



Biodiesel Quality

Dear Reader:

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We hope this information will be useful to you; reference to it will assist you with many of the questions that will arise in your tenure with municipal government. However, the *Tennessee Code Annotated* and other relevant laws or regulations should always be consulted before any action is taken based upon the contents of this document.

Please feel free to contact us if you have questions or comments regarding this information or any other MTAS website material.

Sincerely,

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Biodiesel is one of the most thoroughly tested alternative fuels on the market. ASTM International, originally known as the American Society for Testing and Materials, is an international organization that develops and publishes consensus technical standards for biodiesel. Producers who sell biodiesel must meet these specifications. Cities that produce biodiesel for their own use are not subject to these guidelines, however, it is recommended that cities follow them. Copies of specifications are available from ASTM at www.astm.org [1].

A number of independent studies — performed by the U.S. Department of Energy, the U.S. Department of Agriculture, Stanadyne Corp. (the largest diesel fuel injection equipment manufacturer in the U.S.), Lovelace Respiratory Research Institute, and Southwest Research Institute — have shown that biodiesel performs similar to petroleum diesel with greater benefits to the environment and human health. The National Biodiesel Board has set quality standards for biodiesel for more than 15 years. ASTM specifications exist for diesel fuel and biodiesel fuel blends from 6 to 20 percent [B6 – B20 (D7467-09)], biodiesel blends up to B5 to be used for on- and off-road diesel applications (D975-08a), and home-heating and boiler applications (D396-08b). ASTM approved the original specification for pure B100 (D6751) in December 2001. These ASTM specifications apply regardless of the fat or plant oil used to make the fuel.

One of the major advantages of biodiesel is that it can be used in most existing engines and fuel injection equipment in blends up to 20 percent with little impact to operating performance. Biodiesel has a higher cetane number than U.S. diesel fuel. In more than 50 million miles of demonstrations, B20 showed fuel consumption, horsepower, torque, and haulage rates similar to conventional diesel fuel. Biodiesel also has superior lubricity, and it has the highest BTU content of any alternative fuel (falling in the range between #1 and #2 diesel fuel). All major U.S. automakers and engine manufacturers accept the use of at least B5, and many major engine companies have stated formally that the use of high quality biodiesel blends up to B20 or even B30 will not void their parts and workmanship warranties. For a listing of specific statements from the engine companies, please visit the National Biodiesel Board website at www.biodiesel.org [2].

Links:

[1] <http://www.astm.org>

[2] <http://www.biodiesel.org>

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