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HEXANE AND ISOCTANE PERMEATION IN MEMBRANE CONTAINING IONIC LIQUID

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Liquid extraction, extractive distillation and azeotropic distillation are commonly used for the industrial separations of volatile organic compounds [1]. A suitable extraction medium has to be chemically stable, non-corrosive, easily recoverable from the extract and of low toxicity. Considering these qualities, ionic liquids seem to be good candidates for that kind of separations. Furthermore, ionic liquids attracted an industrial attention since they were first reported in 1914 [2]. The ionic liquid 1-ethyl-3-methylimidazolium bis((trifluoromethyl)sulfonyl)imide was reported as a suitable liquid membrane for both gas and organic vapour separation [3,4].

In this work, previous study [5] is enlarged. Permeation experiments are carried out for membrane containing the ionic liquid 1-ethyl-3-methylimidazolium bis((trifluoromethyl)sulfonyl)imide was carried out. The permeation of linear and branched hydrocarbon are compared, namely hexane and isooctane [6]. The hydrocarbon removal efficiency from the nitrogen stream is discussed.

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