

## عنوان مقاله:

Electrochemical Investigation of Copper Foam and Foil for some Tests in Different Concentrations of Acetic Acid

## محل انتشار:

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## خلاصه مقاله:

The use of suitable materials in electrochemical instruments is always one of the basic issues. Copper is one of the good options for using in this instruments due to its unique properties such as thermal and electrical conductivity as well as its suitable plasticity. One of the methods for improving the properties of metallic materials is their use in the form of foam, which can improve electrochemical properties while reducing the density. Acetic acid is one of the electrolytes used to examine copper electrodes, which is investigated due to its reaction with copper. In this study, studies were conducted to identify and confirm copper foam and foil such as scanning electron microscopy and X-ray energy diffraction spectroscopy. Then, at different concentrations of acetic acid (0.05, 0.1 and 0.5 M) were evaluated by cyclic voltammetry and electrochemical impedance test. The studied cases in voltammetry test are oxidation and resuscitation potentials and reversibility and conductivity and resistance to electrochemical impedance spectroscopy. Finally, due to the data and results, copper foam has better conductivity and better results due to its surface exposure to electrolyte.

## کلمات کلیدی:

Electrochemical, Copper, Acetic acid, Foam, Foil, Voltammetry, Impedance

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