

Two concepts of the localisation of hydrolytic enzymes with the use of a membrane phase contactor are presented in the paper. Because of the participation of water molecules in the process, the enzyme should be immobilized so that it could be in contact with the aqueous phase. Thus, enzyme immobilisation on the hydrophobic membrane surface and in the hydrophilic membrane pores was considered. The lipase from *Candida antarctica* and from pancreatic porcine were selected for experiments. Both enzymes were adsorbed on the polypropylene membrane surface, packed in the pores of nitrocellulose and cellulose membranes and bound within the pores of the polyamide membrane after its activation with glutaraldehyde. On the basis of the amount of immobilized protein, enzyme activity and stability, the most appropriate preparation of each immobilized lipase was chosen having on mind its further application in the biphasic organic solvent—water system.