

**ABSTRACT:**

The major breakthrough in the preparation of thin film composite (TFC) membrane via interfacial polymerization technique has resulted in tremendous achievements in producing a membrane with a right combination of flux and salt rejection, and generating huge interest in industrial sectors. Over the past decade, there have been intensive and continuous efforts in the development of TFC membrane, both from the industry and academia with the interests to further improve the membrane productivity and selectivity as well as its tolerance against chlorine, solvent, fouling, etc. On basis of a brief introduction of the development history of TFC membranes, this paper reviews the recent research progress of the TFC membrane science and technology, particularly in the fields of water-related separation processes. Reviewing the research progress is imperative and necessary in order to provide an insight for the future development and perhaps open a door to extend the applications to other more challenging areas.