Carmem Cicera Maria da Silva Campelo et al., J Bioremediat Biodegrad 2016, 7:6(Suppl)
http://dx.doi.org/10.4172/2155-6199.C1.006

Viability study the use of glycerol transesterified in the production of biofilms

Carmem Cicera Maria da Silva Campelo[1,2], Rafaela Silva Cesca[2], Roseane Sousa Silva[1], William Renzo Cortez-Vega[3], Gustavo Graciano Fonsecal[4]
[1]Federal University of Grande Dourados, Brazil
[2]State University of Mato Grosso do Sul, Brazil
[3]Federal University of Grande Dourados, Brazil
[4]Federal University of Grande Dourados, Brazil

The utilization of biodiesel as a renewable fuel is growing because of its contribution to the environment. The increase demand of biodiesel produces an increase of glycerin. Studies have purified the glycerin using chemicals treatments to eliminate residues and a physical treatment that eliminates the alcohol and water. New applications for glycerine have been studied as a plasticizer, this being used in the biofilm production. Was utilized glycerin derived from thermally degraded oils (soybean oil) used by 1h, 3h and 5h at 175°C. These samples were treated by evaporation and hydrolysis in order to remove impurities. After obtaining the glycerol was produced biofilms of fish protein (Pintado (*Pseudoplatystoma corruscans*)). Through the analysis was observed that the glycerin extracted of the oil used for 5 hours obtained higher yield because the impurities contained in parallel reactions. The characteristics physical-chemicals showed dependence with the time that the oil was degraded. Were too evaluated the properties of tensile strength, elongation and opacity of the biofilms, using commercial glycerin as standard. With the more pure glycerin, extracted of the oils analyzed, was observed a decrease of the elongation and a increase in resistance when compared with the commercial glycerin, this was due to low mobility of polymeric chains. The biofilm obtained by glycerin from the heated oil for 5 hours showed more flexibility in the structures of the film raising values of the elongation and reducing the tensile strength. The glycerin utilized don't caused difference significant the analysis of opacity compared to standard.

Biography

Carmem Cicera Maria da Silva Campelo is a bacharelor's in chemistry from Universidade Federal do Piauí (2003), has Master in Chemisty at the same institution. She is a professor at the State University of Mato Grosso do Sul. Curretly she is at a phd student at program at the Faculty of Exact Science and Techology (FACET) at the Federal University Grande Dourados (UFGD). Her experience is based on chemistry with focus on Physical Chemistry, acting in cenostigma macrophyllum, lupeol and biodisel.

carmemcenos@gmail.com

Notes: