

Biodiesel Quality

2007

With increased interest in emissions and reducing the use of petroleum distillate based fuels, many governments and regulating bodies encourage the use of biofuels such as biodiesel.

Test data on the operating effects of biodiesel fuels indicates that typically smoke, power and fuel economy are all reduced as the biodiesel blend increases. There are specifications for biodiesel issued in Europe under EN14214 and in North America under ASTM D6751. These specifications define only the biodiesel (B100) used as the blend component with diesel fuel. They are not applicable to fuel blends purchased by the end user. Despite the existence of these standards, the general quality of available biodiesel remains inconsistent.

To date there is only one North American engine manufacture that has allowed the use of a blend up to B20 (a ratio of 20% B100 with 80% petrodiesel). The blend must meet Engine Manufacturers Association (EMA) specifications, and is recommended for their 2002 or newer emission compliant engines where their older engines and most other manufacturers still recommend the use of up to a B5 blend. To successfully use biodiesel, it is imperative that the fuel be of high quality and meets or exceeds the specifications developed by the EMA or engine damage will occur. The specifications developed by EMA require all biodiesel blends should be comprised of petrodiesel meeting ASTM D975, and a B100 meeting with ASTM D6751 or EN14214.

It is also recommended by Engine Manufacturers that biodiesel fuel blends be purchased from a BQ9000 Certified Marketer and the B100 biodiesel fuel used in the blend should be sourced from a BQ9000 Accredited Producer. The National Biodiesel Accreditation Program, which is called BQ9000, is a co operative and voluntary program for the accreditation of producers and marketers of biodiesel fuel. The program is a unique combination of the ASTM standard for biodiesel, ASTM D6751, and a quality systems program that includes storage, sampling, testing, blending, shipping, distribution, and fuel management.

With the introduction of a number of biodiesel initiatives occurring in this country, the protection of the consumer should be paramount to the Government of Canada,

Recommendations

That the federal government:

1. Develop regulated standard for production and marketing of B100 biodiesel that meets or exceeds the specifications developed by the EMA (Engine Manufacturers Association).
2. Ensure that all marketers and producers are BQ9000 certified or develop a certification process equal to or better than the BQ9000 program.
3. Encourage the Canadian General Standards Board to develop a B100 biodiesel specification that is consistent with EN14214 and ASTM D6751.

Special Notes: ASTM; American Society for Testing and Materials, now known as ASTM International. This is a group of engineers and scientists that by consensus develop standards that have made products and services safer, better and more cost-effective. The letter and numerical list that follows ASTM designates the standard to be referenced for a particular product. EN is the European Committee for Standardization.