



Can Chlorophyll Be Used As An Electrolyte?

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Introduction:

An electrolyte is a liquid substance which acts as a medium to conduct electricity. One speaks of an electrolyte in a number of different contexts, the most common including health and fitness, and various electronics and automotive disciplines. An electrolyte is full of ions, which are atoms that have some sort of net electric charge, either positive or negative. Chlorophyll is a green pigment found in plants capable of trapping energy from the sun as other solar equipments like solar lights (lamps) does. Can't chlorophyll then be used to obtain other sources of energy like light energy by utilizing that energy it has absorbed (trapped) from the sun?

Chlorophyll traps the energy from the sun and stores it in another form of energy called starch. Can't this form of energy be changed into another form of energy like light energy by using scientific applications. Utilizing different combinations of knowledge?

From the above two hypothesis, experimental procedure was done properly and accurately of whether chlorophyll can be used as an electrolytic substance that is capable of being electrolyzed.

When all the experimental investigation had been done, the data was collected, recorded, interpreted and conclusion was made and it was verified.



Methods:

Instructions

- 1 Pour 2 cups water into a medium-sized pot and set it on the stove. Turn the heat setting to high.
- 2 Bring the water to a boil and set your leaf in it for two minutes.
- 3 Remove the pot from the heat. Use a slotted spoon to take the leaf out.
- 4 Pour 1 cup rubbing alcohol into a tall, heat-safe glass and set it in the middle of the pot of hot water. You don't want the water from the pot to spill into the glass.
- 5 Place the leaf in the glass with the rubbing alcohol. Make sure the leaf is entirely covered with the rubbing alcohol.
- 6 Wait one hour and return to check on the leaf. The leaf should now show its true color.

The rubbing alcohol will now be green. The green in the rubbing alcohol is the removed chlorophyll.

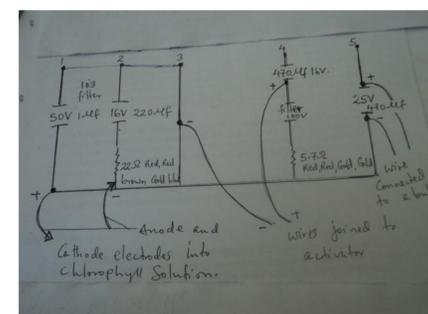
MATERIALS AND METHODS USED

The materials used in the whole exercise of investigation were fresh plant leaves, motor and pestle, distilled water, electrical wires, galvanometer, crocodile clips, capacitors, activator, bulb, beaker, adaptor D.C. 12V and carbon electrodes.

Fresh green leaves were grounded and distilled water was put in the beaker to obtain a solution of chlorophyll. Galvanometer was connected to the crocodile clips holding to the cathode and anode electrodes. One electrode was inserted into the chlorophyll solution and there was no detection for the current i.e. the pointer of the Galvanometer remained at zero position. But on inserting both electrodes into the chlorophyll the pointer shifted from zero position to 20 mill-ampere, this shown that in chlorophyll there is a sort of current though very minor, and was not able even to light on the bulb.

The idea came after a long discussion, there came a point whereby, an idea of finding out the device that can amplify these small electrical signals of current out of chlorophyll.

From the knowledge of physics on electronics, an amplifier is used to increase low signals of current to higher current signals. And an amplifier was made using local materials collected from rejected (discarded) electronics equipments like radios and televisions, the materials used to make an amplifier are capacitors, resistance, transistors, copper wire and aeroboard (soft board) to make a circuit. As shown in the diagram below:



Results: The outcomes of this project research experimental worked up on good. After making all the procedures as in the hypothesis was on demand. On completion of the experiment the bulb lighted on as our project demands was.

During the research, some groups of people demanded to know of whether if this project comes to sound, will it not affect plants growth which are the main pollution cleaners? That removes CO₂ from the air and at the same time given O₂ to be used by human being and other aerobes on the earth;

Some gave the answers to such question as above as; this won't affect the growth of plants if planting of trees would be highly encouraged. Others said,

Students should be provided with education which is strictly concern on keeping the environment safe for use by the next generations.

The experimental result were recorded in a tabular form as shown below:

No.	Name	Signature	(√)	(√)	Name	Signature	(√)	(√)
			Yes	No			Yes	No
1	Festo M. Samwel		√		9	Joseph Raphael		
2	Alfredina Francis		√		10	Tecla Muyanza		√
3	Estehr Juma		√		11	Stella Lucas		√
4	Hendo Limbu		√		12	Eneyd Challow	√	
5	Mgema Mayombo		√		13	Janeth Elias	√	
6	William Mponeja		√		14	Gigwa Ngwesa	√	
7	Felister Aloyce			√	15	Ignas Remis		√
8	Lulu Bigurube		√		16	Swaum Juma	√	
Total Marks			07	01			05	03

Conclusions:

It was therefore concluded this by verification of the hypotheses "Can chlorophyll be used as an electrolyte"? From experimental procedures carried out it was proved true when the bulb was on after the amplification of the small signals of electricity shown by the galvanometer.

The relevance of these findings to other published work is that, it has triggered our heartily needs to find out whether chlorophyll can be used to provide electric energy to be used for homes and other domestic uses.

The future direction of the project is to continue investigating how and what materials which are capable of trapping solar energy. It is also aiming on the other uses of chlorophyll from different species of plants to both animals and among plants of the same species i.e. can chlorophyll from different species of plant be used as a medicine to treat diseases in animals and in other plants it selves?

Finding or looking at other factors such as variations in temperature, light and concentration of chlorophyll is among of the future (direction) of this project.

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Acknowledgements:

We wish to acknowledge the invaluable contributions of the following people financially and materially towards this Scientific Project:

Dr. Gozibert Kamugisha -Director
Mr. Ndegeulaya -Chemistry and Biology teacher
Mr. Dungu-Coordinator
Mr. Emmanuel Nyanda -Technician

Last but not the least the students who are participants in this project and the Laboratory Technician Mr. Stephen Kidoyayi.

Further information:

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