(50-25) **Life Cycle Inventory Analysis of spent alkaline batteries treatment.** Xará, S.M.[1,2], Almeida, M.F.[1], Silva, M.[2] and Costa, C.A.V.[1] [1]Faculdade de Engenharia da Universidade do Porto. [2]Escola Superior de Biotecnologia. Life cycle assessment (LCA) is a technique for assessing the environmental impact of a system from cradle to grave, i. e. from the extraction of raw materials to the final disposal. The need of including waste treatment step in a product life cycle analysis and the wide use of this tool to evaluate different options on solid waste management practices, has increased the attention of LCA practitioners for this final step of the products life. In the case of alkaline batteries - a complex product which contains metal, plastic and mineral fractions, including heavy metals - besides the effort to reduce the voluntary addition of these substances by the producers, this analysis is impeded by the lack of scientific data concerning its behaviour when incinerated or diposed of in a landfill. Under this subject, a project to compare the environmental impact of incineration, landfilling and recycling of alkaline batteries using LCA is undergoing at the Engineering Faculty of Porto University. The objective of this paper is to present the preliminary inventory of the batteries incineration and landfilling in terms of materials, energy consumption, gaseous emissions, effluents and solid waste. This inventory includes the results of some laboratorial incineration and landfilling experiments already. Other data that depends on the incineration process itself is obtained at the incineration plant explored by the multimunicipal company operating nearby the Porto city.