Chlorobenzene removal by concurrently generated two electron mediators at each half-cell at electroscrubbing

G. Muthuraman, A.G.Ramu, 문일식†
순천대학교
(ismoon@sunchon.ac.kr†)

Chlorobenzene removal by mediated electrocatalytic oxidation (MEO) induces polymerization instead of its removal. In the present work, mediated electrocatalytic reduction (MER) followed by MEO process was developed for the removal of chlorobenzene. First, two electron mediators Co(III) and Ni(I) at each anodic and cathodic half-cells, respectively, were generated using divided electrolytic cell. Then, the chlorobenzene gas was treated at cathodic electroscrubber for its dechlorination and sequentially treated at anodic electroscrubber for benzene degradation. The removal efficiency of chlorobenzene was monitored by online FTIR gas analyser.

Key words: Chlorobenzene, MEO, MER, electroscrubber, simultaneous removal.