

Effect of mixture of electrolytes on removal efficiency for VOCs using electrogenerated Co(III) by electro-reactor process

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Mixture of electrolyte solutions are growing field in various applications like selectivity and reactivity etc.. The present work describes effect of combination of H₂SO₄ and HClO₄ on removal of volatile organic compounds (VOCs) using electrogenerated Co(III) ion by mediated electrochemical oxidation. Herein, first part deals preparation of suitable composition of H₂SO₄ and HClO₄ and its absorptive behavior on VOCs analyzed by constant current electrolysis. Further, free Co(II) mediator used for mediated electrochemical oxidation (MEO) of mixture electrolyte's absorbed VOCs at electro-reactor and the absorption effect of VOCs compared by GC peak analysis of oxidation efficiency of VOCs. In separate experiments, absorptive effect of VOCs in mixture of electrolytes correlates with cyclic voltammetry results. This paper will end with a short discussion on adsorptive effect on VOCs.