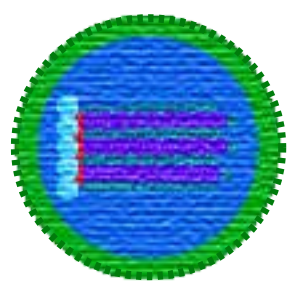




ACID NUMBER

The acid number is a direct measure of free fatty acids (FFA), which can lead to corrosion and may be a symptom of water in the fuel.



WATER AND SEDIMENT

Suspended water is a problem because it contributes to the corrosion of the close-fitting parts in the fuel injection system. Sediments may plug fuel filters and promote the formation of deposits on fuel injectors and other engine parts.



SULFUR

Off-road fuel can have up to 500 parts per million (0.05%) sulfur and on-road fuel can only have 15 parts per million (0.0015%) of sulfur.



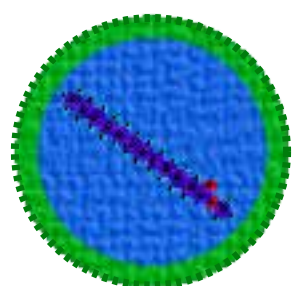
COLD SOAK FILTRATION

ASTM required this test after reports that biodiesel could form precipitates above the cloud point which can clog filters.



MONOGLYCERIDES

Monoglycerides are generally considered the most harmful in biodiesel and can adversely affect cold flow properties.



CLOUD POINT

Of major concern in cold climates, the cloud point (CP) indicates the temperature above which an engine can operate without fear of plugging a filter and stranding the vehicle.



OXIDATION STABILITY

All stored fuels are subject to degradation over time. This degradation may be due to microbial action, water intrusion, or oxidation.



FREE & TOTAL GLYCERIN

Elevated total glycerin values are indicators of an incomplete reaction and predictors of excessive carbon deposits in the engine and could lead to filter plugging.



METHANOL CONTENT

Methanol content of biodiesel fuel is an important factor in determining the tendency of the fuel to exhibit flammable characteristics.



FLASH POINT

The flash point determines the flammability classification of material being tested.



FIELD GUIDE

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ASTM STANDARDS



PHOSPHORUS

Phosphorus can come from incomplete refining of the phospholipids (or gums) from the vegetable oil and from bone and proteins encountered in the rendering process.



SULFATED ASH

This test monitors the presence of acids in the fuel. The most likely source of a test failure would be excessive free fatty acids, which are determined in accordance with the acid number.



CALCIUM AND MAGNESIUM

Small levels of calcium and magnesium may collect in exhaust particulate removal devices and act as abrasive solids or soluble metallic soaps.



KINEMATIC VISCOSITY

Kinematic viscosity is the resistance to flow of a fluid under gravity and fuel injectors will not perform properly if it is too high.



SODIUM AND POTASSIUM

Sodium and potassium, like calcium and magnesium, may be present in biodiesel as abrasive solids or soluble metallic soaps.



METHANOL CONTENT

Methanol content of biodiesel fuel is an important factor in determining the tendency of the fuel to exhibit flammable characteristics.



CARBON RESIDUE

The carbon residue is a measure of how much residual carbon remains after combustion. Carbon residues may decompose and pyrolyze to hard deposits and clog the fuel injectors.



DISTILLATION

According to the standards, this specification was incorporated as an added precaution to ensure the fuel has not been contaminated with high boiling contaminants.



COPPER STRIP CORROSION

This test monitors the presence of acids in the fuel. The most likely source of a test failure would be excessive free fatty acids, which are determined in accordance with the acid number.

