diesel fuel. Scientific research confirms that biodiesel exhaust has a less harmful impact on human health than diesel emissions, including decreased levels of cancer-causing compounds.

Can biodiesel help reduce greenhouse gas emissions?

Yes. According to the U.S. Department of Energy and the U.S. Department of Agriculture, biodiesel reduces net carbon dioxide emissions by 78 percent compared to petroleum diesel. The carbon dioxide released when biodiesel is burned is recycled by growing plants.

Will using biodiesel affect my engine warranty?

Vehicle warranties do not cover engine problems caused by any fuel, whether it is biodiesel or petroleum diesel. Warranties cover defects in material and workmanship only. Use of biodiesel alone should not void the engine warranty, but be sure to check your warranty to ensure that biodiesel meets the required fuel parameters established by the engine manufacturer.

Source: National Biodiesel Board www.biodiesel.org





E85 Ethanol Fact Sheet

What is ethanol?

Ethanol (ethyl alcohol) is a high octane, domestic and renewable fuel, produced by the fermentation of plant sugars. In the U.S., ethanol is typically produced from corn and other grain products; however, in the future it may be produced from biomass resources, including energy crops, such as switchgrass, or forestry and agricultural wastes.

What ethanol blends are typically used?

Ethanol is blended with gasoline when used as vehicle fuel, usually in blends up to 10% ethanol (E10) or as E85, which is 85% ethanol. Gasoline-ethanol blends containing up to 10% volume ethanol may be used in any gasoline-powered vehicle. The addition of ethanol boosts octane and contributes to more complete fuel combustion. Blends above 10% ethanol are not approved by auto manufacturers or the U.S. Environmental Protection Agency for use in standard gasoline engine vehicles.

What is E85?

E85 is the term for motor fuel blends of 85% ethanol and 15% gasoline. Ethanol burns cleaner than gasoline and is a completely renewable, environmentally friendly fuel that enhances the nation's economy and energy independence. E85 must be used only in flexible fuel vehicles capable of using higher ethanol blends.

What is a flexible fuel vehicle (FFV)?

A flexible fuel vehicle (FFV) is one designed by the manufacturer to use any combination of gasoline or ethanol from 100% unleaded gasoline to 85% ethanol. To date, there are approximately 6 million E85-compatible vehicles on U.S. highways.

How can I tell if my car is an FFV?

Check your owner's manual, visit your dealer, check inside the fuel cap door, or visit www.e85fuel.com to determine if your vehicle can be fueled with E85. Approximately one million FFVs are now being produced each year.

How is an FFV different from a gasoline-only vehicle?

An FFV contains a fuel sensor that detects the ethanol/gasoline ratio. In addition, parts on the FFV's fuel delivery system are modified so they are ethanol compatible. Because alcohols are corrosive, any part that comes in contact with the fuel (i.e., the fuel tank, fuel lines, fuel injectors) is modified slightly to tolerate alcohol.

What is the fuel economy of E85 vs. gasoline?

While ethanol contains less energy than gasoline, E85 has a much higher octane (ranging from 96 to 105). FFVs are not optimized to E85, so they typically get about 20-30% fewer miles per gallon when fueled with E85. However, many variables affect fuel economy. For example, aggressive driving can result in a 20% loss, and low tire pressure can reduce mileage by 6%.

Can I use E85 in my gasoline-powered vehicle even if it is not an FFV?

No. The use of E85 in gasoline-only vehicles is not recommended as it may cause damage due to the incompatibility of the alcohol fuel (ethanol) with some parts in gasoline-only engines. Performance and emissions will also be compromised.

Sources: Renewable Fuels Association, National Ethanol Vehicle Coalition, U.S. Environmental Protection Agency





Flexible Fuel Vehicles*

Daimler Chrysler	<p>2007 4.7L Chrysler Aspen 4.7L Jeep Commander 4.7L Jeep Grand Cherokee 4.7L Dodge Dakota 3.3L Dodge Caravan, Grand Caravan & Caravan Cargo 2.7L Chrysler Sebring Sedan</p> <p>2006 - 2007 4.7L Dodge Durango 3.3L Caravan & Grand Caravan SE</p>	<p>2005 - 2006 4.7L Dodge Ram Pickup 1500 Series 2.7L Dodge Stratus Sedan 2.7L Chrysler Sebring Sedan</p> <p>2004 - 2005 4.7L Dodge Ram Pickup 1500 Series 2.7L Dodge Stratus Sedan 2.7L Chrysler Sebring Sedan</p> <p>2003 - 2004 2.7L Dodge Stratus Sedan 2.7L Chrysler Sebring Sedan</p>	<p>2003 3.3L Dodge Cargo minivan 2.7L Chrysler Sebring Conv. & Sedan</p> <p>2000 - 2003 3.3L Chrysler Voyager minivan 3.3L Dodge Caravan minivan 3.3L Chrysler Town & Country minivan</p> <p>1998 - 1999 3.3L Dodge Caravan minivan 3.3L Plymouth Voyager minivan 3.3L Chrysler Town & Country minivan</p>
Ford/Lincoln	<p>2006 - 2007 4.6L Ford Crown Victoria (2-valve, excluding taxi and police units) 5.4L Ford F-150 4.6L Lincoln Town Car (2-valve)</p> <p>2006 3.0L Taurus sedan and wagon</p> <p>2005 4.0L Explorer Sport Trac 4.0L Explorer 3.0L Taurus sedan and wagon</p>	<p>2004 4.0L Explorer Sport Trac</p> <p>2002 - 2004 4.0L Explorer (4-door)</p> <p>1999 - 2004 3.0L Taurus LX, SE & SES sedan</p> <p>2001 - 2003 3.0L Supercab Ranger pickup 2WD</p> <p>1999 - 2000 3.0L Ranger pickup 4WD & 2WD 3.0L Taurus LX, SE & SES sedan</p>	<p><i>Many 1995-98 Taurus 3.0L Sedans are also FFVs</i></p>
General Motors	<p>2007 3.9L Buick Terraza 5.3L Chevrolet Avalanche SUVs 3.9L Chevrolet Express 5.3L Suburban, Tahoe, Yukon, Yukon XL 3.9L Chevrolet Uplander 3.9L Saturn Relay 3.9L GMC Savana</p>	<p>3.9L Pontiac Montana SV6 (Canada Only) 5.3L Sierra & Silverado truck</p> <p>2006 - 2007 3.5L Chevrolet Impala & Chevrolet Monte Carlo</p> <p>2005 - 2006 5.3L Sierra & Silverado truck 5.3L Vortec-engine Chevrolet Avalanche, Suburban, Tahoe, GMC Yukon & Yukon XL</p>	<p>2002 - 2004 5.3L Sierra & Silverado truck 5.3L Vortec-engine Suburban, Tahoe, Yukon & Yukon XLs</p> <p>2000 - 2002 2.2L Chevrolet S-10 pickup 2WD 2.2L Sonoma GMC pickup 2WD</p>
Isuzu	<p>2000, 2001 2.2L Hombre pickup 2WD</p>		
Mazda	<p>1999, 2001 - 2002 3.0L Selected B3000 pickups</p>		
Mercedes- Benz	<p>2007 2.5L C230 Sedan automatic AND manual transmission</p> <p>2005 3.2L C320 luxury & sport sedan & sport coupe</p>	<p>2004 3.2L C320 sport sedan, wagon & sport coupe</p> <p>2003 3.2L C320 sport sedan</p>	
Mercury	<p>2006 - 2007 4.6L Mercury Grand Marquis (2-valve)</p> <p>2002 - 2005 4.0L Selected Mountaineers</p>	<p>2001 - 2005 3.0L Selected Sables (look for "Road & Leaf")</p>	
Nissan	<p>2007 5.6L Armada</p>	<p>2005 - 2007 5.6L Titan King Cab & Crew Cab</p>	

*All above are select models only. Check your owner's manual or visit www.E85fuel.com to ensure E85 compatibility.

Last updated 09.29.06



National Ethanol Vehicle Coalition
3216 Emerald Lane, Suite C Jefferson City, MO 65109
Ph: (573) 635-8445 Fax: (573) 635-5466
info@e85fuel.com www.E85fuel.com