Product Name :

Solar Bio Fuel Ready-to-go

Product Code :

SLE/PHY/205

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Description :

The entire process of producing biofuel is demonstrated with Solar-Biofuel Ready-to-go in the form of student experiments.
The suitcase contains all necessary parts and components and can be used from any location.
The first step is resource selection and fermentation.
The resulting mash is then distilled with the custom-built Solar-condensor and the resulting ethanol will be characterized.
Solar-BioFuel Ready-to-go does not only cover bio ethanol production but also the generation of biodiesel through transesterification of fats.
Lastly, the produced bio fuel needs to be converted into usable energy - for example into electricity with the provided ethanol fuel cell.

Experiments :
Part 1: Biodiesel production Transesterification from fat to Biodiesel (FAME) Determination of fat parameters Extraction of fats from foods and oil plants
Part 2: Alcohol fermentation Production of a mash/ alcoholic fermentation Fermentation of different sugar types (including catalytic splitting of starch) Proof of fermentation gases
Part 3: Distillation and production of Bioethanol Distillation of mash Characteristics of the produced Ethanol
Part 4: Ethanol fuels Introduction 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.

Technical Specifications :
Components :
1x Potentiometer module
1x Motor module without gear
1x Solar ethanol fuel cell module
1x Plug with hose
1x Yeast
1x Chain clamp
2x Digital multimeter
1x Propeller
1x Laboratory thermometer
1x Distilling head, 2 cores 75°, NS 19/26
1x Condenser
1x Alcoholmeter
1x Erlenmeyer flask 1000 ml
1x Airlock
1x Rubber stopper
3x Test lead black 25 cm
2x Test lead red 25 cm
4x Bumpon transparent 5,0 mm height X 11,1mm diameter
1x Areometer
1x Beaker 250 ml
3x Test tubes
1x G
3x P
1x M
1x S