

II INTERNATIONAL SYMPOSIUM ON SCIENCE AND BIOTECHNOLOGY ENTREPRENEURSHIP AND INNOVATION

TREATMENT OF TEXTILE WASTEWATER EMPLOYING ORGANIC COAGULANT

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Abstract

Among the available treatment methods for textile wastewater, the coagulation/flocculation process is highlighted. Thus, the present study aimed to determine which volume of the tannin coagulant (SETA S5T) presented better results in the treatment of coagulation/flocculation of textile wastewater (company located in the west of Santa Catarina). The trials were carried out at the LEMA (UNOESC Videira), from April to June 2017. During the methodological procedures were tried out the volumes of: 0,5; 1; 1,5 and 2 mL of tannin per liter of sample, using Jar-test equipment. In this the coagulant was initially incorporated into the samples (20 min. - 100 r.p.m), followed by correction of pH (± 7) with calcium hydroxide. Finally, 2 mL of cationic polymer was added (20 min. - 40 r.p.m). The efficiency of the process was determined by the analysis of the parameters: Color, Turbidity, COD, Suspended Solids (TSS) and Sedimentable Solids (SS), from Imhoff cone supernatant (1 hour at repose). At the end of the experiments the following percentages of removal were obtained: 0,5 mL: 97,91% for color; 99,34% of turbidity; 41,78% of COD; 77,52% for SST and 56 mg/L SS production. 1 mL: 97,85%; 99,37%; 36,56%, 82% and 86,93. 1,5 mL: 98,2%, 99,3%, 29,83%, 75,82% and 106,01. 2 mL: 98,48%, 99,30%, 23,02%, 72,75% and 124,04. It was concluded from this study that the best tannin volume was 0,5 mL/L.

Keywords - Coagulation. Flocculation. Textile Effluent. Tannin.

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