

The structure and adsorption properties of polypropylene films drawn in n-propanol

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Polypropylene(PP) films were drawn in n-propanol, and the structural change and adsorption properties of the drawn PP films were investigated with optical microscope and organic dyes(acid dyes and disperse dye).

The PP films drawn in n-propanol were adsorbed with organic dyes from aqueous solutions, while those drawn in air were not. It was found that a specific microcracks were formed on the PP films after drawing in n-propanol. Therefore, it may be regarded that films were capable of adsorbing dyes from aqueous solutions.

Major changes in adsorption properties of PP films were obtained by varying the hydrophobicity of acid dyes(methyl orange, ethyl orange, and propyl orange). The more hydrophobic, the more adsorbed.

And it was proposed that microcracks were effective adsorption-sites and the main interaction forces were dispersion and hydrophobic interaction force.