

SYNTHESIS OF ACRYLIC ESTERS IN PTC: KINETICS AND ECOLOGICAL ASPECTS

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Abstract. Phase-Transfer Catalysis (PTC) technology is used in commercial manufacture. PTC is used also in pollution treatment processes. In the paper the synthesis of esters of acrylic, metacrylic acids, which have wide industrial application for production of unique polymeric materials, by phase transfer catalysis method is demonstrated / PTC/. It is necessary to notice, that the synthesis of acrylic acids through PTC is more important because these compounds are more sensitive to acidic and basic conditions. PTC is characterized by a high degree of useful use of substances involved in reaction, smaller consumption of materials and power resources. The work is devoted to technological problems of the synthesis of esters in the aspect of environment's protection. The offered method for acrylic ester synthesis, in comparison with the traditional methods, has more advantages including high speed of process, soft condition of reaction allowing reduction of energy expenses, the complete exception of application of hazardous and dangerous organic solvents, by virtue of its sharp reduction of air pollution and reduction of wastewater effluent.

Keywords: Phase transfer catalysis (PTC), acrylic acid, alkyl halogenide, acrylic ester, kinetic characteristic.