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## Separation of Copper(II) and Cadmium(II) by 2-(2'-Thiazolylazo)-p-Cresol Chelating Resins

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**Objective**

To separate Cd(II) and Cu(II) from aqueous waste by prepared-2-(2'-Thiazolylazo)-p-Cresol Chelating Resins.

**Methods**

2-(2'-Thiazolylazo)-p-cresol (TAC) was synthesized by the coupling reaction between 2-aminothiazole and p-cresol. TAC was immobilized on polystyrene divinylbenzene by using 1:1 dimethylformamide and triethylamine as solvent. The optimized condition for the sorption of Cd(II) and Cu(II) by 2-(2'-thiazolylazo)-p-cresol chelating resins (P-TAC) was studied by batch equilibrium. The P-TAC was used to separate Cd(II) from Cd(II)-Ni(II)-K(I) synthetic solution and Cu(II) from synthetic waste containing Cu(II) with high concentration of sulfate ions.

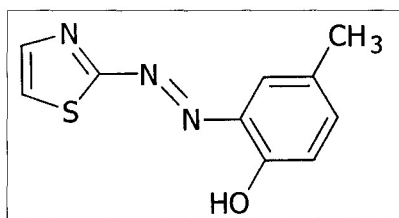
**Result**

The P-TAC chelating resin has ability to adsorb Cd(II) and Cu(II) from aqueous solution. The maximum capacity of P-TAC for Cu(II) and Cd(II) were obtained at pH 5.5 and 7.5 respectively. The maximum capacity for Cu(II) and Cd(II) were  $3.7 \cdot 10^{-1}$  and 0.31 mmol/g.

**Conclusion**

2-(2'-Thiazolylazo)-p-cresol chelating resin (P-TAC) was prepared. P-TAC has ability to adsorb Cd(II) and Cu(II) from aqueous solution. P-TAC can be used as sorbent for the separation of Cd(II) and Cu(II) from synthetic waste solution.

Figure of 2-(2'-thiazolylazo)-p-cresol.



**Keywords:** cadmium(II), copper(II), 2-(2'-thiazolylazo)-p-cresol, chelating resin

**Selected References:**

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