

# Current research on the applications of membrane distillation in wastewater treatment-a review

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## Abstract:

Membrane distillation (MD) is an emerging technology for separations and purifications that claims to be a cost effective separation process, has high removal capacity and flexibility of operation. As an attractive separating process, MD has been the subject of worldwide academic studies. Unfortunately, from the commercial stand point, MD has gained only little acceptance and yet to be implemented in industry. The purpose of this review is to provide an overview of the recent applications of membrane distillation in treatment of industrial wastewater in order to obtain clean water and to recover valuable compounds. Besides, the limitation encountered during MD process including membrane fouling, membrane pore-wetting, thermal polarization, concentration polarization and energy consumption were discussed.

**Keywords:** Membrane Distillation; Industrial Wastewater; Membrane Fouling; Pore Wetting; Energy Consumption

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