REMOVAL OF AZO DYES IN TEXTILE EFFLUENTS: A REVIEW ON PHYSICAL AND CHEMICAL TECHNOLOGIES WITH A PROPOSED BIOLOGICAL ALTERNATIVE

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Abstract

The control of water pollution has become of increasing importance in recent years. The release of dyes into the environment constitutes only a small proportion of water pollution, but dyes are visible in small quantities due to their brilliance. Strict legislation forces textile industries to treat their waste effluent to an increasingly high standard. Currently, removal of dyes from effluents is by physiochemical means. Such methods are often very costly and although the dyes are removed, accumulation of concentrated sludge creates a disposal problem. Many effective and cost competitive alternative treatments are under research, such as biological or combination systems. This article reviews the current available technologies and suggests an effective, cheaper alternative for dye removal and decolourisation applicable on large scale.

Keywords: Textile dyes; Dye decolourisation; Chemical, physical and biological treatments; Whiterot fungi; Solid state fermentation (SSF)