

Treatment of Tannery Effluents by the Process of Coagulation

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Abstract : Coagulation is a process that sanitizes leather effluents. It aims to reduce pollutants such as Chemical Oxygen Demand (COD), chloride, sulphate, chromium, suspended solids, and other dissolved solids. The current study aimed to evaluate coagulation efficiency of tannery wastewater by analysing the change in organic matter, odor, colour, ammonium ions, nutrients, chloride, H₂S, sulphate, suspended solids, total dissolved solids, faecal pollution, and chromium hexavalent before and after treatment. Effluent samples were treated with coagulants Ca(OH)₂ and FeSO₄ .7H₂O. The best advantages of this treatment included the removal of: COD (81.60%); ammonia ions (98.34%); nitrate ions (92%); chromium hexavalent (75.00%); phosphate (70.00%); chloride (69.20%); and H₂S (50%). Results also indicated a high level of efficiency in the reduction of fecal pollution indicators. Unfortunately, only a modest reduction of sulphate (19.00%) and TSS (13.00%) and an increase in TDS (15.60%) was observed.

Keywords : coagulation, effluent, tannery, treatment

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