Biodiesel

Biodiesel is a clean burning, non-toxic, biodegradable alternative fuel that can be combined at any level with petroleum diesel to run diesel engines. It is produced from renewable sources such as canola, soybeans and animal fats.

Biodiesel is typically sold as a blend in which an amount of biodiesel is mixed with conventional diesel known as a “B” blend. For example, a B5 blend consists of 5% biodiesel and 95% conventional diesel.

Millions of vehicles across Europe and the United States use biodiesel on a daily basis. In British Columbia over one hundred fleets that are part of the BioFleet network use biodiesel blends including large users such as TransLink, the City of Vancouver and TSI Terminals. A number of case studies have been published about the use of biodiesel by different fleets in British Columbia.

Environmental Performance
A key characteristic of biodiesel is that it burns more completely and generates fewer harmful emissions than diesel.

The table below illustrates the reduction in smog related emissions at various biodiesel blend levels.Emissions Comparison: Biodiesel vs. Ultra Low #2 Diesel

CO2 HCCOPMNOx

Biodiesel - B100 -78%-93%-50%-30%0%

Biodiesel - B20 -16% -30% -20% -22% 0%

Estimate the greenhouse gas reduction benefits from using biodiesel for your fleet by using our biodiesel emissions reduction calculator.

Biodiesel in Fleet Operations
Biodiesel has been widely accepted for use by many fleets. A key reason is that the fuel can be delivered or purchased as a blended product, stored in any conventional tank and used in almost any diesel engine with no modifications to the engine.

All diesel engine manufacturers allow the use of biodiesel blends up to 5 percent under their warranty programs. In addition, many manufacturers such as Cummins, Cat and New Holland support the use of biodiesel blends from B20 to B100. A fleet should check an engine manufacturer’s warranty statements on biodiesel prior to selecting the blend to use in specific equipment.

The engine performance of biodiesel is virtually the same as petroleum diesel. Extensive testing of biodiesel and various blends in trucks, cars and buses has shown that engines powered by biodiesel produce similar torque and horsepower to engines fuelled by petroleum diesel.

The cloud point temperature for pure biodiesel differs slightly as a function of feedstock but generally its cloud point is similar to that of summer or #2 diesel. In very cold weather the blend level should be reduced to ensure that the blend does not gel. Typical winter weather conditions in the Metro Vancouver, Fraser Valley and Southern Vancouver Island are such that some fleets like BC Transit operate using a B20 blend in all seasons. One fleet in Vancouver, SpectraTec Services, uses B100 in its street sweepers year round.

Purchasing Biodiesel
British Columbia is the largest market in Canada for biodiesel and fuel can be purchased at bulk distribution suppliers and a retail card lock network in the Metro Vancouver, Vancouver Island, Kelowna and Prince George areas.

When purchasing biodiesel ensure that it meets the industry standard for fuel quality known as ASTM D6751. If purchasing biodiesel on a bulk basis always request a copy of the Certificate of Analysis for the biodiesel. As well, purchasers should look for biodiesel supplied by producers and marketers that are certified under the biodiesel industry’s quality assurance program known as the BQ 9000 program.

For more detailed information about biodiesel see our partner website www.BioFleet.net.