



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(54) Title: REMOVAL OF OXYGEN FROM METAL OXIDES AND SOLID SOLUTIONS BY ELECTROLYSIS IN A FUSED SALT

## (57) Abstract

A method for removing a substance (X) from a solid metal or semi-metal compound ( $M^1X$ ) by electrolysis in a melt of  $M^2Y$ , comprises conducting the electrolysis under conditions such that reaction of X rather than  $M^2$  deposition occurs at an electrode surface, and that X dissolves in the electrolyte  $M^2Y$ . The substance X is either removed from the surface (i.e.  $M^1X$ ) or by means of diffusion extracted from the core material. The temperature of the fused salt is chosen below the melting temperature of the metal  $M^1$ . The potential is chosen below the decomposition potential of the electrolyte.