



# INTEGRITY

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## BIOFUELS

Biodiesel End Uses  
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# Basic Terms

- **Biodiesel**- is the pure, or 100%, biodiesel fuel it is typically called B100 or neat biodiesel
- **A blend of biodiesel** and petroleum diesel is designated as a Bxx where the xx indicates the amount of biodiesel as a percentage.
- **Injection Blending**- Typically computerized equipment is used to pump biodiesel into a flowing line of petroleum diesel yielding a finished blend.
- **Splash Blending**- Adding biodiesel to a static tank of petroleum diesel.



# End Uses of Biodiesel

- The majority of the biodiesel produced in the U.S. is blended with petroleum diesel and burnt in standard diesel engines, with a wide range of Bxx blends.
- There are some uses for biodiesel in the general chemistry area.



Bio-heat is a relatively new market in which biodiesel is excelling in displacing home heating oils!

# Performance

| Average Density and Heating Value of Biodiesel and Diesel Fuel |                               |                                    |                                      |
|--|-------------------------------|------------------------------------|--------------------------------------|
| Fuel   | Density,<br>g/cm <sup>3</sup> | Net Heating Value<br>Avg., Btu/gal | % Difference vs.<br>No.2 Diesel Avg. |
| No. 2 Diesel   | 0.85                          | 129,500                            |                                      |
| Biodiesel (B100)   | 0.88                          | 118,296                            | 8.65                                 |
| B20 Blend (B20)  | 0.856                         | 127,259                            | 1.73                                 |
| B 2 Blend (B2)   | 0.851                         | 129,276                            | 0.17                                 |

[http://www.biodiesel.org/pdf\\_files/fuelfactsheets/BTU\\_Content\\_Final\\_Oct2005.pdf](http://www.biodiesel.org/pdf_files/fuelfactsheets/BTU_Content_Final_Oct2005.pdf)

# OEM Recommendations

• Many manufacturers of diesel powered equipment and diesel engines have done extensive testing of their products being used with biodiesel blends. Below is a very abbreviated list of big names that endorsed the use of biodiesel blends.

The full list can be found at <http://www.biodiesel.org/using-biodiesel/oem-information/oem-statement-summary-chart>

- BMW-B5
- Case IH- B5 to B100 in some models
- Cat- B5 to B20
- Chrysler- B5 to B20
- Cummins- B20
- Detroit Diesel- B5 to B20
- Ford- B20
- GM- B20
- John Deere- B20
- Kenworth-B5
- Volvo Trucks- B20

# End Uses of Glycerin

**Food-** Glycerin and its derivatives can be used in many ways as a sweetener.

**Feed-** Glycerin can be used as a feed additive for cattle which adds nutritional value and decreases the dust generated.

**Chemical-** Many different applications from pharmaceutical to soap contain glycerin.



# Questions/Comments

