**BIOLOGICAL ACTIVITIES OF SOME NEW ENVIRONMENTALY SAFE 2-AMINOBENZOTHIAZOLE COMPLEXES OF COPPER(II) DERIVED UNDER MICROWAVE IRRADIATION**

**Mathur Neha\*, Kasana Ashok, Manna Biplab**

Department of Chemistry, Govt. P.G. College, Dausa, University of Rajasthan, Jaipur

Email - nehavmathur@yahoo.com

**Abstract**

Due to the surface active properties of copper(II) stearate with 2-aminobenzothiazole, the complexes exhibit many applications in agrochemical industries as dispersing agents, foaming and wetting agents. In the present investigation a novel and simple method has been developed for the synthesis of some solid complexes of Cu(II) stearate with 2-amino-6-chlorobenzothiazole and 2-amino-6-methylbenzothiazole under microwave irradiation these compounds were also obtained with conventional heating procedures to compare them those obtained with microwave and characterized by elemental analysis and their IR, NMR, ESR spectral studies. All the synthesized complexes are coloured and their purity was checked by Thin layer chromatography. The fungi toxicities of the ligands and complexes have been investigated using antifungal disk diffusion susceptibility testing of yeasts of Caudida species approved guideline (M44-A, NCCLS, USA). The fungi toxicity results indicate that the strain of Candida species are susceptible towards complexes of benzotiazole and it is suggestive that with the increase in concentration of copper stearate complexes it may increase further. As our compound is environment friendly, it does not give any hazard reaction. So these complexes are very useful antifungal agents and are also safe to use. Hence the study of these new Cu complexes is very useful.

**Key words:** 2-amino-6-chloro benzothiazole, 2-amino-6-methylbenzotiazole, copper(II) stearate, IR, NMR, ESR, antifungal activities, Disk Diffusion Method