

SYNTHESES OF COMONOMERS AND THEIR EFFECTS ON THE PROPERTIES OF FLUOROPOLYMERS

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Since the invention of the polymerization of chlorotrifluoroethylene in 1934 fluoropolymers have been objects of industrial research. Today the most important homopolymer of this kind is PTFE due to its outstanding properties.

Copolymerization of TFE with nonfluorinated, partly fluorinated and perfluorinated monomers is directed to an improvement of the processibility and to the addition of new capabilities to the copolymer without any loss of the desired characteristics of PTFE.

The source of a number of different comonomers is hexafluoropropene and especially its derivative hexafluoropropene oxide. Copolymers of TFE with monomers derived from it enlarge the applicability of fluoropolymers of the PTFE-type.

Examples are given for the synthetic routes to some important comonomers, their influence on the properties of the fluoropolymer and the important fields of application of the obtained copolymers.