

**OPTIMALISASI TRANSPORT SELEKTIF ION Ni(II) TERHADAP Cd(II)  
DENGAN ZAT PEMBAWA OKSIN MELALUI TEKNIK  
MEMBRAN CAIR FASA RUAH SECARA SIMULTAN**

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**ABSTRACT**

The selective transport of Ni(II) to Cd(II) through simultaneously liquid membrane technique has been investigated. The cell membrane was made by mixing Ni(II) and Cd(II) ions at concentration as  $3.41 \times 10^{-4}$  M and  $1.78 \times 10^{-4}$  M respectively as source phase, oxine in chloroform as membrane phase and Na<sub>2</sub>EDTA solution as receiving phase. Concentration of residual Ni(II) and Cd(II) ions in source phase transported to receiving phase was measured by Atomic Absorption Spectrophotometry (AAS). The results showed that at optimum condition of Ni(II) and Cd(II) transport occurred at source phase of pH 7, oxine concentration 0.001 M in chloroform and 0.04 M Na<sub>2</sub>EDTA solution pH 7. In this condition, Ni(II) and Cd(II) transport selectivity was found 80.89%. From the experiment, it was found that the transport rate constant from source phase to membrane phase ( $k_1$ ) for Ni(II) (0.7544 per hour) smaller than Cd(II) (1.3800 per hour), on the other hand the transport rate constant from membrane phase to receiving phase ( $k_2$ ) Ni(II) (2.7580 per hour) greater than Cd(II) (1.3790 per hour). The phase-to-phase transport of Ni(II) and Cd(II) was consecutive first order reaction.

**Keywords :** bulk liquid membrane, oxine, technique

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