

Test for Bacteria, Fungi, Mold to Monitor Biodiesel “Shelf Life”

One of the biggest advantages to using biodiesel fuels is that they can be used in existing engines and fuel injection systems with little or no affect on operating performance. However, by sheer composition, biodiesel fuels and biodiesel blends provide a natural food source for microbial growth. Testing can keep storage tanks free from bacteria.

According to the National Biodiesel Board, biodiesel fuels have an estimated “shelf life” of no more than six months. Along with using biocides to control biological growth, it also recommends efforts be made to control water contamination since aerobic fungus, bacteria and yeast hydrocarbon utilizing microorganisms (HUMBUGS) usually grow where the fuel and water meet.

Although biodiesel and biodiesel fuel blends aren’t stored for long periods of time, water contamination is always a concern. And where there’s water, there is great potential for microbial growth. Since biocides work where the HUMBUGS live – in the water – anaerobic colonies that can be active in sediments on tank surfaces may be unaffected by some biocide treatments and can cause extensive tank corrosion. POLARIS suggests testing for bacteria, fungi and mold every three months to be certain fuel in storage tanks is suitable for use.

Correction

Our article on lubricity in the August issue of the Condition Monitor incorrectly stated that the additional steps diesel fuels now undergo during the refining process reduce fuel lubricity. POLARIS Laboratories acknowledges that these additional steps may, **in some instances**, reduce lubricity.

We feel it’s important to clarify that not all ULSD fuel fails to meet the lubricity requirement as specified in ASTM D975-07a, the Standard Specification for Diesel Fuel Oils. Also, when using ASTM D6079 in the evaluation of fuel lubricity, the wear scar measurement should be <520μ (microns) to be considered to have sufficient lubricity to provide proper lubrication.

POLARIS Laboratories also acknowledges that preliminary indications are that lubricity problems are not widespread and, that with a few exceptions, injector or pump failures do not appear to be a major issue. It was not our intention to insinuate this to be so.