ABSTRACT

The thesis focuses on the recovery of yttrium and europium, two rare earth elements present in disused fluorescent lamps from the National University of Engineering. The study includes a review of the situation of waste generated from electrical and electronic devices, as well as an analysis of their inadequate management. It also details the current regulations with their respective resolutions and updates according to the environmental needs in the Peruvian territory. Furthermore, difficulties in the recycling industry regarding waste rare earth elements are addressed, which creates obstacles to their recovery and utilization. The thesis work focuses on the structuring of a chemical leaching protocol that allows recovering yttrium and europium from fluorescent powders, with the aim of offering final disposal alternatives for disused fluorescent tubes and contributing to the circular economy. In summary, the document offers a comprehensive vision of the problem of electronic waste and the importance of recovering yttrium and europium present in fluorescent lamps. Keywords: rare earths, yttrium, europium, fluorescents, recovery