
Marine use of biodiesel

Biodiesel is an obvious candidate for use in marine applications. Independent tests have found that pure biodiesel is non-toxic, readily biodegradable and essentially free of sulfur and aromatics.

Biodiesel will not harm fish.

Biodiesel is biodegradable. Methyl esters are considered biodegradable based on their chemical nature and test data.

In tests performed by the University of Idaho, biodiesel in an aqueous solution after 28 days was 95 percent degraded. Diesel fuel was only 40 percent degraded. In a second study done in an aquatic environment (CO₂ Evolution), various biodiesel products were 85.5-88.5 percent degraded in 28 days, which is the same rate as sugar (dextrose). Diesel degradation was 26.24 percent.

Biodiesel offers more environmental benefits. Biodiesel offers a more environmentally-friendly alternative to regular diesel because it is non-toxic and biodegradable.

Biodiesel is a renewable, domestic fuel. Biodiesel is made from renewable fats and oils, such as tallow and vegetable oils, through a simple refining process. The by-product glycerin is used in commercial applications from toothpaste to cough syrup.

Biodiesel can work in several marine factions. Because biodiesel can replace or blend with mineral diesel with little or no engine modifications, it is a viable alternative to several categories of the marine industry, including: recreational boats, inland commercial and ocean-going commercial ships.

Biodiesel is a safe alternative. Biodiesel has a higher flash point than mineral diesel. Biodiesel also offers low-pressure storage at ambient temperatures, handles like diesel and is safer to transport.

Biodiesel has higher lubricity. Biodiesel blended at a 20 percent rate with mineral diesel has a lower wear scar than traditional fuel. At the 20 percent blend level, biodiesel shows improved lubricity with low sulfur mineral diesel containing high or low aromatic levels. Start-up, power, range and cold-weather performance characteristics are similar to diesel.

Biodiesel is "user-friendly." The use of biodiesel and biodiesel blends results in vessel operators report a noticeable change in exhaust odor. The reduction in smell and change of odor are easier on ship workers and pleasure craft boaters. In fact, it's been compared to the smell of French fries. Users also report no having eye irritation. Since biodiesel is oxygenated, diesel engines have more complete combustion than with mineral diesel.