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How to Make Biodiesel from Pure Vegetable Oil

Introduction

Biodiesel is made from pure vegetable oil or from used vegetable oil from restaurants. It can also be made from soybean, peanut, sunflower and corn oil among numerous other types of oils. Biodiesel varies in color from yellow to a dark brown depending on what type of oil is used. When used in diesel engines, it acts as a better lubricant than regular diesel and can prolong the life of the engine. In newer cars, biodiesel can be used without any modifications to the car, but older cars need to replace the old rubber hoses with newer polymer hoses.

In order to keep the manufacturer's warranty on the engine, a car should only run on 20% biodiesel and 80% diesel. The only reason this needs to be done is because manufacturers did not intend to have biodiesel used in their engines when they were designed. But if a driver does not want the warranty, or the warranty has expired, it is okay to run the engine on 100% biodiesel.

Biodiesel burns cleaner than diesel and releases fewer chemicals in the atmosphere. It is also more efficient and when made at home, can be cheaper than diesel. On average, it cost about $1.00 to produce one gallon of biodiesel. When producing biodiesel, 80% of the finished liquid will be biodiesel and 20% will be pure glycerol. Glycerol is the main ingredient in soap and can be mixed with a few scents and minerals to produce soap bars.

Making Biodiesel

WARNING: Biodiesel should be made in a well ventilated and well lit area! Safety goggles, gloves and a smock should be worn to keep any chemicals away from the skin at all times!

Materials

- 1 liter of pure vegetable oil
- Variable speed blender with glass pitcher
- Digital scale or balance

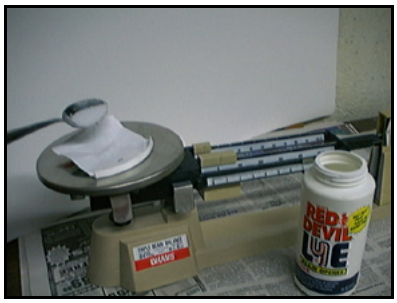
- 3.5 grams of Sodium Hydroxide (Red Devil Lye Drain Cleaner works well)
- 200 milliliters of Methanol (Heet Gas Tank Antifreeze works well)
- Beaker marked at 200 milliliters
- 2 liter beaker
- Stainless steel spoon

Instructions

1. **Organize** all of the materials on one area and **obtain** a large bucket with water in case there are any spills. **Cover** the workspace with plastic or newspaper.

2. **Measure** out 200 milliliters of Methanol in the small beaker by pouring the liquid from the bottle into the beaker. Be careful and try not to breathe any fumes.

3. **Weigh** out 3.5 grams of Sodium Hydroxide on the scale by using the spoon to scoop a small amount of the powder at a time.



4. **Place** the Sodium Hydroxide and Methanol into the blender and blend on low until the ingredients are thoroughly mixed. Then **pour** in 1 liter of vegetable oil and blend on low for 30 minutes.

5. **Pour** the mixture into the large beaker and let it sit for an hour. A dark layer of glycerol will from on the bottom and a light layer of biodeisel will from on the top. Slowly pour the biodiesel out of the container and it is now ready for use. Discard the glycerol or save it to make soap.

References

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