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A review on removal of sulfur components from gasoline by pervaporation

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ABSTRACT

Desulfurization of gasoline has gained growing importance because of tighter limits of less than 10 ppm sulfur in gasoline in recent regulations. On the other hand, preserving octane rating in gasoline is the most concern subject of the manufacturers. This review focuses on the desulfurization of gasoline by means of pervaporation (PV) process. The process as a new technology has drawn increasing attention and provided an efficient approach for eco-friend sulfur removal in petrochemical industries due to its high selectivity, feasible economics, and safety. Theoretical aspects in selection of materials for the applied membranes and their modifications are investigated. The various parameters including the type and concentrations of sulfur and hydrocarbon species, feed temperature, feed flow rate, and permeate pressure, which influence the performance of PV are discussed.

Keywords: Gasoline desulfurization; Membrane separation; Pervaporation; Membrane modification

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