



## Extraction of Cetyltrimethyl Ammonium bromide with picric acid by spectrophotometry Method

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**Abstract :** A simple and sensitive spectrophotometric method was developed for the extraction and determination of cetyltrimethyl Ammonium bromide surfactants in real sample. Cationic surfactants are extracted into  $\text{CH}_2\text{Cl}_2$  as an ion-pair with  $(\text{CTA}^+(\text{NO}_2)_3\text{PhO}^-)$  (and the absorbance of the organic phase is measured at 376nm. The Beer-Lambert law was obeyed over the concentration range  $100\text{-}3000 \text{ ng mL}^{-1}$  of cetyltrimethyl Ammonium bromide and the detection limit was  $7.0 \text{ ng mL}^{-1}$ . The relative standard deviations were about 2.1%. Electrolytes in real sample do not interfere. The method was applied to the determination of Cationic surfactants in real samples without interference from matrix substances.

**Key words:** Cetyltrimethyl Ammonium bromide, Ion-Pair, picric acid, spectrophotometry Method.

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