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## The photocatalytic degradation study of Rhodamine B using zinc oxide as an alternative catalyst to titanium dioxide

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**Abstract content** &nbsp; (Max 300 words) <a href="http://events.saip.org.za/getFile.py/?target="\_blank">Formatting & Special chars</a>

Colored dye waste waters are released in huge quantities to the environment and cause negative effects to living organisms. As a result, a technique called advanced oxidation processes has been developed to effectively degrade such pollutants. In this study, rod-like and spherical ZnO nano-particles are synthesized and their photocatalytic activity is investigated. Photocatalytic degradation of Rhodamine B was carried out by irradiating an aqueous solution of the dye containing ZnO using solar light. The effect of dye concentration (5 – 50 mg/L) and pH (2 – 12) are reported. Degradation was followed by measuring absorbance of aliquots spectrophotometrically. Experimental results indicated that an increase in catalyst amount or decrease in dye concentration resulted to high degradation rate. A pH study showed that the dyes were degraded efficiently under neutral and basic conditions and a significant decrease in the degradation efficiency was seen under acidic conditions, with maximum degradation observed at pH 8.

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Yes

**Level for award &nbsp;(Hons, MSc, &nbsp; PhD, N/A)?**

MSc

**Main supervisor (name and email) &nbsp;and his / her institution**

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**Would you like to submit a short paper for the Conference Proceedings (Yes / No)?**

No

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No

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