**Student worksheet**

**Practical 4: Making Biodiesel**

**Questions:**

1. Write a balanced chemical equation showing how biodiesel was formed.
2. What was the function of the sodium hydroxide?
3. Explain why this is described as carbon neutral?
4. Why do you think all diesel is not made in this way?

**Analysis of results**

1. Does the biodiesel still smell of oil?
2. Can you explain the difference in the viscosity of the biodiesel?

**Procedure**

1. Weigh 0.5g sodium hydroxide and place in a small beaker.
2. Measure out 22cm3 methanol and add this to the sodium hydroxide. Stir with a glass rod until it has completely dissolved. Cover with a watch glass.
3. Measure out 100cm3 vegetable oil and heat to about 600C. **Make sure your mixture from (1) is well away, methanol is very flammable.**
4. Add the hot vegetable oil to a conical flask and add the methanol solution.
5. Place a bung in the conical flask and shake really hard for about 5 minutes.
6. Leave for a day until 2 layers form: The glycerin layer is at the bottom and the biodiesel at top.
7. Decant off the biodiesel.
8. This is crude biodiesel. For use in a car, soaps would need removing and then drying.
9. Test its viscosity and smell.

**Equipment/materials**

* Pipettes
* Glass rods
* Watch glasses
* Pestle and mortars
* Thermometers
* Spatulas
* Conical flasks and bungs
* Vegetable oil
* Methanol
* Sodium hydroxide pellets

**Safety**

* Perform the experiment in a well-ventilated room
* Wear a lab coat and disposable gloves, tie long hair back.
* Wear goggles.
* Methanol is flammable
* Sodium hydroxide pellets are corrosive



Harmful/Irritant



Flammable



Corrosive

**Objective**

* To make biodiesel from oil

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