



BIODIESEL USAGE CHECKLIST

Basic Terminology: **Biodiesel** is the pure, or 100 percent, biodiesel fuel. It is referred to as B100 or “neat” biodiesel.

A **biodiesel blend** is pure biodiesel blended with petrodiesel. Biodiesel blends are referred to as Bxx. The xx indicates the amount of biodiesel in the blend (i.e., a B20 blend is 20 percent by volume biodiesel and 80 percent by volume petrodiesel).

- ✓ **Ensure the biodiesel and biodiesel blends meet the ASTM specifications.**
(B100 – ASTM D6751; B6-B20 – ASTM D7467; B5 – ASTM D975).

The specification for biodiesel is designed to ensure that consumers will not experience operational problems from the fuel’s use. Make sure that biodiesel meets this specification and that the fuel supplier will warrant this fact. Quality fuel will provide the consumer with improved air quality and enhanced operability. Purchase fuel only from a reputable source, such as companies that are “BQ-9000 Marketers” or “BQ-9000 Producers” under the BQ-9000 biodiesel quality program. See www.bq-9000.org for more details about the program.

Monitor fuel filters on the vehicles and in the delivery system upon initial biodiesel use, and change them as necessary.

Biodiesel and biodiesel blends have excellent solvent properties. Over time, petrodiesel can leave deposits in fuel lines, tanks, and delivery systems. The use of biodiesel can dissolve this sediment and result in the need to change filters more frequently when first using biodiesel. More frequent filter changes may be needed until the system has been cleared of the deposits left by the petrodiesel, usually one to two loads of fuel, then filter changes should occur at normal preventative maintenance intervals. Depending upon the deposit formation in your storage tanks, it may be wise to have storage/delivery tanks cleaned prior to using a B20 or higher blend.

- ✓ **Be aware of biodiesel's cold weather properties and take precautions as with #2 petrodiesel use in cold weather.**

A 20 percent blend of biodiesel with petrodiesel usually raises the cold weather properties 3 to 10° F (pour point, cloud point, cold filter plugging point). In most cases, this has not been an issue. Twenty percent biodiesel blends have been used in the upper Wisconsin area and in Iowa during -25° F weather without issues. Solutions to biodiesel winter operability

problems are the same solutions used with conventional #2 petrodiesel (use a pour point depressant, blend with #1 diesel, use engine block or fuel filter heaters on the engine, store the vehicles near or in a building, etc.). Check with your supplier to make sure the biodiesel used is appropriate for your climate conditions. For more information on cold weather use, see www.biodiesel.org/cold/ and www.biodiesel.org/pdf_files/fuelfactsheets/Cold%20Flow.pdf.

✓ **Use stored biodiesel within six months.**

All fuels, including #2 and #1 petrodiesel, have a shelf life. This is also true with biodiesel and biodiesel blends. Industry experts recommend that biodiesel be used within six months of purchase to ensure that the quality of the fuel is maintained. If the biodiesel blends are to be used in applications where fuel can remain in the vehicle or equipment tanks for extended periods of time, fleet managers should consider using a fuel stabilizer.

✓ **Be aware of biodiesel's compatibility with engine components.**

The switch to low sulfur diesel fuel has caused most OEMs to switch to components suitable for use with biodiesel, but users should contact their OEM for specific information. In general, pure biodiesel will soften and degrade certain types of elastomers and natural rubber compounds over time. Using high percent blends can impact fuel system components (primarily fuel hoses and fuel pump seals), that contain elastomer compounds incompatible with biodiesel. Manufacturers recommend that natural or butyl rubbers not be allowed to come in contact with pure biodiesel. Blends of B20 or lower have not exhibited elastomer degradation and need no changes. If a fuel system does contain these materials and users wish to fuel with blends over B20, replacement with compatible elastomers is recommended. For additional information, see www.biodiesel.org/pdf_files/fuelfactsheets/Materials_Compatibility.pdf.

✓ **Store biodiesel or biodiesel blended soaked rags in a safety can to avoid spontaneous combustion.**

Biodiesel soaked rags should be stored in a safety can or dried individually to avoid the potential for spontaneous combustion. Biodiesel is made from vegetable oils or animal fats that can oxidize and degrade over time. This oxidizing process can produce heat. In some environments a pile of oil-soaked rags can develop enough heat to result in a spontaneous fire.

The National Biodiesel Board is available to answer additional questions regarding the transition to biodiesel fuel use. Please do not hesitate to call and ask your questions. NBB can be reached at (800) 841-5849, via e-mail at info@biodiesel.org, or through its web site at www.biodiesel.org.