



**“Gheorghe Asachi” Technical University of Iasi, Romania**



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## **REDUCTION OF TOTAL SUSPENDED SOLIDS AND CHEMICAL OXYGEN DEMAND FROM PALM OIL MILL EFFLUENTS USING THE ELECTROCOAGULATION PROCESS**

**Firdaus Ghazali<sup>1</sup>, Shaliza Ibrahim<sup>1</sup>,  
Abdul Aziz Abdul Raman<sup>2\*</sup>, Diya'uddeen Basheer Hasan<sup>2</sup>**

<sup>1</sup>*Department of Civil Engineering*

<sup>2</sup>*Department of Chemical Engineering*

*Faculty of Engineering, University of Malaya, 50603 Kuala Lumpur, Malaysia*

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### **Abstract**

This study investigated the feasibility of electrocoagulation (EC) process on the treatment of palm oil mill effluent (POME). The effect of several parameters namely initial pH, current density, stirring speed and operating time on removal efficiency of total suspended solids (TSS) and chemical oxygen demand (COD) were investigated. The experiments were conducted batch wise using 400 mL of the POME per batch and pair of aluminum electrodes immersed in the reactor. At optimal initial pH value of 6, current density of 12 mA/cm<sup>2</sup>, stirring speed of 100 rpm and operating time of 15 minutes, removal of 86% and 36.5% of TSS and COD was attained respectively. The EC treatment is found to be suitable as a preliminary treatment of POME.

*Key words:* chemical oxygen demand, electrocoagulation, palm oil mill effluent, total suspended solids

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