**Experimental Procedure for the Production of Biodiesel**

**Materials:** 300 mL beaker, 100 mL Erlenmeyer flask with stopper, 2x 250 mL Erlenmeyer flasks, magnetic stirrer/hot plate, thermometer, stand, stir bar, separatory funnel with stopper, funnel

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| **Chemicals:** | 100 mL *canola oil*, *solution* of 30 mL methanol and 0.5 g sodium hydroxide, water | Ätzend.pngBrennbar.pngGesundheitsgefahr.pngGiftig.png |

**Procedure: UNDER THE *FUMEHOOD*!**

1. *Measure* 100 mL of canola oil into a 300 mL beaker.
2. On a hot plate/magnetic stirrer heat the oil to 55°C while *stirring* with a stir bar. *Monitor* the temperature with a thermometer. (Do not let the oil get too hot! If it is too hot, the methanol will *evaporate* in the following step.)
3. When the oil has reached a temperature of 55°C, slowly add the solution of methanol and sodium hydroxide. Continue stirring.
4. Once the colour of the mixture has changed, stop stirring and *pour* the mixture into a separatory funnel.
5. Once the glycerine has *separated* from the bio diesel, *drain* the bottom phase (glycerine) into a 250 mL Erlenmeyer flask.
6. Add distilled water to the separatory funnel, put on the stopper and shake well to *dissolve* *water* *soluble* *byproducts* (glycerine) into the water.
7. Once the phases have *separated,* the water (lower phase) is drained from the beaker (while you wait for the phases to separate, you can work on your *lab report*).
8. Repeat steps 6 and 7 three times.
9. Write down your observations.
10. Pour the clean bio diesel from the separatory funnel into a 250 mL Erlenmeyer flask and give it to the teacher.

**Waste:** The drained *liquid* from the separatory funnel is collected in a waste beaker at the front of the classroom.

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| D:\User\Jana\Göttingen - backup 06.10.2014\Master Arbeit\Versuche\Biodiesel.1.png  Diagramm 1: Exerimental set-up for steps 1-3. | D:\User\Jana\Göttingen - backup 06.10.2014\Master Arbeit\Versuche\biodiesel2.png  Diagramm 2: Experimental set-up for steps 4-10.  \*\*Note that when you shake the separatory funnel, you have to put on a stopper. |