

## P R E F A C E

Vapour phase oxidation of ortho-Xylene to phthalic acid has long been a commercial process and oxidation of meta and para Xylenes have been usually carried out by chemical oxidizing agents which involves a high production cost. The advantage of a single process in which all the dicarboxylic acids can be produced, led to the development of liquid phase air-oxidation method where high yields of acids can be achieved at temperatures much lower than necessary in the vapour phase reaction and with the cheapest and most abundant source of oxygen i.e., air.

Studies on the oxidation of alkylaromatic hydrocarbons in the liquid phase is a part of a project started in this department on the production of industrially important petrochemicals. In view of the great demand and industrial importance of terephthalic, isophthalic and phthalic acids, the present investigation was taken up with the oxidation of Xylenes.

The aim of the present investigation is to examine critically the operating variables that affect the process of oxidation. The study is extended to the relevant aspects of mass transfer in the diffusion controlled reaction system.

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