Sintesis dan Modifikasi Struktur Membran Kitosan
untuk Sterilisasi Media Pertumbuhan Bakteri

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Abstract

Many mass-transfer applications have used chitosan membrane in separation processes. This research applied chitosan membrane to sterilize bacterial growth media. Chitosan membranes having 79 % DD were produced by casting and drying chitosan solution. The images of the membrane were characterized by SEM and other characterizations such as permeability, permselectivity and tensile strength were investigated. The flux decreased with an increase in chitosan composition but the rejection increased and reached an optimum then decreased in line with the increase of chitosan composition. Otherwise, the flux decreased and the rejection increased in line with an increase in drying time. Tensile strength increased with the increase of chitosan composition and longer drying period. The optimum condition of composition and drying time were achieved at ratio of chitosan : acetic acid 2 : 85 and 3 hours for drying. It gives flux 2.4910 L/hour.m², rejection 96.43 % and tensile strength 6748 kgf/m²

Key words : chitosan membrane; sterilization; bacterial growth media