



Bio-fuel

The entire process of the production of organic fuels can be displayed with this kit. It starts with the biological step of alcohol fermentation. Afterwards, the produced mash will be distilled with the help of the condenser. The last step demonstrates the conversion of the produced bio-fuel into usable energy, such as electrical energy, using the provided Ethanol-fuel cell. The kit not only covers the topic of the production of bio-ethanol, but also the production of biodiesel through transesterification of fats.

MAIN COMPONENTS

- Erlenmeyer flask
- Borosilicate beaker glass
- Alcoholmeter
- Condenser
- Distilling head
- Pasteur pipette
- Measuring cylinder
- Syringe
- Laboratory thermometer
- Motor module without gear
- Ethanol fuel cell
- Potentiometer
- CD with manuals in English

NECESSARY COMPONENTS

- Digital multimeter (x2)
- Bunsen burner
- Test leads - black 25 cm
- Test leads - red 25 cm
- Clamps, base plate, etc.



DL BIO-L

EXPERIMENTS

Biodiesel production

Transesterification from fat to Biodiesel (FAME)
Determination of fat parameters
Extraction of fats from foods and oil plants

Alcohol fermentation

Production of a mash/alcoholic fermentation
Fermentation of different sugar types
(including catalytic splitting of starch)
Proof of fermentation gases

Distillation and production of Bio-ethanol

Distillation of mash
Characteristics of the produced Ethanol

Ethanol fuels

Introduction to Ethanol fuel cell
I-V curve of Ethanol fuel cells
Dependency of Ethanol fuel cells on concentration and temperature
Energy balance of the whole process