

Title: 3R Economy of a PKL Electrochemical Cell(Conference Paper)

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Abstract

The term 3R means Reduction, Recycle and Reuse. It has been taken abandoned portable Zn/Cu-based electrodes for a PKL module which was used 8 years ago. The module was made by a glass plate and had six compartments. The plates from the compartment of this box can be replaced easily, and for this reason, it is called portable electrodes PKL module. The module possessed six chambers and each chamber contained four pairs of Zn and Cu-plates. In each chamber, all the Zn-plates were connected in parallel connection and similarly, all the Cu-plates were also connected in parallel connection. All chambers were connected in series connection. All the Zn-plates were new and all the Cu-plates were 8 years old. The electrolyte (PKL extract) was also 8 years old. The maximum open circuit voltage (V_{oc}) was found to be 5.71 V, and the maximum short circuit current (I_{sc}) was found to be 0.95 A. Most of the results have been tabulated and graphically discussed. © 2022, The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd.

Author keywords

3R economy Open circuit voltage PKL extract Short circuit current

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