

# Recent progress of polyamide thin film nanocomposite membranes for water applications

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## 5.1 Introduction

New generation of reverse osmosis (RO) membrane incorporated with inorganic nanofillers was first reported by Hoek and his co-workers in 2007 in an attempt to break the permeability-selectivity trade-off of the conventional thin film composite (TFC) RO membrane (Jeong et al., 2007). In this pioneering research work, the researchers named the newly developed membrane as “thin film nanocomposite (TFN)” membrane to indicate the presence of nanomaterials in the polyamide (PA) selective layer. This TFN membrane