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Gas Permeability of Poly (organophosphazenes)

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Gas Permeability of Poly(organophosphazenes)

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The gas permeability and an oxygen to nitrogen selectivity was determined with some poly(organophosphazenes). It is found from the data that the membrane having the highest gas permeability was $[NP(NHPr^n)(NHEt)]_n$, and had $1.5 \times 10^{-6} \text{ cm}^3 \cdot \text{cm} / \text{cm}^3 \text{ sec} \cdot \text{cmHg}$ to oxygen or $2.2 \times 10^{-6} \text{ cm}^3 \cdot \text{cm} / \text{cm}^3 \cdot \text{sec} \cdot \text{cm} \cdot \text{Hg}$ to nitrogen. On the other hand, the membrane having the highest oxygen to nitrogen selectivity of about 3, had the formular of $[NP(OC_6H_4Cl-p)_2]_n$. Also, the selectivity does not depend on the glass transition temperature of the membranes. The membrane prepared from $[NP(OC_6H_4CH_3-p)_2]_n$ has a negative activation energy to oxygen and nitrogen permeability.

SECTION D Applied Phosphorous Chemistry

Extraction Processes with Phosphorous compounds