Available online at www.joac.info

ISSN: 2278-1862

Journal of Applicable Chemistry

2015, 4 (5): 1446-1455

(International Peer Reviewed Journal)

Removal of Crystal Violet from Aqueous solutions using Chitosan and *Saraca Indica* leaves

N .S .Rajurkar* and Asha Desai

*Department of Chemistry, Savitribai Phule Pune University, Pune 411007, **INDIA**

Email: nsraj@chem.unipune.ac.in

Accepted on 26th August 2015

ABSTRACT

Present study focuses on the use of conventional and novel adsorbent for removal of crystal violet from aqueous solution by batch adsorption process using chitosan and saraca indica (Ashoka) leaves as adsorbents. The study revealed that the crystal violet (10 ppm) showed maximum removal (98%) at pH 3, contact time 40 min, adsorbent dose 0.6 g and particle size 250 µm. The adsorption of dye has been described by Langmuir and Freundlich Isotherms. Its adsorption followed second order kinetics..The bioadsorbent (Asoka leaves) have been tested for the removal of color from the aqueous solution containing crystal violet. The study revealed that crystal violet (10 ppm) showed maximum removal at pH3, contact time 30 min, adsorbent dose 0.2 g and particle size 105µm. The adsorption of dye has been described by Langmuir Isotherm. Its adsorption followed second order kinetics.

Keywords: Chitosan, Bio adsorbent, *Saraca indica leaves*, crystal violet, Adsorption Isotherm, Kinetics, Thermodynamics.