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SPRINGBOARD BIODIESEL ANNOUNCES AVAILABILITY OF BIODIESEL STABILIZER

Springboard Biodiesel has released a new product, Springboard Biodiesel Oxidative Stabilizer, that will help small producers everywhere overcome three of the major hurdles of home biodiesel production. These are:

1. Biodiesel Storage
2. Microbial Growth
3. Passing ASTM

1. PROBLEM - Biodiesel Storage: As many biodiesel users know, biodiesel is a biodegradable chemical that breaks down relatively quickly in the environment. While this is one of the greatest strengths of biodiesel, it is also one of its greatest weaknesses. The problem occurs when the biodiesel begins to oxidize and break down in vessels where it is being stored prior to use.

This chemical oxidation, can cause the following issues:

- a) fuel can form insoluble precipitants which clog fuel filters
- b) fuel viscosity can increase which is deleterious to burn characteristics
- c) fuel can develop acidic and volatile components which are corrosive to fuel systems.

SOLUTION: Springboard Biodiesel's Oxidative Stabilizer has been shown to dramatically increase the shelf life of stored biodiesel and biodiesel blends. ASTM D4625 (a long-term fuel stability test) were performed on B5 and B20 blends of biodiesel. The biodiesel blends that contained no stabilizer showed significant quantities of precipitant gel formation. In the B20 blend, the precipitant gel accounted for nearly 7% of the total volume of the sample. In blends that had been treated with only 100ppm Springboard Biodiesel Oxidative Stabilizer, there was no such precipitant formation.

2. PROBLEM - Microbial growth: Because biodiesel is non-toxic it is often more susceptible to attack by bacteria and fungi that can clog filters and foul fuel systems.



SOLUTION: Springboard Biodiesel's Oxidative Stabilizer is effective for control of filter-plugging bacteria and fungi growth at dosages of 40 to 80ppm. Higher 250ppm may be required to completely inhibit some bacteria not considered to be factors in filter plugging.

3. PROBLEM - Passing ASTM: Part of the ASTM suite of tests is the Rancimat test.* This test measures the oxidative stability of fuel. Simply put, the term "oxidative stability" defines the fuel's resistance to oxidizing and breaking down while in storage. The oxidative stability of a fuel sample is primarily a function of properties of the feedstock that the fuel was made from. As a general rule, the less saturated and more processed the feedstock that the fuel was derived from, the easier it is to oxidize and the lower the oxidative stability. Biodiesel made from highly unsaturated and refined soy oil often has a difficult time passing the Rancimat test.

SOLUTION: Springboard Biodiesel's Oxidative Stabilizer has been shown to effectively increase the Rancimat score of samples of biodiesel. Although results vary from sample to sample, the addition of Springboard Biodiesel Oxidative Stabilizer in low percentages has been shown to effectively *increase* the Rancimat score by approximately 45 minutes per 100ppm added. 100ppm is only 1 milliliter in over 2.6 gallons.

CONCLUSION: With the addition of Springboard Biodiesel's Oxidative Stabilizer, small scale producers will have more production flexibility and better long term performance results.

**In the Rancimat test, air is bubbled through a heated sample of the fuel. In order for the fuel to pass the Rancimat test, the sample of fuel must withstand at least 3 hours in the apparatus before it begins to oxidize. The time that the fuel sample spends in the apparatus is called the induction time. This standard requires that a fuel sample spend a minimum of 3 hours in the Rancimat apparatus before it begins to oxidize. The Rancimat induction time is the primary indicator of how long a sample of fuel is able to be stored before it oxidizes in a storage container.*