

## RESEARCH PAPER

# A polarographic approach regarding potassium propan-1,3-diol di xanthate

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**ABSTRACT**

In the present study the polarographic behaviour of potassium propan-1,3-diol dioxanthate (PPDDX) is studied in detail at dropping mercury electrode. It also include the effect of temperature, pH, Hg-column height along with the concentration of supporting electrolyte on the wave characteristics of this xanthate. It was found that the concentration of supporting electrolyte do not affect the value of half wave potential ( $E_{1/2}$ ). The value of diffusion current ( $i_d$ ) was found directly proportional to the concentration of PPDDX. The constancy of  $i_d/h_{eff}$  indicate that the reaction was diffusion controlled. Well defined anodic waves were found at different mercury column heights.  $I_d$  values were not affected by pH-values. The linearity of  $-E_{d.e.}$  vs  $\log(i_d - i/i)$  with mean slope ratio of 0.015 clearly indicate the transfer of four electrons along with a reversible reaction involved during this process. The linearity of  $i_d$  with PPDDX concentration may provide an easy pathway for the estimation of xanthates.

**Key Words :** Potassium propan-1, 3-diol dioxanthate, Reference electrode, Borax buffer, Dimerization

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