Study of the Electrolyte Management of the Zinc-Air Cell

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ABSTRACT

This study intends to investigate electrolyte management of zinc-air cell. Zinc-air cell is a kind of electrochemical batteries that could be taken as air-depolarized cell. Its development is even earlier than fuel cell. Zinc-air cell, developed in the eighteenth century, is different from alkaline electrolyte zinc-air cell today. Zinc-air cell was used NH4Cl acidity electrolyte at that time. Moreover, in the eighteenth century, the anode was zinc and the cathode was carbon combining with platinum. The device contained only small current density so that it can not generate electric power capability. Today, zinc-air cell is developed quickly due to the gas electrode and pore structure material technology. Electrolyte is an indispensable part for the most batteries. It is also important to a Zinc-air cell .The state of the electrolyte will influence the performance of the battery directly. Influence case toward performance of the Zinc-air cell under different electrolyte state is the main focus of this research. The experiment method will be galvanostatic method, a kind of voltammetry. Operation parameter as the experiment has come according to different concentration, different temperature and electrolytic of different electrolytic circulation quantity in the course to discharge. Use those result of the Discharge experiment to probe into the interreaction between electrolyte and battery according to these three parameters.

Keywords : Zinc-air cell ; electrolyte management ; Galvanostatic method ; Voltammetry

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