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Faculty of Education  
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# **Removal of some organic pollutants from environmental liquid wastes using photo-catalytic method**

Thesis Submitted

By

**Mai Saleh Abd-El-Maqsoud**

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Chemistry Department

# **Removal of some organic pollutants from environmental liquid wastes using photo-catalytic method**

By  
**Mai Saleh Abd-El-Maqsoud**  
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**Faculty of Education**  
**Chemistry Department**

## **Title Sheet**

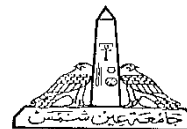
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Faculty of Education  
Chemistry Department

## **Abstract**

### **Removal of Some Organic Pollutants from environmental liquid wastes using photocatalytic method**

By

**Mai Saleh Abd El - Maqsoud**

Department of Chemistry, Faculty of Education Ain – Shams University, Roxy, Cairo, Egypt.

The present work explains the preparation of ZnO catalyst by direct precipitation method using different precipitating agents such as ammonium hydroxide, sodium hydroxide & urea respectively with zinc nitrate and modified ZnO by supporting ZnO/SiO<sub>2</sub> different ratios. The prepared catalysts were dried overnight at 373 K and calcined at 500°C. The Calcined catalysts were characterized using the common techniques such as XRD, FITR, SEM, surface texturing (N<sub>2</sub> adsorption), TGA and TEM. The catalytic activities of the characterized catalysts were investigated in the photodegradation of levafix brilliant red dye, reactive black 5 and reactive orange 96 from the textile industry at different experimental conditions (variation of catalyst doses, dye conc., pH and addition of H<sub>2</sub>O<sub>2</sub>). The obtained data indicate that samples prepared from urea exhibits the higher activity when compared with the other pure ZnO samples, While ZnO/SiO<sub>2</sub> (0.05 wt %) exhibits the highest activity.

### **Keywords:**

ZnO synthesis, Reactive, photodegradation, Textile wastewater.

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