



## **Spectrophotometric Determination of Ziram and Zineb in Commercial Samples and Food-Stuffs Using PAR-Naphthalene as Column Adsorbate for Preconcentration**

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### **ABSTRACT**

*A procedure has been developed for the determination of zinc(II) bis(dimethyldithiocarbamate) (Ziram) and zinc(II) ethylenebis(dithiocarbamate) (Zineb) after preconcentration on a column using naphthalene-PAR as adsorbent. Ziram and Zineb are quantitatively retained on the column in the pH range 9.0- 12.5 and at a flow rate of 1-2 ml/min. The solid mass consisting of the Zn-PAR complex along with naphthalene is dissolved from the column with 5 ml of dimethylformamide (DMF). The absorbance is measured at 490 nm with a spectrophotometer against the reagent blank. Beer's law is obeyed over the concentration range 0.1- 15  $\mu\text{g}$  of ziram and 0.1 -13  $\mu\text{g}$  of zineb in 5 ml of the final DMF solution. Ten replicate determinations on a sample solution containing 40  $\mu\text{g}$  of ziram and 36  $\mu\text{g}$  of zineb gave a mean absorbance of 0.30 with a relative standard deviation 0.98%. The interference of various ions has been studied and the method has been employed to the determination of ziram and zineb in commercial samples and in various foodstuffs.*

**Keywords:** Spectrophotometry, Ziram, Zineb, Commercial sample, PAR.

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