

REVIEW PAPER

Cheaper electrodes having higher efficiency using salt water and salt vinegar electrolytes

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ABSTRACT

This paper gives how salt water and salt vinegar is used as renewable energy resources. Working of salt water and salt vinegar electrolytes and the combination of these two electrolytes were analyzed in this work. The comparison of other electrodes used as electrolytes and choosing the best pair of electrodes to produce maximum electricity were verified.

Key Words : Electro-chemical reaction, Electrolyte, Vinegar, Corrosion

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It is known well that our earth covered with 70 per cent of water and 30 per cent of land. So water occupies more space than land but 97 per cent is the salt water and 3 per cent is the fresh drinking water. Many technologies are developed to use salt water for producing electrical energy. The energy produced in this way is renewable energy source. Ex: salt water battery, salt water generators etc. The modern battery is found in high-tech applications ranging from hearing aids and pace-makers to pocket calculators, personal stereos, radios and mobile phones. They are everywhere and completely invaluable. The origin of the power behind the battery is chemical. In the paper it is explained that how the electrolysis occur and what are the different reaction of different electrodes for the better efficiency.

How these work – electrolysis:

The voltage created in a battery is due to ionic chemistry. When a metal electrode is immersed in an electrolyte a rather complex dynamic process occurs. Let us assume that the metal electrode is initially uncharged the resistance is high; the voltage will appear to drop as current is drawn from the battery. The internal resistance of cells is a major limiting factor in the

application and usefulness of a real battery.

Electrolyte :

Seawater-activated batteries are designed to operate in an infinite electrolyte, namely, the oceans of the world. However, for design, development, and quality control purposes, it is not practical to use ocean water. Thus it is common practice throughout the industry to use simulated ocean water. A commercial product, composed of a blend of all the ingredients required, simplifies the manufacture of simulated ocean water test solutions. Batteries, activated by pouring the electrolyte into the battery where it is absorbed. By the separator, can utilize seawater when the temperature is above freezing. The use of a conducting aqueous electrolyte will result in faster voltage buildup. However, the introduction of salts in the electrolyte will increase the rate of self-discharge.

Performance characteristics:

The resistance (ohms) of the cell may be calculated using the formula :

$$R = \rho \frac{l}{a}$$