

Bio-diesel

Specifications

<u>Specification</u>	<u>Milligan Value</u>	<u>ASTM D6751 Standard</u>
Flash Point °C (ASTM D93, Procedure A)	>170	Min 93
Cold Soak Filtration (ASTM D6751—Annex A1) Shows potential of B100 blocking fuel filter	<230	Max 360
Water mg/kg (ASTM D6304, Procedure A)	<250	Max 500
Ash Sulphated, Mass% (ASTM D874)	0.001	Max 0.020
Total Glycerin, Mass% (ASTM D6584)	<0.05	Max 0.240
Cetane Number (ASTM D613)	>53	Min 47
Oxidation Stability, 110°C, hours (EN 14112)	>6	Min 3

Milligan's Bio-diesel is the only one of its kind in North America, as it is made from 100% canola. **It will retain a pour-point of -15°C**, where as bio-diesel made from other feed stocks have difficulty flowing at temperatures below 0°C. Milligan's Bio-diesel is of the highest quality meeting or exceeding the North American standard ASTM D6751 as well as the European Standard EN 14214. These quality standards have been achieved through years of research, testing and the development of proprietary processing technology in conjunction with Agriculture & Agri-Food Canada and the University of Saskatchewan.

Milligan's Bio-diesel benefits:

- 100% Canola Oil Feed stock
- Meets or exceeds ASTM & EN standards
- Environmentally friendly
- The bio-diesel of choice for testing in these industries:
 - Aviation Mining
 - Petroleum Forestry
 - Trucking



Another great canola-based product from...

MILLIGAN BIO-TECH
BIO-DIESEL SOLUTIONS

www.milliganbiotech.com • 1 866 388 MBTI (6284)

Milligan's Bio-diesel Success Stories

Saskatoon Transit BioBus

Phase I and II

2003 - 2007

Testing of Bio-diesel Results

- A 3% to 10% increase in fuel economy and up to 50% engine wear reduction **with a 0.1% to 1% canola bio-diesel in light duty diesel engines.**
- A 0.7% to 2.6% increase in fuel economy and a 30% to 44% decrease in engine wear with varying levels of canola bio-diesel during highway use.. Greenhouse gas emission reduction by 7.2% with a 5% canola bio-diesel blend.

Phase III

2008 - present

Next Steps - The Use of Bio-diesel

Step 1

- Implementation of 1% bio-diesel use in the entire Saskatoon Transit fleet
- Monitoring and evaluating effects of the 1% bio-diesel blend

Step 2

- Testing of 5% bio-diesel with Ultra Low Sulphur Diesel (ULSD) conducted in the same manner as Phase II with the inclusion of 4 of the newest buses in our fleet with the latest emissions technologies: 2 conventional buses and 2 Diesel Electric Hybrids
- Monitor fuel use, lubricity, emissions - with ULSD and 5% bio-diesel

See www.city.saskatoon.ca/org/transit/biobus.asp for more information

Alberta Renewable Diesel Demonstration (ARDD)

2007 - 2008

Milligan's Bio-diesel was chosen for the ARDD through the precursor Renewable Diesel Characterization Study. The Alberta Renewable Diesel Demonstration (ARDD) was Canada's largest study into the cold weather performance of renewable diesel. This demonstration goes beyond the laboratory to put renewable diesel through typical on-road use by trucking companies. Stakeholders included:

Federal and Provincial Governments
Fuel Blenders
Biofuels Producers
Commercial Carriers

Petroleum Refiners
Fuel Distributors
Agriculture Feedstock Producers

The final report of the ARDD **confirms 'operability' of low level renewable diesel blends in the cold weather** conditions tested. The results will be provided as documentation in response to the Government of Canada's Notice of Intent (NOI) to regulate a Renewable Fuel Standard (RFS).

See www.renewablediesel.ca for more information

World's First Bio-diesel Jet Car

2007 - present

Milligan Bio-Tech is proud to be a sponsor of the World's First Bio-diesel Jet Funny Car. Kevin Therres of Prairieland Motorsports, a drag racing team out of Humboldt, SK, drives the 2007 Corvette which had a J60 Pratt and Whitney engine and reached speeds of approximately 250 mph in less than 6.5 seconds running on Milligan's B100 Bio-diesel. 2009 saw the introduction of the World's First Bio-diesel Jet Truck - *Prairie Gold*. While the truck is now retired the name *Prairie Gold* lives on in the Corvette which will be back in action for 2010. Milligan Bio-Tech is proud to be a sponsor of Prairieland Motorsports looks forward to another ground breaking year.

See www.prairielandmotorsports.com for more information