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Characterization and treatment of alcoholic effluent wastewater using chemical methods

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The molasses-based distilleries are one of the most polluting industries and pose a serious environmental and health concerns with a deep dark brown colored wastewater/spent wash. Physicochemical characterization of the effluent was investigated before and after the spent wash was entering to waste treatment plant unit. The treatment was done by chemical methods using activated carbon and ferric chloride. At optimum parameters, COD, TDS and TSS of the effluent samples were reduced by 52, 38.6 and 36%, respectively by adsorption process using activated carbon. By coagulation process; the COD, TDS and TSS of the effluent samples were reduced by 40.8, 29 and 37%, respectively using ferric chloride as a coagulant. From the result, it was concluded that treatment of distillery spent wash using chemical methods was not sufficient to treat the distillery waste to the required level and it might be better to integrate biological and chemical methods of treatments.

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