Miscellaneous

Title: Electrowinning and Electrorefining of Base Metals with Unconventional Electrolytes

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Abstract: The sulphuric acid based electrolyte processes prevail in the electrowinning of the most important non ferrous metals. The anodic reaction is the oxidation of water with the development of oxygen. The high voltage requirement for this oxidation results in large energy consumptions and the oxygen evolution produces a significant acid mist inside the cell room.

These drawbacks, coupled with the impossibility to electrowin lead from the sulphuric electrolytes, drove our research to investigate alternative electrochemical systems without above-mentioned disadvantages.

The paper introduces the outcome of fifteen years of research performed by Engitec in this field; from bench scale pilot plants through commercial applications on new electrolytic approaches more efficient and reliable than common ones currently in use.