

**DECOLOURIZATION OF EMULSION PAINT INDUSTRY WASTEWATER
BY A COMBINATION OF CHEMICAL COAGULATION
AND FENTON'S REAGENT**

NURUL AZLIN BESTHO

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This Final Year Project entitled **“Decolourization of Emulsion Paint Industry Wastewater by Combination of Chemical Coagulation and Fenton’s Reagent”** was submitted by Nurul Azlin bt. Bestho, in partial fulfillment of the requirements for the degree of Bachelor of Science (Hons.) Applied Chemistry, in the Faculty of Applied Sciences, and was approved by



Prof. Madya Lee Kok Kheng
Supervisor
B.Sc (Hons.) Applied Chemistry
Faculty of Applied Sciences
Universiti Teknologi MARA



Ms. Sorina binti M. Yahya
Project Coordinator
B. Sc. (Hons.) Applied Chemistry
Faculty of Applied Sciences
Universiti Teknologi MARA



Prof. Madya Dr. Yusairi bin Mohd
Head of Programme
B. Sc. (Hons.) Applied Chemistry
Faculty of Applied Sciences
Universiti Teknologi MARA

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ABSTRACT

DECOLOURIZATION OF EMULSION PAINT INDUSTRY WASTEWATER BY COMBINATION OF CHEMICAL COAGULATION AND FENTON'S REAGENTS

This study carried out to examine the efficiency of chemical coagulation combined with Fenton's reagent for decolourization of wastewater from the emulsion paint manufacturing industry. Parameters to chemical coagulation for both samples, such as the pH and dosages of coagulant and flocculant were determined by using qualitative analysis of jar test experiments. 0.12% alum and 0.01% CaCO_3 were the optimum parameters for coagulation of both samples. The optimum pH for chemical coagulation was in the range of 4.24 - 4.32. From Fenton's oxidation, the optimum conditions were found to be at pH 3.4, 0.09 mg/L Fe^{2+} and 0.02 mg/L H_2O_2 . The corresponding COD and colour removals were 86.5% and 42.2%, respectively. The wastewater was finally treated by a combination of chemical coagulation and Fenton's reagent. The corresponding results of COD and colour removals were 93% and 83.7%, respectively.