

## TRANSPORT OF LEAD ION THROUGH BULK LIQUID MEMBRANE USING DECYL-18-CROWN-6 AS CARRIER 1,2-DCE

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Selective removal of  $Pb^{2+}$  for environmental remediated and in the treatment of acute and chronic lead poisoning remains an important objective[1-3]. Attempts to remove toxic heavy metal ions such as  $Cd^{2+}$ ,  $Hg^{2+}$  and  $Pb^{2+}$  cations from the environment and from biological systems have utilized a variety of separation methods such as adsorption, precipitation, solvent extraction and liquid membrane transport. Carrier-mediated transport of metal ion through bulk liquid membranes is not only interesting for its potential as a model for a biological membrane, but also for its potential applications to selective removal, concentration and purification of metal ion from their mixtures and an important advantage for the use of this procedure is that in the liquid membrane technology, the extraction, stripping and regeneration operations are combined in one single step. Transport of  $Pb^{2+}$  cation through a bulk liquid membrane was studied. The bulk liquid membrane used in this study was a solution of decyl-18-crown-6 as carrier in 1,2-dichloroethane(1,2-DCE). The effects of pH on the source phase, receiving phase, the concentration of  $Pb^{2+}$ , ligand and the picrate anion in the source phase as counter anion were investigated. In the presence of thiosulfate ion as a suitable metal ion acceptor in receiving phase, the amount of lead ion transported across the liquid membrane was  $82 \pm 2\%$ . The selectivity and efficiency of  $Pb^{2+}$  ion transported from aqueous solutions containing equimolar mixture of  $Zn^{2+}$ ,  $Ag^+$ ,  $Cd^{2+}$ ,  $Cu^{2+}$ ,  $Ca^{2+}$ ,  $Na^+$  and  $K^+$  was also investigated.

### References:

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