Organic Charcoal for Industrial Dyes

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Industrial dyes are one of the most dangerous effluents that could contaminate the environment and causes a water pollution. Many industries produces dyes, such as textiles, leather, dyes, printing, and paper production. The complexity of the molecular structur of the dyes makes It difficult to treat before the disposal. These dyes are toxic and the effluents with high concentration of the dyes could be carcinogenic. More than 105 tons of dyes are consumed annually in the industrial sector. There are several methods to remove these dyes from industrial wastewater: Coagulation, Sedimentation, Filtration, Sterilization. However, adsorption of the dyes from the wastewater is one of the most effective method. Activated carbon is widely used in water treatment because It can adsorpe a wide range of compounds, however activated carbon is an expensive product and difficult to reuse. For this reason, our study aims to find an alternative way to remove the dyes from industrial wastewater to be safe for disposal or it can be reused for further processes. In this stidy, we used the fruit peels, such as orange, mandarin, pineapple, lemon, pomelo as organic charcoal with sodium hydroxide and sulfuric acid to replace or reduce the use of activated carbon to remove the Methylene Blue dye from industrial wastewater