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# Microbiological Analysis of Biofuels in Order to Follow Stability on Room Temperature

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**Abstract :** Biodiesel refers to a vegetable oil - or animal fat-based diesel fuel consisting of long-chain alkyl (methyl, ethyl, or propyl) esters. It is derived by alcoholysis of triacylglycerols (triglycerides) from various lipid based materials that can be traditionally categorized into the following main groups: vegetable oils, animal fats, waste and algal oils. The goal of this study was to evaluate microbiological stability of biodiesel samples since it has been made from vegetable oil or animal fat which was stored on room temperature. For the purposes of this study, analyzes were conducted on six samples of biodiesel first at zero sample at the reception day than fifth, thirtieth, sixtieth, ninetieth and one hundred twentieth day from the day of reception. During this period, biodiesel samples were subjected to microbiological analyses (Salmonella spp., Listeria monocytogenes, Enterobacteriaceae and total plate count). All analyses were tested according to ISO methodology: Salmonella spp ISO 6579, Listeria monocytogenes ISO 11290-2, Enterobacteriaceae ISO 21528-1, total plate count ISO 4833-1. The results obtained after the analyses which were done according to the plan during the 120 days indicate that are no changes of products concerning microbiological analyses. Salmonella spp., Listeria monocytogenes, Enterobacteriaceae were not detected and results for total plate count showed values < 10 cfu/g for all six samples. On the basis of this monitoring under defined storage conditions at room temperatures, the results showed that biodiesel is very stable as far as microbiological analysis were concerned.

**Keywords :** biodiesel, microbiology, room temperature, stability
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