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## Indirect Complexometric Determination of Mercury Using Potassium Iodide as Selective Masking Agent

B. Muralidhara RAO

Department of Chemistry, Govinda Dasa College,  
Surathkal-574 158, INDIA

 [Keywords](#)  
 [Authors](#)



[chem@tubitak.gov.tr](mailto:chem@tubitak.gov.tr)

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**Abstract:** This paper describes a indirect complexometric method for the determination of mercury in the presence of co-ions, based on the selective masking ability of potassium iodide. To the mixture of mercury (II) and other metal ion solution, EDTA solution was added in excess of the metal ions present. The pH of the solution was adjusted to 5.0-6.0 using solid hexamine (10  $\mu$ m 2 g) and surplus EDTA was titrated with zinc sulfate solution using xylenol orange indicator. An excess of solid potassium iodide was then added to decompose the Hg-EDTA complex and the released EDTA was titrated with standard zinc sulfate solution. Accurate results were obtained for 4.5-80 mg ( $2.24 \times 10^{-5}$  M -  $3.99 \times 10^{-4}$  M) of mercury with relative errors  $\leq 0.4$  %, standard deviations  $\leq 0.07$  mg. Sn(IV) and Au(III) interferes but can be masked using sodium fluoride. The method can be applied in the analysis of mercury in its alloys and complexes.

**Key Words:** complexometry, EDTA, mercury determination, potassium iodide, masking agent.

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