

Distillation and usage of bioethanol

Step 4: Bioethanol-purification and electrification

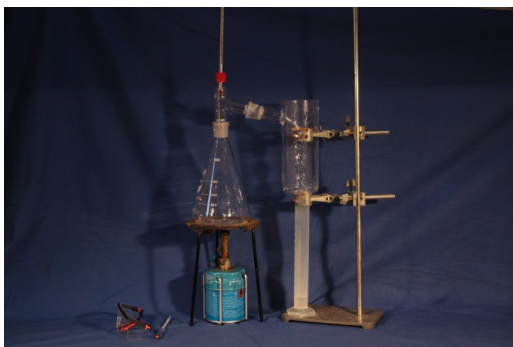
Step 4.1: Purification through distillation

1.

Prepare distillation device (see picture below)

Material:

- Bunsen burner
- Erlenmeyer flask (1L)
- Beaker
- Measuring cylinder(100 mL)
- Tripod
- Cooler
- Thermometer
- Density measuring spindle
- Alcoholmeter
- Stand with stative rod
- Safety goggles



2.

Execution: Start distillation, measure temperature every 60 seconds and enter them in a value table.

The experiment is finished, if 90 °C degrees are reached.



3.

Measurements of alcohol content of distillation via alcohol meter.

4.

Mix distillation with water to 15 % (The fuel cell can only be run with ethanol under 20 %!)

Step 4.2: Electrification

1.

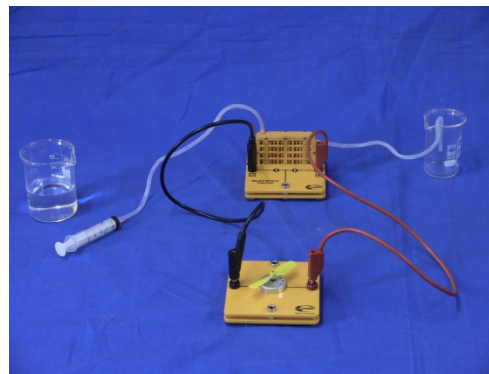
Composition of the fuel cell and its motors (see picture below)

- connect the two small tubes to the fuel cell.

- put a vessel under the tube

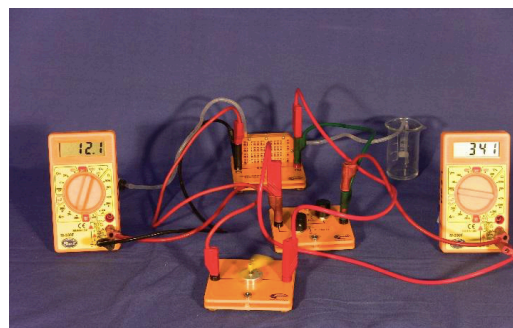
Inject the ethanolmix with the small syringe into the fuel cell

Measure the running time of the motor.



2.

Installation of the fuel cell with voltage and ampere meter (see picture below)



3.

Push the solution through the fuel cell with the small syringe.

Measure the amperage and the voltage.