

ABSTRACT

"ELECTROLYTIC METHOD, APPARATUS AND PRODUCT"

In a method for removing a substance from a feedstock comprising a solid metal or a solid metal compound, the feedstock is contacted with a fused-salt melt. The fused-salt melt contains a fused salt, a reactive-metal compound, and a reactive metal. The fused salt comprises an anion species which is different from the substance, the reactive-metal compound comprises the reactive metal and the substance, and the reactive metal is capable of reaction to remove at least some of the substance from the feedstock. A cathode and an anode contact the melt, and the feedstock contacts the cathode. An electrical current is applied between the cathode and the anode such that at least a portion of the substance is removed from the feedstock. During the application of the current, a quantity of the reactive metal in the melt is maintained sufficient to prevent oxidation of the anion species of the fused salt at the anode. The method may advantageously be usable for removing the substance from successive batches of the feedstock, where the applied current is controlled such that the fused-salt melt after processing a batch contains the quantity of the reactive metal sufficient to prevent oxidation of the anion species at the anode.