



## **Cellulose Actetate Membrane Using Water Hyacinth And Its Operation**

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**Abstract :** Sea water has the potential to be processed into clean water through desalination. The technology is currently being rapidly adopted for the desalination process through the membrane. The simple method to obtain a membrane is important. This study has used cellulose acetate from water hyacinth as raw material for the manufacture of membranes for desalination.

Microbial cellulose from water hyacinth formed by 200 ml starter *Acetobacter xylinium* soaked in 4% NaOH for 24 hours and then washed with distilled water. The membrane is made by mixing clumps of cellulose acetate in dichloromethane solvent to form a dope and printed on glass plates. Cellulose acetate membranes is made and tested through dead-end operation with varying influent concentrations therefore 19.572 mg Cl<sup>-</sup>/L, 8.388 mg Cl<sup>-</sup>/L, and 5.992 mg Cl<sup>-</sup>/L.

With a 200 mL starter *Acetobacter xylinium* and a pressure of 1atm, the membrane rejection capability trend occurs follow orde 0 as the Cl<sup>-</sup> concentration decrease inline with filtration time. The resulting membranes was ultrafiltration membranes with a pore size membrane produced between 19.43 nm to 58.28 nm.

**Keywords :** desalination, water hyacinth, membranes, celluloseacetate, ultrafiltration.

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