

## **Corrosion of Indium in Chloride and Sulfate Electrolytes**

Rakhymbay, G. Nauryzbayev, M.K. Burkitbayeva, B.D.  
Argimbaeva, A.M. Kurbatov, A.P. Vacandio, F.

**Abstract.** When the electrochemical purification of rough indium is used as sulfate, and chloride electrolytes. Significant differences in the values of the stationary potential indium electrode in the above solutions weren't observed. The corrosion behavior of rough indium in chloride and sulfate electrolytes with potentiodynamic method was studied. For determining the influence of the electrolyte composition obtained corrosive diagram for solution: sodium chloride; sodium chloride containing indium chloride (III); indium chloride (III); sulfuric acid; sulfuric acid containing sulfate indium (III). Experimental results allowed to determine the composition of the electrolyte, characterized by a high rate of dissolution of indium. It was found that dissolution of the indium occurs at high velocity in the indium-containing electrolytes and at higher temperatures. For electrolytes containing indium with  $\text{pH} = 4$  was observed increase dissolution rate of indium anode with increasing temperature, indicating that the limitation of the process electrochemical stage and the beginning of the formation of indium hydroxide. Research results can be used in the electrochemical refining of rough indium.