



národní
úložiště
šedé
literatury

Hexane and Isooctane Permeation in Membrane Containing Ionic Liquid

Morávková, Lenka
2014

Dostupný z <http://www.nusl.cz/ntk/nusl-175321>

Dílo je chráněno podle autorského zákona č. 121/2000 Sb.

Tento dokument byl stažen z Národního úložiště šedé literatury (NUŠL).

Datum stažení: 18.07.2024

Další dokumenty můžete najít prostřednictvím vyhledávacího rozhraní [nusl.cz](http://www.nusl.cz).

HEXANE AND ISOCTANE PERMEATION IN MEMBRANE CONTAINING IONIC LIQUID

L. Morávková, J. Vejražka, H. Vychodilová, Z. Sedláková, P. Izák

Institute of Chemical Process Fundamentals of the AS CR, v.v.i., Prague, Czech Republic

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.

Acknowledgements

The financial support from the Technology Agency of the Czech Republic (project TE01020080) is greatly appreciated. Some parts in the equipment were bought thank to the financial support of the MŠMT by the project LD-13018.

References

1. A. Arce et al., *Green Chem.* 9 (2007) 70–74.
2. N. V. Plechkova and K. R. Seddon, *Chem. Soc. Rev.* 37 (2008) 123–150.
3. K. Friess et al., *J. Membr. Sci.* 415 (2012) 801–809.
4. J. C. Jansen et al., *Macromolecules* 44 (2011) 39–45.
5. P. Bernardo et al., *Ind. Eng. Chem. Res.* 48 (2009) 4638–4663.
6. L. Morávková et al., *Chem. Pap.*, submitted.