



Web: <http://www.rkapetroleum.com>
E-mail: info@rkapetroleum.com

LEEMON OIL CO, INC.
EXPRESS FUELING
REX CARRIERS, INC.
RKA PETROLEUM, LLC

Alternative Fuels – Bio-Diesel**

Bio-diesel (methyl ester) is a diesel replacement fuel made from virgin vegetable oils such as soybean or rapeseed (canola). It can also be made from recycled restaurant oils. When soybeans are processed, they are crushed leaving soy meal (used in food products) and soy oil. The oil is separated into glycerin (used in cosmetics, soaps, etc.) and methyl esters (bio-diesel). Use of bio-diesel can create demand for US farm products while reducing dependence on foreign petroleum.

In August 1999, President Clinton issued an executive order calling for an increase in use of biomass energy in lieu of fossil fuels. In September 1999, Ohio Governor Taft issued an executive order mandating the use of soy-based bio-diesel in all state fleets. In April 2000, Delaware Governor Carper announced the use of bio-diesel in the State of Delaware fleet. In April 2000, President Clinton issued an executive order to cut petroleum use of federal fleets by 20%. In March 2002, Minnesota passed a law requiring a 2% blend of bio-diesel by 2005, or as soon as the state has the capability to produce 8 million gallons of the product. Federal energy legislation now under consideration includes provisions for utilization of renewable fuels, including biomass.

What is bio-diesel?

- It is all natural, renewable, and water-soluble.
- It is 11% oxygen by weight and contains no sulfur.
- Bio-diesel can be stored safely, and has a high flash point.
- Bio-diesel has more cetane (50-56) and lubricity than diesel fuel. In fact, 1% bio-diesel increases lubricity by up to 30%.
- Bio-diesel is generally delivered in an 80 (diesel) 20 (bio-diesel) blend.

What is the appeal of bio diesel?

- It works in existing diesel engines with no modification.
- It can achieve emission reduction across an entire diesel fleet.
- It works in heavy-duty applications.
- It can work in conjunction with any new vehicle program, i.e., CNG in new vehicles and bio-diesel in existing vehicles.
- Bio-diesel is easy to transition in or out.
- Bio-diesel can be used in conjunction with ultra low sulfur diesel, particulate traps, catalytic converters, or diesel hybrid electric vehicles.
- It is available right now.
- It has a closed carbon cycle.

What's the downside?

- Bio-diesel has outstanding cleaning properties. More frequent filter replacement may be required.
- Bio-diesel raises cloud points by 3-5°F (virgin) and 12-15°F (recycled) in its blended form. It is manageable with proper planning, and has been used successfully in cold climates.
- Bio-diesel can degrade natural rubber (pre-1980 engines).

** This information was written with the express consent of Lynne A. Cole, contributing editor to *ILTA News*. This is a reprint from the ILTA May 31, 2002 newsletter.