

Isoporous Block Copolymer Membranes

Volker Abetz

Helmholtz-Zentrum Hereon, Institute of Membrane Research, 21502 Geesthacht

University of Hamburg, Institute of Physical Chemistry, 20146 Hamburg

A decade ago so-called „isoporous integral asymmetric membranes” from block copolymers have been reported for the first time. A block copolymer solution is cast on a porous non-woven as an approximately 200 μm thick film and after some time, which allows part of the solvent to evaporate, immersed into a precipitant (usually water). This process is a combination of the self-assembly of the block copolymer by microphase separation in the concentrating solution during evaporation of solvent and a non-solvent induced macrophase separation when it is quenched in the precipitation bath.

In this presentation the structure formation of these membranes in different geometries will be discussed and some separation properties of these novel membranes will be shown.