Comparing the Environmental Performance of two Cosmetics Soaps using the LCA’s Technique

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Abstract

The society’s environmental awareness growth resulted in a need to produce consumer goods and services in a more rational and harmonious way with the environment, and within this scenario, new environmental techniques have emerged, and the methodology of Life Cycle Assessment (LCA) achieved prominence, since it can be used by companies as a tool for decision support environment, from environmental-relevant indicators and characterized as a competitive opportunity for diverse sectors of economy. In search of an opportunity for differentiation, there are the cosmetic industries that have the need to present news, and may, with the application of LCA methodology, develop more sustainable products. The cosmetic products more consumed are the soap, bar and liquid, which may in its manufacturing processes, favoring the use of plant ingredients and use the appeal of being environmentally friendly products, but a more detailed study of all its processes, may include the use of some non-renewable source materials and the use of soap in the bath, may disqualify it from the eco-friendly appeal. Therefore, in this study, sought the application of LCA tool chain management of two cosmetic soaps, bar and liquid, allowing the identification of critical steps and their assessment of their environmental effects, performing an environmental comparison between the results for the choice of which soap is less harmful to the environment. It was conducted a case study in a cosmetic company manufacturer of bar soaps and liquid and was evaluated the production processes in the suppliers of raw materials soaps, its use in the bath step process and the packaging dispose of these soaps. Through this model, it was possible to identify the most critical stages of manufacturing processes, to observe the impact that the stage of use of cosmetic soap in the shower and compare the differentiation of impact that the type of packaging promotes in a life cycle assessment study. The RECIPE2008 was used as the LCIA methodology and at the environmental comparison of the two soaps, it was possible to conclude that the liquid soap had less overall impact than the bar soap. The impact categories like Climate change and Fossil depletion were the most significant for both soaps and the Transformation of land was significant only for the bar soap.

Keywords: Life Cycle Assessment, Environmental Impact Assessment, Soap, Cosmetic Industry.