พิมพ์ต้นฉบับบทคัดย่อวิทยานิพนธ์ภายในกรอบสีเขียวนี้เพียงแผ่นเดียว

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VOJSIRA PRAYURNPROHM : OPTIMUM PORE SIZES OF GRANULAR ACTIVATED CARBON FOR COLOUR REMOVAL FROM DYE WASTEWATERS. THESIS ADVISOR : PROF. THONGCHAI PANSWAD,Ph.D. 227pp.ISBN974-634-922-8

This study is the comparison of the results of the colour removal by using GAC with four different pore sizes as adsorbent. The study has been made on the efficiency of the colour removal of four types of dyes, i.e. reactive dye, direct dye, azoic dye and disperse dye. The suitable loading of GAC comparing with various types of dye wastewaters have been studied. The effect of colour saturation as well as the relation of iodine number and molasses number required for colour removal by using GAC have also been studied. Dye wastewaters used is the synthetic dye wastewaters. Dye wastewaters is brought to pass through GAC both in batch test by employing shaking and in the continuous test by employing column two meters high with one meter GAC height and flow rate of five bed volume per hour.

The result shows that colour removal efficiency vary according to iodine number as happens in the case of molasses number. The saturation time periods of the adsorption differ according to types and colour tones of dyes. It appears to have range of suitable pH values for each type and colour tone of dyes. As a result of Freundlich isotherm show that the largest pore size GAC (18.9368 A^0) gives the best result in colour removal. Highest saturation valve provides best adsorptive capacity in colour removal for all kinds of dyes. The loading of GAC for reactive dye and direct dye are in the range of 265 to 860 bed volume. For azoic dye and disperse dye, clogging is experienced while testing. Therefor, loading of GAC cannot be shown. It is suitable to use GAC for reactive dye and direct dye. For azoic dye and disperse dye, there are clogging and high colour value in outlet wastewater. Initial cost for using GAC in colour removal would be 90 bath per cubic meter.

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