



**Visible-light-induced degradation of Rhodamine-B and Methylene Blue by combustion synthesized  $ZnWO_4$**

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**ABSTRACT**

*Phase pure monoclinic  $ZnWO_4$  has been prepared by glycine combustion method at 400<sup>o</sup>C. The calcined powder showed a band gap of 3.2eV as calculated from UVDRS. SEM studies revealed particle size in the sub micro meter region with lot of aggregation.  $ZnWO_4$  powder prepared by this method showed photocatalytic degradation to an extent of 80% for 5ppm Rhodamine B in 100ml aqueous solution and 96% for 5ppm Methylene Blue in 100ml aqueous solution under visible light irradiation from 400 W high pressure mercury vapour lamp for 120 min and 90 min respectively. Initial pH prior to exposure is found to effect the degradation of both Rh-B and MB to a significant extent.*

**Keywords:**  $ZnWO_4$ , Visible light degradation, Rhodamine-B, Methylene Blue, Combustion synthesis.

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