



BIODIESEL BASICS

What is biodiesel?

Biodiesel is the name of a clean burning alternative fuel, produced from domestic, renewable resources. Biodiesel contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend. It can be used in compression-ignition (diesel) engines with little or no modifications. Biodiesel is simple to use, biodegradable, nontoxic, and essentially free of sulfur and aromatics.

How is biodiesel made?

Biodiesel is made through a chemical process called transesterification whereby the glycerin is separated from the fat or vegetable oil. The process leaves behind two products -- methyl esters (the chemical name for biodiesel) and glycerin (a valuable byproduct usually sold to be used in soaps and other products).

Is Biodiesel the same thing as raw vegetable oil?

No! Fuel-grade biodiesel must be produced to strict industry specifications (ASTM D6751) in order to insure proper performance. Biodiesel is the only alternative fuel to have fully completed the health effects testing requirements of the 1990 Clean Air Act Amendments. Biodiesel that meets ASTM D6751 and is legally registered with the Environmental Protection Agency is a legal motor fuel for sale and distribution. Raw vegetable oil cannot meet biodiesel fuel specifications, it is not registered with the EPA, and it is not a legal motor fuel.

Why should I use biodiesel?

Biodiesel is better for the environment because it is made from renewable resources and has lower emissions compared to petroleum diesel. It is less toxic than table salt and biodegrades as fast as sugar. Since it is made in the USA from renewable resources such as soybeans, its use decreases our dependence on foreign oil and contributes to our own economy.

Technical Definitions

Very often, a broad, general description is used to define biodiesel in a way that is easy to understand by the general public. However, when these broad descriptions are adopted by an authoritative body as a formal definition, they can include a wide range of experimental fuels that are not biodiesel. The term "biodiesel" has a specific, technical definition that has been agreed to through a painstaking process by members of industry and government which has received full approval by the American Society of

Testing and Materials (ASTM), the premier standard setting organization for fuels and fuel additives. That definition is used for purposes such as alternative fuel designation, EPA registration, or other regulatory purposes. Nonetheless, this specific technical definition can be confusing to the general public. We have, therefore, chosen to adopt two definitions for biodiesel. The “general definition” is a simple description for the general public. The “technical definition” should be adopted for use by customers for bid specification purposes or government entities for regulatory purposes.

General Definition of Biodiesel:

Biodiesel is a domestic, renewable fuel for diesel engines derived from natural oils like soybean oil, and which meets the specifications of ASTM D 6751.

Biodiesel can be used in any concentration with petroleum based diesel fuel in existing diesel engines with little or no modification. Biodiesel is not the same thing as raw vegetable oil. It is produced by a chemical process which removes the glycerin from the oil.

Technical Definition for Biodiesel (ASTM D 6751) and Biodiesel Blend:

Biodiesel, n—a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100, and meeting the requirements of ASTM D 6751.

Biodiesel Blend, n—a blend of biodiesel fuel meeting ASTM D 6751 with petroleum-based diesel fuel, designated BXX, where XX represents the volume percentage of biodiesel fuel in the blend.

Biodiesel is typically produced by a reaction of a vegetable oil or animal fat with an alcohol such as methanol or ethanol in the presence of a catalyst to yield mono-alkyl esters and glycerin, which is removed.

For more information, contact Maryland Biodiesel, Inc. toll free at 1-866-MDGROWN