

## **Mixed metal oxides electrocatalyst for water electrolysis**

R. Kamaraj, D. Jonas Davison, S. Vasudevan, G. Sozhan and S. Ravichandran\*

CSIR-Central Electrochemical Research Institute, Karaikudi-630006, India.  
E-mail: [sravi371@gmail.com](mailto:sravi371@gmail.com); Fax: +91 4565 227779; Tel.: +91 4565 241291

Since the cost of the electrocatalysts playing the major role, we focused our research to find out cheaper catalysts for water electrolysis. Hence, the present investigation aimed at preparing a non noble electrocatalysts which are earth abundant. The titanium metal surface was modified with silica and alumina. The surface morphology was analysed through SEM and composition of the electrocatalysts was investigated by EDX. The electrocatalytic behaviour of the mixed oxides catalyst and unmodified electrode was investigated through polarisation studies. Mixed oxide electrode shows better electrocatalytic behaviour than the bare metal surface.

### **References:**

1. Alkaline Water Electrolysis Anode Materials  
D. E. Hall  
J. Electrochem. Soc. 1985 volume 132, issue 2, 41C-48C
2. The Oxygen Electrode Reaction in Alkaline Solutions on Oxide Electrodes Prepared by the Thermal decomposition Method  
M. H. Miles, Y. H. Huang and S. Srinivasan  
J. Electrochem. Soc. 1978 volume 125, issue 12, 1931-1934.